Appendix C – Comments and Reponses to Comments

Route 72 Manahawkin Bay Bridges – Responses to comments on Environmental Assessment

Table 1 – List of Commenters

Commenter Number	Name	Affiliation	Residence/Department
1	Sal Sorce	Resident	Manahawkin and Surf City
2	Sharon McKenna	Resident	Manahawkin
3	Pat D'Amico	Resident	Manahawkin
4	Deborah Hekl	Resident	Manahawkin
5	Deborah Higgins	Resident	
6	Carl Mendell	Ocean County	Long Beach Island
7	Rob Mulloy	New Jersey Department of Environmental Protection (NJDEP)	Engineering
8	Scott Brubaker	NJDEP	Office of Permit Coordination
9		NJDEP	Land Use Regulation Program
10		NJDEP	Marine Fisheries
11		NJDEP	Shellfisheries
12	Grace Musumeci	Environmental Protection Agency (EPA)	Environmental Review Section
13	Steve Mars	US Fish and Wildlife Service	
14	Mark Renna	Evergreen Environmental	
15	Peter F. Kremer	New Jersey Department of Transportation	Mobility
16	Stanley W. Gorski	National Oceanic and Atmospheric Administration	National Marine Fisheries Service
17	L. Stanton Hales, Jr., PhD	EPA	Barnegat Bay Partnership

Route 72 Manahawkin Bay Bridges -- Response to Comments on Environmental Assessment

TABLE 2 - Comments Related to the Design

Comment	Response to Comment	Section in EA
Where is the proposed pump station and what water quality treatment, capacity and noise reductions measures are proposed for the pump station. (1, 11,12)	The proposed stormwater pumping station is to be installed near the intersection of Eight Street and Shore Avenue in Ship Bottom as shown in Attachment A -Preferred Alternative Plans Scale 1" = 200'. The pump station will be installed within an existing developed area that currently drains to Manahawkin Bay. Currently pipes discharge to the bay along Eighth Street without any pre-treatment.	3.4.2
	The pump station handle the 5-year design storm to reduce the number of times the roadways floods.	4.1.2
	The NJDOT will install water treatment features required by stormwater regulations.	4.9.2
	The pumps will be low velocity screw pumps installed in a building built with sound insulation in the walls and roof. The emergency diesel generator will be muffled and installed in the building as well. The exact design of the building and pump will not to be completed for the EA but will comply with NJDOT and FHWA noise abatement requirements.	
Commenters opposed to adding sidewalks to the bridges due to lack of use, concerns for pedestrian safety and opposed to access to the areas under the bridge. (3,4, 11)	The NJDOT has observed pedestrians using the bridge despite the fact that there are no sidewalks on current bridges. It is the NJDOT and FHWA policy to accommodate all users of the state's highways including pedestrians where possible. Furthermore, the New Jersey Department of Environmental Protection (NJDEP) requires the NJDOT to consider improving access to the state's tidal waterways under the Public Trust Doctrine. Accordingly, the NJDOT will include one sidewalk on all causeway bridges connecting local streets in Beach Haven West with Ship Bottom.	3.1.2, 3.4.2, 3.4.3
Commenters support improving the bridges for bicycle access and/ or encourage a separate multiuse lane for bikes and pedestrians. (2, 3, 4, 9, 14)	The trestle bridges are too narrow to support a dedicated multi-use lane. However, the NJDOT will provide a 6-foot wide sidewalk and bicycle compatible shoulders for the project. Pedestrians will be directed onto the low speed local street on a portion of Bonnet Island.	3.1.2, 3.4.2, 3.4.3
Recommends repairing all bridges instead of replacing them. (6)	The NJDOT considered repairing all bridges and found that all of the substructures will be repaired and reused. The existing Bay Bridge superstructure cannot be saved and needs to be replaced. Most of the decks on the three trestle bridges have significant remaining life and will be rehabilitated.	3.4.2
Commenter opposes the installation of a roundabout and the intersection of Marsha Drive and Bay Avenue. Note: this intersection is under the county's jurisdiction. (7)	The NJDOT has agreed not to install a roundabout at the intersection	3.4.2
Commenter opposes elimination of the jughandle from westbound Route 72 to Marsha Drive. Without the jughandle motorists from Beach Haven West have to access Marsha Drive via Bay Avenue that floods in major nor'easters. (5)	NJDOT will retain the existing westbound jughandle.	3.4.3
Commenter requests that construction be limited to off-season periods for tourists only. (6)	NJDOT recognizes the need to minimize impact to traffic during construction especially during the summer tourist season. However, the project is too big to effectively build only in the off-season especially since the contractor cannot work in water areas between December and June to protect important fish, bird and reptile species. NJDOT has planned the work to minimize disruption to the extent practical and will maintain two lanes in each direction during peak travel months from May to October. NJDOT will allow the contractor to reduce travel to one lane in each direction during off-season or at night during peak seasons.	1.5, 3.3.2
Commenters are concerned that additional width of the Bay Bridge could increase capacity and increase development pressure on the barrier island. (6, 11, 12)	The NJDOT will not increase the number of through traffic lanes on the Causeway and there will only be two lanes in each direction. The new bridges are wider but the increased width is needed to maintain traffic during construction and to build adequate shoulders and sidewalks.	2.2.3

TABLE 2 - Comments Related to the Design (continued)

Comment	Response to Comment	Section in EA
Commenter requests a synopsis of cost estimating for the project. (11)	NJDOT follows a standardized cost estimating procedure. These procedures are outlined in the NJDOT Procedures Manual available on the NJDOT website. NJDOT preliminary cost estimates are based on standardized forms. The forms contain a range of construction categories like roadway and bridges. The forms assign a unit cost based upon the kind of project and its complexity. These unit costs are multiplied by the number of units on any given project to obtain a project cost. This raw construction cost is then adjusted to account for other costs such as post-design engineering, inspection and to account for inflation. Non-standard NJDOT cost items such as the pump station are individually researched and estimated by the engineers and included in the standard forms. Estimates for the structures are based on applying current unit costs to estimated preliminary quantities for major items. The unit costs shown on the standard forms are routinely updated to reflect actual construction costs incurred by the NJDOT during the prior years. These standard cost estimating procedures have been used in New Jersey for many years and have been approved by the FHWA. NJDOT used these forms for the estimating for this project. The cost estimates used in this EA were reviewed by the FHWA before circulating this EA for comment. The original Route 72 estimate was prepared during Feasibility Assessment in 2004. Since that time the cost estimate has been updated several times to account for changes made in response to ongoing engineering and environmental studies.	4.17
Explain how impacts to shellfish and SAV were calculated for both the temporary and permanent condition. (11,16)	The NJDOT used NJDEP maps to determine that shellfish habitat is found in the open water area below mean high tide. Shellfish impact is measured as the direct disturbances to the bay bottom for both the permanent and temporary conditions. These impacts are primarily associated with the footprint of pile foundations, scour countermeasures, retaining walls and bulkheads. NJDOT does not consider shading as an impact to shellfish. The NJDOT prepared a project specific investigative report for Submerged Aquatic Vegetation (SAV). The report is attached to the Ecology Technical Study. Permanent Impacts to SAV were considered for actual disturbance by foundations as well as the shading effect of the permanent bridges. Shading is defined as the vertical projection of the width of the permanent bridges. Temporary impacts to SAV are those associated with foundations of the temporary trestle.	4.7.2, 4.8.3
A catastrophic event will affect the new and existing bay bridge the same reducing the value of two structures. (11)	The existing bay bridge is not designed to the modern design standards. However, the new Bay Bridge will be designed to modern scour, wind, seismic and homeland security standards. The NJDOT expects the new Bay Bridge to perform better than the existing bridge across a range of significant natural and man-made events. The second bridge will provide redundant access. This redundancy is important for the only access to Long Beach Island.	n/a
What measures are being taken to protect pedestrians (3,4,9,12)	The existing causeway has neither sidewalks nor bicycle compatible shoulders yet both pedestrians and bicyclists use the existing bridges. NJDOT will incorporate standard sidewalks and bicycle compatible shoulders throughout the project area in accordance with sustainable design principles and current design manuals. The proposed alternative will meet the standards and will provide for proper accommodation for non-motorized modes of travel. No separate multi-use walkway will be installed.	3.3.2
Will fishing be allowed from the trestle bridge? (11, 14)	The NJDOT is installing one sidewalk adjacent to narrow shoulders on the trestle bridges and no sidewalk on the other side. Given the high speed of traffic and potential conflicts between pedestrians and fishermen with poles, tackle boxes and other equipment, no fishing will not be allowed from any bridges. However, where practical the NJDOT will be providing fishing access under each of the bridges to enhance access to the water front.	4.19

TABLE 2 - Comments Related to the Design (continued)

Comment	Response to Comment	Section in EA
Will dredging and testing of sediments be needed? (11)	At this time the NJDOT does not anticipate that dredging will be required for construction activities. However, the NJDOT will be excavating sediments as needed to build specific bridge components like piers, bulkheads and retaining walls and stormwater outfalls. Currently the Contamination Screening Report does not indicate that testing is needed for these limited excavations.	N/A
Provide diagrams of the pedestrian and bicycle lanes and add traffic flow arrows. (12)	The sketches show the location of the roadway, bicycle compatible shoulders and sidewalk. There are no separate bicycle lanes on the project and accordingly are not presented. Traffic flow arrows are added to the figures.	see figures
Commenter requested the NJDOT include energy efficient lighting and to discuss how it minimizes impact to wildlife. (12)	The NJDOT intends on replacing the lighting that exists in the corridor. The primary lighting on the existing Bay Bridge is installed in the railing and the railing lighting will be replaced. All fixtures will be new energy efficient models. Lighting intensities have not been estimated at this point in the design but lighting in the vicinity of the refuge will be designed to minimize light spilling into the refuge. There will be no significant lighting impact on wildlife.	4.11
Remove the existing Bay Bridge to reduce impacts (16)	The existing Bay Bridge is being reused and therefore will not be removed.	3.4.3
Identify riparian impacts. (12)	Riparian areas were calculated for the alternatives analysis and the riparian areas are shown on the plans in the EA. The width of the Riparian Zone used for the calculation is based upon preliminary information and subject to validation during the permit process.	4.9.4
How will the NJDOT accommodate coastal evacuation during the off-season? (15)	The NJDOT studied evacuation of residents and during both the on and off season periods, two lanes in each direction will be maintained during the on season and one lane in each direction during the off season. This arrangement will allow for adequate year round evacuation.	4.2.2

TABLE 3 - Procedural Comments

Comment	Response to Comment	Section in EA
The NJDOT needs to submit a Final EA for agency review. (16)	As per NEPA guidelines only Environmental Impact Statements require circulation of both a formal Draft and Final document and is not required for Environmental Assessments. However, the NJDOT has chosen to revise this EA to address design changes and to respond to agency comments.	N/A
Change the format of the EA to present separate Purpose and Need statement, provide separate sections for specific resources, add a full range of alternatives, increase the number of alternatives to be considered, add a separate section on Affected Environment, and included additional scientific data available in the technical studies.(16)	FHWA guidelines do not require specific formats for Environmental Assessments and encourage the NJDOT to keep them as short as possible. The purpose of an EA is to determine if there will be significant environmental impact. Accordingly the NJDOT should only include a concise statement of the project, identify a limited range of build alternatives and include only enough scientific analyses needed to determine if there will be significant impacts. The NJDOT believes this EA exceeds FHWA requirements and will keep the basic format of the EA. However, NJDOT has revised the EA to include a brief synopsis of alternatives considered in prior studies, to respond to comments and to address design changes made since the initial EA was circulated.	N/A
Discuss the Preferred Alternative as a separate alternative since it appears to be selected from each of the studied alternatives. (16)	Often the best performing parts of alternatives are not known until after consideration in the EA. The preferred alternative is discussed in the EA document.	4.19
A compensatory mitigation plan is needed before the FHWA can make a Finding of No Significant Impact. (11, 12, 14, 16)	Mitigation plans are needed as a prerequisite for a FONSI only if mitigation is needed to reduce overall impacts below the NEPA significant level. In this case, the FHWA has determined that mitigation is not needed to make the FONSI. However, NJDOT will submit a Compensatory Mitigation plan to the USACE and NJDEP during the permit phase for the unavoidable, impacts allowed under the FONSI.	4.19.7
The Pump Station should not be considered separate from the bridge project. (1)	At one point in time, the NJDOT planned on building the pump station as a separate project and completed a Categorical Exclusion for that project. However, due to delays in funding for the pump station project, the NJDOT has decided to include the pump station impacts within this EA.	3.4.2
NJDOT must apply for and secure federal and state environmental permits. (10)	The NJDOT agrees that it will prepare, submit and secure permit approval for state and federal regulators at the appropriate time.	4.15
The NJDOT should provide detailed scientific information in the EA so the resource agencies such as EPA and NMFS can determine if there is any significant impact. (11,12, 16)	NEPA regulations require that the FHWA make all determinations of significant impact after consultation with the agencies. EPA and other agency comments will be considered in the FONSI. Environmental studies have been published onto the NJDOT website and copies of the studies on digital format on CD are included in the revised EA.	N/A
NJDOT must submit detailed design construction methods like Port-a-Dams to the NJDEP and EPA prior to the FHWA completing the Finding of No Significant Impact. (11,12)	For the purposes of this EA, NJDOT has assumed temporary bridges and sheet pile cofferdams will be used in construction of foundations. Any changes to this design will be submitted to the FHWA for an Environmental re-Evaluation. Furthermore, detailed construction techniques may be presented during the NJDEP and USACE permit process.	4.7
Comment that the Technical Study on Ecology should have been appended to the EA for their review. (11,12, 16, 17)	Technical studies can be found on the NJDOT website for the Route 72 Causeway project and have been attached in a CD to each recirculated EA sent to the resource agencies.	N/A
The consultation for US FWS for Endangered Species Act (ESA) needs to be completed prior to the FONSI. (12)	The NJDOT consulted with the USFWS pursuant to the ESA. A copy of this letter was included in the EA. Endangered and threatened migratory sea turtles are known to use the Manahawkin Bay for forage but not for nesting habitat. Timing restrictions will be employed to address potential impact to migratory and anadromous species. The USFWS determined that no federal threatened or endangered species or their critical habitat are located in the project area and no further consultation is required.	Appendix A
The NJDOT needs to complete consultation with the National Marine Fisheries Service regarding Essential Fish Habitat. (11,12,14,17)	The EFH consultation is complete.	4.8.2

TABLE 3 - Procedural Comments (continued)

Comment	Response to Comment	Section in EA
NJDEP LURP concurs on the Initially Preferred Alternative subject to submitting a permit application and meeting the appropriate mitigation requirements. (9)	NJDOT and FHWA appreciate the NJDEP-LURP's conditional concurrence with the selected alternative.	N/A
What are the life expectancies of the bridges? (10)	The expected design life for the new bay bridge and the rehabilitated bay bridge are 75 years, the design life of the new bridge decks on the existing Bay Bridge are 50 years. The expected design life of the rehabilitated trestle bridges is 25 years. The existing bridges were constructed more than 50 years ago and the existing Bay Bridge is currently listed as structurally deficient and functionally obsolete.	N/A
Are there maintenance cost differences for two compared to one bridge? (10)	The NJDOT estimates future maintenance costs based upon the deck area of a bridge, so a wider bridge will have a higher maintenance cost. Two bridges can cost less to maintain than a single bridge since traffic can be detoured to one bridge while the contractor works on the other bridge. Life Cycle costs include maintenance.	4.17
Commenter supports the selection for the rehabilitated bridges and retaining utilities on the bridges. (11)	NJDOT acknowledges the support.	N/A
Commenters request a more detailed discussion of the stormwater management approach and are opposed to offsite stormwater management approaches. (11, 12)	A more detailed discussion on stormwater management is provided in the EA. Onsite measures can meet permit regulations. Probable facilities are shown on the Preferred Alternative Plan. Off site measures may be installed if the science indicates that offsite measures will provide superior results. Pavement design is performed in final design and pervious pavement will be considered.	4.9.2, 4.9.3
The FHWA is required perform a Cumulative Impact Analysis that lists anticipated projects and their impacts (12)	The FHWA addressed the Cumulative Impact Analysis in the EA. Listing specific projects is only needed when such projects are reasonably foreseeable projects and that such projects were triggered by the causeway project. This project simply preserves the existing highway linkages and improves safety and operation. NJDOT does not anticipate any projects will be triggered by this project and therefore is not required to list them or consider the potential impact in this EA. The NJDOT will not increase traffic capacity or significantly alter access to properties, LBI and Beach Haven West are fundamentally built out. The NJDOT does not anticipate that maintaining the status quo will trigger other projects.	4.3
Include more detail on how the goals and objective were used. (16)	The NJDOT has added discussion addressing how the goals and objectives were used in alignment selection.	4.18.6
Commenters recommend Cowardin classification system to describe wetlands. (16, 17)	We agree that Cowardin System is more precise but includes much more technical language. FHWA guidance recommends the environmental document to be directed to the general public. The permits will include a more precise discussion of the wetland types.	4.7
Commenter prefers on-site mitigation and suggests that off site mitigation should not be employed. (16)	Federal and state permitting regulations allow both on-site and off-site mitigation. The NJDOT will attempt to use on site mitigation whenever practical. However, NJDOT may recommend Off -site or out of kind mitigation if it will perform better than on-site mitigation. The NJDOT will consult with resource agencies during the permit phase.	4.19.7
Include detailed discussion of a broad range of ecological and community resources The commenter does not limit this discussion only to those resources having significant impact.(16)	The NJDOT performed an Ecology Technical study that includes assessment of impacted resources. The EA contains brief discussions of the impacted resources and estimates the likely total impact on the resources. No resource was found to have a significant impact.	N/A

TABLE 4- Comments Related to Mitigation

Comment	Response to Comment	Section in EA
What measures are being initiated to protect and manage wetlands? (1, 8, 11, 12,)	The NJDOT selected alternative only has a small amount of wetland impact. The impacts to wetlands will be mitigated by any one of the approved wetland mitigation approaches: creation, enhancement or banking according to federal and state wetland rules.	4.7.2, 4.19
Will the NJDOT add fishing piers and canoe or kayak launch facilities? (9, 10, 11)	NJDOT is collaborating with local state and federal agencies and the general public on a public access plan. The NJDEP reviews and approves this access plan during the permit phase of the project. Among the public access facilities being considered are kayak/ canoe launches on the man-made island, walkways, enhanced access to the Edwin B. Forsythe National Wildlife Refuge, improved parking at each bridge and sidewalks that extend under each bridge for walking and fishing. Final design of these facilities will be submitted to the regulatory agencies as required by New Jersey coastal rules.	4.19
Commenter opposes building fishing piers where there are shellfish. (11)	NJDOT is considering a variety of public access enhancements in collaboration with the public and other agencies including the concept of building a fishing pier. The NJDOT acknowledges that the Bureau of Shellfisheries is opposed to fishing piers on this project.	4.19
What stormwater runoff measures are being instituted to prevent downgrading shellfish waters? (11)	The NJDOT will be meeting all stormwater management regulations and proposing a stormwater management program to control the amount of sediment discharging to the bay. NJDOT will minimize the impact to riparian areas in accordance with coastal permit programs. In addition, the NJDOT is cooperating with the BBNEP to identify opportunities to maximize the benefit of the stormwater management program and address non-point source pollution on a watershed targeted basis.	4.9.2, 4.9.3
Commenters are concerned about the methods to mitigate SAV. (11,12)	NJDOT will negotiate with the appropriate regulatory agencies the methods for mitigating for SAV impacts.	4.19.7
Commenter states that indirect impacts to aquatic resources appear to be unmitigated due to the recognized lack of sufficient on-site stormwater basin size. Commenter also has reservations with the off-site mitigation discussion (17)	Stormwater Management approaches included in the EA will the state and federal stormwater management rules but are expensive. NJDOT will continue to coordinate with the NJDEP and USACE in considering potential stormwater management methods that include off-site locations.	4.9.2, 4.9.3
How will shellfish impacts be mitigated (16)	Shellfish impacts will be mitigated in accordance with NJDEP regulations which include compensation to the State for the loss and by allowing commercial fishermen to harvest shellfish prior to disturbing the bottom.	4.19.7
Commenter recommends allowing mitigation on private property. (14)	The NJDOT favors stormwater management on publicly held property to assist in enforcing and maintaining the measures. However, the NJDOT will consider wetland, SAV and other mitigation on private property where it is appropriate, necessary and enforceable.	4.19.7

TABLE 5 - Miscellaneous Comments

Comment	Response to Comment	Section in EA
Commenter wants definition of temporary and permanent impacts (11)	For the purposes of the EA temporary impacts are all impacts that will not result in permanent structure or fill after construction activities are completed.	N/A
Mitigation of unavoidable impacts is required by permit applications submitted to the US Army Corps of Engineers (16)	NJDOT agrees and will submit a detailed mitigation plan as part of the permits.	4.19.7
Commenters object to referring to Submerged Aquatic Vegetation as seaweed. (11,12, 17)	The NJDOT will remove the term seaweed .	4.7.2
Commenter asked why Figure 4a does not include SAV while Figure 4b does. (11)	There were too many affected resources adjacent to the Route 72 causeway to clearly show on a single figure. Figure 4.1A shows parklands, refuges and contaminated sites. Figure 4.1B showed upper and lower wetlands lines, delineated wetland lines and submerged aquatic vegetation and riparian areas.	Figure 4.1.b
The EA does not include project maps identifying the waters and islands in the project area. (12)	The NJDOT will update the maps to identify the islands. Proceeding west to east, the first island is man-made created solely for building the first two bridges that crossed Manahawkin Bay, the second and larger bay island is known as Bonnet Island, the third island is known as Cedar Bonnet Island.	Attachment A
Please discuss the greenhouse emissions from the project during construction. (12)	NJDOT will include a discussion in the revised EA.	4.10.1
Discuss sea level rise effects on the project. (12, 17)	This is discussed in the revised EA	4.16
Is the Bay Avenue intersection at Route 72 the same as E. Bay Avenue intersection? (12)	The NJDOT has no mapping that references E. Bay Avenue. Bay Avenue extends from near the western end of the bridge over Hilliard's Thorofare, and runs west for several miles and ends at Route 9. Bay Avenue intersects Marsha Drive.	N/A
Add existing noise contours and receptors. (12)	There is such a small change between existing and proposed noise that it is not practical compare them on a map. Noise increases are below thresholds for impacting the refuge. There are no increases in residential areas.	N/A
There are numerous pages missing and letters missing in the on line version of the EA. (12)	The online version referenced by the commenter was corrected.	N/A
Remove likely presence of short nosed sturgeon in Manahawkin Bay area.(16)	Removed reference to short nosed sturgeon in the EA.	4.8.1
Essential Fish Habitat Assessment needs to be completed. (16)	NJDOT completed EFH consultation with (NOAA-NMFS)	4.8.2
Explain how impacts on EFH have been minimized.(16)	EFH is a particular habitat within the open waters of Manahawkin Bay and as described by the NMFS is mostly associated with SAV. Impacts to SAV have been minimized by 1) opting for the rehabilitation of the three trestle bridges and avoiding any impact to SAV. 2) Building the new Bay Bridge only wide enough to maintain traffic during replacement of the existing bay bridge. 3) Reducing width of the deck on the Replaced Bay Bridge. 4) using temporary trestles during construction 5) maximizing span lengths of the new bridge; 6) and using retaining walls near shorelines.	4.8
Explain how reducing the width of the replaced Bay Bridge minimizes impact to EFH. (16)	Impacts to EFH include shading of SAV since the shade cast by the bridges reduces sunlight to the bay bottom. SAV is considered EFH. Shading impact is measured by the vertical projection of the bridge deck. When bridge deck is reduced, impact to SAV is reduced.	4.7

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July 26, 2010

Mr. Bruce Hawkinson
New Jersey Department of Transportation
1035 Parkway Avenue
P.O. Box 600
Trenton, New Jersey 08625

RE: Route 72 Manahawkin Bay Bridges Project

Dear Mr. Hawkinson:

I am submitting these comments to the New Jersey Department of Transportation (NJDOT) regarding the Environmental Assessment (EA) for the Route 72 Manahawkin Bay Bridges Project on behalf of the Barnegat Bay Partnership (BBP), a partnership of federal, state, and local government agencies, academic institutions, nongovernmental organizations, and businesses working together to restore and protect a nationally significant estuary, the Barnegat Bay. The BBP was established in 1997 pursuant to Section 320 of the Clean Water Act (33 U.S.C. 1330; as amended by P.L. 100-4, *et seq.*) following the nomination of former Governor Whitman to provide an inclusive, local stakeholder-based mechanism to protect the Barnegat Bay for its economic, environmental, and cultural resources.

The BBP has a number of concerns with the draft EA, primarily with the (1) use of onsite stormwater BMPs, (2) offsite stormwater mitigation, (3) sea level rise, and (4) impacts to Essential Fish Habitat (EFH). However, the BBP also has a number of other concerns about the overall quality of the document, including statements which lead to poor readability and understanding.

Onsite Stormwater BMPs

Both the EFH and shellfish sections (4.8.2 and 4.8.3, respectively) indicate that part of the NJDOT's strategy to minimize adverse impacts to these resources is to utilize "…stormwater quality controls in the built condition to greatly minimize any indirect impacts to this vital resource" (pages 4-13). However, the NJDOT also recognizes in Section 4.9.2 that the proposed stormwater basins "… are not big enough to meet all the requirements of the NJDEP Stormwater Management Rules." The indirect impacts to these resources, which appear to be essentially unmitigated given these conflicting statements, should be taken into account when determining the regulatory required mitigation/restoration, and discussed clearly in the appropriate sections.

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Offsite Stormwater Mitigation
The BBP has some reservations with the way off-site mitigation is discussed throughout the EA. It is, and always has been, the BBP's contention that all mitigation should be conducted within the project limits to the maximum extent possible, especially in regard to habitat. However, we also recognize that within the limited confines of the project area it will be impossible to mitigate for *all* of the stormwater nutrient runoff impacts associated with roadways. For example, we note that most ammonia discharged in automobile exhaust falls in the vicinity (*i.e.*, 100 feet) of roadways. Ammonia is not assessed by most states, but is produced by catalytic converters at some operating temperatures. In addition, emissions of other nitrogenous byproducts are also contributing to the bay's eutrophication. Thus, offsite (but nearby) mitigation which addresses nutrient inputs to the bay would be a viable *addition* to the required on-site mitigation. While not reducing all nutrient impacts in the immediate vicinity of the project, offsite mitigation will lead to an overall reduction in nutrient loading to the bay, and potentially provide for additional educational opportunities for surrounding communities.

Sea Level Rise
Missing from the EA is a discussion regarding the extent of sea level rise and its impact upon the bay islands and Ship Bottom portions of the project. One of the factors driving the proposed improvements to the Ship Bottom section of the project is flooding, which may likely impede egress from the island. In light of the projected changes in sea level over the lifetime of the proposed improvements, the EA should include a discussion regarding how the preferred alternative takes sea level rise into account.

Impacts to Essential Fish Habitat
Section 4.8.2 of the EA indicates that there are anticipated adverse impacts to Essential Fish Habitat, and that the NJDOT will work with National Marine Fisheries Service (NMFS) to mitigate for these impacts. The extent of the impacts, and what mitigating measures may be employed, is not fully discussed. In order to assess the overall impact to this resource, this section should be revised and copies of the consultations with NMFS should be included in the Appendix.

Other Concerns
The descriptions of the wetland types in Section 4.7.2 are not the standards used in the manuals referenced in Section 4.7.1, nor in the Cowardin classification system, on which some of the manuals are based. A "coastal wetland" is defined in the EA by a dominance of *Phragmites communis*, but one could reasonably expect that a saline low marsh and a saline high marsh would also be considered coastal wetlands. The same could be said for forested wetland, mixed scrub-shrub/emergent wetland, and freshwater wetland. The first two are subtypes of the third. A more accurate description would be palustrine forested (PFO), palustrine scrub-shrub (PSS), and palustrine emergent (PEM). These errors in nomenclature lead to confusion later when the areas of disturbance are classified. Does disturbance to coastal wetlands mean only to a *Phragmites* dominated system, or to saline low or high marshes? Which communities does disturbance to freshwater wetlands

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impact? The ecological functions of these systems vary; therefore, the severity of impacts due to the project's construction also may vary.

The technical studies listed in Chapter 5 and referenced throughout the text, including the "Technical Environmental Study on Ecology" prepared by Amy S. Green Environmental Consultants, are not included in the EA. The reader is directed to this document a number of times, yet it is neither appended to the report nor available on the NJDOT website. This and other documents provide the underpinnings for the assumptions and statements made throughout the EA; they should be available for review.

There are a number of other errors throughout the document. In Section 4.7.3, SAV is described as "seaweed," which may lead many readers to conjure an image of sea lettuce (*Ulva lactuca*), when in fact SAV traditionally signifies eelgrass (*Zostera marina*) in this section of the bay. In Section 4.8.3, the EA states that "Shellfish are filter feeders ... they actually help clean up the bay by removing plankton and other impurities in the water" implying that plankton are impurities that need to be removed. Additionally, while shellfish are filter feeders, they selectively ingest phytoplankton and tend to reject other material. "Impurities" such as sediment and detritus are generally not ingested. Lastly, a number of the figures provided are not clearly labeled, and in many cases do not convey the information needed to perform a thorough evaluation of the project.

In summary, we recognize the need for and purpose of the project, but have a number of concerns about the project, especially the mitigation. We recommend that the EA be revised to address these concerns. We appreciate being given the opportunity to provide these comments to the NJDOT and look forward to continuing to work with the department to reduce the project's adverse impacts. Please contact me or Jim Vasslides (732-255-0472, ext. 3 or 6, respectively) if you have any questions.

Sincerely,

L. Stanton Hales Jr., Ph.D.
Director

Cc: Mr. Mike DeLucca, Rutgers University
Mr. Robert Nicholson, US Geological Survey
Mr. David Friedman, Ocean County Soil Conservation District

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UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Habitat Conservation Division
James J. Howard Marine
Sciences Laboratory
74 Magruder Road
Highlands, NJ 07732

July 6, 2010

7/13/10
Rick Cuen
Walt McGrosky
RMgja

Richard Hammer, Assistant Commissioner
New Jersey Department of Transportation
Capital Management Program
PO Box 600
1035 Parkway Avenue
Trenton, NJ 08625

Dennis Merida
Federal Highway Administrator
New Jersey Division Administrator
840 Bear Tavern Road, Suite 310
West Trenton, NJ 08628

ATTN: Bruce Hawkinson, Environmental Project Manager
RE: Route 72 Manahawkin Bay Bridge Project

Dear Mr. Hammer and Mr. Meridia

NOAA's National Marine Fisheries Service (NMFS), Northeast Region, Habitat Conservation Division has reviewed the environmental assessment (EA) for the Route 72 Manahawkin Bridges Project prepared by the U.S. Department of Transportation (USDOT), the Federal Highway Administration (FHA) and the New Jersey Department of Transportation (NJDOT) and dated April, 2010. It appears that the preferred alternative selected by the NJDOT involves the rehabilitation of the existing Route 72 Bridge over Manahawkin Bay, also known as the Bay Bridge as well as three smaller trestle bridges, collectively known as the Route 72 Causeway. Also included is the construction a new Bay Bridge south of the exiting bridge along with roadway improvements in Stafford Township and Ship Bottom, Ocean County, New Jersey.

Overall, the EA does not clearly and concisely identify the project purpose and need, the alternatives that were evaluated or even the selected preferred alternative. It appears that some of the needed information is in the document, but it is difficult to find. It is also unclear if this document is a draft EA or a final EA, or what the next steps will be for National Environmental Policy Act (NEPA) process.

We recommend that the EA be revised to correct significant deficiencies. A revised EA should clearly describe the project purpose and need with the appropriate justifications. The full range of alternatives considered should be discussed as well as the criteria used to screen the alternatives and the rationale for selecting the preferred alternative. A separate section on the affected environment should also be included. The document should be more of an environmental analysis of the project's purpose, need, alternatives and impacts as required under the NEPA. From the outset, it is difficult to determine what is being proposed and why. We recognize that the Route 72 Causeway is the only access way to Long Beach Island; and that it is essential to maintain safe and open access for residents, emergency vehicles

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and such. We also understand that the existing Bay Bridge and trestles are in need of extensive repairs. However, the EA does not state this clearly or explain why a second Bay Bridge, bike lanes and other ancillary features are needed, the range of alternatives considered or the criteria used to evaluate the alternatives. Also lacking is a clear description of the affected environment and the effects of the alternatives considered on that environment. Documentation of avoidance and minimization of the impacts are not presented clearly; and a compensatory mitigation plan is absent.

Our comments on the specific sections of the EA are as follows:

Chapter 1 - Executive Summary
This section does not summarize clearly the contents of the EA, or provide an overview of the total project, its full purpose and need, the alternatives considered, the affected environment or the environmental effects. It should be revised from its current informal question and answer format into a more well-defined summary of the document.

Chapter 2 – The Purpose and Need for the Project
Section 2.5 of this section is titled, "Purpose for the Project." This should be the first section of this chapter. Section 2.6 of this section is titled, "The NJDOT has identified three needs for the project." This section should be next. The sections preceding these can be used to provide supporting information for a clear statement of purpose and need. Addition supporting information on the traffic capacity issue should also be included. Section 4.1 seems to contain much of this supporting information which should be included in this section. Removing the old bridge would reduce project costs and allow for the replacement of some aquatic habitats lost by the construction of the new bridge to be restored within the project area.

Section 2.4 - Consideration of the project's natural setting does not appear relevant to the project's purpose or need. The information in that section would best fit in the Affected Environment Chapter and in the chapters that addresses the screening of alternatives and the project impacts.

Section 2.7 lists the goals and objectives NJDOT used to refine each of the alternatives that met the project purpose and need. It is not clear if these goals and objectives were used as screening criteria, how they were weighed in the analysis or why they should be considered as part of the project. In particular, while the goal/objective to "target public access, stormwater management and environmental mitigation using watershed needs" may appear to be acceptable, any mitigation, be it public access, stormwater or aquatic habitats such as essential fish habitat (EFH), shellfish and submerged aquatic vegetation (SAV) must offset the adverse effects of the project. For example, loss of public access at the bridge site cannot be replaced by constructing a public access facility on one of the creeks along the bay. Furthermore, if these goals/objectives were used to screen the alternatives considered for the bridge, how they were developed and used should be discussed in detail in Chapter 3 – Developing the Alternatives.

Chapter 3 – Developing the Alternatives
This chapter's function should be to provide information on the full range of the alternatives developed originally by the NJDOT. The alternatives should be directly tied to the project purpose and need. It should also include a discussion of factors such as agency or environmental constraints; references to policy in planning documents, legislation, or elsewhere; site characteristics; and factors such as sensitive environmental resources that narrowed the range of possibilities as well as the alternatives eliminated from further study. The chapter should briefly state the reasons they have been eliminated. However, most of this information is lacking from the EA. There does not appear to be a clear discussion of the full range of alternatives considered, the methodology or criteria used to evaluate them or what the goals and objectives identified in Chapter 2 played in the evaluation.

From the information provided, it appears that only four alternatives, including the no build alternative, were considered. The other three alternatives include: rehabilitation, replacement and replacement and rehabilitation. The no action alternative includes only the minimum maintenance needed to continue the function of the bridge. The document could expand this alternative by evaluating options of doing more maintenance of the existing bridge than just the minimum.

Alternative 1 - Rehabilitation includes some improvements to Marsha Drive in Stafford Township, the rehabilitation of the trestle bridges, the replacement of the deck in the Bay Bridge and the widening of the existing substructure to support four lanes of traffic and two sidewalks which could be converted into additional traffic lanes in the future. Drainage and traffic improvements in Ship Bottom would also be constructed.

Alternative 2 – Replacement includes more extensive improvements in Stafford Township, replacement of the trestle bridges, the construction of a new Bay Bridge to the south of the existing bridge and the same drainage and traffic improvements in Ship Bottom.

There is no discussion in this section of what appears to be a hybrid of Alternative 1 and 2, and the preferred alternative of NJDOT – a combination of rehabilitation and replacement. In fact, the first somewhat clear description of the preferred alternative cannot be found until section 4.16. Chapter 3 also does not appear to include any discussion of how these components were selected and designed. Chapter 3 should include a discussion of all the alternatives considered. For example, was replacement of the Bay Bridge to the North considered? What about removal of the old bridge once the new one is built? What options were considered for the landside traffic improvements? Some of these questions may have been addressed in previous reports, but the EA should be a stand alone documents that includes this type of information.

Chapter 4 - Alternatives Analysis and Affected Environment

These should be separate chapters with the "Affected Environment" chapter being first. A full and complete description of the environment of the project area should have been included in the EA. This would have allowed a full appreciation for the current conditions in the project area. Without this information, it is not possible to assess fully the impacts of any of the alternatives, or to understand the scope and nature of the effects of the project on the environment. Topics include aquatic environments including wetlands, SAV, shellfish, water quality, and water supply; and terrestrial environments including undeveloped areas, developed areas, demographics, noise, environmental justices, traffic, soils, health and safety. We note that the project area has extensive areas of wetlands, SAV beds and shellfish beds. Essential fish habitat (EFH) for a number of federally managed species has also been designated within the project area.

In the first sentence of this chapter, it states that the NJDOT selected two build alternatives to evaluate in detail. As mentioned above, there is no discussion of the full range of alternatives originally developed. There does not appear to be any justification for why only two alternatives were selected for detailed analysis.

Section 4.7 includes a discussion of wetland impacts, but refers the reader to a document called "the Route 72 Manahawkin Bay Bridges Technical and Environmental Study on Ecology." The EA should be a stand alone document that contains sufficient information to allow the reader to understand and evaluate the impacts of the project on the environment. A report such as the one cited above should be included as an appendix to the main document or the results of the report should be included in the body of the EA. It would also be helpful if pertinent sections of the study were referenced to validate critical positions assumed by the applicant. Without more technical information on the nature and extent of the wetlands in the project area and what the impacts to the wetland will be, it is not possible to assess the adequacy of the

avoidance, minimization or mitigation.

Further, the wetlands identified in the document should be classified using the Cowardin classification system (Cowardin et al. 1979), a methodology commonly used to classify wetlands and deepwater habitats. The Cowardin system has been adopted as the National Vegetation Classification Standard for wetlands according to the U.S Army Corps of Engineers' Environmental Laboratory (http://el.erdc.usace.army.mil/emrrp/emris/emrishelp2/cowardin_s_wetland_and_deepwater_habitats_spatial_topics.htm.) The EA uses terms like "coastal wetlands" that have little value in describing the vegetation or functions of a particular wetland. We recognize that the State of New Jersey uses certain wetland classifications in their rules to distinguish which regulations cover a particular area. However, we expect an EA for a project such as this to clearly identify each type of wetland, estuarine emergent (salt marsh), estuarine scrub/shrub, palustrine emergent, etc, would be impacted by the various alternatives. The EA should also contain a wetland delineation and cover type mapping.

As currently presented, the EA does not provide a clear discussion of the types of wetlands to be impacted Further, the EA appears to merely list the acreages to be affected, but does not break it down by vegetative cover type. Wetland types are not interchangeable. The functions and values of forested wetlands are quite different than those of an estuarine emergent wetland. As stated above, this information is needed to assess the project's effect on the functions and values of the wetlands to be impacted and the adequacy of any mitigation that is proposed.

Section 4.7.3 addresses intertidal and subtidal shallows, but as with the wetland section, it lacks the detail needed for a full and complete evaluation of the impacts. Again, a technical document is referenced, but not included as an appendix.

Section 4.8.1 Threatened and Endangered Species and Species of Concern

~~The EA incorrectly includes shortnose sturgeon (*Acipenser brevirostrum*) as an endangered species that~~ may be present in the project area. Shortnose sturgeon are not known to occur in the Manahawkin or Barnegat Bay region. Federally listed sea turtles may be found seasonally in the project area, typically between April and November. The species that are likely to be present include threatened loggerhead (*Caretta caretta*) sea turtles as well as endangered Kemp's ridley (*Lepidochelys kempi*), leatherback (*Dermochelys coriacea*) and green (*Chelonia mydas*) sea turtles.

Some of the activities proposed in the EA may affect fish populations, marine mammals and sea turtles. Under Section 7(a) (2) of the ESA, each Federal agency is required to insure that any action they authorize, fund or carry out is not likely to jeopardize the continued existence of any endangered or threatened species. Consultation may be necessary by the lead Federal agency. For additional information or questions on listed species or about the ESA Section 7 process, please contact Julie Crocker of NMFS Protected Resources Division at (978)282-8480 or julie.crocker@noaa.gov

Species of Concern are those species about which NOAA's National Marine Fisheries Service (NMFS) has some concerns regarding status and threats, but for which insufficient information is available to indicate a need to list the species under the Endangered Species Act. Species of Concern that may occur in the project area include alewife (*Alosa pseudoharengus*) and blueback herring (*Alosa aestivalis*) that use tributaries of Manahawkin Bay such as Mill Creek, Tuckerton Creek, Willis Creek, Westecunk Creek, Cedar Creek, Gunning River, Fresh Creek, Double Creek and Forked Riveras spawning, nursery and forage habitat (NJDEP 2005). Because landing statistics and the number of fish observed on annual spawning runs indicate a drastic decline in alewife and blueback herring populations throughout much of their range since the mid-1960's, they have been designated as species of concern by NMFS in a Federal Register Notice dated October 17, 2006 (71 FRN 61022).

4.8.2 Essential Fish Habitat

The project area has been designated as essential fish habitat for a number of federally managed species including Atlantic butterfish (*Peprilus triacanthus*), Atlantic sea herring (*Clupea harengus*), bluefish (*Pomatomus saltatrix*), black sea bass (*Centropristus striata*), cobia (*Rachycentron canadum*), king mackerel (*Scomberomorus cavalla*), scup (*Stenotomus chrysops*), Spanish mackerel (*Scomberomorus maculatus*), summer flounder (*Paralichthys dentatus*), windowpane flounder (*Scophthalmus aquosus*), winter flounder (*Pseudopleuronectes americanus*), winter skate (*Leucoraja ocellata*), little skate (*Leucoraja erinacea*) and clearnose skate (*Raja eglanteria*).

The MSA requires federal agencies such as USDOT or FHA to consult with the Secretary of Commerce, through NMFS, regarding any action or proposed action authorized, funded, or undertaken by the agency that may adversely affect essential fish habitat (EFH) identified under the MSA. The EFH regulations, 50 CFR Section 600.920, outline that consultation procedure. A Federal agency may designate a non-Federal representative to conduct an EFH consultation by giving written notice of such designation to NMFS. If a non-Federal representative is used, the Federal action agency remains ultimately responsible for compliance with sections 305(b)(2) and 305(b)(4)(B) of the MSA.

The EFH final rule published in the Federal Register on January 17, 2002 defines an adverse effect as; "any impact which reduce the quality and/or quantity of EFH." The rule further states that:

> An adverse affect may include direct or indirect physical, chemical or biological alterations of the waters or substrate and loss of, or injury to, benthic organisms, prey species and their habitat and other ecosystems components, if such modifications reduce the quality and/or quantity of EFH. Adverse effects to EFH may result from action occurring within EFH or outside EFH and may include site-specific or habitat-wide impacts, including individual, cumulative, or synergistic consequences of actions.

The required contents of an EFH assessment include: 1) a description of the action; 2) an analysis of the potential adverse effects of the action on EFH and the managed species; 3) the Corps's conclusions regarding the effects of the action on EFH; 4) proposed mitigation, if applicable. Other information that should be contained in the EFH assessment, if appropriate, includes: 1) the results of on-site inspections to evaluate the habitat and site-specific effects; 2) the views of recognized experts on the habitat or the species that may be affected; 3) a review of pertinent literature and related information; and 5) an analysis of alternatives to the action that could avoid or minimize the adverse effects on EFH.

Federal agencies may incorporate an EFH assessment into documents prepared for other purposes such as Endangered Species Act (ESA) Biological Assessments pursuant to 50 CFR part 402 or National Environmental Policy Act (NEPA) documents and public notices pursuant to 40 CFR part 1500. If an EFH Assessment is contained in another document, it must include all of the information required in paragraph (e)(3) of this section and be clearly identified as an EFH Assessment. The EA does not include an EFH assessment. However, NJDOT staff have provided us with a draft version of the assessment for which we are providing technical assistance. However, until the lead federal action agency notifies us that NJDOT has been designed as the non-federal lead for the purposes of the consultation, and we receive a final EFH assessment, we cannot provide EFH conservation recommendations.

Based upon the information in the EA, it appear likely that impacts to EFH will be adverse, particularly the effects on winter flounder and summer flounder. The project area contains SAV (eelgrass and widgeon grass), and SAV has been designated as a Habitat Area of Particular Concern (HAPC) for summer flounder. HAPCs are EFH that is judged to be particularly important to the long-term productivity of populations of one or more managed species, or to be particularly vulnerable to degradation. As currently proposed, approximately 2.54 acres of SAV, primarily eelgrass (*Zostera*

marina) will be affected directly by the project through either filling or shading. However, it is premature for us to provide conservation recommendations until a final EFH assessment has been provided to us by the lead federal action agency or its non-federal designee.

4.8.3 Shellfish

As stated in the EA, the project area has been mapped as containing areas of hard clam beds. While it may be beneficial to shellfisherman in the area to allow notify the shellfisherman prior to the start of construction to allow them to harvest any shellfish in the area, this action does not address the loss of shellfish habitat that will result from the project. Also not addressed is the affect of this habitat loss on species that prey upon shellfish as part of their diet. For example, Steimle et al (2000) reports that winter flounder eat the siphons of hard clams. Because the proposed project will result in the loss of shellfish habitat and, consequently, the loss or reduction in a food source for a federally managed species, the loss of shellfish habitat is an adverse effect on EFH. We expect the NJDOT to develop and to implement a compensatory mitigation plan that will restore, create or enhance shellfish habitat in the vicinity of the project area in order to offset the impacts to shellfish beds and to EFH. NJ Department of Environmental Protection's Bureau of Shellfisheries should be consulted to determine the most appropriate form of compensatory mitigation. In addition, portions of the project area are open seasonally from November 1 to April for the direct harvest of shellfish. Activities that generate turbidity should be avoided during this time in any area open for direct harvest.

Section 4.16 Preferred Alternative

A somewhat clear description of the NJDOT's preferred alternative cannot be found until Section 4.16 on page 4-23. However, it is still not clear how the preferred alternative was selected, the criteria used or how it fulfills the poorly defined project purpose and need. It is clear that the selected alternative will have significant impacts to SAV and EFH. We do not agree that these impacts can be mitigated as is asserted in the EA. SAV mitigation is exceedingly difficult. Opportunities to create SAV habitat or EFH are extremely limited. In addition, the EA fails to demonstrate that the impacts to these areas have been avoided or minimized to the extent practicable.

4.16.2 Measures to Minimize and Mitigate Impacts

We fail to see how a reduction in the width of the deck on the rehabilitated existing Bay Bridge will result in any meaningful reduction in impacts to the aquatic environment. We also disagree with the statement that water quality improvements and other watershed enhancements are acceptable strategies for compensating for the loss of aquatic habitat. While we do not disagree that water quality improvements and improved stormwater management would be beneficial to the Barnegat-Manahawkin Bay complex, SAV is an HAPC for summer flounder and must be replaced in-kind. We also expect in-kind replacement for wetlands, shellfish beds and EFH.

As mentioned above, the EA lacks a compensatory mitigation plan. Without the development of a plan to replace functions, values and aquatic habitats that will be lost of degraded by the proposed project, it is not possible to conclude that the project will not have a significant impact on these resources. The Federal mitigation regulations published in the Federal Register on April 10, 2008 at 33 CFR Part 332 and 40 CFR part 230 require that a mitigation plan be provided for an application to be complete by the Army Corps of Engineers. We expect that the NJDOT will have a conceptual plan for agency review prior to the submittal of a final EA or the preparation of a finding of no significant impact (FONSI).

We hope that these comments are useful in the preparation of a final EA for this project and the preparation of a compensatory mitigation plan. We look forward to additional coordination on this project as progress continues as well as the submission of a final EFH assessment. If you have any questions or need additional information, please contact Karen Greene at 732 872-3023.

Sincerely,

Stanley W. Gorski
Field Offices Supervisor

cc: EPA Region II - L. Knudson, R. Montgomerie
FWS Pleasantville -- C. Popolizio
ACOE Phila. - M. Hayduk
PRD - J. Crocker
NJDEP Bureau of Shellfisheries

Literature Cited

L. M. Cowardin, Carter, V., Golet, F.C. and LaRoe, E.T. 1979. Classification of wetlands and deepwater habitats. U.S. Department of the Interior. Fish and Wildlife Service. Office of Biological Services Washington, D.C. 20240. FWS/OBS-79/31

New Jersey Department of Environmental Protection (NJDEP). 2005. Locations of anadromous American shad and River Herring during their spawning period in New Jersey's freshwaters including known migratory impediments and fish ladders. Bureau of Freshwater Fisheries. Sicklerville, NJ.

Steimle, F.W., R.A. Pikanowski, D.G. McMillan, C.A. Zetlin, and S J. Wilk. 2000. Demersal fish and American lobster diets in the Lower Hudson-Raritan Estuary. NOAA Technical Memorandum NMFS-NE-161. Woods Hole, MA. 106 p.

From: Steve_Mars@fws.gov
Sent: Friday, July 09, 2010 10:27 AM
To: Stanton Hales
Cc: Ron_Popowski@fws.gov; Bruce Hawkinson; Karen Greene; Scott Ackerman; Spinweber.Barbara@epamail.epa.gov
Subject: Rt 72 draft environmental assessment

Stan: here is my take on the NJDOT's EA for the Route 72 bridge.

Due to the presence of numerous marine resources found in close proximity to the project site, it is expected that as part of their avoidance of impacts, the State would employ time-of-year restrictions for any in-water construction. Resources of concern include hard clam, winter flounder, SAV, and anadromous fish. An in-water construction from March 15 through September 1 should cover the most critical biological times for these species. Public access is another issue that warrants further discussion by the applicant. As with Route 52, a pedestrian pathway was incorporated into the design of the project with numerous bump-outs and underneath piers and launching ramps designed to afford public access for fishing, crabbing, etc... The NJDOT should also employ this same type of public access in association with the State's Route 52 construction. Prior to any formal applications to the Corps and NJDEP, the NJDOT will have to identify a mitigation plan to accommodate any unavoidable impacts to the aquatic environment. There has been discussion of some type of out-of-kind compensation (i.e., upgrades to existing stormwater management infrastructure) that will require further discussion by the inter-agency team (Federal and State). The applicant should also address ways to manage for invasive species upon completion of any construction. This invasive species management should coincide with the duration of any post-mitigation monitoring.

As this is the first crack by NJDOT to develop a comprehensive NEPA document, we will likely receive an supplemental NEPA document that will incorporate our concerns into their decision making process. I look forward to reviewing their revised document and any further joint inter-agency meetings that will move this project forward in a timely and environmentally protective fashion.

I am copying NJDOT to advise them of our preliminary concerns with regard to their Environmental Assessment.

Steve Mars
USFWS/NJFO
609-3838-3938 x23

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 2
290 BROADWAY
NEW YORK, NY 10007-1866

JUN 29 2010

Mr. Dennis L. Merida
Division Administrator
Federal Highways Administration
840 Bear Tavern Road, Suite 310
West Trenton, New Jersey 08628

Dear Mr. Merida:

The Environmental Protection Agency (EPA) has reviewed the Federal Highway Administration's (FHWA) Draft Environmental Assessment (EA) dated April 2010, to construct improvements and add a new bridge span to the Route 72 Manahawkin Bay Bridges, including intersection improvements starting at Marsha Drive in Stafford Township, NJ and ending at Long Beach Boulevard in Ship Bottom, Ocean County, NJ. The purpose of the project is to improve the structural integrity of the Manahawkin Bay Bridges and provide better levels of service at the intersection of Route 72 and Marsh Drive, improve traffic operation in Ship Bottom, and addressing flood impacts on the 8th and 9th streets in Ship Bottom.

EPA is concerned with the overall quality of the EA for several reasons. In several places in Chapter 4, dialogue boxes refer the reader to the "Route 72 Manahawkin Bay Bridges Technical Environmental Study on Ecology." This document is not appended to the EA, nor is it available on the New Jersey Department of Transportation Manahawkin Bridge website. Information incorporated by reference should be more readily available to the reviewers. The EA states that a detention basin to treat the runoff from the pavement of the causeway would be very expensive and explains that other alternatives are being evaluated. However, the impacts of stormwater from the causeway are not even described and the "other alternatives" are not presented. There are no mitigation plans included for wetlands, submerged aquatic vegetation, or intertidal shallows included in the EA. Nor does the EA include an Essential Fish Habitat assessment, or discuss Endangered Species Act (ESA) Consultation. Agencies, the public and environmental stakeholders should be able to evaluate all mitigation plans, the Essential Fish Habitat assessment and the ESA consultation, all of which help demonstrate your finding of no significant impact for the project, as part of the NEPA process.

Additionally, the EA does not provide an initial project map that clearly identifies all waters, islands (including artificial islands mentioned in the text of the EA) and bridge segments. Throughout chapter 4, there are letters and page numbers missing. The descriptions of the final operating configuration of the alternatives could be clearer and

diagrams of the Route 72 alternatives showing the roadway, bicycle and pedestrian lanes and directions of traffic flow would be helpful.

Finally, there are no discussions of greenhouse gases emissions from the project construction and operation or the effects of sea level rise in the future on the proposed project.

Attached to this letter are EPA's technical comments on the EA. Should you have any questions, please call Lingard Knutson of my staff at (212) 637-3747. Thank you for the opportunity to comment.

Sincerely,

Grace Musumeci

Grace Musumeci, Chief
Environmental Review Section

cc: Bruce Hawkinson, Environmental Project Manager

Enclosure

U.S. Environmental Protection Agency Comments on
Route 72 Manahawkin Bay Bridges
Township of Stafford & Borough of Ship Bottom Ocean County, New Jersey
Environmental Assessment April 2010

Page 2-4. Section 2.6.3. The EA states that "westbound Route 72 backups extend to the Bay Avenue intersection." Is the Bay Avenue intersection the same as the E. Bay Avenue ramps to Route 72?

Page 3-7. Figure 3.1. The labels on the figure are unreadable. Also, the figure should clearly diagram the points of improvement, such as the through lane in each direction on Route 72 and the "one through turn lanes" in each direction on Marsh Drive.

Page 3-7. Figure 3.2. The figure should diagram all vehicle lanes, sidewalks and bike lanes.

Page 3-7. Figure 3.3. The figure should diagram all vehicle lanes, sidewalks and bike lanes.

Page 3-9. Figure 3.4. The figure should be enlarged, and all increases in road width and proposed pump station shown.

Figures 3.5, 3.6 and 3.7 should be similarly improved.

Page 3-10. Section 3.5.3. A figure showing the placement of the pump station should be included.

Page 3-12. Will the new bay bridge have two eastbound lands during normal operations? Will the rehabilitated old bridge have 2 eastbound and 2 westbound lanes during normal operations? (Fourth bullet – land should be lane.)

Page 4-1. Section 4.2.2. Describe what the temporary bridge would entail. Will there be need for pile driving, or other types of bay impacts?

Page 4-5. Section 4.3. Describe any other existing or planned construction, development or other projects that have or will create environmental impacts to Barnegat Bay in the Long Beach Island area. The FHWA website defines cumulative impact as the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time. There is no description of this kind in the EA.

U.S. Environmental Protection Agency Comments on
Route 72 Manahawkin Bay Bridges
Township of Stafford & Borough of Ship Bottom Ocean County, New Jersey
Environmental Assessment April 2010

While the NJDOT does not anticipate any indirect impacts to growth because Long Beach Island is "for all practical purposes" fully developed, the EA should describe any other indirect impacts to the smaller islands that have communities or marinas. For example, will increased access induce growth at the Cedar Bonnet marinas?

Page 4-6. Section 4.5.3. Identify Cedar Bonnet Island on the project map.

Page 4.7. Section 4.7.3. Is Bonnet Island the same as Cedar Bonnet island?

Page 4.8. Section 4.7.1. A dialogue box refers the reader to the "Route 72 Manahawkin Bay Bridges Technical Environmental Study on Ecology" for a complete discussion on wetlands and open water analysis. This technical study is not included within the EA, nor is it available on the NJ DOT's Manahawkin Bridge website. (This document is also referenced in Sections 4.7.3, 4.10.1, 4.11, 4.12., and 4.14.)

Page 4.11. Section 4.7.3. Submerged Aquatic Vegetation is not commonly known as seaweed.

Page 4-13. Section 4.8.1. An endangered species consultation and an Essential Fish Habitat analysis must be completed with the National Marine Fisheries Service, and should be included in the EA to verify no significant impacts to threatened, endangered or commercial species.

Page 4-13. Section 4.8.3. The first sentence in the last paragraph needs to be rewritten. Plankton are not impurities in the water. Any mitigation for the loss of shellfish habitat should be included in the EA.

Page 4-14. Section 4.9. Section titles in the Chapter 4 of the EA (as seen in the website version) are missing letters and numbers. Page numbers are missing, as well.

Page 4-15. Section 4.9.2. The construction and placement of stormwater basins must be described in the Final EA. Also, the EA should discuss the possible use of pervious pavement in Alternatives 1 and 2.

Page 4-16. Section 4.9.3. The location of riparian impacts in Alternatives 1 and 2 should be stated clearly and identified on a map. This is the first time the term "artificial islands" has been used in the EA.

U.S. Environmental Protection Agency Comments on
Route 72 Manahawkin Bay Bridges
Township of Stafford & Borough of Ship Bottom Ocean County, New Jersey
Environmental Assessment April 2010

Page 4-18. Section 4.10.2. There is no Figure 4.2 series in the document. There are Figures 1, 1.2 A, and 1.2 B showing the 2035 build and no build noise contours, but no noise contours for existing conditions. The noise section would be clearer to residents if the existing structures now in Category B were identified on a map, along with the existing noise levels. They can then be compared to each alternative's projected noise levels. The same should be done for the Edwin B. Forsythe National Wildlife Refuge area.

Page 4-18. Section 4.10.4. While the EA discusses noise from the pump station qualitatively, it is difficult to determine the impact of the noise to a sensitive receptor when a site for the pump station has not been clearly identified.

Page 4-19. Section 4.11. NJ DOT should evaluate the acquisition of energy efficient lighting for all lights on the bridge. Also, as Barnegat Bay has been recognized as a wetland of global significance, EPA recommends that NJ DOT discuss the appropriate placement of lighting fixtures to minimize impacts to birds and wildlife.

Page 4-21. Section 4.14. This section does not discuss contaminated sediments within Barnegat Bay. Will any sediment testing be required by the US Army Corps of Engineers for this project?

Page 4-20. Section 4.16. A full diagram of the preferred alternative should be included in this section. As we understand it, the bay portion of the bridge will have a parallel span for a total of eight traffic lanes that will be connected to rehabilitated trestle bridges that still only have four lanes for traffic.

Page 4-24. Section 4.16. If the new pump station will not prevent flooding from major storms "that raise the tidal elevations above the street level..." describe the range of the pump operation.

Page 4-27. Section 4.16.3. Efforts to address non-point source pollution to Barnegat Bay, are not appropriate mitigation for the impacts described. Compensatory mitigation provided for the impacts to 0.32 acres of coastal wetlands, 1.54 acres of shallow water habitat, and 2.54 acres of submerged aquatic vegetation must replace the lost functions and values to the aquatic environment and be consistent with the federal mitigation regulations at 33 CFR Part 230 & 40 CFR Part 230 (Compensatory Mitigation for Losses of Aquatic Resources; Final Rule).

U.S. Environmental Protection Agency
Region 2
Strategic Planning and Multi-Media Programs Branch
Division of Environmental Planning and Protection
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facsimile transmittal

To: Bruce Hawkinson
Office: 609-530-3840
From: ~~[illegible]~~ Lingard Knutson
Office: SPMMPB
Re: Manahawkin Bridges

Date: 6/30/10
Fax: 212-637-3771
Phone: 212-637-3747
Pages: 6 (including cover)

☒ Urgent ☐ For review ☐ Please comment ☐ Please reply ☐ Please recycle

From: Singh, Kuldip

Sent: Thursday, June 24, 2010 9:23 AM

To: Pankesh Patel

Cc: Mumber, Joe; Burton, Judith; Grenier, Jennifer J.; 'Marshall Robert (mrobert@rowbearconsulting.com)'

Subject: Route 72 Bridges - Response to EA Comment

Attachments: Lane Closures Schedule & Special Events Pavement Repairs as of 10 23 09.doc; Rt72 Evac_Final Report.pdf; 2015 off season evacuation analysis_060410.docx

Hello Pankesh:

PB has prepared the following response to the questions in the email below:

- *What impact might the off-season construction staging (specifically providing one lane per direction) have on the evacuation of LBI during the off-season months that may overlap with Hurricane season? (The Hurricane season normally runs from June 1st through November 30th).*
- *Will there be an overlap?*
- *Were traffic studies done for this period?*

The traffic volume data between mid-October to mid-April is considered as being the off-season since volumes are low enough to allow one lane per direction at satisfactory levels of service, if needed. Attached is the most recent lane closure schedule allowed by NJDOT Traffic Operations for the recent pavement repair project, which shows an allowable reduction to one lane per direction at anytime from mid-October to the end of March.

Based on this information the current plan for the off-season construction staging for the Route 72 Trestle Bridges is to allow one lane per direction at anytime (barring certain special events to be discussed with the townships) from mid-October through the end of March.

Hurricane season normally runs from June 1st through November 30th. As such there will be an overlap of the hurricane season with the period of one-lane operations from mid-October through the end of November.

During the Feasibility Assessment (FA) project, PB performed a traffic analysis to assess the time an emergency evacuation would take during peak season with the current bridge configuration. In response to the current request, PB utilized the same methodology to assess the emergency evacuation time during the off-season with only two lanes available. Both of these reports are attached for reference.

Based on the prior traffic/planning studies (Emergency Evacuation) that we did during FA for Summer Peak Season with the LBI population estimated at approximately 100,000, the existing lane configuration (4 lanes) would require 10hr-13hrs (yr 2007 to 2027, respectively) for a total evacuation. To evaluate the acceptability of this time frame, we compared it to evacuation criteria for other coastal

regions (no criteria time has been set by New Jersey). This timeframe is within the 18 hour evacuation criteria used by North Carolina. Based on the evacuation analysis for the off-season with only 2 lanes available in 2015 (with an estimated island population of 9,400), the total evacuation of LBI would take 5 hours. As such it can be concluded that the construction staging in the off-season is acceptable for evacuation purposes.

Thanks

Kuldip Singh

From: Pankesh Patel [mailto:Pankesh.Patel@dot.state.nj.us]
Sent: Wednesday, May 19, 2010 11:23 AM
To: Singh, Kuldip
Cc: Mumber, Joe
Subject: Fwd: Route 72 Manahawkin Bay Bridges Project

Kuldip,

We started receiving comments on EA. Please provide me with the answer to the attached OEM comment.

Thanks

0001
1 STATE OF NEW JERSEY
2 DEPARTMENT OF TRANSPORTATION
3 OFFICE OF COMMUNITY RELATIONS
4 ROUTE 72 MANAHAWKIN BAY BRIDGE PROJECT
5 PUBLIC HEARING
6 * * * *
7 HELD AT: Stafford Township Municipal Building
260 East Bay Avenue
8 Manahawkin, New Jersey 08050
9 HELD ON: Wednesday, May 26, 2010
10
IN ATTENDANCE:
11
LUCY SANDERSON
12 SCOTT ACKERMAN
PANKESH PATEL
13 JOE MUMBER
14
15
16
17 REPORTED BY: DEBRA RICE, Court Reporter
18
19
- - - -
20
21
22
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24 Suite 1200 Mt. Laurel, NJ 08054
Philadelphia, PA 19103 (856) 235-5108
25 (215) 928-9760
0002
1 MS. SANDERSON: Thank you for
2 attending. Before we start, I would like to ask
3 you to silence your cell phones, please. Good
4 afternoon, ladies and gentlemen; my name is Lucy
5 Sanderson of the New Jersey Department of
6 Transportation Office of Community Relations. I
7 will be serving as the hearing officer today.
8 This hearing has been scheduled to provide the
9 public the opportunity to formally comment on the
10 environmental assessment that supports a finding
11 of no significant impact for the Route 72
12 Manahawkin Bay Bridges Project in the Township of
13 Stafford and the Borough of Ship Bottom, Ocean
14 County, New Jersey.
15 The proposed project includes
16 intersection improvements starting at Marsha
17 Drive in Stafford Township and ending at Long
18 Beach Boulevard in Ship Bottom. The project will
19 consist of expanding the intersection of Marsha
20 Drive/Route 72 to add through lanes on Route 72,
21 adding left turn lanes on Marsha Drive and

22 converting the intersection of Bay Avenue and
23 Marsha Drive to a roundabout.
24 This project will also provide
25 repairs to the four bridges that cross the
0003
1 Manahawkin Bay in addition to building a parallel
2 bridge next to the main bay bridge and the
3 construction of a pump station to address
4 flooding in Ship Bottom Borough.
5 On May 6 and May 13, 2010, the New
6 Jersey Department of Transportation published a
7 public notice for the environmental assessment to
8 determine the applicability of a finding of no
9 significant impact for this project, which was
10 available for public review and comment. The
11 environmental assessment document was distributed
12 to federal, state and county agencies and to
13 local municipalities and libraries.
14 I now would like to review the
15 hearing format: Oral testimony will be accepted
16 today from 2 p.m. until 6 p.m. Persons wishing
17 to speak should sign up at the registration desk
18 located outside the hearing room. You will be
19 allotted five minutes to present your oral
20 testimony. All testimony will be recorded by a
21 certified reporting stenographer. Individuals
22 who wish to submit written testimony may do so by
23 sending them to the New Jersey Department of
24 Transportation Office of Environmental Solutions,
25 Post Office Box 600, 1035 Parkway Avenue,
0004
1 Trenton, New Jersey 08625, Attention Bruce
2 Hawkinson, Environmental Project Manager, or by
3 submitting them to me today. The final date for
4 the receipt of such statements is prior to July
5 1, 2010, at which time the hearing record will be
6 closed.
7 A display information area will
8 run concurrently with the hearing to provide an
9 opportunity for anyone to ask questions and
10 receive answers from department personnel. These
11 discussions are informal and will not be part of
12 the official public hearing record.
13 Now I would like to introduce
14 Scott Ackerman, Senior Environmental Specialist,
15 who will present the environmental process.
16 Scott?
17 MR. ACKERMAN: Thank you. My name
18 is Scott Ackerman. I'm the Senior Environmental
19 Specialist with the New Jersey Department of
20 Transportation in the Office of Environmental
21 Solutions. The New Jersey Department of
22 Transportation has prepared this Environmental
23 Assessment, which is also going to be referred to
24 today as "EA," in partnership with the Federal
25 Highway Administration. This document is a

0005
1 requirement of the National Environmental Policy
2 Act, which stipulates that whenever a state
3 agency accepts federal dollars, some type of
4 environmental document must be prepared to
5 discuss potential impacts.
6 This EA discusses the impacts to
7 the natural and man-made environments of the
8 No-Build and two build alternatives. This
9 process also involves close collaboration with
10 agencies and interested organizations such as the
11 United States Army Corps of Engineers, the United
12 States Coast Guard, the New Jersey Department of
13 Environmental Protection, the Barnegat Bay
14 National Estuary Program, which is also known as
15 the recently named Barnegat Bay Partnership, and
16 a consortium of other agencies and conservation
17 organizations associated with the Barnegat Bay
18 Partnership's Science and Technical Advisory
19 Committee.
20 It is the goal of this analysis to
21 first avoid adverse impacts, then minimize
22 impacts if avoidance is not practical, and
23 finally to mitigate unavoidable impacts.
24 Preliminary discussions with the resource
25 agencies and other parties have been initiated,
0006
1 and a comprehensive mitigation approach is
2 anticipated to be developed.
3 It cannot be over emphasized that
4 public involvement is a valuable component of the
5 EA process. If after public comment it is agreed
6 that there is no significant impact caused by the
7 selected alternative, then a ruling known as a
8 "Finding of No Significant Impact," or as a
9 "FONSI," will be issued and signed by the Federal
10 Highway Administration and New Jersey Department
11 of Transportation. If it's determined by the
12 Federal Highway Administration that there are
13 significant impacts, then an Environmental Impact
14 Statement, otherwise known as "EIS," will be
15 prepared.
16 I would now like to introduce you
17 to Pankesh Patel, who is the Project Manager of
18 the New Jersey Department of Transportation for
19 this project. He is going to discuss some of the
20 project details and also with regard to the
21 funding aspects of this project.
22 MR. PATEL: Thank you, Scott.
23 Good afternoon, everyone; I'm Pankesh Patel, and
24 I'm the project manager for the New Jersey DOT.
25 On behalf of the Department, we would like to
0007
1 thank Stafford Township for the opportunity to
2 have the public hearing here. I will provide the
3 current standards of the project and the next

4 steps.
5 Currently, we are in preliminary
6 design. Mostly we'll be doing environmental
7 studies. The environmental studies are scheduled
8 to be completed by December 2010. The
9 preliminary design will be completed by 2011. We
10 will go to final design. Final design will be
11 completed by the summer of 2012, and anticipated
12 construction awarded for the first contract is
13 going to be in the fall of 2012. The
14 construction is basically going to be broken down
15 into four separate construction contracts. It is
16 going to be roughly -- the current cost is $234
17 million.
18 Disclaimer: Everything is all
19 contingent upon availability of the funding.
20 Currently, we do have a totally funded
21 preliminary design. Final design is also funded.
22 Construction is funded, but our goal is to get
23 the design ready. We were told just yesterday to
24 get the design ready, and funding for
25 construction will be moved up. But everything is
0008
1 dependent on the availability of the funding.
2 Now I would like to introduce you
3 to Joe Mumber, who is Project Manager for Parson
4 Brinckerhoff.
5 MR. MUMBER: As Pankesh said, my
6 name is Joe Mumber, the project manager for the
7 design of the project by Parson Brinckerhoff.
8 I'm just going to give you a brief overview of
9 the features of the project. The Route 72
10 Manahawkin Bay Bridges Project provides
11 improvement to the Route 72 Causeway linking the
12 Mainland to Long Beach Island, a prime seasonal
13 area recreation destination and year-round
14 residential area. The Causeway is vital to the
15 economic viability of the region as the only
16 access point to Long Beach Island and is required
17 as the emergency evacuation route off of Long
18 Beach Island. The project includes the following
19 features:
20 Construction of a new 2,500-foot-
21 long fixed-span structure parallel to and south
22 of the existing Manahawkin Bay Bridge.
23 Rehabilitation of the existing
24 Manahawkin Bay Bridge, including replacement of
25 the deck floor system, while retaining and
0009
1 rehabilitating the existing main girders and
2 structure.
3 Both Bay Bridges will carry two
4 12-foot lanes, a 13-foot outside shoulder and 12-
5 foot inside shoulder, with a 6-foot sidewalk on
6 the north side of the existing rehabilitated Bay
7 Bridge.

8 The project includes
9 rehabilitation of the three-trestle bridge over
10 Hilliard's Thorofare, East Thorfare and West
11 Thorofare, including rehabilitating the existing
12 deck slab and removal of the existing safety
13 walks and parapets and replacing them with
14 barrier curb to provide room for two 12-foot
15 lanes and 5-foot shoulders in each direction,
16 with a sidewalk on the north side of the bridges.
17 The project includes construction
18 of a 6-foot sidewalk on the westbound or north
19 side of Route 72 from Stafford Township to Ship
20 Bottom Borough, with connections to communities
21 and points of interest on the south side of the
22 Causeway.
23 Bicycle accommodation will be
24 provided, including wider outside shoulders on
25 the Manahawkin Bay Bridges and 5-foot shoulders
0010
1 on the trestle bridges.
2 Improvements will be made to the
3 intersection of Route 72 and Marsha Drive in
4 Stafford Township to alleviate seasonal traffic
5 delays and improve operational traffic flow.
6 Drainage and operational
7 improvements will be made to the intersection in
8 Ship Bottom Borough to improve traffic flow for
9 both north/south traffic on Long Beach Island and
10 along Route 72 on 8th and 9th Streets and to
11 maintain access and egress during heavy rainfalls
12 and high tide events.
13 The "string of pearls" lighting
14 concept will be provided on both the new and
15 rehabilitated Manahawkin Bay Bridges.
16 Two lanes of traffic will be
17 maintained in each direction during the peak
18 summer tourist season from May to September by
19 limiting construction activities which impact
20 traffic in that season.
21 Mitigation opportunities for
22 environmental features will be evaluated in
23 conjunction with environmental agencies for
24 impacts to affected resources.
25 Opportunity for enhancing public
0011
1 access to the waterfront will also be evaluated.
2 That concludes the remarks on the
3 project. I would just like to turn it back over
4 to Lucy Sanderson for her concluding remarks.
5 MS. SANDERSON: Thank you,
6 gentlemen, for your presentations. As you enter
7 the hearing room, you are asked to sign a hearing
8 speaker's list. When you are called to speak,
9 please state your name and spell your last name
10 for the certified stenographer. The first
11 speaker is Mr. Sal Sorce.

12 MR. SORCE: Here.
13 MS. SANDERSON: Hello, Mr. Sorce;
14 please come to the podium for the record and
15 spell your last name.
16 MR. SORCE: Sal Sorce, S-o-r-c-e,
17 of Manahawkin and Surf City, that is a resident.
18 I heard about this meeting rather late, late
19 yesterday; so I did not come today with prepared
20 written documents, which is my usual process in
21 dealing with the organizations in this Ocean
22 County as well as Essex County. I've got a 34-
23 year history of working with and against a lot of
24 things that have been going on in this state.
25 My concerns today are basically
0012
1 -- and some of them are answered -- I understand
2 you're going to retain the pearls of light, which
3 sounds great. There was something published
4 recently about a woman -- it's about 500 members
5 -- she was planning to restore that fisherman's
6 shack, but that's on hold now, because there's
7 kind of a rumor that you're going to be building
8 well into that side of the bridge?
9 MS. SANDERSON: Mr. Sorce, all
10 questions and answers will be done out in the
11 outer hallway. This is just your statement.
12 MR. SORCE: Oh, okay, you want my
13 statement. My statement is a concern about the
14 invasion of additional wetlands as would happen
15 with Beach Haven West, where much of that should
16 never have been built. But that's history now.
17 I was just curious as to what is being done about
18 that in terms of the natural wetlands.
19 The other is, I received a note
20 from Willie DeCamp of St. Barnegat Bay: "There
21 has been talk of a pump house being installed
22 along the approach of Route 72 on the bridge on
23 the LBI side. This would be very, very bad.
24 These pump houses are put along evacuation routes
25 allegedly for emergencies. There's one on Route
0013
1 35 in Point Pleasant Beach just north of Bayhead.
2 These pump houses are a negation of everything
3 we've learned about responsible handling of
4 runoff, zero filtering of particulates, zero
5 nutrient removal. They just pick up the filth
6 and dump it into the receiving water body.
7 I believe the bureaucratic
8 technique DOT is using in this instance is to
9 claim that the pump house and the bridge are
10 separate projects. If our side is going to put
11 energy into this project, this is probably where
12 it should be invested. Don't let them sneak
13 through by misrepresenting these as two separate
14 projects." This was from Willie DeCamp of St.
15 Barnegat Bay.

16 My remarks basically were
17 answered. I was concerned, and I guess we'll
18 have that discussion. He will probably be
19 sending you a letter as well as I will. I have a
20 few points that I wish to cover. Thank you for
21 your time.
22 MS. SANDERSON: Thank you. Our
23 next speaker is Sharon McKenna. Please come
24 forward and state your name for the record and
25 spell it for the court stenographer.
0014
1 MS. McKENNA: Sharon McKenna,
2 M-c-K-e-n-n-a, from beautiful Manahawkin. I'm
3 here, I want to applaud you first of all for
4 accommodating bicyclists across the expansion of
5 the bridge. I just came from the Island, and
6 there were several bicyclists who were trying to
7 get over the bridge. I want to also ask you if
8 you can accommodate striping for the bicyclists
9 on the bridge. I know that you said the shoulder
10 is going to be wider. I think that's great, but
11 I think we also need to recognize that bicycles
12 are also considered motor vehicles in the State
13 of New Jersey and have to abide by the same laws;
14 and, therefore, they should be accommodated.
15 So that's my comment for now, and
16 I'm going to learn more out there; so I may have
17 more to tell you. So thank you very much.
18 MS. SANDERSON: Thank you, Ms.
19 McKenna. I would like to open the floor to
20 anyone that wishes to provide oral testimony.
21 Please raise your hand and come forward. Seeing
22 there are no speakers at this time, the hearing
23 will recess until there are further speakers.
24 Thank you.
25 (A recess was taken.)
0015
1 MS. SANDERSON: May I have your
2 attention, please? I would like to reconvene the
3 hearing, and I would like to call Mr. Rob Mulloy
4 to provide testimony. Mr. Mulloy, please state
5 your name for the record and spell it for court
6 stenographer.
7 MR. MULLOY: Thank you. My name
8 is Rob Mulloy, M-u-l-l-o-y. I am here
9 representing the Ocean County Engineer and the
10 Ocean County Board of Chosen Freeholders just to
11 put on the record that we are opposed to the
12 creation of the roundabout at the intersection of
13 Marsha Boulevard and Bay Avenue. Thank you.
14 MS. SANDERSON: Thank you,
15 Mr. Mulloy. Are there any other speakers at this
16 time? Seeing there are no other speakers, I will
17 recess the hearing until there are further
18 speakers. Thank you very much.
19 (A recess was taken.)

20 MS. SANDERSON: May I have your
21 attention, please? We are reconvening the public
22 hearing at this time. I would like to call Ms.
23 Pat D'Amico. Please state your name for the
24 record and the spelling of your last name.
25 MS. D'AMICO: Hi, my name is Pat
0016
1 D'Amico, D'-A-m-i-c-o. My family has owned 7
2 Selma Drive for over 40 years. I have personally
3 been there for 36 years. I have a couple of
4 concerns. My number one concern is, what is the
5 logic of spending taxpayers' money to put a
6 sidewalk? Because, in all the years that I have
7 personally been there and would swear on record,
8 I've never seen a person walk that bridge. So
9 you're going to waste taxpayers' money, which has
10 to be a million dollars to put that sidewalk, a
11 million dollars for one occasional person that
12 might in a year walk that sidewalk? So there's
13 absolutely a terrible waste, and I'm sick of
14 taxpayer waste, frankly, not necessarily in this
15 town, but a terrible waste of taxpayers' money to
16 construct a sidewalk. So that is primarily a
17 concern I have as a citizen, as anybody who pays
18 taxes.
19 The other concern I have is, there
20 have been rumors that a wall will be going up on
21 our side. 7 Selma, if you're looking at the
22 bridge from here, we're on the right-hand side.
23 I feel that would greatly damage property value.
24 Now, if you're telling me that you're just going
25 to improve the existing bridge, fine; then my
0017
1 only primary concern is with the sidewalk.
2 Also, I would like to point out
3 that right now there is a problem with young kids
4 going underneath the bridge there and doing
5 whatever they do, because you don't want to find
6 out. But it's a mess, and I think that if you
7 put a sidewalk, you will only be encouraging
8 people being vagrant, homeless and such, living
9 under a bridge. And as a safety issue, my mother
10 is 93 tomorrow. She lives there full-time, and
11 it's a safety concern. So that's my primary
12 concerns.
13 MS. SANDERSON: Thank you very
14 much, Ms. D'Amico. I would like to call the next
15 speaker, Deborah Hekl. Ms. Hekl, please state
16 your name for the record and spell your last
17 name.
18 MS. HECKLE: Deborah Hekl,
19 H-e-k-l. I'm at 8 Selma Drive, which is right
20 there by the bay and the bridge and the sidewalk.
21 And like Ms. D'Amico said, it's full of vagrants.
22 It's a mess. It's filthy. I clean it up,
23 because the state does not. And I just think

24 it's a waste of taxpayers' money. There is no
25 need to have that underneath the bridge. What is
0018
1 the purpose, so they can walk around in a circle?
2 It's all that they're doing, and that's exactly
3 how I feel. I think it's a waste of my money as
4 a taxpayer, and I live right there, and I don't
5 need people coming on my property, which they do
6 now. They throw things, and it's a mess. And
7 it's just people walking back and forth. They
8 don't go across the bridge. They go under the
9 bridge. And God only knows, if you check it out,
10 you have graffiti, beer bottles all over, and I
11 don't need it. That you.
12 MS. SANDERSON: Thank you very
13 much, Ms. Hekl. I would like to open it to the
14 floor. If there is anyone who wishes to give
15 oral testimony, please raise your hand. Seeing
16 there are no other speakers at this time, I would
17 like to recess until further speakers. Thank
18 you.
19 (A recess was taken.)
20 MS. SANDERSON: May I have your
21 attention, please? I would like to call Debbie
22 Higgins to the podium. Please state your name
23 and the spelling of your last name for the court
24 stenographer.
25 MS. HIGGINS: Deborah Higgins,
0019
1 H-i-g-g-i-n-s.
2 MS. SANDERSON: Okay, you can
3 provide your testimony.
4 MS. HIGGINS: I guess I would like
5 to register my complaint about eliminating the
6 jug handle at the Marsha Drive and Route 72
7 intersection and being forced to come off of LBI
8 and travel down East Bay Avenue to come back up
9 Marsha Drive to get into our development in Beach
10 Haven West. If you go there anytime in the
11 wintertime when we have a high tide, full moon or
12 a nor'easter, East Bay Avenue becomes impassable,
13 and I think that needs to be brought to the full
14 attention of everybody.
15 I have already gotten e-mails of
16 everybody involved, and I will send them the
17 pictures that I've been taking for the past
18 couple of years of these flood issues.
19 MS. SANDERSON: Is that all,
20 Deborah?
21 MS. HIGGINS: Yes.
22 MS. SANDERSON: Thank you for your
23 testimony. Are there any other speakers at this
24 time? Seeing there are no speakers, we will
25 recess until there are further speakers.
0020
1 (A recess was taken.)

2 MS. SANDERSON: I would like to
3 reconvene the public hearing, and I would like to
4 call Carl Mendell up to the podium.
5 MR. MENDELL: I'm a resident of
6 Long Beach Island, and I have concerns that
7 having a new bridge built may be money spent in a
8 time where we have to be very sensitive about
9 money spent, and it may not be the alternative
10 that makes the best both economic sense and
11 environmental sense. I think that one has to
12 consider very, very carefully repairing the
13 existing bridge.
14 My understanding -- I spoke to
15 some of the engineers and the people on the team;
16 they didn't quantify the exact time. But they
17 told me that they think it would add two years to
18 the project completion time. I looked at that
19 solution to work and repair on the existing
20 bridge, and the question is, shouldn't that be
21 something that we look at very seriously, because
22 obviously we don't want the work being done
23 during the peak of the beach season? But one can
24 look at it very carefully in the fall and early
25 winter and during those times of year. For those
0021
1 who live on the Island, we know that traffic is
2 really not an issue like it is in the summer, and
3 it's very likely and very possible that off hours
4 and off peak times, work could be done
5 effectively and efficiently.
6 The other concern is, although
7 it's a wonderful thing to have added capacity for
8 bike paths and bicycling, I'm not certain -- I
9 mean it's a wonderful thing, but I'm not certain
10 how much bike traffic there might really be and
11 how much it might really be utilized. I think
12 it's a wonderful thing if it were really fully
13 utilized, but that lane that's constructed for
14 that and a lane that's constructed for possible
15 evacuation, et cetera, et cetera, may, I'm
16 concerned, have the capacity -- in fact, I asked
17 them if it has the capacity, and they said yes,
18 but there's no talk of doing it, of putting a
19 third lane in each direction. And although it's
20 not something being discussed or approved or
21 green lighted or talked about now, in the future,
22 some future government entity may decide to use
23 the wider capacity that's available to add lanes
24 onto the Island, and I'm very much concerned.
25 It's a fragile barrier island, and
0022
1 if you were to widen the vein or artery -- I'm
2 not sure; I guess artery is away; vein is into
3 the Island -- it would put undo environmental
4 demands on a very fragile, very small, thin
5 island that needs to be protected in a very

6 careful way. And I think that I'm not sure this
7 project should go ahead at all, but if it were, I
8 don't know what kind of guarantees there would be
9 that that wouldn't be decided by some future
10 government entity down the road. And once it's
11 built, it's kind of hard to make sure that that
12 couldn't happen. We all know that they have
13 expanded the Garden State Parkway, and when that
14 is expanded and the beach is expanded, who knows
15 if that wouldn't be another expansion, which I
16 think would be very detrimental to the population
17 swelling and the impact on a very fragile barrier
18 island.
19 MR. SANDERSON: Thank you very
20 much, Mr. Mendell. At this time, I would like to
21 recess until we have further speakers. Thank
22 you.
23 (A recess was taken.)
24 MS. SANDERSON: It is now 6 p.m.,
25 and the public hearing is now adjourned.
0023
1 C E R T I F I C A T E
2
3
4 I hereby certify that this is a
5 true record of the public hearing
6 taken in this matter.
7
8 _____
Debra Rice, Registered
9 Registered Professional Reporter
Dated: June 14, 2010
10
11 (The foregoing certification of
12 this transcript does not apply to any
13 reproduction of the same by any means,
14 unless under the direct control and/or
15 supervision of the certifying shorthand
16 reporter.)
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1 C E R T I F I C A T E

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4 I hereby certify that this is a

5 true record of the public hearing

6 taken in this matter.

7

8 Debra Rice, Registered

9 Registered Professional Reporter
Dated: June 14, 2010

10

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15 supervision of the certifying shorthand

16 reporter.)

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State of New Jersey

DEPARTMENT OF ENVIRONMENTAL PROTECTION
Office of Permit Coordination and Environmental Review
401 East State Street
P.O. Box 423
Trenton, New Jersey 08625-0423
Phone: (609) 292-3600 Fax: (609) 777-1330

CHRIS CHRISTIE
Governor

KIM GUADAGNO
Lt. Governor

BOB MARTIN
Commissioner

June 11, 2010

Bruce Hawkinson
New Jersey Department of Transportation
P.O. Box 600
Trenton, New Jersey 08625-0600

RE: **Route 72 Manahawkin Bay Bridges Project**
Shipbottom and Stafford Township, Ocean County
Environmental Assessment

Dear Mr. Hawkinson,

The New Jersey Department of Environmental Protection (NJDEP) has completed its review of the Environmental Assessment (EA) for the Route 72 Manahawkin Bay Bridges Project in Shipbottom and Stafford Township, Ocean County. We offer the following comments.

COMMENTS

DIVISION OF LAND USE REGULATION

The project as proposed will require the following authorizations from the Land Use Regulation Program (LURP):

-Compliance with CAFRA Permit (N.J.S.A. 13:19)
-Compliance with the Waterfront Development Law (N.J.A.C. 7:7E)
-Compliance with the Coastal Wetlands Act of 1970 (N.J.S.A 13:9A)
-Water Quality Certificate (N.J.S.A. 58:10A-1)
-Compliance with the Flood Hazard Area Control Act (N.J.A.C. 7:13)
-Compliance with the Stormwater Management Rules (N.J.A.C. 7.8)
-Compliance with the Freshwater Wetlands Protection Act (N.J.A.C. 7:7A)

In addition, the proposed project will require compliance with the Rules on Coastal Zone Management (N.J.A.C. 7:7E).

LURP concurs with the Environmental Assessment that the project is a "Green Gateway" to Manahawkin Bay and in order to demonstrate compliance with the rule on Public Trust Rights (7:7E-8.11), LURP recommends a separate bike/pedestrian lane that includes a protective barrier for the entire length of the proposed project.

In addition, LURP recommends that the proposed project include a public fishing pier(s) and a car-top boat ramp(s) at appropriate location(s) for the launching of canoes/kayaks.

Threatened & Endangered Species

Black-crowned Night Heron, Yellow-crowned Night Heron, Black Skimmer, Roseate Tern, Northern Harrier and Osprey habitat is documented in the vicinity of some of the proposed project locations. This habitat, in addition, is suitable to critical wildlife habitat for rookery and migratory shorebirds species.

After review of the preliminary project site plans entitled, "ROUTE 72 MANAHAWKIN BAY BRIDGES, TOWNSHIP OF STAFFORD, BOROUGH OF SHIP BOTTOM, OCEAN COUNTY," dated May 2010, it doesn't appear likely that adverse impacts will be incurred by nearby Threatened and Endangered (T&E) species habitat. The document entitled "Environmental Assessment," dated April 2010, reports that, "almost all of the project area for any of the alternatives is within the existing filled footprint of Route 72."

However, there is some discrepancy between the Environmental Assessment and guidance received from the Division of Fish and Wildlife's Endangered and Nongame Species Program (ENSP) regarding habitat in the surrounding area of the project. Under Chapter 4, Section 8.1, "the NJDOT surveyed the project area and no species or habitat for these species was found in the project footprint." The presence of foraging habitat for fish and avian species was acknowledged. However, the DEP's, Endangered & Non Game Species Program (ENSP) has indicated that there is a presence of nesting habitat on Cedar Bonnet Island, proximal to Route 72, for (including but not limited to) Black Skimmers.

Without a more formal report of species survey work completed, or additional survey work, it is difficult at this point in time to determine the adverse effect on this habitat, if any is to occur. Given the preliminary project site plan, it appears that the project locations are a sufficient distance away from any nesting habitat. Upon formal review, it is possible that timing restrictions for work to occur in certain areas on Cedar Bonnet Island will be recommended. The range of timing restriction on work in the areas of nesting habitat can range from March 1 to September 15, but this will depend on habitat suitability at that time.

Mitigation

1. All mitigation for wetlands must meet the requirements set for at NJAC 7:7E-Coastal Zone Management Rules.

2. All riparian zone mitigation must meet the requirements set forth at NJAC 7:13, Flood Hazard Area Control Act Rules.

In closing, the LURP concurs with the Initially Preferred Alternative, provided that the above criteria can be satisfied.

If there are any questions concerning the above comments please contact Charlie Welch from the Division of Land Use Regulation at (609) 633-2696

DIVISION OF FISH AND WILDLIFE

Marine Fisheries

Any protective measures for marine species, their essential habitat and mitigation for losses will also require consultation with, and concurrence from, the NJ Bureau of Marine Fisheries.

Shellfisheries

• ***8/140 The four bridges that make up the Causeway crossing Manahawkin Bay were built more than 50 years ago...***

The report should provide the life expectancy of the bridge (100 years, we believe).

• ***11/140 1.7 What is being done to mitigate the impacts? The NJDOT is collaborating with these agencies [including NJDEP] to develop a mitigation approach that meets the regulatory requirement as well as supports the needs of the Barnegat Bay Watershed.***

The Bureau of Shellfisheries has not been contacted to discuss specific shellfish or Sub Aquatic Vegetation (SAV) mitigation or impact minimization options. These discussions should take place when we receive additional information (see comments below).

• ***11/140 If, after public comment, it is agreed that there are no significant impacts, the FHWA will issue a Finding of No Significant Impact (FONSI) that will conclude the environmental process.***

The information that we have received is insufficient to judge the impact of this project (and alternatives). Additional information (and adequate time to review said information) is imperative (see comments below).

• ***13/140 The bridges are more than 50-years old and are structurally deficient and functionally obsolete.***

Please provide the life expectancy of the bridge (particularly the bay bridge, as this information is missing from the EA).

• ***14/140 2.3 Routine maintenance is no longer enough.***

The cost estimate to rehabilitate the bridge (provided at 53/140) is nearly identical to the EA preferred alternative (rehabilitate + new construction), calling into question the calculation methods used to derive the cost estimates. Can you provide a synopsis of how the cost estimates were derived?

• ***18/140 Environmental Assessment is a concise document prepared in compliance with NEPA that discusses the purpose and need for an action, alternatives to the action and provides sufficient analysis of impacts to determine whether to prepare an Environmental Impact Statement (EIS) or a Finding of No Significant Impact (FONSI).***

As previously noted, we have not received enough information to adequately assess the impact of this project. At the 19 May 2009 "Environmental Team Agency kick-off meeting" in Trenton, there was agreement that construction techniques should be part of the EA. Mr. Marshall Robert indicated that the EA would address impacts from various construction techniques. This EA does not and is thus deficient. NJDEP cannot assess the impact of a project if the details of how the project may proceed are not disclosed or assessed.

• ***22/140 The 'no build' alternative will involve the following (in the interest of maintaining access until more permanent repairs can be made, the NJDOT will continue to perform the following as needed): Scour protection of the bridge abutments ... Replacement of failing bulkheads to prevent shoreline erosion and damage to utilities and bridge fill slopes.***

What is the impact to shellfish and SAV resources and how are those impacts calculated. How are temporary and permanent impacts defined?

• ***23&24/140 Rehabilitation option: trestle bridges → piling protection system, ..., provide a six-foot sidewalk along the westbound side and five-foot bike lanes on both sides of the structure. Bay bridge: Symmetrical widening of the existing substructure (shading) and larger footprint for piers.***

What is the impact to shellfish and SAV resources and how are those impacts calculated. How are temporary and permanent impacts defined?

• 26/140 Replacement option: trestle bridges → The new bridges would have new pile foundations and a new concrete superstructure. Bay bridge: build a second bridge...

What is the impact to shellfish and SAV resources and how are those impacts calculated. How are temporary and permanent impacts defined? Regarding the alternative of replacing the trestle bridges, we agree that the environmental concerns outweigh the potential road improvement benefits.

• 33/140 Building a second bay bridge: Adding a second span also reduces risks by maintaining system linkage. If one bridge were ever to fail for any reason, the second bridge would remain available. This sequence is much preferable to Alternative 1– Rehabilitation.

How do you respond to the notion that this option also includes two bridges, two superstructures, two substructures, etc. to maintain, rather than just one? How does the ongoing cost of maintaining two bridges compare to that of maintaining one?

Additionally, as we have commented in the past, we appreciate concerns about redundancy potentially protecting against catastrophic failure, but it is also important to consider that even under the parallel bridge construction alternative, the bridges will be located within ~100 feet of each other. Consequently, if a catastrophic event occurs, it will very likely impact both bridges in the same way.

• 33/140 Secondary, Indirect and Cumulative (SIC) impacts...

Currently there are no pedestrian or bike lanes on the bridges – pedestrian lanes on bridges will, by design, encourage pedestrian/biker use of the bridge putting people and fast moving vehicles in proximity that they have heretofore not experienced. Since pedestrian deaths in NJ increased from 2008 to 2009 (http://www.pressofatlanticcity.com/news/press/new_jersey/article_3464f924-e6ca-53fd-bbc9-51b816bcba82.html), what measures are being instituted to prevent a SIC impact of increased pedestrian/biker deaths?

Related to this, currently individuals fish from trestle bridges. Are there any proposed restrictions on fishing from the trestle bridges associated with any of the alternatives?

• 34/140 The trestle bridges can be reconstructed mostly within the existing tidelands grants (0.08 acre), but the NJDOT will need permanent tidelands grants for the widened Bay Bridge (1.21 acres) and temporary construction easements (18.56 acres) see Table 4.2 and 35/140 Table 4.2 impacts table (SAV and shellfish)

There is inadequate information on how the acres impacted was calculated (i.e., what assumptions went into the calculations). We cannot evaluate the estimates without additional information. We have had concerns in the past about the assumptions used in impact analyses [e.g., from our July 2006 comments: We do not believe that the

environmental impact comparison matrix accurately reflects the true amount of SAV or shellfish habitat actually impacted. For example, to assume that a portadam in place for less than 6 months (but greater than 0 months) will impact zero acres of SAV is erroneous.].

• 37/140 During the public outreach, the USFWS approached the NJDOT with a request for the NJDOT to build some of the mitigation measures such as public access for bird watching, nature trails, habitat restoration and <u>fishing</u> [emphasis added] on the national wildlife refuge. Although this may require construction on the refuge, it is exempted from Section 4(f) if the refuge managers agree in writing to the proposed work. Therefore, this project does not result in the use of any Section 4(f) property.

The location of the proposed fishing pier is situated in both submerged aquatic vegetation habitat and shellfish habitat - While we support fishing access, we do not feel that providing fin-fishing access at the expense of shellfish habitat is a good option, especially since many alternate sites exist and have been provided. We would welcome further discussion on this matter.

We have not been provided the "Technical Environmental Study on Ecology." Without this key document the Bureau of Shellfisheries cannot assess the impacts of any proposal on SAV or shellfish habitat.

• 40/140 Some of these special habitats support submerged aquatic vegetation (SAV) commonly known as seaweed.

We are not aware of common reference to SAV as seaweed – there is a vast phylogeny separating these groups of species. This should not appear in an EA.

The survey showed that the majority of the shallow waters in the study area contain SAV (Figure 4.1A).

A point of clarification: SAV information appears in Table 4.1B, not 4.1A. As we have indicated in the past (see comments at 102/140), N.J.A.C. 7:7E-3.6 requires consideration of ALL previously mapped areas supporting SAV as SAV habitat and not just areas observed during a single site visit [i.e., In assessing impacts to shellfish and SAV habitat, it is important to include historically mapped areas as being impacted (and not just the foot print of shellfish or SAV encountered during the TES). See definitions at N.J.A.C. 7:7E-3.2 and N.J.A.C. 7:7E-3.6]. Moreover, the Bureau of Shellfisheries has received NO information regarding how the SAV in Figure 4.1B was delineated, surveyed, etc. We can therefore not evaluate the data or mapping thereof.

• 40/140 The only resources NJDOT considers as impacted by bridge shading are wetlands and documented SAV since both these resources need full sunlight.

How are you defining "documented?" At times, the use of portadams has been discussed – we have noted that their use will have significant, possibly permanent,

impacts to SAV and shellfish habitat – has the use of portadams been decided – how have you accounted for their impact? As another example, at times, DOT has proposed dredging through SAV habitat as a viable method to move construction barges into position. Is this option still being considered?

At the May 19, 2009 "Environmental Team Agency kick-off meeting" in Trenton, there was agreement that construction techniques should be part of the EA. Mr. Marshall Robert indicated that the EA would address impacts from various construction techniques. This EA does not and is thus deficient. NJDEP cannot assess the impact of a project if the details of how the project may proceed are not disclosed or assessed.

What do you consider "temporary impacts"? Without more detailed information on how temporary is defined, and what is causing the temporary impacts, we cannot evaluate the stated impacts (40/140).

Regarding the table on 40/140, how are permanent and temporary impacts defined? How was the estimate of acres impacted derived? Do the estimates take into account historical mapping or just a single 'recent' survey?

• 40/140 There are two (2) primary ways in which the proposed project activities can impact wetlands and open water resources:
1. Placing of fill material that completely displaces a resource.

For clarification, does this include the actual footprint of the bridge piers?

2. Shading under the bridge for natural resources that thrive in full sunlight.

• 41/140 Since two (2) temporary work platforms are needed for widening the Bay Bridge, the temporary bridges will have temporary impact on SAV.

It is erroneous to state that work platforms can have only temporary impacts – depending on the specifics (which are not provided, but need to be), the platforms could permanently alter the area and prevent SAV from returning – the same is also true for shellfish. There are no SAV impacts due to rehabilitation of the trestle bridges. This seems dubious because, if nothing else, widening of the trestle bridges is proposed even under the rehabilitation alternative. Additionally, at times, scour preventive measures have been discussed with even greater potential impacts.

• 41/140 Alternative 2 – replacement. Again, how are permanent and temporary defined? Widening of the trestle bridges will impact SAV and intertidal/subtidal habitat. While this alternative results in greater permanent impact to SAV and shallow water habitat than Alternative 1—Rehabilitation, it has much less temporary impact because only one trestle is needed.

Again, how were the acreages determined? Do you place primacy on limiting temporary impacts – how do you define temporary?

• ***42/140 In order to satisfy federal requirements, an assessment was prepared to determine the effect of the proposed project on EFH. The assessment showed an adverse effect to EFH, primarily due to the temporary and permanent disturbance of submerged aquatic vegetation and shellfish habitat.***

Where is this assessment? We need to see it in order to evaluate the EA's statements. Additionally, any unavoidable losses to habitat will be mitigated in consultation with the NMFS by the restoration of EFH and shellfish habitat at appropriate locations within Barnegat Bay. The NJDEP, Bureau of Shellfisheries should be consulted as well.

• ***42/140 Prior to construction, the local shellfishermen will be notified as to the start of construction in order to allow them time to enter and harvest shellfish within the project limits.***

Removal of shellfish within the project limits does not salvage the habitat if it is destroyed or altered during construction – the habitat is of primary importance. Additionally, there are water quality issues within the project area that place conditions on shellfish harvest for reasons of human health concerns – NJDEP's Bureaus of Marine Water Monitoring and Marine Enforcement need to provide input on this proposed plan. Finally, what mechanism is proposed for "notifying local shellfishermen?"

Table listing shellfish impacts: does this table take into account portadams (43/140)?

Impacts to riparian areas can have associated impacts on water quality with resultant impacts to SAV habitat, shellfish habitat, and shellfish growing water classification. What impact prevention measures are you instituting (i.e., what measures are proposed to prevent the permanent downgrading of shellfish growing water classifications?) (45/140)?

It appears as though the utilities will remain in the bridge (as opposed to running them through the bay). Keeping utilities on/in the bridge will remove the need to trench the utilities in SAV and shellfish habitat. We support keeping the utilities in the bridge (49/140).

• ***51/140 the lack of these benefits [full shoulder etc.] does not outweigh the additional costs and bigger environmental impacts.***

We agree with this assessment.

• ***52/140 The second bridge reduces the chances that residents of LBI could be affected by a natural or man-made disaster that damages the existing bridge.***

We appreciate concerns about redundancy potentially protecting against catastrophic failure, but it is also important to consider that even under the parallel bridge construction alternative, the bridges will be located within ~100 feet of each other. Consequently, if a catastrophic event occurs (e.g., earthquake), it will very likely impact both bridges in the same way.

The EA provides a life expectancy for the trestle bridges of 20-25 years. What is the life expectancy of the bay bridge under the rehabilitation alternative?

This alternative has more impact to SAV and open water but these impacts are justified by the overall benefits of the parallel structure and <u>can be mitigated</u>

SAV mitigation projects have a very low success rate (average success rates are ~30%; i.e., more than 2 out of 3 projects fail). Additionally, there are no hatcheries producing SAV. Consequently, mitigating for SAV always means physically removing SAV from a site (or cutting it down to harvest seeds) where it is living and moving it to a site where it is not. Consequently, there are two impacts for every one mitigation project: 1) the project site is impacted and 2) the source site for the SAV harvest is impacted. Finally, to quote NOAA's guidelines for the conservation and restoration of seagrasses in the United States and adjacent waters, "Preservation is the most cost-effective course of action to sustain seagrass resources." We support prevention, and need additional information to minimize direct impacts.

• 53/140 The project only affects a very small proportion of the available wetlands, open water and associated natural resources like submerged aquatic vegetation and shellfish habitat (Table 4.5).

It is not possible to determine the accuracy of the acres impacted from the information supplied. Information that we have received in the past has suggested that impacts have been underestimated. For example, we commented in June 2006 that: We do not believe that the environmental impact comparison matrix accurately reflects the true amount of SAV or shellfish habitat actually impacted. For example, to assume that a portadamn in place for less than 6 months (but greater than 0 months) will impact zero acres of SAV is erroneous. A detailed Methods section is required to accurately assess the reliability of the impact matrix.

• 53/140 Based on the analysis of the TES and evaluation of viable alternatives, the NJDOT believes that the identified preferred alternative does not have a significant impact on the environment.

While the EA goes on to describe the inherent difficulty of defining the term 'significant,' we simply have not received the information required to validate or refute the estimated impacts. The NJDEP is seriously hampered in its ability to properly assess this project until we receive additional information.

Regarding table 4.5, how were these estimates developed? How are temporary and permanent defined (54/140)?

• 4.16.2 Measures to Minimize and Mitigate Impacts

We do not see 'not use portadams' as a minimization measure – portadams will have serious impacts to SAV and shellfish habitat. As noted above, the EA must include a discussion of construction techniques.

• 55/140 and 56/140 The regulatory agencies require that the NJDOT and FHWA compensate for these impacts with mitigation. Ordinarily the NJDOT would replace the value and functions of these resources within the project corridor. However, there are very few if any places to mitigate in the project area since almost all of the areas along the road are already protected. Furthermore, studies have shown that sometimes these on-site mitigation strategies are not effective; an off-site watershed based mitigation approach may be more effective.

Furthermore, some have questioned the propriety of planting new submerged aquatic vegetation since it is expensive and difficult to maintain while water quality problems are causing existing SAV beds to die off. These proponents suggest it may be better to improve water quality to protect the existing SAV.

We have serious concerns about the enforceability of the proposed " off–site, out-of-kind mitigation strategies." If "on-site mitigation often fails because available on-site locations lack the qualities that make for successful mitigation," those precious sites should not be disturbed in the first place. The EA notes that meetings have taken place with BBNEP regarding mitigation. The NJDEP should be involved in further discussions.

We also draw your attention to comments at 102/140 regarding EFH, SAV, [and shellfish] mitigation: "mitigation must offset impacts... Note – BBNEP and JCNERR are not environmental regulatory agencies."

<u>Miscellaneous comments</u>

We would like to see discussion of fishing access (or restrictions) associated with the various alternatives (for example, as they relate to societal impacts). Over the last several years, NJDEP has expressed its interest in maintaining or increasing fishing access from the bridge(s). There is mention in the EA of "NJDEP requires the NJDOT to improve public access to the waterfront along the roadway. The national wildlife refuge program has suggested that it may be in the public's interest to improve access to the refuge instead of placing the access next to the busy Route 72 highway." As mentioned previously, the one site that has been proposed as a fishing pier is situated in shellfish and SAV habitat. We would like this issue explicitly addressed in the EA.

Endangered and Non-game Species Program (ENSP)

Any clearing of trees in the land areas impacted by the construction of a second bridge should be done outside of the migratory bird nesting season.

The entire Barnegat Bay is mapped as occupied habitat for Atlantic Loggerhead and is not addressed.

If there are any questions concerning the above comments please contact Kelly Davis from the Division of Fish and Wildlife at (908-236-2118).

Thank you for giving the New Jersey Department of Environmental Protection the opportunity to comment on the EA.

Sincerely,

Scott Brubaker, Director
Office of Permit Coordination
and Environmental Review

C: Charlie Welch, NJDEP
Dave Chanda, NJDEP
Kelly Davis, NJDEP

EVERGREEN
ENVIRONMENTAL

June 2, 2010

New Jersey Department of Transportation
Office of Environmental Solutions
1035 Parkway Avenue
PO Box 600
Trenton, New Jersey 08625

Attention: Bruce Hawkinson
Environmental Project Manager

Re: Environmental Assessment (EA) and Nationwide Programmatic Section 4(F) Evaluation Document Finding of No Significant Impact (FONSI) Route 72 Manahawkin Bay Bridges Township of Stafford and Borough of Ship Bottom, New Jersey

Dear Mr. Hawkinson:

Evergreen Environmental, LLC provides comments on the above mentioned EA. The EA states: "*It is expected that on the Route 72 Manahawkin Bay Bridge project, some discretionary mitigation elements such as wetland creation above federal no-net loss requirements can be converted to projects designed to reduce non-point source pollution in other areas of the watershed.*"

Evergreen proposes that all environmental mitigation be conducted in accordance with state and federal acts, rules and regulations. Mitigation for losses to wetland and wildlife habitats is regulated on an in-kind basis. Such mitigation may be conducted on-site or off-site within the same watershed. Evergreen proposes that mitigation alternatives be limited to those that meet state and federal permit requirements and be based on in-kind replacement within the watershed.

Barnegat Bay has been affected by various types of over development combined with a barrier island, shallow, back-bay hydrologic regime with limited circulation. As a result, water quality degradation is an issue in Barnegat Bay and the remediation of water quality impacts is a priority in the bay. However, the mitigation for bridge and roadway impacts to wetlands, critical wildlife habitat, T&E species habitat or SAV habitat should not be converted to out of kind mitigation to offset degradation previously inflicted by others as a result of other unrelated development. The Route 72 Bridge project should mitigate for impacts based on state and federal rules and regulations in an in-kind manner within the watershed.

The EA states: "*All proposed mitigation locations will be located within the Barnegat Bay watershed and will be associated with sites under federal, state or local governments control or under the stewardship of non-profit conservation organization.*"

121 Carol Place • Wayne, NJ 07470

A requirement to only use public land or land controlled by non-profits is too limiting and will leave many suitable candidate mitigation sites out of consideration. There is no requirement that mitigation lands be public lands or developed by non-profits. As a private sector mitigation provider, Evergreen proposes that the EA be revised to open the mitigation alternatives to all appropriate mitigation lands including private lands and mitigation sites implemented by private sector providers. Evergreen does recognize the need to place mitigation sites under conservation deed restrictions and the requirement to transfer mitigation lands to a land steward that is a governmental agency or land conservancy once the mitigation site performance time period, often five years, has been successfully completed.

Should you have any questions, please feel free to contact me at 973/305-0643 or mrenna@evergreenenv.com.

Sincerely,
EVERGREEN ENVIRONMENTAL, LLC

Mark Renna
Vice President

Stanker, Darren

From: Burton, Judith
Sent: Monday, April 05, 2010 12:32 PM
To: Stanker, Darren
Subject: FW: RT 72 Manahawkin Bay Bridges Draft EA Comments
Attachments: image003.jpg

FYI

From: Kostas.Svarnas@dot.gov [mailto:Kostas.Svarnas@dot.gov]
Sent: Monday, April 05, 2010 8:19 AM
To: scott.ackerman@dot.state.nj.us
Cc: Pankesh.Patel@dot.state.nj.us
Subject: RT 72 Manahawkin Bay Bridges Draft EA Comments

Scott,
We have completed our review of the draft EA for the Route 72 Manahawkin Bay Bridges project. See our comments below. I will incorporate these comments into a formal letter submission but I wanted to get them to you as soon as possible. My apologies in advance for the delay. Thanks!

1. Coordination record with NJDEP, ACOE, and USCG will be needed.
2. Have any agencies requested to be a cooperating agency?
3. 3.5.2 p 3-8 – Will there be bike lanes incorporated in alternative 1 for the rehab of the Bay Bridge?
4. 3.6.2 p 3-11 – Replacement of the trestle bridges is discussed as three stage construction. Two stages are only discussed.
5. 4.2.2 p 4-4 – Trestle Bridge replacement talks discusses local residence property acquisition ("will have more impact on some of the local residences since some of their properties will need to be acquired to provide access to the temporary bridge). Consider using similar language as discussed in the 4.5.3 – Alternative Replacement. "Temporary easements are needed from private properties for relocating roads for access to the temporary bridges."
6. Incorporate updated table 4.2 and table 4.5 as provided at EFH assessment meeting with NMFS. Incorporate updated table information into report tables as needed.
7. Discussion of possible generalized mitigation measure alternatives should be considered.
8. Included EFH assessment as an appendix.

Kostas J. Svarnas
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Appendix D – Essential Fish Habitat Assessment

NOAA FISHERIES
NORTHEAST REGIONAL OFFICE
EFH ASSESSMENT WORKSHEET FOR
FEDERAL AGENCIES
(modified 08/04)

Introduction:

The Magnuson-Stevens Fishery Conservation and Management Act mandates that federal agencies conduct an EFH consultation with NOAA Fisheries regarding any of their actions authorized, funded, or undertaken that may adversely effect essential fish habitat (EFH). An adverse effect means any impact that reduces the quality and/or quantity of EFH. Adverse effects may include direct or indirect physical, chemical, or biological alterations of the waters or substrate and loss of, or injury to, benthic organisms, prey species and their habitat, and other ecosystem components. Adverse effects to EFH may result from actions occurring within EFH or outside of EFH and may include site-specific or habitat-wide impacts, including individual, cumulative, or synergistic consequences of actions.

This worksheet has been designed to assist Federal agencies in determining whether an EFH consultation is necessary, and developing the needed information should a consultation be required. This worksheet will lead you through a series of questions that will provide an initial screening to determine if an EFH consultation is necessary, and help you assemble the needed information for determining the extent of the consultation required. The information provided in this worksheet may also be used to develop the required EFH Assessment.

Consultation through NOAA Fisheries regarding other NOAA-trust resources may also be necessary if a proposed action results in adverse impacts. Part 6 of the worksheet is designed to help assess the effects of the action on other NOAA-trust resources. This helps maintain efficiency in our interagency coordination process. In addition, consultation with NOAA Fisheries may be required if a proposed action impacts marine mammals or threatened and endangered species for which we are responsible. Staff from our Northeast Regional Office, Protected Resources Division should be contacted regarding potential impacts to marine mammals or threatened and endangered species.

Instructions for Use:

An EFH Assessment must be submitted by a Federal agency to NOAA Fisheries as part of the EFH consultation. An EFH Assessment must include the following information:
1) A description of the proposed action.
2) An analysis of the potential adverse effects of the action on EFH, and the managed species.
3) The Federal agency=s conclusions regarding the effects of the action on EFH.
4) Proposed mitigation if applicable.

In some cases, this worksheet can be used as an EFH Assessment. If the Federal agency determines that the action will not cause substantial impacts to EFH, then this worksheet may suffice. If the action

may cause substantial adverse effects on EFH, then a more thorough discussion of the action and its impacts in a separate EFH Assessment will be necessary. The completed worksheet should be forwarded to NOAA Fisheries Northeast Regional Office, Habitat Conservation Division (HCD) for review.

The information contained on the HCD website (http://www.nero.noaa.gov/hcd/) will assist you in completing this worksheet. The HCD web site contains information regarding: the EFH consultation process; Guide to EFH Designations which provides a geographic species list; Guide to EFH Species Descriptions which provides the legal description of EFH as well as important ecological information for each species and life stage; and other EFH reference documents including examples of EFH Assessments and EFH Consultations.

EFH ASSESSMENT WORKSHEET FOR FEDERAL AGENCIES (modified 08/04)

PROJECT NAME: Route 72 Manahawkin Bay Bridges Improvements **DATE:** April 13, 2010

PROJECT NO.: 1513508 **LOCATION:** Route 72, Stafford Township and Ship Bottom Borough, Ocean County, New Jersey

PREPARER: Tony Sabidussi, FHWA; Kostas Svarnas, FHWA, Joe Sweger, NJDOT, Mike Hayduk, USACOE

Step 1. Use the Habitat Conservation Division EFH webpage, Guide to Essential Fish Habitat Designations in the Northeastern United States to generate the list of designated EFH for federally-managed species for the geographic area of interest (http://www.nero.noaa.gov/hcd/index2a.htm). Use the species list as part of the initial screening process to determine if EFH for those species occurs in the vicinity of the proposed action. Attach that list to the worksheet because it will be used in later steps. Make a preliminary determination on the need to conduct an EFH Consultation.

1. INITIAL CONSIDERATIONS

EFH Designations	Yes	No
Is the action located in or adjacent to EFH designated for eggs?	X	
Is the action located in or adjacent to EFH designated for larvae?	X	
Is the action located in or adjacent to EFH designated for juveniles?	X	
Is the action located in or adjacent to EFH designated for adults?	X	
Is the action located in or adjacent to EFH designated for spawning adults?	X	
If you answered no to all questions above, then EFH consultation is not required -go to Section 5. If you answered yes to any of the above questions proceed to Section 2 and complete remainder of the worksheet.		

Step 2. In order to assess impacts, it is critical to know the habitat characteristics of the site before the activity is undertaken. Use existing information, to the extent possible, in answering these questions. Please note that, there may be circumstances in which new information must be collected to appropriately characterize the site and assess impacts.

2. SITE CHARACTERISTICS	
Site Characteristics	**Description**
Is the site intertidal, sub-tidal, or water column?	**Yes. The project will occur across the Manahawkin Bay from shoreline to shoreline. Depths range from 1'-2' along the shorelines to 8'-10' in the channel.**
What are the sediment characteristics?	**The primary subsurface material is sand overlain in places (e.g., shallow slack water near shore) with muck material.**
Is Habitat Area of Particular Concern (HAPC) designated at or near the site? If so what type, size, characteristics?	**While sheet 25 of the Guide to EFH Habitat Designation does not have a HAPC designated, the fact that both SAVs and Summer Flounder are in the project area necessitates treating the site as a HAPC. The SAV beds exist in and around the project site and even occur underneath the large structure and one of the smaller bridges to the east.**
Is there submerged aquatic vegetation (SAV) at or adjacent to project site? If so describe the spatial extent.	**Yes. Both *Ruppia* and *Zostera* are found in and around the project site. The area has been mapped in the past by Conectiv and others. The SAVs are mapped mostly in and to the west of the Intra-coastal waterway, but are also found along the eastern shoreline. Current mapping also shows the SAVs under the existing bridges.**
What is typical salinity and temperature regime/range?	**Salinity is approximately 25ppt. The ocean temperature range is 37-73 degrees F. Temperatures at the project site, while not known exactly, likely have a similar range.**
What is the normal frequency of site disturbance, both natural and man-made?	**The bridge was constructed around 1958/59. No additional water impact associated with the bridge has occurred since then. Conectiv placed a submerged/buried power cable immediately adjacent to the bridge within the last 10 years that disturbed areas of SAV. Frequent boat traffic has resulted in prop scour in shallow water as is evident on aerial photographs.**
What is the area of proposed impact (work footprint & far afield)?	**The following impacts presume a WORST-CASE scenario that uses a second temporary trestle bridge for construction access, if it is needed. Permanent impacts to aquatic habitat due to new bridge construction include 0.52 acres of sub-tidal/intertidal shallows associated with pier construction; 0.63 acres of shellfish habitat; and 0.41 acres of SAV. Temporary impacts to aquatic habitat associated with constructing piers and access trestles include 0.30 acres of sub-tidal/intertidal shallows; 0.36 acres of shellfish habitat; and 0.25 acres of SAV. This does not include up to 1.46 acres of temporary and 1.42 acres of permanent *potential* SAV shading impact (see the SAV question in Section 3 and the Mitigation question in Section 4 below). It should be noted that there is overlap among these habitats, such that simply adding the impacts would result in an incorrect overestimation of total impact. Also, because the actual number and size of the piles needed for each trestle bent will not be known until further design, a standard size (3' X 28') solid footprint was assumed for each bent,**

	resulting in an overestimation of temporary impacts to the aquatic resources.

Step 3. This section is used to describe the anticipated impacts from the proposed action on the physical/chemical/biological environment at the project site and areas adjacent to the site that may be affected.

3. DESCRIPTION OF IMPACTS			
Impacts	**Y**	**N**	**Description**
Nature and duration of activity(s)			**The project involves rehabilitation of four existing bridges and the construction of a new adjacent structure over the Intra-Coastal waterway. Construction of the entire project will last approximately five years. Piers will be constructed inside cofferdams, which will be installed outside of restricted periods. There are 16 new piers that will be constructed concurrently. The potential impacts of the project have been calculated based upon a worst-case scenario that involves use of two temporary trestle bridges for construction access over approx. 24 months.**
Will benthic community be disturbed?	**X**		**Pier construction as well as temporary trestle(s) for access will impact the substrate during project construction. The temporary trestle(s) will be removed upon completion of the bridge, allowing return of the benthic habitat.**
Will SAV be impacted?	**X**		**SAVs will be both physically disturbed through installation of permanent bridge piers, temporary trestle(s) for construction access, and possibly by shading from the channel bridge (main bridge) and the temporary trestles. However, it should be noted that SAVs currently occur under the 60-ft.-high existing bridge and, therefore, it is likely that they will continue growing under the new 55 or 60-ft.-high bridge after construction is completed.**
Will sediments be altered and/or sedimentation rates change?	**X**		**Temporary trestle(s) will alter sediments at the locations of the individual piles. The temporary trestle(s) will be removed upon completion of the bridge. Otherwise, sediments will not be altered except for their removal at the new bridge pier locations. Addition of the new piers will not change sedimentation rates. Though minor scour may occur due to minor flow alteration around the new piers, similar to the existing piers, scour countermeasures are not proposed at this time for the new piers because the pier pilings will be installed to sufficient depth to avoid being scour critical. A change in the sedimentation rate is not anticipated.**
Will turbidity increase?	**X**		**Turbidity may temporarily increase during construction. However, this will be minimized by the use of standard erosion and sediment controls within project limits, including floating turbidity barriers placed around the cofferdams and other in-water work, and the use of heavy duty silt fence along fill slopes on land.**
Will water depth change?			**No dredging or permanent filling (other than the piers) will**

		X	occur. Therefore, the project will not result in a change in depth.
Will contaminants be released into sediments or water column?		X	Concrete will not be cured in wet conditions. Piers will be constructed inside cofferdams. Standard notes in the plans and specifications require on-site emergency spill kits, controlled storage of petroleum products, and the repair of leaking equipment or its removal from the project area.
Will tidal flow, currents or wave patterns be altered?		X	Not overall. Bridge piers represent a small obstacle in the large tidal water body. Depths range from 1'-2' along the shorelines to 8'-10' in the channel. Minor flow alteration may occur around the piers, but no impact is anticipated to tidal flow, currents or wave patterns.
Will ambient salinity or temperature regime change?		X	The project will not affect ambient salinity. Since there will be no change in water depth, the project is not anticipated to result in a change to temperature regime.
Will water quality be altered?	X		Construction activity could result in minor turbidity impacts; however, theses would be temporary and minimized by the use of properly maintained soil erosion and sediment controls in the project area. Water quality impacts will be minimized by adhering to standard notes in the plans and specifications that require on-site emergency spill kits, controlled storage of petroleum products, and the repair of leaking equipment or its removal from the project area. Since the scuppers on the existing bridge will be replaced with a drainage system that provides treatment for roadway drainage, a source of water quality impact will be eliminated.

Step 4. This section is used to evaluate the consequences of the proposed action on the functions and values of EFH as well as the vulnerability of the EFH species and their life stages. Identify which species from the EFH species list (generated in Step 1) will be adversely impacted from the action. Assessment of EFH impacts should be based upon the site characteristics identified in Step 2 and the nature of the impacts described within Step 3. The Guide to EFH Descriptions webpage (http://www.nero.noaa.gov/hcd/list.htm) should be used during this assessment to determine the ecological parameters/preferences associated with each species listed and the potential impact to those parameters.

4. EFH ASSESSMENT			
Functions and Values	**Y**	**N**	**Describe habitat type, species and life stages to be adversely impacted**
Will functions and values of EFH be impacted for:			
Spawning	X		**Adults will be precluded from spawning in certain areas due to physical loss of bottom habitat due to the bridge piers and trestle(s). The trestle(s) are temporary and that portion of the habitat for spawning will be restored.**
Nursery	X		**Winter flounder eggs and larvae are mapped for the area. Because those life stages are demersal, they can be affected by the pier construction. Additionally, Summer Flounder juveniles frequent the SAV beds and would be temporarily displaced during construction. Seasonal timing restrictions will be observed.**
Forage	X		**Adults and juvenile Summer Flounder, Winter Flounder, Scup, Black Sea Bass, Windowpane Flounder, Bluefish, and Butterfish frequent SAV beds. These fish use the beds for foraging. In addition, the flounder also eat shellfish and benthic organisms. A loss of foraging area will result from the loss of bottom habitat due to permanent bridge piers and the placement of temporary trestle(s). When the temporary trestle(s) are removed, the SAV habitat will be revegetated and the substrate will provide habitat for shellfish and other benthic organisms. Permanent SAV impacts will be mitigated in the project vicinity or at other suitable locations approved by the regulatory agencies.**
Shelter	X		**The species described above utilize SAV beds as shelter as well as foraging. SAV habitat will be restored as described below.**
Will impacts be temporary or permanent?			**As described above, there will be both permanent and temporary impacts.**
Will compensatory mitigation be used?	X		**Yes. The permanent impacts will be mitigated in the vicinity of the project or at other suitable locations approved by the regulatory agencies. Areas temporarily impacted will be restored. Prior to and after construction, SAV will be evaluated**

			to determine if the temporary trestle(s) had a shading effect. Restoration will include the removal of temporary trestle(s) and the replanting of disturbed SAV beds, including temporarily shaded areas, if necessary. Past efforts at SAV restoration by Conectiv have been problematic. The restored areas will also provide substrate for the return of shellfish and other benthic organisms. While a more specific mitigation proposal is not available at this time, the mitigation package will include habitat restoration as required by the regulatory agencies to compensate for all permanent and temporary impacts to aquatic habitat. NMFS will be solicited for mitigation ideas and comments on any mitigation proposal.

Step 5. This section provides the Federal agency=s determination on the degree of impact to EFH from the proposed action. The EFH determination also dictates the type of EFH consultation that will be required with NOAA Fisheries.

5. DETERMINATION OF IMPACT		
	/	**Federal Agency=s EFH Determination**
Overall degree of adverse effects on EFH (not including compensatory mitigation) will be: **(check the appropriate statement)**		**There is no adverse effect on EFH** **EFH Consultation is not required**
		The adverse effect on EFH is not substantial. **This is a request for an abbreviated EFH consultation. This worksheet is being submitted to NMFS to satisfy the EFH Assessment requirement.**
	X	**The adverse effect on EFH is substantial.** **This is a request for an expanded EFH consultation. A detailed written EFH assessment will be submitted to NMFS expanding upon the impacts revealed in this worksheet.**

Step 6. Consultation with NOAA Fisheries may also be required if the proposed action results in adverse impacts to other NOAA-trust resources, such as anadromous fish, shellfish, crustaceans, or their habitats. Some examples of other NOAA-trust resources are listed below. Inquiries regarding potential impacts to marine mammals or threatened/endangered species should be directed to NOAA Fisheries' Protected Resources Division.

As discussed above, the project is located within shellfish habitat, specifically Hard Clam (*Mercenaria*). The work will result in both temporary disturbance of 0.36 acres of shellfish habitat from placement of temporary trestle bridge(s) for construction access and the permanent destruction of 0.63 acres of shellfish habitat from bridge piers and the replacement of riprap. As described above in Section 2, the temporary impacts are an overestimation of actual disturbance. The SAV beds discussed above are also habitat utilized by Blue Claw Crab *(Callinectes sapidus).* SAV beds are nursery habitat for many fish species including Atlantic Silverside and other prey species. Loss of SAV beds will result in a reduction of prey available for EFH species such as Bluefish.

The following is a detailed evaluation of the specific effects associated with the Route 72 Bridge Replacement project in Stafford Township and Ship Bottom Borough, Ocean County, New Jersey on each individual managed species to supplement the EFH Worksheet:

a. Atlantic Cod (Adults) – The project area is not EFH for this species because the depths are too shallow in the project area.
b. Whiting (all stages) - The project area is not EFH for this species because the depths are too shallow in the project area.
c. Red Hake (all stages) – The project area is not EFH for this species because the depths are too shallow in the project area.
d. Witch Flounder (eggs) - The project area is not EFH for this species because the depths are too shallow in the project area.
e. Winter Flounder (all stages) - The project will not have a direct effect on adults and juveniles because they can move away from the area during work. However, the work has an adverse effect on the habitat and effects prey species (hard clam) of these life stages. The bridge project would directly and adversely affect eggs and larvae from the work associated with piles for the temporary trestles and the permanent work associated with the new pier construction. The work also adversely affects these stages' habitat both temporarily and permanently. Conservation measures are required and will take the form of restoration of temporary impacts and compensatory mitigation to offset loss of habitat. A seasonal restriction would be imposed to minimize the direct impacts to eggs and larvae.
f. Windowpane Flounder (all stages) - The project will not have a direct effect as the eggs and larvae float and adults and juveniles can move away from the area during work. The project will have an adverse effect on SAV foraging habitat. Temporary loss of EFH will be restored; permanent loss will be mitigated.
g. Atlantic Sea Herring (all stages) - The project area is not EFH for this species because the depths are too shallow in the project area.
h. Monkfish (eggs and larvae) - The project area is not EFH for this species because the depths are too shallow in the project area.
i. Bluefish (juveniles and adults) – The project will not have a direct effect as the adults and juveniles can move away from the area during work. The project will have an adverse effect on SAV foraging habitat. Temporary loss of EFH will be restored; permanent loss will be mitigated.
j. Atlantic Butterfish (all stages) – The project will not have a direct effect as the eggs and larvae float; adults and juveniles can move away from the area during work. The project will have an adverse effect on SAV foraging habitat. Temporary loss of EFH will be restored; permanent loss will be mitigated.
k. Summer Flounder (larvae, juveniles and adults) – These stages of Summer Flounder utilize the SAV habitat found in the project limits. The proposed work directly affects the species itself (larvae), and feeding, nursery and spawning habitat. Access trestles for the project will temporarily adversely affect 0.25 acres of SAV habitat and *may* temporarily affect 1.46 acres due to shading. New bridge work will permanently affect 0.41 acres of SAV habitat. Potential shading impact from the new bridge is also 1.42 acres. While it is unclear the exact effect of shading from the addition of a new bridge, the fact that SAVs exist under the current 60-ft-high bridge and that the new bridge will be 55 or 60 ft high suggests that the bridge will not cause an additional adverse impact from shading.

Literature on photoactive radiation (PAR) requirements for eel-grass was inconclusive. Temporary loss of EFH will be restored; permanent loss will be mitigated.

l. Scup (juveniles and adults) -The work would adversely affect prey species of Scup by physical destruction of benthic habitat. Mobile life stages could move out of the area and away from harm during construction. Conservation measures are required and will take the form of restoration of temporary impacts and compensatory mitigation to offset loss of habitat.

m. Black Sea Bass (all stages) - The project will not have a direct effect on eggs because they float, or on mobile life stages because they can move out of the area and away from harm during construction. Demersal larvae could be subject to direct impact and prey species of Black Sea Bass would be adversely affected by physical destruction of benthic habitat. Conservation measures are required and will take the form of restoration of temporary impacts and compensatory mitigation to offset loss of habitat.

n. Surf clam – The project area is not EFH for this species as surf clams are found off-shore.

o. King Mackerel (all stages) – The project area is not EFH for this species as all life stages are pelagic in off-shore waters.

p. Spanish Mackerel (all stages) - The project area is not EFH for this species as all life stages are pelagic in off-shore waters.

q. Cobia (all stages) - The project would have no more than minimal impact on the species. Individuals may be found in estuaries, but can move away from the area during construction. Temporary loss of EFH will be restored; permanent loss will be mitigated.

r. Tiger Shark (juveniles, subadults) - The proposed work would have no more than minimal impact on this species. Individuals may be found in shallow coastal areas, but can move away from the area during construction.

s. Sand Tiger Shark (juveniles, adults) – The proposed work would have no more than minimal impact on this species. Individuals can be found in shallow coastal waters in the area of the project; however, they can move away from the area during construction.

t. Atlantic Angel Shark (juveniles, adults) - The proposed work would have no more than minimal impact on this species. Individuals are typically found in offshore locations. Furthermore, juveniles and adults can move away from the area during construction.

u. Dusky Shark (juveniles, subadults) - The proposed work would have no more than minimal impact on this species. Individuals may be found in estuaries, but can move away from the area during construction.

v. Sandbar Shark (juveniles, adults) – The proposed work would have no more than minimal impact on this species. Individuals may be found in estuaries in the area of the project, but can move away from the area during construction.

w. Atlantic Sharpnose Shark (adults) – No more than minimal adverse effect on adults, as they can move away from the area during construction. Furthermore, they are generally located to the south of Cape May, and away from the proposed project site.

x. Clearnose Skate (*Raja eglanteria*) – This species is found predominantly on the continental shelf but will occasionally come into shallow waters during the

summer months. Eggs are laid off the coast in spring. Juveniles and adults have been found, in Delaware Bay and sporadically in the Hudson-Raritan estuary. They eat fish, benthic organisms and other macro-invertebrates. Even though this skate will come into shallower water in the summer, the juveniles and adults are able to temporarily leave an area where work is occurring. The area to be impacted is relatively small compared with the overall habitat type in the area. As such, this project would not have more than minimal adverse effects.

y. Little Skate (*Leucoraja erinacea*) – This species is very similar in diet and geographic distribution to Clearnose Skate with one difference, the Little Skate will leave shallow water in summer. As such, this project would not have more than minimal adverse effects.

z. Other skates, such as Winter Skate (*Leucoraja ocellata*) are found off the coast of New Jersey but are not generally found in shallow waters of the Atlantic back bays, where work is proposed. As such, this project would not have more than minimal adverse effects.

Appendix E – Technical Environmental Studies

NEW JERSEY DEPARTMENT OF TRANSPORTATION

ROUTE 72 MANAHAWKIN BAY BRIDGES

Ocean County

AIR QUALITY ASSESSMENT

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1.1 INTRODUCTION

An air quality analysis was performed for the proposed Route 72 Manahawkin Bay Bridges project, located within the Township of Stafford (Manahawkin) and the Borough of Ship Bottom, both within Ocean County. Proposed improvements include rehabilitating three (3) trestle bridges and the existing bay bridge. In addition, a new parallel bay bridge will be constructed south of the existing bridge. Improvements are also proposed at the signalized intersection of Route 72 and Marsha Drive. The Route 72 westbound finger ramp at the intersection of Route 72 and Marsha Drive will be removed. Therefore, Route 72 westbound right turns onto northbound Marsha Drive will only be allowed at the intersection. Route 72 westbound left turns onto southbound Marsha Drive will continue to be accessed via an exit at Bay Avenue, just 0.5 mile east of the intersection.

A mobile-source carbon monoxide (CO) analysis was completed at the signalized intersection of Route 72 and Marsha Drive under 2035 No-Build and Build conditions. The air quality analysis was performed on behalf of the New Jersey Department of Transportation (NJDOT) and was prepared pursuant to requirements set forth by the United States Environmental Protection Agency (USEPA) and New Jersey Department of Environmental Protection (NJDEP).

Due to flooding issues within the western shore of Ship Bottom Borough, a pump station has also been proposed. The pump station will be equipped with an emergency generator. Since the maximum rated heat input to the burning chamber of the single emergency generator is less than 80 million BTU per hour, no stationary-source air quality analysis is necessary. In addition, the emergency generator does not require a NJDEP general permit.

1.2 NATIONAL AND NEW JERSEY AMBIENT AIR QUALITY STANDARDS

Since it was originally passed in 1955, the Clean Air Act (CAA) had been the primary basis for regulating air pollutant emissions. The amendments to the Clean Air Act were passed in 1970, and allowed USEPA to delegate responsibility to state and local governing bodies. This allowed each state/local government the opportunity to prevent and control air pollution at the source. The 1970 amendments (Clean Air Act Amendments; CAAA) mandated that the USEPA establish ceilings for certain pollutants based upon the identifiable effects each pollutant may have on public health and welfare. Subsequently, the United States Environmental Protection Agency (USEPA) promulgated the revised regulations which set National Ambient Air Quality Standards (NAAQS) for carbon monoxide (CO), ozone (O_3), nitrogen dioxide (NO_2), lead (Pb), sulfur dioxide (SO_2), total suspended particulates (TSP), inhalable particle matter smaller than 10 micrometers (PM_{10}), and in 1997, a new particulate standard for inhalable particulate matter

smaller than 2.5 micrometers ($PM_{2.5}$). These pollutants are collectively referred to as criteria pollutants and are shown in Table 1.1.

TABLE 1.1
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY NATIONAL AND NEW JERSEY AMBIENT AIR QUALITY STANDARDS

Pollutant	Averaging Period	New Jersey Primary	New Jersey Secondary	National Primary	National Secondary
Carbon Monoxide	1 hour 8 hour	35 ppm 9 ppm	35 ppm 9 ppm	35 ppm 9 ppm	- -
Ozone	1 hour 8 hour	0.12 ppm -	0.08 ppm -	0.12 ppm .075 ppm	0.12 ppm .075 ppm
Nitrogen Dioxide	1 year	0.05 ppm	0.05 ppm	0.053 ppm	0.053 ppm
Lead	3 months	1.5 ug/m^3	1.5 ug/m^3	1.5 ug/m^3	1.5 ug/m^3
Sulfur Dioxide	3 hour 24 hour 1 year	- 0.14 ppm .03 ppm	0.50 ppm 0.10 ppm .02 ppm	- 0.14 ppm 0.03 ppm	0.5 ppm - -
Total Suspended Particulates	24 hour 1 year	260 ug/m^3 75 ug/m^3	150 ug/m^3 60 ug/m^3	- -	- -
Inhalable Particulates(PM_{10})	24 hour 1 year	- -	- -	150 ug/m^3 -	150 ug/m^3 -
Fine Particulates($PM_{2.5}$)	24 hour 1 year	- -	- -	35 ug/m^3 15 ug/m^3	35 ug/m^3 15 ug/m^3

Source: United States and New Jersey Departments of Environmental Protection, 2009; http://epa.gov/air/criteria.html

New Jersey and National Ambient Air Quality Standards (NAAQS) are divided into two (2) types of criterion. Primary standards define air quality levels intended to protect the public health with an adequate margin of safety. Secondary standards define levels of air quality intended to protect the public welfare from any known or anticipated adverse effect of a pollutant (e.g. soiling, vegetation damage, material corrosion).

Each criteria pollutant is monitored on a continuous basis throughout the State of New Jersey by the NJDEP. Major objectives of monitoring air quality are to provide an early warning system for pollutant concentrations, assess air quality in light of public health and welfare standards, and also track trends or changes in these pollutant levels.

1.3 EXISTING CONDITIONS

Section 107 of the 1970 Clean Air Act Amendments requires USEPA and states throughout the country to identify those areas not meeting the National Ambient Air Quality Standards

(NAAQS). An area which does not meet a standard is referred to as in nonattainment. The Route 72 Manahawkin Bay Bridges project is located within Ocean County, which is in attainment for CO, NO_2, Pb, SO_2, $PM_{2.5}$ and PM_{10}. Ocean County as well as the entire State of New Jersey is in 8-hour ozone (O_3) nonattainment.

Naturally occurring O_3 in the upper atmosphere protects the population from harmful ultraviolet rays. Ground-level O_3 is created when nitrogen oxides (NO_x) and volatile organic compounds (VOCs) react in the presence of sunlight and heat. Ground-level O_3 can cause serious adverse health effects by damaging cells that line our airways. Therefore, O_3 can aggravate respiratory disease and cause people to be more susceptible to respiratory infections. The incomplete combustion of fossil fuel, power plants and other sources of combustion emit the primary source of NO_x. In recent years documented O_3 levels had been decreasing. In 2008, the USEPA created a more stringent 8-hour O_3 standard and therefore precursors (NO_x and VOCs) are monitored very carefully.

Ozone is a regional pollutant and is documented throughout the state including monitoring stations within Ocean County (Jackson Township) and Atlantic County (Galloway Township). The monitor in Atlantic County is located within the Edwin Forsythe National Wildlife Refuge. This monitor was utilized to determine attainment since it is geographically closer to the project study area than the Ocean County station. Attainment status is determined based on an average concentration calculated over the most recent three-year period. O_3 monitoring data (1-hr and 8-hr) representing the site, 3-year averages and appropriate standards are included within Table 1.2. The 3-year average 1-hour and 8-hour O_3 concentrations at the monitoring station are 0.0927 ppm and 0.0753 ppm, respectively. The average 8-hour O_3 concentration documented at the monitoring station over the previous three (3) years exceeds the 8-hour standard of 0.075 ppm.

TABLE 1.2
OZONE MONITORING DATA
(ATLANTIC COUNTY; Edwin B. Forsythe National Wildlife Refuge 2006-2008)

Year	1-Hour Concentration[1] (ppm)	8-Hour Concentration[2] (ppm)
2006	0.103	0.076
2007	0.094	0.078
2008	0.081	0.072
3-Year Average	0.0927	0.0753
Standard	0.12	0.075

[1] – 2nd highest daily maximum
[2] – 4th highest daily maximum
Source: http://www.epa.gov/air/data/repsst.html?st~NJ~New%20Jersey

1.4 CRITERIA FOR DETERMINING IMPACTS

A microscale carbon monoxide (CO) analysis is required at critical intersections predicted within areas of CO maintenance or nonattainment under Build conditions. A critical signalized intersection is defined as possessing a total Level of Service (LOS) D or worse under the future 2035 Build condition. Although the County of Ocean is in CO attainment, a microscale CO analysis was performed due to the LOS D (see Table 1.3 below) predicted under 2035 Build condition at the Route 72 and Marsha Drive intersection.

The federal/state carbon monoxide primary and secondary standard of 35 ppm (parts per million) for a one hour period, and 9 ppm for a continuous eight hour period, have been set forth. Predicted CO concentrations at this intersection are compared to the CO NAAQS. As stated within the Clean Air Act Amendments of 1990, proposed projects must adhere and insure conformity of the governing State Implementation Plan (SIP). The conformity requirements for the SIP are as follows:

1. The project must originate from a conforming transportation plan and program.
2. In non-attainment areas, the project must eliminate or reduce the severity and number of violations of the NAAQS.

1.5 MODELING METHODOLOGY

Traffic operational reports (Snychro computer files) were reviewed. The project-affected intersection conditions are shown in Table 1.3, including corresponding Level of Service (LOS) and delay. The highest delay during 2035 Build condition is predicted to occur during peak Saturdays. Therefore, the microscale CO analysis was performed at the intersection of Route 72 and Marsha Drive during 2035 No-Build and Build Saturday peak traffic hour.

TABLE 1.3
ROUTE 72 AND MARSHA DRIVE OPERATIONAL DATA

Condition	Level of Service	Delay (seconds)
2035 Build (Saturday)	D	47.6
2035 Build (Sunday)	D	46.3

To analyze CO concentrations as a result of roadways within the study area, NJDEP requires specific methodology at intersections which is outlined in the “Air Quality Analysis for

Intersections" document released by the Bureau of Air Quality Evaluation (2004). Two (2) USEPA models were utilized; MOBILE6.2 to calculate emission factors for input to the air dispersion model, CAL3QHC.

The newly released USEPA MOBILE6.2 model calculates carbon monoxide emission factors based on New Jersey-specific vehicular mixes of gasoline and diesel-fueled motor vehicles. This model calculates mobile emission factors for a specific project year based on the range of database years specified by the user. The model takes the age of the vehicles as well as the speeds and drive cycles of the user-specified roadway (freeway, arterial, local or ramp) as factors in the calculation. Databases specific to New Jersey Inspection Maintenance and Anti-Tampering Programs are also utilized. MOBILE6.2 input/output files specific to this project are included within Appendix A.

The USEPA CAL3QHC air dispersion model is capable of predicting CO concentrations due to roadway segments. Cartesian coordinates are utilized to allow the computer model to understand and evaluate the specific roadway configuration within the project study area. For accurate modeling results, 1600 feet of roadway geometry surrounding the receptor is included within the model. All cruise speeds link inputs include coordinates, traffic volumes, emission factor and lane width (including an additional 3 meters on each side for an adequate mixing zone).

Air quality concentrations generated by vehicular-related sources are also influenced by such factors as wind direction, wind speed and atmospheric stability. The pollutant concentrations predicted at any given location, due to pollutant mixing, is inversely related to wind speeds. Therefore, lower wind speeds result in higher estimated CO concentrations. A worst case wind speed of one meter per second (1 m/s), and an atmospheric mixing height of 1000 meters were assumed. NJDEP requires a conservative atmospheric stability class, therefore for this project, "D" was assumed. In addition, the project study area was modeled utilizing a surface roughness of 108 centimeters (residential).

Due to wind angle, the receptor may be influenced by different roadway links. Therefore, the wind angle was varied in five-degree increments, from 0 to 360°, to determine the worst-case wind direction resulting in maximum one-hour concentrations.

NJDEP requires air quality receptors modeled at "reasonable" locations. No sidewalks are present along either roadways, Route 72 or Marsha Drive. Therefore, receptors were placed along the NJDOT right-of-way lines on all approach legs of the intersection.

Ambient background levels are then added to each one-hour concentration to yield the total CO concentration at each receptor site. The NJDEP approved one hour ambient background

concentration of 3.0 ppm was utilized. Resultant one-hour CO concentrations are then compared to the standard of 35 ppm.

To evaluate an eight-hour air quality impact, each one-hour computer modeled concentration was multiplied by a 0.7 persistence factor. This value represents the role traffic and meteorological conditions may have on an overall eight hour period. The NJDEP approved eight hour ambient background CO concentration of 2.1 ppm was utilized. Resultant eight hour concentrations are then compared to the 9 ppm standard.

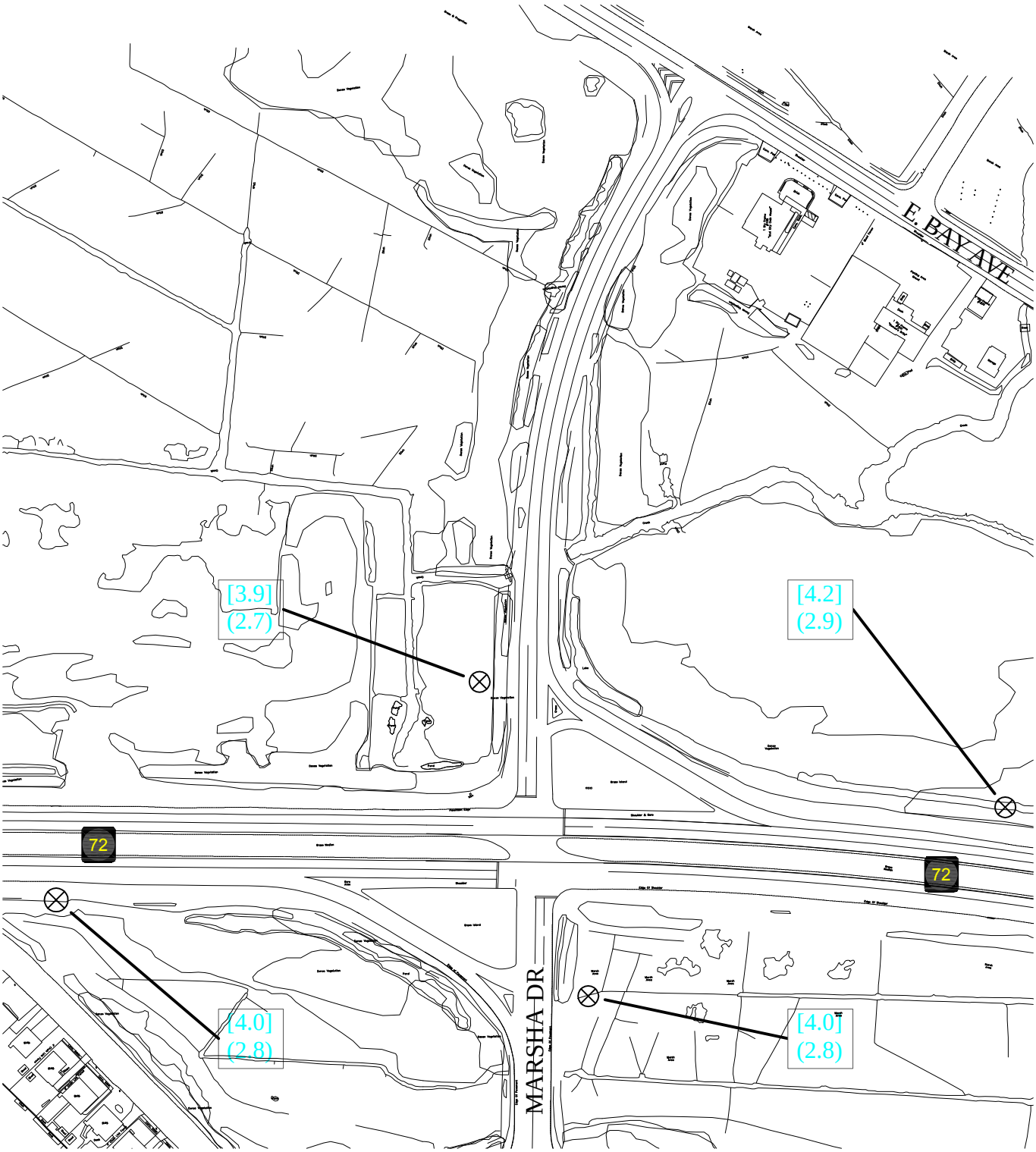
1.6 MODELING RESULTS

2035 No-Build – One- and eight-hour CO concentrations are shown in Table 1.4 and include roadway-related CO contributions from the intersection of Route 72 and Marsha Drive as well as the appropriate background concentrations. The peak one-hour CO concentration was predicted along the westbound Route 72 approach leg of the intersection. This peak one-hour concentration of 4.2 ppm does not exceed the one hour NAAQS of 35 ppm set forth. In addition, the peak eight-hour concentration of 2.9 ppm does not exceed the eight hour NAAQS of 9 ppm set forth. Figure 1.1 details both one- and eight-hour CO concentrations predicted for the 2035 No-Build condition. The 2035 No-Build air quality analysis, including CAL3QHC input/output files and CO concentration worksheets, are included within Appendix B.

TABLE 1.4
2035 NO-BUILD CO CONCENTRATIONS

Receptor Location	Total One-Hour CO Concentration (ppm)	Total Eight-Hour CO Concentration (ppm)
Route 72 EB Approach Leg	4.0	2.8
Route 72 WB Approach Leg	**4.2**	**2.9**
Marsha Drive NB Approach Leg	4.0	2.8
Marsha Drive SB Approach Leg	3.9	2.7

Bold values represent peak CO concentrations



INTERSECTION: Route 72 and Marsha Drive

LEGEND	Date	July 30, 2009
⊗ Carbon Monoxide Receptor Location	New Jersey Department of Transportation	
[ ] Peak 1-HR. Saturday CO Concentration	Route 72 Manahawkin Bay Bridges	
( ) Peak 8-HR. Saturday CO Concentration	Figure 1.1	
	2035 "NoBuild" CO Concentrations	
PROJECT NORTH	Drawn by: G. Druckenmiller	Checked by: S.P. Carpenter
All concentrations in units of ppm (parts per million)	Paul Carpenter Associates, Inc.	Page 7

2035 Build – One- and eight-hour resultant CO concentrations are shown in Table 1.5 and include roadway-related CO contributions from the intersection of Route 72 and Marsha Drive, assuming improvements, as well as the appropriate background concentrations. The peak one-hour CO concentration was predicted along the westbound Route 72 approach leg of the intersection. This peak one-hour concentration of 4.3 ppm does not exceed the one-hour NAAQS of 35 ppm set forth. In addition, the peak eight-hour concentration of 3.0 ppm does not exceed the eight-hour NAAQS of 9 ppm set forth. Figure 1.1.2 details both one- and eight-hour CO concentrations predicted under the 2035 Build condition. The 2035 Build air quality analysis, including CAL3QHC input/output files and CO concentration worksheets, are included within Appendix C.

TABLE 1.5
2035 BUILD CO CONCENTRATIONS

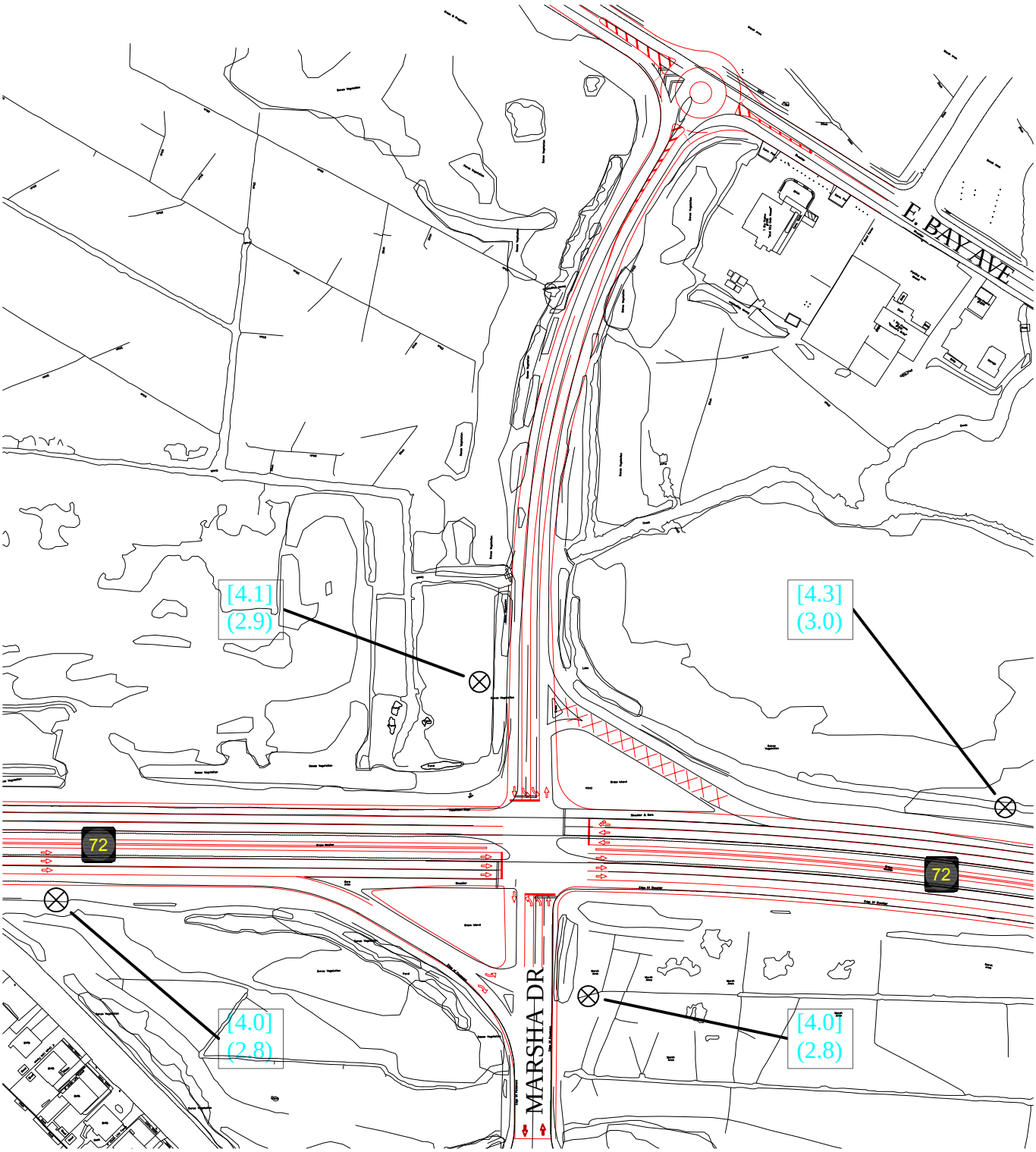
Receptor Location	Total One-Hour CO Concentration (ppm)	Total Eight-Hour CO Concentration (ppm)
Route 72 EB Approach Leg	4.0	2.8
Route 72 WB Approach Leg	**4.3**	**3.0**
Marsha Drive NB Approach Leg	4.0	2.8
Marsha Drive SB Approach Leg	4.1	2.9

Bold values represent peak CO concentrations

1.7 CONFORMITY DETERMINATION

The USEPA promulgated the Transportation Conformity Rules (TCR) under the CAAA, effective December 27, 1993. The TCR provides criteria and procedures for determining conformity to State Implementation Plans (SIP) of transportation programs, plans, and projects funded or approved under Title 23 U.S.C. or the Federal Transit Act. This project is located in a CO attainment area and ozone (O_3) non-attainment area, hence conformity determination is required. The conformity requirements for are as follows:

1. The project must originate from a conforming transportation plan and program
2. In non-attainment areas, the project must eliminate or reduce the severity and number of violations of the NAAQS.



INTERSECTION: Route 72 and Marsha Drive

LEGEND	Date	July 30, 2009
⊗ Carbon Monoxide Receptor Location	New Jersey Department of Transportation	
[ ] Peak 1-HR. Saturday CO Concentration	Route 72 Manahawkin Bay Bridges	
( ) Peak 8-HR. Saturday CO Concentration	Figure 1.2	
Proposed Improvements	2035 "Build" CO Concentrations	
PROJECT NORTH	All concentrations in units of ppm (parts per million)	Drawn by: G. Druckenmiller Checked by: S.P. Carpenter
		Paul Carpenter Associates, Inc. Page 9

Transportation projects that originate from a conforming Statewide Transportation Improvement Plan (STIP) are considered to conform to the rule. The Route 72 Manahawkin Bay Bridges project (DB # 00357) is included within the FY 2009-2018 STIP. The project listing within the STIP is included in Appendix D. Due to the attainment status of Ocean County, predicted CO concentrations, as well as the inclusion of the project within the STIP, it can be stated that the Route 72 Bay Bridges project conforms with the goals and requirements as set forth within the CAAA and the Final Conformity Rule.

APPENDIX A
MOBILE6.2 INPUT/OUTPUT FILES

```
MOBILE6 INPUT FILE :

*      MOBILE6 inputs for New Jersey average winter conditions.

**********************************************************************
***                      OUTPUT COMMANDS                           ***
**********************************************************************

SPREADSHEET        :

DATABASE OUTPUT    :
WITH FIELDNAMES    :
DATABASE EMISSIONS : 2111  1111  11
DATABASE VEHICLES  : 22222 22222222 1 222 22222222 111
DATABASE HOURS     : 1,12
DATABASE YEARS     : 2011, 2035

POLLUTANTS         : CO
REPORT FILE        : N:\Mobile6\Projects\Output15\Rt72.txt

*      Reporting summary output only; no database output.
*      Exhaust emissions reported as start, running, and total.


RUN DATA

EXPAND EXHAUST     :

**********************************************************************
***               EXTERNAL CONDITIONS COMMANDS                     ***
**********************************************************************

MIN/MAX TEMP       : 26.7 41.2
ABSOLUTE HUMIDITY  : 20.0

*      Hourly temp distribution not provided.
*      MOBILE6 will calculate temp distribution from min/max temp.
*      Min/max temps and humidity are the statewide average normal
*      values for the winter months of December, January and February
*      Default cloud cover, peak sun
*      Default sunrise, sunset

**********************************************************************
***          VEHICLE FLEET CHARACTERISTICS COMMANDS                ***
**********************************************************************

REG DIST           : N:\Mobile6\Projects\regdnj.d

*     Registration distribution by age for MOBILE6 vehicle types
*     provided by NJDOT (from June 4, 2003 NJMVC Data).
*     Using default Diesel Fractions, Milage Accummulation Rates,
*     and Natural Gas Vehicle fractions.

**********************************************************************
***                     ACTIVITY COMMANDS                          ***
**********************************************************************

VMT FRACTIONS      :
0.5532 0.0554 0.1844 0.0801 0.0368 0.0265 0.0026 0.0021
0.0016 0.0059 0.0069 0.0076 0.0270 0.0013 0.0006 0.0080

*     VMT fractions from DVRPC, December, 2003
*     Start/Soak data use MOBILE6 defaults
```

```
*********************************************************************
***                        STATE PROGRAMS                         ***
*********************************************************************

*     I/M program from NJ MOBILE6 SIP, 2003

ANTI-TAMP PROG     :
85 75 50 22222 22222222 2 12 098. 12211112
*
I/M EFFECTIVENESS  : 0.94 0.94 0.94
*
* First I/M program
I/M PROGRAM        : 1 1974 2050 2 TRC IDLE
I/M MODEL YEARS    : 1 1941 1980
I/M VEHICLES       : 1 22222 22222222 2
I/M STRINGENCY     : 1 30.0
I/M COMPLIANCE     : 1 98.0
I/M WAIVER RATES   : 1 0.0 0.0
* Second I/M program
I/M PROGRAM        : 2 2004 2050 2 TRC OBD I/M
I/M MODEL YEARS    : 2 1996 2050
I/M VEHICLES       : 2 22222 11111111 1
I/M STRINGENCY     : 2 30.0
I/M COMPLIANCE     : 2 98.0
I/M WAIVER RATES   : 2 0.0 3.0
I/M GRACE PERIOD   : 2 4
* Third I/M program
I/M PROGRAM        : 3 2000 2050 2 TRC ASM 5015 PHASE-IN
I/M MODEL YEARS    : 3 1981 1995
I/M VEHICLES       : 3 22222 11111111 1
I/M STRINGENCY     : 3 30.0
I/M COMPLIANCE     : 3 98.0
I/M WAIVER RATES   : 3 0.0 3.0
* Fourth I/M program
I/M PROGRAM        : 4 2000 2050 2 TRC IDLE
I/M MODEL YEARS    : 4 1981 2050
I/M VEHICLES       : 4 11111 22222222 2
I/M STRINGENCY     : 4 30.0
I/M COMPLIANCE     : 4 98.0
I/M WAIVER RATES   : 4 0.0 0.0
I/M GRACE PERIOD   : 4 4
* Fifth I/M program
I/M PROGRAM        : 5 1998 2050 2 TRC GC
I/M MODEL YEARS    : 5 1970 2050
I/M VEHICLES       : 5 11111 22222222 2
I/M COMPLIANCE     : 5 98.0
I/M WAIVER RATES   : 5 0.0 0.0
I/M GRACE PERIOD   : 5 4
* Sixth I/M program
I/M PROGRAM        : 6 1998 2050 2 TRC GC
I/M MODEL YEARS    : 6 1970 1995
I/M VEHICLES       : 6 22222 11111111 1
I/M COMPLIANCE     : 6 98.0
I/M WAIVER RATES   : 6 0.0 0.0
* Seventh I/M program
I/M PROGRAM        : 7 2004 2050 2 TRC EVAP OBD & GC
I/M MODEL YEARS    : 7 1996 2050
I/M VEHICLES       : 7 22222 11111111 1
I/M COMPLIANCE     : 7 98.0
I/M WAIVER RATES   : 7 0.0 0.0
I/M GRACE PERIOD   : 7 4

*********************************************************************
***                         FUEL COMMANDS                         ***
```

```
**********************************************************************

FUEL RVP           : 15.0
STAGE II REFUELING :
89 1 85 70
FUEL PROGRAM       : 2 N

**********************************************************************
***     ALTERNATIVE EMISSION REGULATIONS AND CONTROL MEASURES      ***
**********************************************************************


*     Northeast NLEV program

94+ LDG IMP        : N:\Mobile6\Projects\nlevne.d


**********************************************************************
***  Scenario Record                                               ***
**********************************************************************

SCENARIO RECORD    : Route 72
CALENDAR YEAR      : 2035
AVERAGE SPEED      : 35.0 arterial

SCENARIO RECORD    : Local Roadways
CALENDAR YEAR      : 2035
AVERAGE SPEED      : 25.0 arterial

SCENARIO RECORD    : Ramps
CALENDAR YEAR      : 2035
AVERAGE SPEED      : 15.0 arterial

SCENARIO RECORD    : Idle
CALENDAR YEAR      : 2035
AVERAGE SPEED      : 2.5 arterial

END OF RUN
```

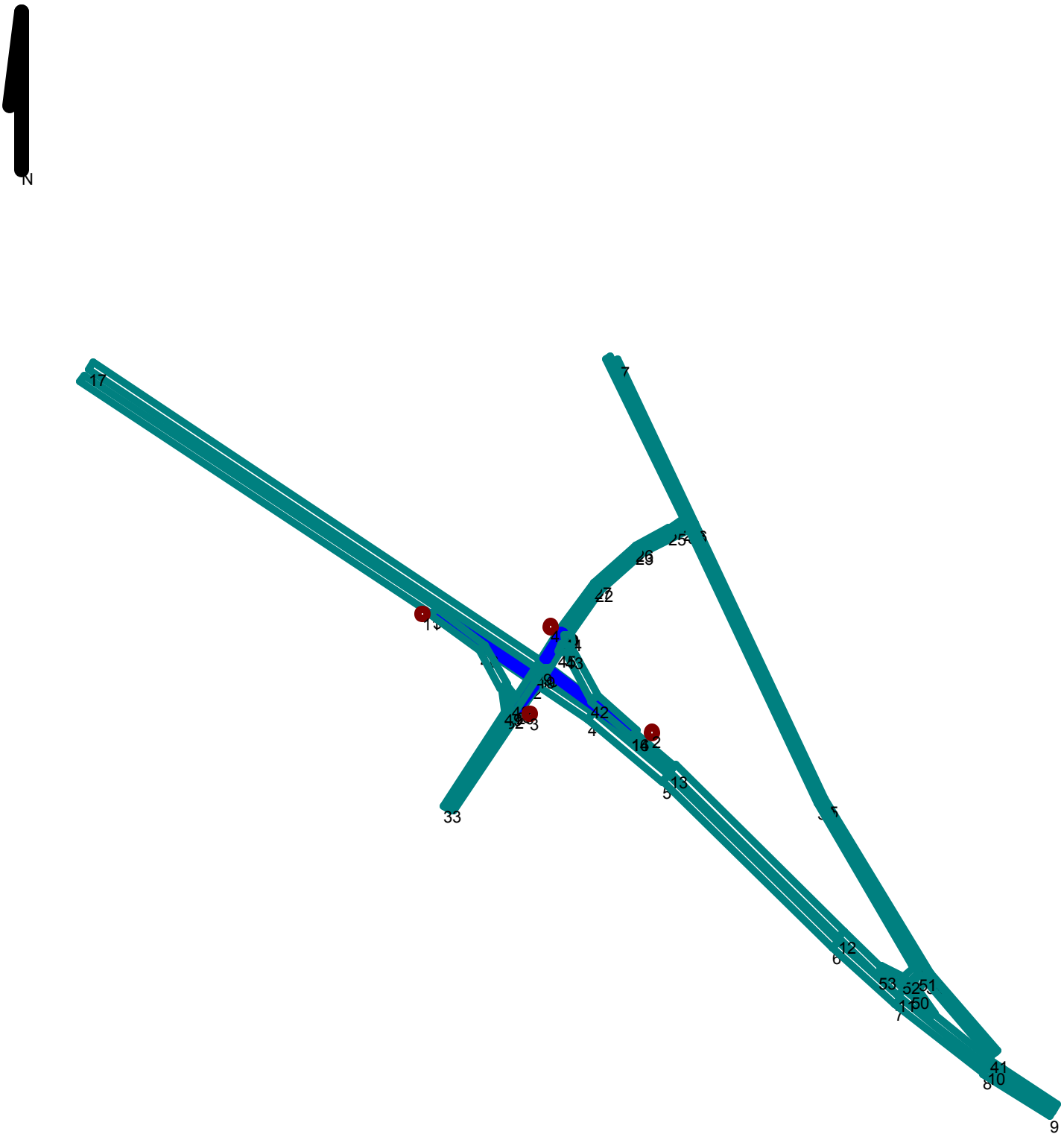
```
*************************************************************************
* MOBILE6.2.03 (24-Sep-2003)                                            *
* Input file: N:\MOBILE6\PROJECTS\RT72.IN (file 1, run 1).              *
*************************************************************************

* Reading Registration Distributions from the following external
* data file: N:\MOBILE6\PROJECTS\REGDNJ.D
  M 49 Warning:
                 1.00     MYR sum not = 1. (will normalize)
  M 49 Warning:
                 1.00     MYR sum not = 1. (will normalize)
  M 49 Warning:
                 1.00     MYR sum not = 1. (will normalize)
  M 49 Warning:
                 1.00     MYR sum not = 1. (will normalize)
  M 49 Warning:
                 1.00     MYR sum not = 1. (will normalize)
  M 49 Warning:
                 1.00     MYR sum not = 1. (will normalize)
  M 49 Warning:
                 1.00     MYR sum not = 1. (will normalize)
  M 49 Warning:
                 1.00     MYR sum not = 1. (will normalize)
  M 49 Warning:
                 1.00     MYR sum not = 1. (will normalize)
  M 49 Warning:
                 1.00     MYR sum not = 1. (will normalize)
  M 49 Warning:
                 1.00     MYR sum not = 1. (will normalize)
  M 49 Warning:
                 1.00     MYR sum not = 1. (will normalize)
  M 49 Warning:
                 1.00     MYR sum not = 1. (will normalize)
  M615 Comment:
               User supplied VMT mix.

* Reading ASM I/M Test Credits from ASMDATA.D
  M601 Comment:
               User has enabled STAGE II REFUELING.

  M616 Comment:
               User has supplied post-1999 sulfur levels.

* Reading 94+ LEV IMPLEMENTATION SCHEDULE from the following external
* data file: N:\MOBILE6\PROJECTS\NLEVNE.D

* # # # # # # # # # # # # # # # # # # # # # # # # # # #
* Route 72
* File 1, Run 1, Scenario 1.
* # # # # # # # # # # # # # # # # # # # # # # # # # # #
  M583 Warning:
             The user supplied arterial average speed of 35.0
             will be used for all hours of the day.  100% of VMT
             has been assigned to the arterial/collector roadway
             type for all hours of the day and all vehicle types.
  M112 Warning:
               Wintertime Reformulated Gasoline Rules Apply
```

```
*** I/M credits for Tech1&2 vehicles were read from the following external
    data file: TECH12.D
  M 48 Warning:
              there are no sales for vehicle class HDGV8b
  M 48 Warning:
              there are no sales for vehicle class LDDT12

 LEV phase-in data read from file N:\MOBILE6\PROJECTS\NLEVNE.D
                    Calendar Year:  2035
                            Month:  Jan.
                         Altitude:  Low
              Minimum Temperature:  26.7 (F)
              Maximum Temperature:  41.2 (F)
                Absolute Humidity:   20. grains/lb
              Fuel Sulfur Content:   30. ppm

              Exhaust I/M Program:  Yes
                 Evap I/M Program:  Yes
                      ATP Program:  Yes
                 Reformulated Gas:  Yes

       Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
               GVWR:                <6000     >6000     (All)
                          ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
   VMT Distribution:    0.5527    0.2398    0.1152              0.0242    0.0005    0.0017    0.0579    0.0080    1.0000
  ---------------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :     10.04      8.62      8.78      8.67      5.57     0.501     0.256     0.166     12.71     8.877
  ---------------------------------------------------------------------------------------------------------------------------
Exhaust emissions (g/mi):

           CO Start:      7.09      5.64      5.37      5.55               0.217     0.088                5.684
         CO Running:      2.95      2.98      3.41      3.12               0.284     0.167                7.023
   CO Total Exhaust:     10.04      8.62      8.78      8.67      5.57     0.501     0.256     0.166     12.71     8.877
  ---------------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # # # #
* Local Roadways
* File 1, Run 1, Scenario 2.
* # # # # # # # # # # # # # # # # # # # # # # # # # # #
  M583 Warning:
            The user supplied arterial average speed of 25.0
            will be used for all hours of the day.  100% of VMT
            has been assigned to the arterial/collector roadway
            type for all hours of the day and all vehicle types.
  M112 Warning:
               Wintertime Reformulated Gasoline Rules Apply
  M 48 Warning:
              there are no sales for vehicle class HDGV8b
  M 48 Warning:
              there are no sales for vehicle class LDDT12

 LEV phase-in data read from file N:\MOBILE6\PROJECTS\NLEVNE.D
                    Calendar Year:  2035
                            Month:  Jan.
                         Altitude:  Low
              Minimum Temperature:  26.7 (F)
```

```
              Maximum Temperature:  41.2 (F)
                Absolute Humidity:   20. grains/lb
              Fuel Sulfur Content:   30. ppm

              Exhaust I/M Program:  Yes
                 Evap I/M Program:  Yes
                      ATP Program:  Yes
                 Reformulated Gas:  Yes

       Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
               GVWR:                <6000     >6000     (All)
                         ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
   VMT Distribution:    0.5527    0.2398    0.1152              0.0242    0.0005    0.0017    0.0579    0.0080    1.0000
  ---------------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :     10.07      8.64      8.80      8.69      7.68     0.614     0.322     0.231     16.01     8.981
  ---------------------------------------------------------------------------------------------------------------------------
Exhaust emissions (g/mi):

           CO Start:      7.09      5.64      5.37      5.55               0.217     0.088                5.684
         CO Running:      2.98      3.00      3.44      3.14               0.397     0.234               10.329
   CO Total Exhaust:     10.07      8.64      8.80      8.69      7.68     0.614     0.322     0.231     16.01     8.981
  ---------------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # # # #
* Ramps
* File 1, Run 1, Scenario 3.
* # # # # # # # # # # # # # # # # # # # # # # # # # # #
  M583 Warning:
            The user supplied arterial average speed of 15.0
            will be used for all hours of the day.  100% of VMT
            has been assigned to the arterial/collector roadway
            type for all hours of the day and all vehicle types.
  M112 Warning:
             Wintertime Reformulated Gasoline Rules Apply
  M 48 Warning:
            there are no sales for vehicle class HDGV8b
  M 48 Warning:
            there are no sales for vehicle class LDDT12

 LEV phase-in data read from file N:\MOBILE6\PROJECTS\NLEVNE.D
                   Calendar Year:  2035
                           Month:  Jan.
                        Altitude:  Low
              Minimum Temperature:  26.7 (F)
              Maximum Temperature:  41.2 (F)
                Absolute Humidity:   20. grains/lb
              Fuel Sulfur Content:   30. ppm

              Exhaust I/M Program:  Yes
                 Evap I/M Program:  Yes
                      ATP Program:  Yes
                 Reformulated Gas:  Yes

       Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
               GVWR:                <6000     >6000     (All)
                         ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
```

```
   VMT Distribution:    0.5527    0.2398    0.1152              0.0242    0.0005    0.0017    0.0579    0.0080    1.0000
  ---------------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :     10.70      9.25      9.51      9.33     13.17     0.882     0.480     0.387     22.92     9.751
  ---------------------------------------------------------------------------------------------------------------------------
Exhaust emissions (g/mi):

          CO Start:      7.09      5.64      5.37      5.55               0.217     0.088                5.684
        CO Running:      3.60      3.61      4.14      3.78               0.665     0.392               17.236
   CO Total Exhaust:     10.70      9.25      9.51      9.33     13.17     0.882     0.480     0.387     22.92     9.751
  ---------------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # #
* Idle
* File 1, Run 1, Scenario 4.
* # # # # # # # # # # # # # # # # # # # # # # # # #
  M583 Warning:
            The user supplied arterial average speed of  2.5
            will be used for all hours of the day.  100% of VMT
            has been assigned to the arterial/collector roadway
            type for all hours of the day and all vehicle types.
  M112 Warning:
               Wintertime Reformulated Gasoline Rules Apply
  M 48 Warning:
             there are no sales for vehicle class HDGV8b
  M 48 Warning:
             there are no sales for vehicle class LDDT12

 LEV phase-in data read from file N:\MOBILE6\PROJECTS\NLEVNE.D
                   Calendar Year:  2035
                           Month:  Jan.
                        Altitude:  Low
             Minimum Temperature:  26.7 (F)
             Maximum Temperature:  41.2 (F)
               Absolute Humidity:   20. grains/lb
             Fuel Sulfur Content:   30. ppm

             Exhaust I/M Program:  Yes
                Evap I/M Program:  Yes
                     ATP Program:  Yes
                Reformulated Gas:  Yes

       Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
               GVWR:                <6000     >6000     (All)
                       ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
   VMT Distribution:    0.5527    0.2398    0.1152              0.0242    0.0005    0.0017    0.0579    0.0080    1.0000
  ---------------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :     19.90     17.86     19.38     18.35     35.26     1.854     1.053     0.954    101.57    19.237
  ---------------------------------------------------------------------------------------------------------------------------
Exhaust emissions (g/mi):

          CO Start:      7.09      5.64      5.37      5.55               0.217     0.088                5.684
        CO Running:     12.81     12.22     14.01     12.80               1.636     0.965               95.883
   CO Total Exhaust:     19.90     17.86     19.38     18.35     35.26     1.854     1.053     0.954    101.57    19.237
  ---------------------------------------------------------------------------------------------------------------------------
```

APPENDIX B
2035 NO-BUILD AIR QUALITY ANALYSIS
(CAL3QHC INPUT/OUTPUT FILES & CO CONCENTRATION WORKSHEET)


N
17
7
33
9

```
'Rt 72 @ Marsha Drive 2035 Saturday NOB Zo=1', 60 , 108 , 0 , 0 , 4 , 0.3048 , 1 , 1
'RCVEB',-5677.1 , 3749 , 6
'RCVWB',-4512.2 , 3150.1 , 9
'RCVNB',-5134.2 , 3242.2 , 5
'RCVSB',-5026 , 3686 , 7.5
'Rt 72 Bridges 2035 Saturday No-Build', 53 , 1 , 1 ,'CO'
 1
'Rt72EB1-Rt72EB2(fingerramp)','AG',-7402.4 , 4943.4 ,-5616 , 3764.4 , 2118 , 8.9 , 7.3 ,
44
 1
'Rt72EB2-Rt72EB3(center)','AG',-5616 , 3764.4 ,-5107.9 , 3421.4 , 2019 , 8.9 , 7.5 , 44
 2
'Rt72EBStopBar-Rt72EB2(Queue)','AG',-5147.8 , 3448.8 ,-5616 , 3764.4 , 7.5 , 24 , 2
 120 , 52 , 2 , 2019 , 48.09 , 3539 , 2 , 3
 1
'Rt72EB3-Rt72EB4','AG',-5107.9 , 3421.4 ,-4825.6 , 3232.1 , 2622 , 8.9 , 8.7 , 44
 1
'Rt72EB4-Rt72EB5','AG',-4825.6 , 3232.1 ,-4444.5 , 2916.4 , 2622 , 8.9 , 7.9 , 44
 1
'Rt72EB5-Rt72EB6','AG',-4444.5 , 2916.4 ,-3583.1 , 2073.7 , 2622 , 8.9 , 8.2 , 44
 1
'Rt72EB6-Rt72EB7','AG',-3583.1 , 2073.7 ,-3266.9 , 1786.7 , 2622 , 8.9 , 8.6 , 44
 1
'Rt72EB7-Rt72EB8','AG',-3266.9 , 1786.7 ,-2822.5 , 1436.6 , 2622 , 8.9 , 6.6 , 44
 1
'Rt72EB8-Rt72EB9','AG',-2822.5 , 1436.6 ,-2487.2 , 1220.2 , 2622 , 8.9 , 10.5 , 44
 1
'Rt72WB1-Rt72WB2','AG',-2470.7 , 1246.9 ,-2804.3 , 1462.8 , 3015 , 8.9 , 10.7 , 44
 1
'Rt72WB2-Rt72WB3','AG',-2804.3 , 1462.8 ,-3252.1 , 1829.3 , 2602 , 8.9 , 6.8 , 44
 1
'Rt72WB3-RtWB4','AG',-3252.1 , 1829.3 ,-3551.7 , 2123.8 , 2602 , 8.9 , 8.5 , 44
 1
'Rt72WB4-Rt72WB5','AG',-3551.7 , 2123.8 ,-4411.1 , 2967.3 , 2602 , 8.9 , 8.3 , 44
 1
'Rt72WB5-Rt72WB6(fingerramp)','AG',-4411.1 , 2967.3 ,-4613.8 , 3143.5 , 2602 , 8.9 , 7.7 ,
24
 1
'Rt72WB6-Rt72WB7(center)','AG',-4613.8 , 3143.5 ,-5067.2 , 3482.4 , 2511 , 8.9 , 8.3 , 44
 2
'Rt72WBStopBar-Rt72WB6','AG',-5031.6 , 3460.6 ,-4613.8 , 3143.5 , 8.4 , 24 , 2
 120 , 52 , 2 , 2511 , 48.09 , 3539 , 2 , 3
 1
'Rt72WB6-Rt72WB7','AG',-5067.2 , 3482.4 ,-7358.3 , 5008.4 , 2679 , 8.9 , 8.3 , 44
 1
'MarshaNB1-Fingerramp','AG',-5536.2 , 2764.8 ,-5194.8 , 3268.8 , 473 , 9 , 5.8 , 43
 1
'MarshaNBFingerramp-Center','AG',-5194.8 , 3268.8 ,-5075.1 , 3445.8 , 497 , 9 , 7.8 , 43
 2
'MarshaNBStopBar-Fingerramp','AG',-5111.9 , 3388.6 ,-5194.8 , 3268.8 , 7.3 , 23 , 2
 120 , 105 , 2 , 497 , 48.09 , 3464 , 2 , 3
 1
'MarshaNBCenter-MarshaNB3','AG',-5075.1 , 3445.8 ,-4947.2 , 3651.1 , 268 , 9 , 7.8 , 43
 1
'MarshaNB3-MarshaNB4','AG',-4947.2 , 3651.1 ,-4783.4 , 3882.9 , 323 , 9 , 5.8 , 36
 1
'MarshaNB4-MarshaNB5','AG',-4783.4 , 3882.9 ,-4580.9 , 4065.6 , 323 , 9 , 4 , 36
 1
'MarshaNB5-MarshaNB6','AG',-4580.9 , 4065.6 ,-4343.3 , 4186.8 , 323 , 9.8 , 2.3 , 36
 1
'MarshSB1-MarshaSB2','AG',-4344.4 , 4220.5 ,-4420 , 4169.5 , 802 , 9 , 1.7 , 34
 1
'MarshSB2-MarshaSB3','AG',-4420 , 4169.5 ,-4590.8 , 4078.2 , 802 , 9 , 2.6 , 34
 1
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'MarshSB3-MarshaSB4','AG',-4590.8 , 4078.2 ,-4795.9 , 3894.4 , 802 , 9 , 4 , 34
 1
'MarshSB4-MarshaSB5ramp','AG',-4795.9 , 3894.4 ,-4966.9 , 3663.5 , 802 , 9 , 5.6 , 34
 1
'MarshSB5-Center','AG',-4966.9 , 3663.5 ,-5095.3 , 3459.7 , 850 , 9 , 7.8 , 34
 2
'MarshSBStopBar-RampL','AG',-5051.3 , 3515.2 ,-4966.9 , 3663.5 , 7.1 , 14 , 1
 120 , 102 , 2 , 513 , 48.09 , 1787 , 2 , 3
 2
'MarshSBStopBar-RampR','AG',-5063.8 , 3522.9 ,-4966.9 , 3663.5 , 7.2 , 12 , 1
 120 , 102 , 2 , 337 , 48.09 , 1876 , 2 , 3
 1
'MarshSBCenter-MarshaSBRamp','AG',-5095.3 , 3459.7 ,-5239.8 , 3241.3 , 308 , 9 , 7.8 , 34
 1
'MarshaSBRamp-MarshaSB7','AG',-5239.8 , 3241.3 ,-5553.5 , 2764.8 , 383 , 9 , 5.8 , 46
 1
'BayWB1-BayWB2','AG',-2776.1 , 1521.9 ,-3114.6 , 1917.8 , 73 , 9.8 , 3.1 , 32
 1
'BayWB2-BayWB3','AG',-3114.6 , 1917.8 ,-3649.5 , 2807 , 444 , 9 , 3.2 , 32
 1
'BayWB3-BayWB4','AG',-3649.5 , 2807 ,-4309.6 , 4201.8 , 444 , 9 , 2.2 , 32
 1
'BayWB4-BayWB5','AG',-4309.6 , 4201.8 ,-4702.3 , 5036.6 , 653 , 9 , 2.3 , 32
 1
'BayEB1-BayEB2','AG',-4736 , 5045.8 ,-4316.7 , 4191.3 , 807 , 9 , 2.3 , 32
 1
'BayEB2-BayEB3','AG',-4316.7 , 4191.3 ,-3664.1 , 2797.1 , 121 , 9 , 2.2 , 32
 1
'BayEB3-BayEB4','AG',-3664.1 , 2797.1 ,-3183.3 , 1984.4 , 121 , 9.8 , 3.2 , 32
 1
'BayEB4-BayEB5','AG',-3183.3 , 1984.4 ,-2784.1 , 1514.8 , 111 , 9 , 3.8 , 32
 1
'OffRampRt72WB1-OffRampRt72WB2','AG',-4604.3 , 3146 ,-4805.4 , 3323.8 , 91 , 9 , 8.5 , 44
 1
'OffRampRt72WB2-OffRampRt72WB3','AG',-4805.4 , 3323.8 ,-4929.8 , 3561.7 , 91 , 9 , 7.7 ,
44
 1
'OffRampRt72WB3-R','AG',-4929.8 , 3561.7 ,-4942.2 , 3643.4 , 43 , 9 , 6.5 , 38
 1
'OffRamp72WB4-L','AG',-4929.8 , 3561.7 ,-4981.8 , 3579 , 48 , 9 , 6.7 , 38
 1
'OffRampRt72EB1-OffRampRt72EB2','AG',-5618.6 , 3759.9 ,-5373.6 , 3578.4 , 99 , 9 , 6.8 ,
40
 1
'OffRampRt72EB2-OffRampRt72EB3','AG',-5373.6 , 3578.4 ,-5263.9 , 3383.5 , 99 , 9 , 6.9 ,
40
 1
'OffRampRt72EB3-L','AG',-5263.9 , 3383.5 ,-5212 , 3314.2 , 24 , 9 , 6.8 , 32
 1
'OffRampRt72EB3-R','AG',-5263.9 , 3383.5 ,-5244.7 , 3270.2 , 75 , 9 , 6.8 , 32
 1
'Rt72WBExit@Bay1-2','AG',-3094.7 , 1712.3 ,-3185.4 , 1839.8 , 413 , 9.8 , 7.1 , 38
 1
'Rt72WBExit@Bay2-3','AG',-3185.4 , 1839.8 ,-3142.8 , 1910 , 413 , 9.8 , 5.6 , 38
 1
'Rt72WBEnt@Bay1-2','AG',-3172.4 , 1940.5 ,-3233.4 , 1891.5 , 31 , 9.8 , 5.1 , 38
 1
'Rt72WBEnt@Bay2-3','AG',-3233.4 , 1891.5 ,-3354.6 , 1947.9 , 31 , 9.8 , 7.1 , 38
 1 , 0 , 4 , 1000 , 0 ,'Y', 5 , 1 , 72
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The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = .0 CM/S VD = .0 CM/S Z0 = 108. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = .0 PPM

LINK VARIABLES

	LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1.	Rt72EB1-Rt72EB2(fing	-7402.4	4943.4	-5616.0	3764.4	2140.	123.	AG	2118.	8.9	7.3	44.0		
2.	Rt72EB2-Rt72EB3(cent	-5616.0	3764.4	-5107.9	3421.4	613.	124.	AG	2019.	8.9	7.5	44.0		
3.	Rt72EBStopBar-Rt72EB	-5147.8	3448.8	-5385.7	3609.2	287.	304.	AG	112.	100.0	7.5	24.0	.53	14.6
4.	Rt72EB3-Rt72EB4	-5107.9	3421.4	-4825.6	3232.1	340.	124.	AG	2622.	8.9	8.7	44.0		
5.	Rt72EB4-Rt72EB5	-4825.6	3232.1	-4444.5	2916.4	495.	130.	AG	2622.	8.9	7.9	44.0		
6.	Rt72EB5-Rt72EB6	-4444.5	2916.4	-3583.1	2073.7	1205.	134.	AG	2622.	8.9	8.2	44.0		
7.	Rt72EB6-Rt72EB7	-3583.1	2073.7	-3266.9	1786.7	427.	132.	AG	2622.	8.9	8.6	44.0		
8.	Rt72EB7-Rt72EB8	-3266.9	1786.7	-2822.5	1436.6	566.	128.	AG	2622.	8.9	6.6	44.0		
9.	Rt72EB8-Rt72EB9	-2822.5	1436.6	-2487.2	1220.2	399.	123.	AG	2622.	8.9	10.5	44.0		
10.	Rt72WB1-Rt72WB2	-2470.7	1246.9	-2804.3	1462.8	397.	303.	AG	3015.	8.9	10.7	44.0		
11.	Rt72WB2-Rt72WB3	-2804.3	1462.8	-3252.1	1829.3	579.	309.	AG	2602.	8.9	6.8	44.0		
12.	Rt72WB3-RtWB4	-3252.1	1829.3	-3551.7	2123.8	420.	315.	AG	2602.	8.9	8.5	44.0		
13.	Rt72WB4-Rt72WB5	-3551.7	2123.8	-4411.1	2967.3	1204.	314.	AG	2602.	8.9	8.3	44.0		
14.	Rt72WB5-Rt72WB6(fing	-4411.1	2967.3	-4613.8	3143.5	269.	311.	AG	2602.	8.9	7.7	24.0		
15.	Rt72WB6-Rt72WB7(cent	-4613.8	3143.5	-5067.2	3482.4	566.	307.	AG	2511.	8.9	8.3	44.0		
16.	Rt72WBStopBar-Rt72WB	-5031.6	3460.6	-4747.4	3244.9	357.	127.	AG	112.	100.0	8.4	24.0	.67	18.1
17.	Rt72WB6-Rt72WB7	-5067.2	3482.4	-7358.3	5008.4	2753.	304.	AG	2679.	8.9	8.3	44.0		
18.	MarshaNB1-Fingerramp	-5536.2	2764.8	-5194.8	3268.8	609.	34.	AG	473.	9.0	5.8	43.0		
19.	MarshaNBFingerramp-C	-5194.8	3268.8	-5075.1	3445.8	214.	34.	AG	497.	9.0	7.8	43.0		
20.	MarshaNBStopBar-Fing	-5111.9	3388.6	-5192.9	3271.5	142.	215.	AG	226.	100.0	7.3	23.0	.78	7.2
21.	MarshaNBCenter-Marsh	-5075.1	3445.8	-4947.2	3651.1	242.	32.	AG	268.	9.0	7.8	43.0		
22.	MarshaNB3-MarshaNB4	-4947.2	3651.1	-4783.4	3882.9	284.	35.	AG	323.	9.0	5.8	36.0		
23.	MarshaNB4-MarshaNB5	-4783.4	3882.9	-4580.9	4065.6	273.	48.	AG	323.	9.0	4.0	36.0		
24.	MarshaNB5-MarshaNB6	-4580.9	4065.6	-4343.3	4186.8	267.	63.	AG	323.	9.8	2.3	36.0		
25.	MarshSB1-MarshaSB2	-4344.4	4220.5	-4420.0	4169.5	91.	236.	AG	802.	9.0	1.7	34.0		
26.	MarshSB2-MarshaSB3	-4420.0	4169.5	-4590.8	4078.2	194.	242.	AG	802.	9.0	2.6	34.0		
27.	MarshSB3-MarshaSB4	-4590.8	4078.2	-4795.9	3894.4	275.	228.	AG	802.	9.0	4.0	34.0		
28.	MarshSB4-MarshaSB5ra	-4795.9	3894.4	-4966.9	3663.5	287.	217.	AG	802.	9.0	5.6	34.0		
29.	MarshSB5-Center	-4966.9	3663.5	-5095.3	3459.7	241.	212.	AG	850.	9.0	7.8	34.0		
30.	MarshSBStopBar-RampL	-5051.3	3515.2	-3362.7	6482.2	3414.	30.	AG	110.	100.0	7.1	14.0	2.47	173.4
31.	MarshSBStopBar-RampR	-5063.8	3522.9	-4246.9	4708.3	1440.	35.	AG	110.	100.0	7.2	12.0	1.55	73.1
32.	MarshSBCenter-Marsha	-5095.3	3459.7	-5239.8	3241.3	262.	213.	AG	308.	9.0	7.8	34.0		
33.	MarshaSBRamp-MarshaS	-5239.8	3241.3	-5553.5	2764.8	570.	213.	AG	383.	9.0	5.8	46.0		
34.	BayWB1-BayWB2	-2776.1	1521.9	-3114.6	1917.8	521.	319.	AG	73.	9.8	3.1	32.0		
35.	BayWB2-BayWB3	-3114.6	1917.8	-3649.5	2807.0	1038.	329.	AG	444.	9.0	3.2	32.0		
36.	BayWB3-BayWB4	-3649.5	2807.0	-4309.6	4201.8	1543.	335.	AG	444.	9.0	2.2	32.0		
37.	BayWB4-BayWB5	-4309.6	4201.8	-4702.3	5036.6	923.	335.	AG	653.	9.0	2.3	32.0		
38.	BayEB1-BayEB2	-4736.0	5045.8	-4316.7	4191.3	952.	154.	AG	807.	9.0	2.3	32.0		

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39. BayEB2-BayEB3	-4316.7	4191.3	-3664.1	2797.1	1539.	155.	AG	121.	9.0	2.2	32.0	
40. BayEB3-BayEB4	-3664.1	2797.1	-3183.3	1984.4	944.	149.	AG	121.	9.8	3.2	32.0	
41. BayEB4-BayEB5	-3183.3	1984.4	-2784.1	1514.8	616.	140.	AG	111.	9.0	3.8	32.0	
42. OffRampRt72WB1-OffRa	-4604.3	3146.0	-4805.4	3323.8	268.	311.	AG	91.	9.0	8.5	44.0	
43. OffRampRt72WB2-OffRa	-4805.4	3323.8	-4929.8	3561.7	268.	332.	AG	91.	9.0	7.7	44.0	
44. OffRampRt72WB3-R	-4929.8	3561.7	-4942.2	3643.4	83.	351.	AG	43.	9.0	6.5	38.0	

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LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
45. OffRamp72WB4-L	-4929.8	3561.7	-4981.8	3579.0	55.	288.	AG	48.	9.0	6.7	38.0		
46. OffRampRt72EB1-OffRa	-5618.6	3759.9	-5373.6	3578.4	305.	127.	AG	99.	9.0	6.8	40.0		
47. OffRampRt72EB2-OffRa	-5373.6	3578.4	-5263.9	3383.5	224.	151.	AG	99.	9.0	6.9	40.0		
48. OffRampRt72EB3-L	-5263.9	3383.5	-5212.0	3314.2	87.	143.	AG	24.	9.0	6.8	32.0		
49. OffRampRt72EB3-R	-5263.9	3383.5	-5244.7	3270.2	115.	170.	AG	75.	9.0	6.8	32.0		
50. Rt72WBExit@Bay1-2	-3094.7	1712.3	-3185.4	1839.8	156.	325.	AG	413.	9.8	7.1	38.0		
51. Rt72WBExit@Bay2-3	-3185.4	1839.8	-3142.8	1910.0	82.	31.	AG	413.	9.8	5.6	38.0		
52. Rt72WBEnt@Bay1-2	-3172.4	1940.5	-3233.4	1891.5	78.	231.	AG	31.	9.8	5.1	38.0		
53. Rt72WBEnt@Bay2-3	-3233.4	1891.5	-3354.6	1947.9	134.	295.	AG	31.	9.8	7.1	38.0		

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ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
3. Rt72EBStopBar-Rt72EB	120	52	2.0	2019	3539	48.09	2	3
16. Rt72WBStopBar-Rt72WB	120	52	2.0	2511	3539	48.09	2	3
20. MarshaNBStopBar-Fing	120	105	2.0	497	3464	48.09	2	3
30. MarshSBStopBar-RampL	120	102	2.0	513	1787	48.09	2	3
31. MarshSBStopBar-RampR	120	102	2.0	337	1876	48.09	2	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. RCVEB	-5677.1	3749.0	6.0
2. RCVWB	-4512.2	3150.1	9.0
3. RCVNB	-5134.2	3242.2	5.0
4. RCVSB	-5026.0	3686.0	7.5

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MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 5.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (PPM) REC1	REC2	REC3	REC4
5.	.7	.0	.8	.0
10.	.7	.0	1.0	.0
15.	.7	.0	1.0	.0
20.	.7	.0	.8	.1
25.	.7	.0	.7	.1
30.	.7	.0	.6	.3
35.	.7	.0	.7	.3
40.	.7	.0	.5	.5
45.	.7	.0	.5	.5
50.	.7	.0	.5	.5
55.	.7	.0	.5	.5
60.	.7	.0	.5	.5
65.	.7	.0	.5	.5
70.	.7	.0	.5	.5
75.	.8	.0	.5	.5
80.	.7	.0	.5	.3
85.	.8	.0	.6	.3
90.	.9	.0	.5	.3
95.	.9	.0	.4	.3
100.	1.0	.0	.5	.3
105.	.8	.0	.5	.3
110.	1.0	.0	.5	.4
115.	1.0	.0	.4	.4
120.	1.0	.1	.3	.3
125.	1.0	.1	.3	.3
130.	.4	.3	.2	.5
135.	.1	.5	.1	.7
140.	.0	.8	.0	.8
145.	.0	.8	.0	.8
150.	.0	.8	.0	.9
155.	.0	.9	.0	.8
160.	.0	.7	.0	.8
165.	.0	.8	.0	.9
170.	.0	.6	.0	.8
175.	.0	.6	.0	.8
180.	.0	.6	.0	.7
185.	.0	.6	.0	.6
190.	.0	.6	.0	.7
195.	.0	.6	.0	.8
200.	.0	.5	.0	.8
205.	.0	.6	.0	.5
210.	.0	.6	.0	.4

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4
215.	.0	.6	.0	.4
220.	.0	.6	.1	.4
225.	.0	.6	.2	.4
230.	.0	.6	.2	.4
235.	.0	.5	.2	.4
240.	.0	.6	.2	.4
245.	.0	.6	.2	.4
250.	.0	.7	.2	.4
255.	.0	.7	.1	.3
260.	.0	.6	.1	.3
265.	.0	.7	.1	.3
270.	.0	.7	.1	.4
275.	.0	.7	.1	.5
280.	.0	.8	.1	.5
285.	.0	.8	.2	.4
290.	.1	1.1	.1	.5
295.	.3	1.2	.1	.4
300.	.6	1.0	.5	.3
305.	.8	.9	.5	.2
310.	.9	.4	.8	.1
315.	1.0	.2	.8	.0
320.	1.0	.0	.9	.0
325.	1.0	.0	1.0	.0
330.	1.0	.0	.9	.0
335.	.9	.0	.9	.0
340.	.8	.0	.9	.0
345.	.8	.0	.9	.0
350.	.8	.0	.9	.0
355.	.7	.0	.9	.0
360.	.7	.0	.8	.0
MAX	1.0	1.2	1.0	.9
DEGR.	115	295	15	150

THE HIGHEST CONCENTRATION OF 1.20 PPM OCCURRED AT RECEPTOR REC2 .

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RECEPTOR - LINK MATRIX FOR THE ANGLE PRODUCING
THE MAXIMUM CONCENTRATION FOR EACH RECEPTOR

LINK #	CO/LINK (PPM) ANGLE (DEGREES) REC1 115	REC2 295	REC3 15	REC4 150
1	.0	.1	.0	.0
2	.5	.1	.1	.0

3	*	.1	.0	.0	.0
4	*	.1	.2	.2	.1
5	*	.0	.1	.0	.1
6	*	.0	.0	.0	.1
7	*	.0	.0	.0	.0
8	*	.0	.0	.0	.0
9	*	.0	.0	.0	.0
10	*	.0	.0	.0	.0
11	*	.0	.0	.0	.0
12	*	.0	.0	.0	.0
13	*	.0	.0	.0	.0
14	*	.0	.0	.0	.0
15	*	.1	.4	.1	.2
16	*	.0	.1	.0	.1
17	*	.2	.2	.1	.0
18	*	.0	.0	.0	.0
19	*	.0	.0	.1	.0
20	*	.0	.0	.1	.0
21	*	.0	.0	.0	.0
22	*	.0	.0	.0	.0
23	*	.0	.0	.0	.0
24	*	.0	.0	.0	.0
25	*	.0	.0	.0	.0
26	*	.0	.0	.0	.0
27	*	.0	.0	.0	.0
28	*	.0	.0	.0	.0
29	*	.0	.0	.1	.1
30	*	.0	.0	.1	.1
31	*	.0	.0	.1	.1
32	*	.0	.0	.0	.0
33	*	.0	.0	.0	.0
34	*	.0	.0	.0	.0
35	*	.0	.0	.0	.0
36	*	.0	.0	.0	.0
37	*	.0	.0	.0	.0
38	*	.0	.0	.0	.0
39	*	.0	.0	.0	.0
40	*	.0	.0	.0	.0
41	*	.0	.0	.0	.0
42	*	.0	.0	.0	.0
43	*	.0	.0	.0	.0
44	*	.0	.0	.0	.0
45	*	.0	.0	.0	.0

JOB: Rt 72 @ Marsha Drive 2035 Saturday NOB Z RUN: Rt 72 Bridges 2035 Saturday No-Build

		CO/LINK (PPM) ANGLE (DEGREES)			
	*	REC1	REC2	REC3	REC4
LINK #	*	115	295	15	150
46	*	.0	.0	.0	.0
47	*	.0	.0	.0	.0
48	*	.0	.0	.0	.0
49	*	.0	.0	.0	.0
50	*	.0	.0	.0	.0
51	*	.0	.0	.0	.0

NOB

52	*	.0	.0	.0	.0
53	*	.0	.0	.0	.0

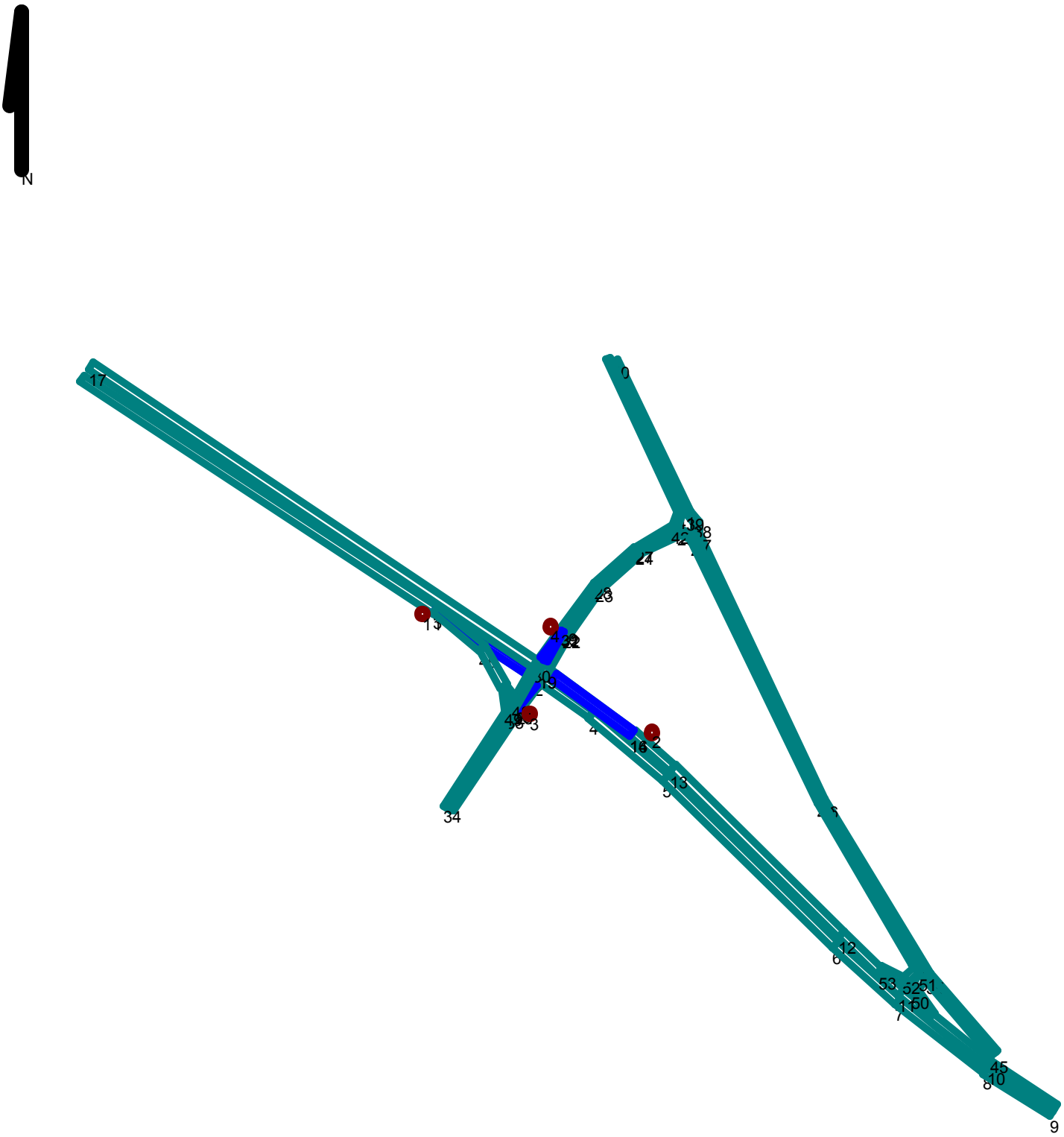
Route 72 Manahawkin Bay Bridges
Carbon Monoxide Concentration Worksheet
Condition: 2035 Saturday "No-Build"

SATURDAY

Receptor	1-hr Modeled Concentration	1-hr Background Concentration	TOTAL 1-HR		8-hr Concentration*	8-hr Background Concentration	TOTAL 8-HR
Eastbound Rt 72 approach ROW	1.0	3.0	4.0		0.7	2.1	2.8
Westbound Rt 72 approach ROW	1.2	3.0	4.2		0.8	2.1	2.9
Northbound Marsha Drive approach ROW	1.0	3.0	4.0		0.7	2.1	2.8
Southbound Marsha Drive approach ROW	0.9	3.0	3.9		0.6	2.1	2.7

* - Persistence Factor (0.7) applied to 1-hour concentration

APPENDIX C
2035 BUILD AIR QUALITY ANALYSIS
(CAL3QHC INPUT/OUTPUT FILES & CO CONCENTRATION WORKSHEET)


N

```
'Rt 72 @ Marsha Drive 2035 BUILD SAT Zo=1', 60 , 108 , 0 , 0 , 4 , 0.3048 , 1 , 1
'RCVEB',-5677.1 , 3749 , 6
'RCVWB',-4512.2 , 3150.1 , 9
'RCVNB',-5134.2 , 3242.2 , 5
'RCVSB',-5026 , 3686 , 7.5
'Rt 72 Bridges 2035 Build Saturday', 53 , 1 , 1 ,'CO'
 1
'Rt72EB1-Rt72EB2(fingerramp)','AG',-7402.4 , 4943.4 ,-5610.9 , 3770.5 , 2118 , 8.9 , 7.3 ,
44
 1
'Rt72EB2-Rt72EB3(center)','AG',-5610.9 , 3770.5 ,-5100.5 , 3433.8 , 2019 , 8.9 , 7.5 , 44
 2
'Rt72EBStopBar-Rt72EB2(Queue)','AG',-5136.7 , 3457.1 ,-5610.9 , 3770.5 , 7.6 , 36 , 3
 120 , 64 , 2 , 2019 , 48.09 , 5309 , 2 , 3
 1
'Rt72EB3-Rt72EB4','AG',-5100.5 , 3433.8 ,-4820.6 , 3238.6 , 2622 , 8.9 , 8.8 , 44
 1
'Rt72EB4-Rt72EB5','AG',-4820.6 , 3238.6 ,-4444.5 , 2916.4 , 2622 , 8.9 , 8 , 44
 1
'Rt72EB5-Rt72EB6','AG',-4444.5 , 2916.4 ,-3583.1 , 2073.7 , 2622 , 8.9 , 8.2 , 44
 1
'Rt72EB6-Rt72EB7','AG',-3583.1 , 2073.7 ,-3266.9 , 1786.7 , 2622 , 8.9 , 8.6 , 44
 1
'Rt72EB7-Rt72EB8','AG',-3266.9 , 1786.7 ,-2822.5 , 1436.6 , 2622 , 8.9 , 6.6 , 44
 1
'Rt72EB8-Rt72EB9','AG',-2822.5 , 1436.6 ,-2487.2 , 1220.2 , 2622 , 8.9 , 10.5 , 44
 1
'Rt72WB1-Rt72WB2','AG',-2470.7 , 1246.9 ,-2804.3 , 1462.8 , 3015 , 8.9 , 10.7 , 44
 1
'Rt72WB2-Rt72WB3','AG',-2804.3 , 1462.8 ,-3252.1 , 1829.3 , 2554 , 8.9 , 6.8 , 44
 1
'Rt72WB3-RtWB4','AG',-3252.1 , 1829.3 ,-3551.7 , 2123.8 , 2554 , 8.9 , 8.5 , 44
 1
'Rt72WB4-Rt72WB5','AG',-3551.7 , 2123.8 ,-4411.1 , 2967.3 , 2554 , 8.9 , 8.5 , 44
 1
'Rt72WB5-Rt72WB6','AG',-4411.1 , 2967.3 ,-4613.8 , 3143.5 , 2554 , 8.9 , 7.7 , 44
 1
'Rt72WB6-Rt72WB7(center)','AG',-4613.8 , 3143.5 ,-5073.3 , 3474.2 , 2554 , 8.9 , 8.3 , 44
 2
'Rt72WBStopBar-Rt72WB6','AG',-5010.9 , 3431.8 ,-4613.8 , 3143.5 , 8.3 , 36 , 3
 120 , 64 , 2 , 2511 , 48.09 , 5297 , 2 , 3
 1
'Rt72WB6-Rt72WB7','AG',-5073.3 , 3474.2 ,-7358.3 , 5008.4 , 2679 , 8.9 , 8.5 , 44
 1
'MarshaNB1-Fingerramp','AG',-5536.2 , 2764.8 ,-5194.8 , 3268.8 , 473 , 9 , 5.8 , 43
 1
'MarshaNBFingerramp-Center','AG',-5194.8 , 3268.8 ,-5070.1 , 3442.3 , 497 , 9 , 7.8 , 43
 2
'MarshaNBStopBarL-Fingerramp','AG',-5120.7 , 3400.1 ,-5194.8 , 3268.8 , 7.4 , 24 , 2
 120 , 95 , 2 , 139 , 48.09 , 3538 , 2 , 3
 2
'MarshaNBStopBarTR-Finger','AG',-5103.2 , 3388.3 ,-5194.8 , 3268.8 , 7.5 , 12 , 1
 120 , 95 , 2 , 358 , 48.09 , 2011 , 2 , 3
 1
'MarshaNBCenter-MarshaNB3','AG',-5070.1 , 3442.3 ,-4947.2 , 3651.1 , 268 , 9 , 7.7 , 43
 1
'MarshaNB3-MarshaNB4','AG',-4947.2 , 3651.1 ,-4783.4 , 3882.9 , 323 , 9 , 5.8 , 36
 1
'MarshaNB4-MarshaNB5','AG',-4783.4 , 3882.9 ,-4580.9 , 4065.6 , 323 , 9 , 4 , 36
 1
'MarshaNB5-MarshaNB6','AG',-4580.9 , 4065.6 ,-4373.7 , 4163.2 , 323 , 9.8 , 2.3 , 36
 1
'MarshaNBRound-BayEB','AG',-4373.7 , 4163.2 ,-4312.6 , 4142.6 , 323 , 9.8 , 1.5 , 32
 1
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'MarshSB2-MarshaSB3','AG',-4398.3 , 4186.1 ,-4590.8 , 4078.2 , 850 , 9 , 2.5 , 34
 1
'MarshSB3-MarshaSB4','AG',-4590.8 , 4078.2 ,-4795.9 , 3894.4 , 850 , 9 , 4 , 34
 1
'MarshSB4-MarshaSB5ramp','AG',-4795.9 , 3894.4 ,-4966.9 , 3663.5 , 850 , 9 , 5.6 , 34
 1
'MarshSB5-Center','AG',-4966.9 , 3663.5 ,-5107.9 , 3471.9 , 850 , 9 , 7.5 , 34
 2
'MarshSBStopBar-RampL','AG',-5054.3 , 3511.5 ,-4966.9 , 3663.5 , 7 , 24 , 2
 120 , 101 , 2 , 513 , 48.09 , 3503 , 2 , 3
 2
'MarshSBStopBar-RampR','AG',-5072.8 , 3524 ,-4966.9 , 3663.5 , 7.2 , 12 , 1
 120 , 101 , 2 , 337 , 48.09 , 2063 , 2 , 3
 1
'MarshSBCenter-MarshaSBRamp','AG',-5107.9 , 3471.9 ,-5239.8 , 3241.3 , 308 , 9 , 7.6 , 34
 1
'MarshaSBRamp-MarshaSB7','AG',-5239.8 , 3241.3 ,-5553.5 , 2764.8 , 383 , 9 , 5.8 , 46
 1
'BayWB1-BayWB2','AG',-2776.1 , 1521.9 ,-3114.6 , 1917.8 , 73 , 9 , 3.1 , 32
 1
'BayWB2-BayWB3','AG',-3114.6 , 1917.8 ,-3649.5 , 2807 , 492 , 9 , 2.2 , 32
 1
'BayWB3-Roundabout','AG',-3649.5 , 2807 ,-4285.1 , 4153.3 , 492 , 9 , 2.3 , 32
 1
'BayWBRound-Center','AG',-4285.1 , 4153.3 ,-4288.3 , 4218.3 , 492 , 9.8 , 2.1 , 32
 1
'BayWBCenter-BayWB4','AG',-4288.3 , 4218.3 ,-4329 , 4262.9 , 492 , 9.8 , 1.9 , 32
 1
'BayWB4-BayWB5','AG',-4329 , 4262.9 ,-4702.3 , 5036.6 , 653 , 9 , 1.1 , 32
 1
'BayEB1-Roundabout1','AG',-4736 , 5045.8 ,-4370.5 , 4267.1 , 807 , 9 , 1.2 , 32
 1
'BayEBRound-MarshaSB','AG',-4370.5 , 4267.1 ,-4398.3 , 4186.1 , 807 , 9.8 , 2 , 32
 1
'BayEB2-BayEB3','AG',-4312.6 , 4142.6 ,-3664.1 , 2797.1 , 121 , 9 , 1.7 , 32
 1
'BayEB3-BayEB4','AG',-3664.1 , 2797.1 ,-3183.3 , 1984.4 , 121 , 9 , 3.2 , 32
 1
'BayEB4-BayEB5','AG',-3183.3 , 1984.4 ,-2784.1 , 1514.8 , 111 , 9 , 3.1 , 32
 1
'OffRampRt72EB1-OffRampRt72EB2','AG',-5610.9 , 3770.5 ,-5373.6 , 3578.4 , 99 , 9 , 6.8 ,
40
 1
'OffRampRt72EB2-OffRampRt72EB3','AG',-5373.6 , 3578.4 ,-5263.9 , 3383.5 , 99 , 9 , 6.9 ,
40
 1
'OffRampRt72EB3-L','AG',-5263.9 , 3383.5 ,-5212 , 3314.2 , 24 , 9 , 6.8 , 32
 1
'OffRampRt72EB3-R','AG',-5263.9 , 3383.5 ,-5244.7 , 3270.2 , 75 , 9 , 6.8 , 32
 1
'Rt72WBExit@Bay1-2','AG',-3094.7 , 1712.3 ,-3185.4 , 1839.8 , 461 , 9.8 , 7.1 , 38
 1
'Rt72WBExit@Bay2-3','AG',-3185.4 , 1839.8 ,-3142.8 , 1910 , 461 , 9.8 , 5.6 , 38
 1
'Rt72WBEnt@Bay1-2','AG',-3172.4 , 1940.5 ,-3233.4 , 1891.5 , 31 , 9.8 , 5.1 , 38
 1
'Rt72WBEnt@Bay2-3','AG',-3233.4 , 1891.5 ,-3354.6 , 1947.9 , 31 , 9.8 , 7.1 , 38
 1 , 0 , 4 , 1000 , 0 ,'Y', 5 , 1 , 72
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JOB: Rt 72 @ Marsha Drive 2035 BUILD SAT Zo=1 RUN: Rt 72 Bridges 2035 Build Saturday

DATE : 7/24/ 9
TIME : 13:45:13

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = .0 CM/S VD = .0 CM/S Z0 = 108. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = .0 PPM

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. Rt72EB1-Rt72EB2(fing	-7402.4	4943.4	-5610.9	3770.5	2141.	123.	AG	2118.	8.9	7.3	44.0		
2. Rt72EB2-Rt72EB3(cent	-5610.9	3770.5	-5100.5	3433.8	611.	123.	AG	2019.	8.9	7.5	44.0		
3. Rt72EBStopBar-Rt72EB	-5136.7	3457.1	-5333.2	3587.0	236.	303.	AG	206.	100.0	7.6	36.0	.29	12.0
4. Rt72EB3-Rt72EB4	-5100.5	3433.8	-4820.6	3238.6	341.	125.	AG	2622.	8.9	8.8	44.0		
5. Rt72EB4-Rt72EB5	-4820.6	3238.6	-4444.5	2916.4	495.	131.	AG	2622.	8.9	8.0	44.0		
6. Rt72EB5-Rt72EB6	-4444.5	2916.4	-3583.1	2073.7	1205.	134.	AG	2622.	8.9	8.2	44.0		
7. Rt72EB6-Rt72EB7	-3583.1	2073.7	-3266.9	1786.7	427.	132.	AG	2622.	8.9	8.6	44.0		
8. Rt72EB7-Rt72EB8	-3266.9	1786.7	-2822.5	1436.6	566.	128.	AG	2622.	8.9	6.6	44.0		
9. Rt72EB8-Rt72EB9	-2822.5	1436.6	-2487.2	1220.2	399.	123.	AG	2622.	8.9	10.5	44.0		
10. Rt72WB1-Rt72WB2	-2470.7	1246.9	-2804.3	1462.8	397.	303.	AG	3015.	8.9	10.7	44.0		
11. Rt72WB2-Rt72WB3	-2804.3	1462.8	-3252.1	1829.3	579.	309.	AG	2554.	8.9	6.8	44.0		
12. Rt72WB3-RtWB4	-3252.1	1829.3	-3551.7	2123.8	420.	315.	AG	2554.	8.9	8.5	44.0		
13. Rt72WB4-Rt72WB5	-3551.7	2123.8	-4411.1	2967.3	1204.	314.	AG	2554.	8.9	8.5	44.0		
14. Rt72WB5-Rt72WB6	-4411.1	2967.3	-4613.8	3143.5	269.	311.	AG	2554.	8.9	7.7	44.0		
15. Rt72WB6-Rt72WB7(cent	-4613.8	3143.5	-5073.3	3474.2	566.	306.	AG	2554.	8.9	8.3	44.0		
16. Rt72WBStopBar-Rt72WB	-5010.9	3431.8	-4773.9	3259.7	293.	126.	AG	206.	100.0	8.3	36.0	.36	14.9
17. Rt72WB6-Rt72WB7	-5073.3	3474.2	-7358.3	5008.4	2752.	304.	AG	2679.	8.9	8.5	44.0		
18. MarshaNB1-Fingerramp	-5536.2	2764.8	-5194.8	3268.8	609.	34.	AG	473.	9.0	5.8	43.0		
19. MarshaNBFingerramp-C	-5194.8	3268.8	-5070.1	3442.3	214.	36.	AG	497.	9.0	7.8	43.0		
20. MarshaNBStopBarL-Fin	-5120.7	3400.1	-5138.3	3368.9	36.	209.	AG	204.	100.0	7.4	24.0	.11	1.8
21. MarshaNBStopBarTR-Fi	-5103.2	3388.3	-5297.8	3134.4	320.	217.	AG	102.	100.0	7.5	12.0	1.02	16.2
22. MarshaNBCenter-Marsh	-5070.1	3442.3	-4947.2	3651.1	242.	30.	AG	268.	9.0	7.7	43.0		
23. MarshaNB3-MarshaNB4	-4947.2	3651.1	-4783.4	3882.9	284.	35.	AG	323.	9.0	5.8	36.0		
24. MarshaNB4-MarshaNB5	-4783.4	3882.9	-4580.9	4065.6	273.	48.	AG	323.	9.0	4.0	36.0		
25. MarshaNB5-MarshaNB6	-4580.9	4065.6	-4373.7	4163.2	229.	65.	AG	323.	9.8	2.3	36.0		
26. MarshaNBRound-BayEB	-4373.7	4163.2	-4312.6	4142.6	64.	109.	AG	323.	9.8	1.5	32.0		
27. MarshSB2-MarshaSB3	-4398.3	4186.1	-4590.8	4078.2	221.	241.	AG	850.	9.0	2.5	34.0		
28. MarshSB3-MarshaSB4	-4590.8	4078.2	-4795.9	3894.4	275.	228.	AG	850.	9.0	4.0	34.0		
29. MarshSB4-MarshaSB5ra	-4795.9	3894.4	-4966.9	3663.5	287.	217.	AG	850.	9.0	5.6	34.0		
30. MarshSB5-Center	-4966.9	3663.5	-5107.9	3471.9	238.	216.	AG	850.	9.0	7.5	34.0		
31. MarshSBStopBar-RampL	-5054.3	3511.5	-4983.8	3634.1	141.	30.	AG	217.	100.0	7.0	24.0	.59	7.2
32. MarshSBStopBar-RampR	-5072.8	3524.0	-4440.0	4357.5	1047.	37.	AG	109.	100.0	7.2	12.0	1.31	53.2
33. MarshSBCenter-Marsha	-5107.9	3471.9	-5239.8	3241.3	266.	210.	AG	308.	9.0	7.6	34.0		
34. MarshaSBRamp-MarshaS	-5239.8	3241.3	-5553.5	2764.8	570.	213.	AG	383.	9.0	5.8	46.0		
35. BayWB1-BayWB2	-2776.1	1521.9	-3114.6	1917.8	521.	319.	AG	73.	9.0	3.1	32.0		
36. BayWB2-BayWB3	-3114.6	1917.8	-3649.5	2807.0	1038.	329.	AG	492.	9.0	2.2	32.0		
37. BayWB3-Roundabout	-3649.5	2807.0	-4285.1	4153.3	1489.	335.	AG	492.	9.0	2.3	32.0		
38. BayWBRound-Center	-4285.1	4153.3	-4288.3	4218.3	65.	357.	AG	492.	9.8	2.1	32.0		
39. BayWBCenter-BayWB4	-4288.3	4218.3	-4329.0	4262.9	60.	318.	AG	492.	9.8	1.9	32.0		
40. BayWB4-BayWB5	-4329.0	4262.9	-4702.3	5036.6	859.	334.	AG	653.	9.0	1.1	32.0		
41. BayEB1-Roundabout1	-4736.0	5045.8	-4370.5	4267.1	860.	155.	AG	807.	9.0	1.2	32.0		
42. BayEBRound-MarshaSB	-4370.5	4267.1	-4398.3	4186.1	86.	199.	AG	807.	9.8	2.0	32.0		

					BUI								
43. BayEB2-BayEB3	*	-4312.6	4142.6	-3664.1	2797.1	*	1494.	154.	AG	121.	9.0	1.7	32.0
44. BayEB3-BayEB4	*	-3664.1	2797.1	-3183.3	1984.4	*	944.	149.	AG	121.	9.0	3.2	32.0

JOB: Rt 72 @ Marsha Drive 2035 BUILD SAT Zo=1 RUN: Rt 72 Bridges 2035 Build Saturday

DATE : 7/24/ 9
TIME : 13:45:13

LINK VARIABLES

LINK DESCRIPTION	*	LINK COORDINATES (FT) X1	Y1	X2	Y2	*	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
45. BayEB4-BayEB5	*	-3183.3	1984.4	-2784.1	1514.8	*	616.	140.	AG	111.	9.0	3.1	32.0		
46. OffRampRt72EB1-OffRa	*	-5610.9	3770.5	-5373.6	3578.4	*	305.	129.	AG	99.	9.0	6.8	40.0		
47. OffRampRt72EB2-OffRa	*	-5373.6	3578.4	-5263.9	3383.5	*	224.	151.	AG	99.	9.0	6.9	40.0		
48. OffRampRt72EB3-L	*	-5263.9	3383.5	-5212.0	3314.2	*	87.	143.	AG	24.	9.0	6.8	32.0		
49. OffRampRt72EB3-R	*	-5263.9	3383.5	-5244.7	3270.2	*	115.	170.	AG	75.	9.0	6.8	32.0		
50. Rt72WBExit@Bay1-2	*	-3094.7	1712.3	-3185.4	1839.8	*	156.	325.	AG	461.	9.8	7.1	38.0		
51. Rt72WBExit@Bay2-3	*	-3185.4	1839.8	-3142.8	1910.0	*	82.	31.	AG	461.	9.8	5.6	38.0		
52. Rt72WBEnt@Bay1-2	*	-3172.4	1940.5	-3233.4	1891.5	*	78.	231.	AG	31.	9.8	5.1	38.0		
53. Rt72WBEnt@Bay2-3	*	-3233.4	1891.5	-3354.6	1947.9	*	134.	295.	AG	31.	9.8	7.1	38.0		

JOB: Rt 72 @ Marsha Drive 2035 BUILD SAT Zo=1 RUN: Rt 72 Bridges 2035 Build Saturday

DATE : 7/24/ 9
TIME : 13:45:13

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	*	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
3. Rt72EBStopBar-Rt72EB	*	120	64	2.0	2019	5309	48.09	2	3
16. Rt72WBStopBar-Rt72WB	*	120	64	2.0	2511	5297	48.09	2	3
20. MarshaNBStopBarL-Fin	*	120	95	2.0	139	3538	48.09	2	3
21. MarshaNBStopBarTR-Fi	*	120	95	2.0	358	2011	48.09	2	3
31. MarshSBStopBar-RampL	*	120	101	2.0	513	3503	48.09	2	3
32. MarshSBStopBar-RampR	*	120	101	2.0	337	2063	48.09	2	3

RECEPTOR LOCATIONS

RECEPTOR	*	COORDINATES (FT) X	Y	Z	*
1. RCVEB	*	-5677.1	3749.0	6.0	*
2. RCVWB	*	-4512.2	3150.1	9.0	*
3. RCVNB	*	-5134.2	3242.2	5.0	*
4. RCVSB	*	-5026.0	3686.0	7.5	*

JOB: Rt 72 @ Marsha Drive 2035 BUILD SAT Zo=1 RUN: Rt 72 Bridges 2035 Build Saturday

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 5.-360.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4
5.	.7	.0	.8	.0
10.	.7	.0	1.0	.0
15.	.7	.0	1.0	.0
20.	.7	.0	.8	.0
25.	.7	.0	.5	.0
30.	.7	.0	.7	.0
35.	.7	.0	.6	.1
40.	.7	.0	.5	.2
45.	.6	.0	.5	.3
50.	.6	.0	.5	.3
55.	.7	.0	.5	.3
60.	.7	.0	.6	.4
65.	.7	.0	.6	.4
70.	.7	.0	.6	.4
75.	.7	.0	.5	.4
80.	.8	.0	.5	.3
85.	.8	.0	.6	.2
90.	.9	.0	.5	.2
95.	.8	.0	.4	.2
100.	.9	.0	.5	.2
105.	1.0	.0	.5	.2
110.	1.0	.0	.5	.3
115.	.9	.0	.4	.3
120.	1.0	.1	.3	.2
125.	.9	.1	.3	.2
130.	.3	.3	.2	.5
135.	.1	.6	.1	.7
140.	.0	.8	.0	.9
145.	.0	.9	.0	1.1
150.	.0	.9	.0	1.0
155.	.0	.9	.0	1.0
160.	.0	.8	.0	1.1
165.	.0	.9	.0	1.0
170.	.0	.7	.0	1.0
175.	.0	.7	.0	1.0
180.	.0	.7	.0	1.0
185.	.0	.7	.0	.8
190.	.0	.7	.0	.7
195.	.0	.7	.0	.8
200.	.0	.7	.0	.8
205.	.0	.7	.0	.7
210.	.0	.7	.0	.5

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4
215.	.0	.7	.0	.4
220.	.0	.7	.1	.4
225.	.0	.7	.2	.4
230.	.0	.7	.3	.4
235.	.0	.7	.3	.4
240.	.0	.6	.3	.4

245.	*	.0	.7	.3	.4
250.	*	.0	.7	.3	.4
255.	*	.0	.7	.2	.4
260.	*	.0	.8	.2	.3
265.	*	.0	.7	.2	.3
270.	*	.0	.8	.2	.3
275.	*	.0	.8	.2	.5
280.	*	.0	.9	.2	.5
285.	*	.0	.9	.2	.4
290.	*	.1	1.1	.1	.5
295.	*	.3	1.3	.1	.3
300.	*	.5	1.0	.4	.3
305.	*	.7	.9	.4	.2
310.	*	.9	.6	.6	.1
315.	*	1.0	.2	.6	.0
320.	*	1.0	.0	.7	.0
325.	*	.9	.0	.9	.0
330.	*	.9	.0	.7	.0
335.	*	.9	.0	.7	.0
340.	*	.9	.0	.8	.0
345.	*	.8	.0	.8	.0
350.	*	.7	.0	.8	.0
355.	*	.7	.0	.8	.0
360.	*	.7	.0	.8	.0
MAX	*	1.0	1.3	1.0	1.1
DEGR.	*	120	295	10	145

THE HIGHEST CONCENTRATION OF 1.30 PPM OCCURRED AT RECEPTOR REC2 .

JOB: Rt 72 @ Marsha Drive 2035 BUILD SAT Zo=1 RUN: Rt 72 Bridges 2035 Build Saturday

DATE : 7/24/ 9
TIME : 13:45:13

RECEPTOR - LINK MATRIX FOR THE ANGLE PRODUCING
THE MAXIMUM CONCENTRATION FOR EACH RECEPTOR

	*	CO/LINK (PPM) ANGLE (DEGREES)			
	*	REC1	REC2	REC3	REC4
LINK #	*	120	295	10	145
1	*	.0	.1	.0	.0
2	*	.3	.1	.1	.0
3	*	.1	.0	.0	.0
4	*	.1	.2	.1	.0
5	*	.1	.1	.0	.1
6	*	.0	.0	.0	.1
7	*	.0	.0	.0	.0
8	*	.0	.0	.0	.0
9	*	.0	.0	.0	.0
10	*	.0	.0	.0	.0
11	*	.0	.0	.0	.0
12	*	.0	.0	.0	.0
13	*	.1	.0	.0	.1
14	*	.0	.0	.0	.1
15	*	.1	.5	.1	.2
16	*	.0	.1	.0	.1
17	*	.2	.2	.1	.0

18	*	.0	.0	.0	.0
19	*	.0	.0	.1	.0
20	*	.0	.0	.1	.0
21	*	.0	.0	.1	.0
22	*	.0	.0	.0	.0
23	*	.0	.0	.0	.0
24	*	.0	.0	.0	.0
25	*	.0	.0	.0	.0
26	*	.0	.0	.0	.0
27	*	.0	.0	.0	.0
28	*	.0	.0	.0	.0
29	*	.0	.0	.0	.0
30	*	.0	.0	.1	.1
31	*	.0	.0	.1	.2
32	*	.0	.0	.1	.1
33	*	.0	.0	.0	.0
34	*	.0	.0	.0	.0
35	*	.0	.0	.0	.0
36	*	.0	.0	.0	.0
37	*	.0	.0	.0	.0
38	*	.0	.0	.0	.0
39	*	.0	.0	.0	.0
40	*	.0	.0	.0	.0
41	*	.0	.0	.0	.0
42	*	.0	.0	.0	.0
43	*	.0	.0	.0	.0
44	*	.0	.0	.0	.0
45	*	.0	.0	.0	.0

JOB: Rt 72 @ Marsha Drive 2035 BUILD SAT Zo=1 RUN: Rt 72 Bridges 2035 Build Saturday

		CO/LINK (PPM) ANGLE (DEGREES)			
		REC1	REC2	REC3	REC4
LINK #	*	120	295	10	145
46	*	.0	.0	.0	.0
47	*	.0	.0	.0	.0
48	*	.0	.0	.0	.0
49	*	.0	.0	.0	.0
50	*	.0	.0	.0	.0
51	*	.0	.0	.0	.0
52	*	.0	.0	.0	.0
53	*	.0	.0	.0	.0

Route 72 Manahawkin Bay Bridges
Carbon Monoxide Concentration Worksheet
Condition: 2035 Saturday "Build"

SATURDAY

Receptor	1-hr Modeled Concentration	1-hr Background Concentration	TOTAL 1-HR		8-hr Concentration*	8-hr Background Concentration	TOTAL 8-HR
Eastbound Rt 72 approach ROW	1.0	3.0	4.0		0.7	2.1	2.8
Westbound Rt 72 approach ROW	1.3	3.0	4.3		0.9	2.1	3.0
Northbound Marsha Drive approach ROW	1.0	3.0	4.0		0.7	2.1	2.8
Southbound Marsha Drive approach ROW	1.1	3.0	4.1		0.8	2.1	2.9

* - Persistence Factor (0.7) applied to 1-hour concentration

APPENDIX D
PROJECT LISTING
FY2009-2018
STATEWIDE TRANSPORTATION IMPROVEMENT PLAN

FY 2009- 2018 STATEWIDE TRANSPORTATION IMPROVEMENT PROGRAM

New Jersey Department of Transportation

Route 72, Manahawkin Bay Bridges

DB # 00357 **UPC 003570** **MILEPOST(S) 26.10 - 28.25**

COUNTY: Ocean **MUNICIPALITY: Stafford Twp. Ship Bottom Boro**

These structurally deficient structures are 2,400 feet long, carry four lanes of traffic and are in overall poor condition due to the condition of the superstructure. Fatigue cracks were observed in the steel floor beam webs at numerous locations during the 1995 inspection and painting operation for this bridge. Necessary retrofit was accomplished by drilling holes at the tip of the cracks in 1995. The 1999 inspection revealed propagation of cracks in the floor beam webs and bracket connection angles beyond the holes drilled in 1995 and also development of additional fatigue cracks. Heavy pitting and section loss in stringers, floor beams and thru-girders was noted at random locations. Construction of a new parallel bridge over Manahawkin Bay to the south of the existing structure. Rehabilitation of the three Trestle bridges (over Hilliards Thorofare, West Thorofare, and East Thorofare) to provide the structural/safety improvements and to extend service life 20+ years. Bridge replacement eliminated. Construction of Marsha Drive intersection improvements. This project is anticipated to be bicycle/pedestrian compatible. This is a multi-year funded project under the provisions of Section 13 of P.L. 1995, c. 108. Total funding needed is anticipated to be $16,000,000.

ASSET MANAGEMENT CATEGORY: Bridge Assets-Bridge Rehab and Replacement **LEGISLATIVE DISTRICT:** 9

SPONSOR: NJDOT **STRUCTURE NO.:** 1513152 1513151 1513153 1513154

MPO	Phase	Fund	Amounts in Millions of Dollars									
			FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018
NJTPA	DES	BRIDGE			$8.000	$8.000						
NJTPA	ROW	STATE				$0.200						
NJTPA	CON	STATE						$63.000	$63.000	$63.000		

NEW JERSEY DEPARTMENT OF TRANSPORTATION

ROUTE 72 MANAHAWKIN BAY BRIDGES

Ocean County

NOISE ASSESSMENT

Prepared by:

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February 2010

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1.1 INTRODUCTION

A noise analysis was performed for the proposed Route 72 Manahawkin Bay Bridges project study area, located within the Township of Stafford (Manahawkin) and the Borough of Ship Bottom, both within Ocean County. Proposed improvements include rehabilitating three (3) trestle bridges and the existing bay bridge. In addition, a new parallel bay bridge will be constructed south of the existing bridge. The Route 72 westbound finger ramp at the intersection of Route 72 and Marsha Drive will be removed. Therefore, Route 72 westbound right turns onto northbound Marsha Drive will only be allowed at the intersection. Route 72 westbound left turns onto southbound Marsha Drive will continue to be accessed via an exit at Bay Avenue, just 0.5 mile east of the intersection. Due to flooding issues within the western shore of Ship Bottom Borough, a pump station has also been proposed.

The mobile-source noise analysis was prepared in accordance with the provisions set forth in the 23 CFR Section 772 (23 CFR 772) of the Federal Code of Regulations pursuant to legislation regarding federally funded Type I projects. The stationary-source noise analysis related to the pump station was prepared based on New Jersey Administrative Code Chapter 29 (Noise Control); N.J.A.C. 7:29.

1.2 DISCUSSION

Certain critical factors affect noise and the way it is perceived by the human ear. Such factors include the acoustical level (noise), frequency and the length of exposure period. Sound or noise levels are measured in units of decibels (dB). Due to the complex manner in which the human ear functions, measurement of different noise sources does not always correspond with relative loudness or annoyances. Therefore, different scales have been developed to furnish guidance in evaluating the importance of different noise sources. The “A” weighted scale (units expressed as dBA) has been widely accepted for noise to compare well with human reactions.

A decrease in 10 decibels is perceived by the average listener as a reduction of noise by one-half, while an increase in 10 decibels is discerned as a doubling of noise levels. Under normal circumstances, a 3 decibel change is required for the average person to detect a difference without the use of instruments. A change in 5 decibels is considered to be a noticeable change.

1.3 CRITERIA FOR DETERMING IMPACT

Mobile Sources - The dBA (L_{eq}) is the equivalent steady-state sound level, which in a specific period of time contains the same acoustic energy as the time-varying sound level during that same period. The L_{10} descriptor is used to describe the noise level exceeded 10% of the time. Noise Abatement Criteria (NAC) has been established for both A-weighted noise level descriptors, L_{eq} and L_{10}. Table 1.1 includes the threshold of noise interference levels and the NAC. For purposes of the Route 72 Manahawkin Bay Bridges project, the maximum A-weighted, one-hour equivalent sound level (L_{eq}) was selected as the appropriate descriptor to evaluate mobile-source noise impact.

TABLE 1.1
THRESHOLD FOR NOISE INTERFERENCE AND NOISE ABATEMENT CRITERIA

Activity Category	Threshold of Noise Interference		Noise Abatement Criteria		Description of Activity Category
	L_{10}	dBA (L_{eq})	L_{10}	dBA (L_{eq})	
A	48	45	60	57	Tracts of land which serenity and quiet are of extra-ordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose. Such areas could include amphitheaters, particular parks or portions of parks, open spaces, or historic districts which are dedicated or recognized by appropriate local officials for activities requiring special qualities of serenity and quiet.
B	58	55	70	67	Picnic areas, recreation areas, playgrounds, active sports areas, and (exterior) parks which are not included in Category A and residences, motels, public meeting rooms, schools, churches, libraries, and hospitals.
C	63	60	75	72	Developed lands, properties or activities not included in Categories A (exterior) or B above.
D	--	--	--	--	For requirements on undeveloped lands see paragraphs 11a and c of Federal Aid Highway Program Manual Volume 7, Chapter 7, Section 3.
E	43	40	55	52	Residences, motels, hotels, public meeting rooms, schools, churches, libraries, hospitals, and auditoriums (interior).

According to FHWA Guidance and current NJDOT Policy, a project-related noise impact occurs if either of the following conditions is met.

1) Predicted dBA (L_{eq}) noise levels approach or exceed the Noise Abatement Criteria (NAC) given in Table 1.1. Noise levels that approach the criteria are defined as occurring 1 dBA (L_{eq}) less than the NAC. As a result, impacts for this specific project are quantified based on the following noise levels; Category B – 66 dBA (L_{eq}) and Category C – 71 dBA (L_{eq}).

2) A substantial increase in predicted noise levels over existing conditions, even though the impact criterion level is not reached. This increase is considered to be 10 dBA (L_{eq}) or greater, which is roughly a doubling or more of the perceived noise levels.

As detailed within Table 1.1, impacts are assessed based on land-use activity categories. The study area includes residential structures as well as the Edwin B. Forsythe National Wildlife Refuge. These Category B land-use activities would be compared to the NAC of 66 dBA (L_{eq}) to determine impact. Commercial establishments throughout the study area would be compared to the Category C NAC of 71 dBA (L_{eq}).

Stationary Sources – The pump station noise analysis was performed based on regulations established within Chapter 29 of the New Jersey Administrative Code (N.J.A.C. 7:29). Instantaneous noise levels associated with the pump station at the nearest residential property line must not exceed 65 dBA during daytime hours (7:00 am – 10:00 pm) and 50 dBA during nighttime hours (10:00 pm – 7:00 am). In addition, instantaneous noise levels at the nearest commercial property line must not exceed 65 dBA during all hours. The noise regulations are relevant for the cumulative noise level, excluding background. Noise sources associated with the pump station include three (3) screw pumps and an emergency generator within a sound attenuating enclosure. All mechanical equipment will be located within the pump station building.

1.4 MODELING METHODOLOGY

Mobile Sources - Information utilized for noise level prediction related to the Route 72 Manahawkin Bay Bridges project included:

1. electronic design plans, profiles and topographic mapping,

2. existing and projected traffic volumes, vehicular classification percentages,
3. directional vehicular distributions and speeds
4. information on land-use obtained from scaled plans, tax maps and on-site observations,
5. noise measurement study and modeling analysis to describe existing noise levels.

Existing 2009 traffic data included peak hour volumes as well as percentages that reflect the vehicular classifications on roadways within the study area. Vehicular classifications included cars and light trucks, medium trucks, heavy-duty trucks, commuter buses and motorcycles. Noise calculations were performed utilizing peak hour volumes within the approved FHWA Traffic Noise Model (TNM) Version 2.5, which is capable of predicting noise levels in the vicinity of highways. Other TNM2.5 model inputs include site specific information such as areas of significant topographic changes as well as building rows.

Typically noise levels drop during peak hour congestion due to stop-and-go traffic condition. Peak noise generally occurs when the roadways are operating at, or near Level of Service (LOS) C condition. During this traffic condition, the roadways experience a maximum number of vehicles traveling at the speed limit. Therefore all future 2035 noise analyses were performed utilizing LOS C traffic (volume/speed) conditions.

Stationary Sources – A cumulative noise analysis was performed assuming the worst-case noise condition. Based on the pump station design, two (2) of the three (3) screw pumps will operate simultaneously. The facility is also equipped with a stand-by emergency generator. The emergency generator will be located within a sound attenuating enclosure. Therefore, a cumulative noise analysis was performed based on an emergency generator powering two (2) screw pumps. All mechanical equipment will be located within the masonry pump station structure.

Information utilized for noise level prediction related to the Ship Bottom pumping station included:

1. electronic design plan of the pumping station,
2. equipment noise specifications
3. generator sound enclosure specifications

1.5 EXISTING CONDITION

Mobile Sources - Vehicles traveling along Route 72 as well as local roadways contribute to the existing noise environment within the study area. In addition to roadway-related sources, the existing noise environment is influenced by watercraft within Barnegat Bay such as boats and jet skis.

A noise measurement study was conducted on Saturday, June 6th, 2009. Several digital sound level meters were placed within the Route 72 Manahawkin Bay Bridges project study area. The meters were programmed to document average noise levels (dBA L_{eq}) every minute, for three (3) consecutive hours. Peak hour noise levels at exterior noise monitoring locations range from 55 dBA (L_{eq}) to 61 dBA (L_{eq}). Noise monitoring locations and peak hour noise levels are shown in Figures A-1 and A-2 within Appendix A.

Based on monitored results, roadway geometry, and existing seasonal peak traffic volumes, the Federal Highway Administration (FHWA) Traffic Noise Model (TNM2.5) was validated. Under the 2009 existing conditions, 40 residential structures approach or exceed the Category B NAC. A portion of the Edwin B. Forsythe National Wildlife Refuge on Cedar Bonnet Island currently possesses noise levels which approach or exceed the Category B NAC. No commercial establishments currently incur noise levels which approach or exceed the Category C NAC.

1.6 2035 NO-BUILD CONDITION

Mobile Sources – To predict 2035 No-Build noise levels, LOS C traffic conditions were utilized with existing site geometry. Under 2035 No-Build condition, 51 residential structures as well as 1.9 acres of the Edwin B. Forsythe National Wildlife Refuge on Cedar Bonnet Island are predicted to possess noise levels which approach or exceed the Category B NAC. No commercial establishments are predicted to possess noise levels which approach or exceed the Category C NAC. Within Appendix B, Figures 1.1A and 1.1B detail the 2035 No-Build 66 dBA (L_{eq}) contour and associated impacts.

1.7 2035 BUILD CONDITION

Mobile Sources - Noise modeling was performed for the 2035 Build condition utilizing LOS C traffic conditions. No structure acquisitions are proposed to accommodate the project. Under the 2035 Build condition, 55 residential structures as well as 2.4 acres of the Edwin B. Forsythe National Wildlife Refuge on Cedar Bonnet Island are predicted to possess noise levels which

approach or exceed the Category B NAC. Noise levels within the refuge increase less than 3 decibels between 2035 No-Build and 2035 Build condition. No commercial establishments are predicted to possess noise levels which approach or exceed the Category C NAC. Within Appendix B, Figures 1.2A and 1.2B detail the 2035 Build 66 dBA (L_{eq}) contour and associated impacts.

The second FHWA impact criterion is based on whether a substantial (10 dBA L_{eq}) increase in future Build noise levels over existing noise levels occurs at a receiver. Under the 2035 Build condition, there are no residences predicted to incur noise levels at least 10 dBA (L_{eq}) above existing conditions. The total number of noise impacts under 2009 Existing, 2035 No-Build and 2035 Build conditions is listed in Table 1.2.

TABLE 1.2
SUMMARY OF IMPACTS
2009 EXISTING, 2035 NO-BUILD AND 2035 BUILD CONDITIONS

FHWA Land-Use Category	Land-Use Descriptions	2009 Existing Condition	2035 "No-Build" Condition	2035 "Build" Condition
B	Residential	40	51	55

Stationary Sources - Noise associated with the Ship Bottom pump station was evaluated. A conservative analysis was performed to include the emergency generator as well as two (2) of the three (3) screw pumps operating simultaneously. Although located within the pump station structure, the emergency generator will be housed within a sound attenuating enclosure. Cumulative interior noise levels (emergency generator and two screw pumps) were calculated and reduced to account for the following building attenuation values:

- 15 dBA reduction – large roll-up doors located along east and west side of building
- 30 dBA reduction – masonry walls located along north and south side of building

As shown in Figure 1.3, sensitive receptors surround the pump station. Residential properties are located to the north while commercial properties are located east, west and south of the pump station. Commercial property lines represent a gas station (east), marina (west) and restaurant (south). Noise levels were propagated to all surrounding property lines and no exceedances of N.J.A.C. 7:29 were predicted. Noise levels along the northern property line met the 65 dBA daytime (7:00 am – 10:00 pm) and 50 dBA nighttime (10:00 pm – 7:00 am) noise level limits. Noise levels along the east, west and south property lines of each commercial establishment met

the 65 dBA noise level limit. Table 1.3 details the predicted pump station noise levels at adjacent property lines. Pump station noise calculations are detailed within Appendix C.

TABLE 1.3
PREDICTED PUMP STATION NOISE LEVELS AT ADJACENT PROPERTIES

Direction	Land-Use	Cumulative Noise Level*
North	Residential	48
East	Commercial	45
West	Commercial	48
South	Commercial	34

* Cumulative equipment noise level excluding background noise

Based on noise level limitations established within N.J.A.C. 7:29, all entrance and roll-up doors should be closed while mechanical equipment operates. In addition, monthly performance tests required for the emergency generator should be conducted during daytime hours (7:00 am – 10:00 pm).

1.8 NOISE MITIGATION

Mobile Sources - Noise mitigation measures must be considered when noise impacts have been predicted. The FHWA recognizes five (5) methods of mitigation which were evaluated in this study. The abatement strategies for mitigating traffic noise impacts are listed within this section.

1. *Traffic Management* – Alternate traffic routing schemes, prohibiting specific types of vehicles from using Route 72 as well as limiting speeds would be considered a traffic management strategy. However, Route 72 is the only route for vehicles exiting/entering the Long Beach Island resort area. A reduction in travel speeds of 10 miles per hour would result in an unrecognizable decrease in noise levels and reduce capacities. Applying these types of restrictions would be contradictory to the purpose of the proposed project and are not viable options for noise mitigation.

2. *Roadway Alignment Alterations* – Changing vertical and horizontal alignments in the roadway by, either increasing or decreasing roadway elevations or shifting the roadway horizontal geometry, would help block noise in some situations. The design includes necessary

vertical and horizontal alignment improvements along Route 72 to accommodate the parallel bridge. Due to the roadway and bridge geometry, changing roadway alignment specifically for mitigation purposes would require a substantial design modification, which is not feasible.

3. *Property Acquisition* – Buffer zones (using unimproved property) can be created between sensitive receptors and roadways to reduce noise levels. The areas adjacent to the project-related residential impacts are not substantial enough to provide the necessary buffer zone required to reduce noise levels.

4. *Sound Proofing* – Specific public-use buildings can be insulated to mitigate NAC Category E noise impacts. There are no impacts to public-use buildings within the study area.

5. *Noise Walls* – Noise walls are effective means of mitigating noise impacts adjacent to roadways. Noise modeling for the 2035 Build condition has identified several areas of impact. Noise wall designs followed *The NJDOT Highway Traffic Noise Policy,* addressing "Eligibility Criteria for Consideration of Noise Abatement" (2003). Utilizing a construction cost of $50/ft^2, the Department will consider a cost of up to $50,000 per benefited residence for a new noise wall. The maximum height allowable for a new noise wall is 18 feet.

A "benefited residence" (primary benefit) is a dwelling unit that results in at least a 5 dBA (L_{eq}) noise level reduction with the noise wall and is predicted to possess resultant noise levels below the NAC. A supplemental benefit is a dwelling unit that results in at least a 5 dBA (L_{eq}) noise level reduction, however is not predicted to possess "Build" noise levels above the NAC before mitigation. A one-half (1/2) weighting ($25,000) can be utilized for supplemental benefits. A brief description of the investigated noise wall follows:

Route 72 Eastbound – A noise wall was investigated along eastbound Route 72 to protect several residential dwellings located on Steven Drive, Julia Drive and Selma Court. The wall is 11-feet high and 1,010 feet long. Based on a construction cost of $50/ft^2, the wall totals $555,700. The wall yields 11 primary benefits and 8 supplemental benefits, resulting in $37,047 per benefit. However erection of the noise wall would involve relocation of several major utilities such as electric, gas, water, drainage and sanitary sewerage lines. Estimated relocation costs for these utilities total $1,050,000. Therefore the total cost of the noise wall would be estimated at $1,605,700, resulting in a cost per benefit of $107,047. Since the cost per benefitted residence exceeds $50,000, this noise wall is not cost-effective and is not a feasible mitigation option.

Stationary Sources – Noise levels associated with the pump station meet noise level limits established within N.J.A.C. 7:29, therefore mitigation is not necessary.

1.9 CONSTRUCTION NOISE

The area within the Route 72 Manahawkin Bridges project limits would experience an increase in noise levels during construction phases. Specific actions such as clearing, grading, paving and bridge and building construction are known to produce high noise levels. Equipment such as bulldozers, scrapers, backhoes, graders, loaders, cranes and trucks would be used in the construction but are subject to construction noise specifications. Construction noise levels for residences and commercial establishments may reach 85 to 90 dBA (L_{eq}) during some phases of construction. Examples of construction equipment and resultant noise levels are shown in Table 1.3.

This project would incorporate standard construction noise specifications that are listed below:

1. All construction equipment powered by an internal combustion engine shall be equipped with a properly maintained muffler.
2. Air compressors shall meet current EPA noise emission exhaust standards.
3. Air powered equipment shall be fitted with pneumatic exhaust silencers.
4. Stationary equipment powered by an internal combustion engine shall not be operated within 150 feet of noise sensitive sites without portable noise walls placed between the equipment and the noise sensitive sites. Portable noise walls shall be constructed of plywood or tongue and grove boards with a noise absorbent treatment on the interior surface (facing the equipment).
5. Powered construction equipment shall not be operated wherever possible before 8 AM or after 8 PM within 150 feet of a noise sensitive site.

TABLE 1.4
Noise Level (dBA L_{eq}) at 50 feet From Various Construction Equipment

Material Handling	Noise Level (dBA L_{eq})
Concrete Mixer	85
Concrete Pump	82
Crane	83
Derrick	88

Equipment (Earth Moving)	Noise Level (dBA L_{eq})
Front Loader	79
Back Hoes	85
Dozers	80
Tractors	80
Scrappers	88
Graders	85
Truck	91
Paver	89

Stationary Equipment	Noise Level (dBA L_{eq})
Pumps	76
Generators	78
Compressors	81
Impact Equipment	Noise Level (dBA L_{eq})
Pile Drivers	100
Jackhammers	88
Rock Drills	98
Other	Noise Level (dBA L_{eq})
Saw	78
Vibrators	76

APPENDIX A
NOISE MEASUREMENT STUDY

NEW JERSEY DEPARTMENT OF TRANSPORTATION

ROUTE 72 MANAHAWKIN BAY BRIDGES

Ocean County

NOISE MEASUREMENT STUDY

Prepared by:

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248 Columbia Turnpike
Building 3, Suite 115
Florham Park, New Jersey 07932

August 2009

I. Introduction

Roadway-related noise levels within the Route 72 Manahawkin Bay Bridges project study area are mainly due to three (3) distinct noise sources; decelerating, accelerating and cruise speed vehicles. Other ambient noise sources include watercraft within the Manahawkin Bay such as boats and jet skis. Noise monitoring was performed to identify existing seasonal peak noise levels due to roadway-related sources and to validate the noise prediction model. The Traffic Noise Model (TNM2.5) is considered validated when the modeled noise levels are within + or – 3 dBA (L_{eq}) of monitored results. It is important to note that this reference value of + or – 3 dBA (L_{eq}) is the smallest change in noise levels an average human can discern. Once validation is achieved for a particular site, any scenario can be modeled and subsequent noise levels can be predicted with scientific confidence.

Four (4) noise measurement locations were chosen to document existing noise levels on Saturday, June 6th, 2009 for a three (3) hour period (12:00 pm – 3:00 pm). Noise levels were measured through utilization of a Larson Davis Model 824 (Type 1) and several Metrosonic Chameleons (Type 2) noise meters, which each displayed, documented and analyzed ambient noise levels. The noise level meters were programmed to register A-weighted noise levels at "slow" response and assigned a 3 dB exchange rate.

Noise monitors were programmed to document noise levels (dBA L_{eq}) averaged every 15 minutes to correspond with concurrent manual traffic counts along Route 72. Traffic counts were performed during the three (3) hour period, which included cars and light trucks, medium trucks, heavy trucks, commuter buses and motorcycles.

II. Results

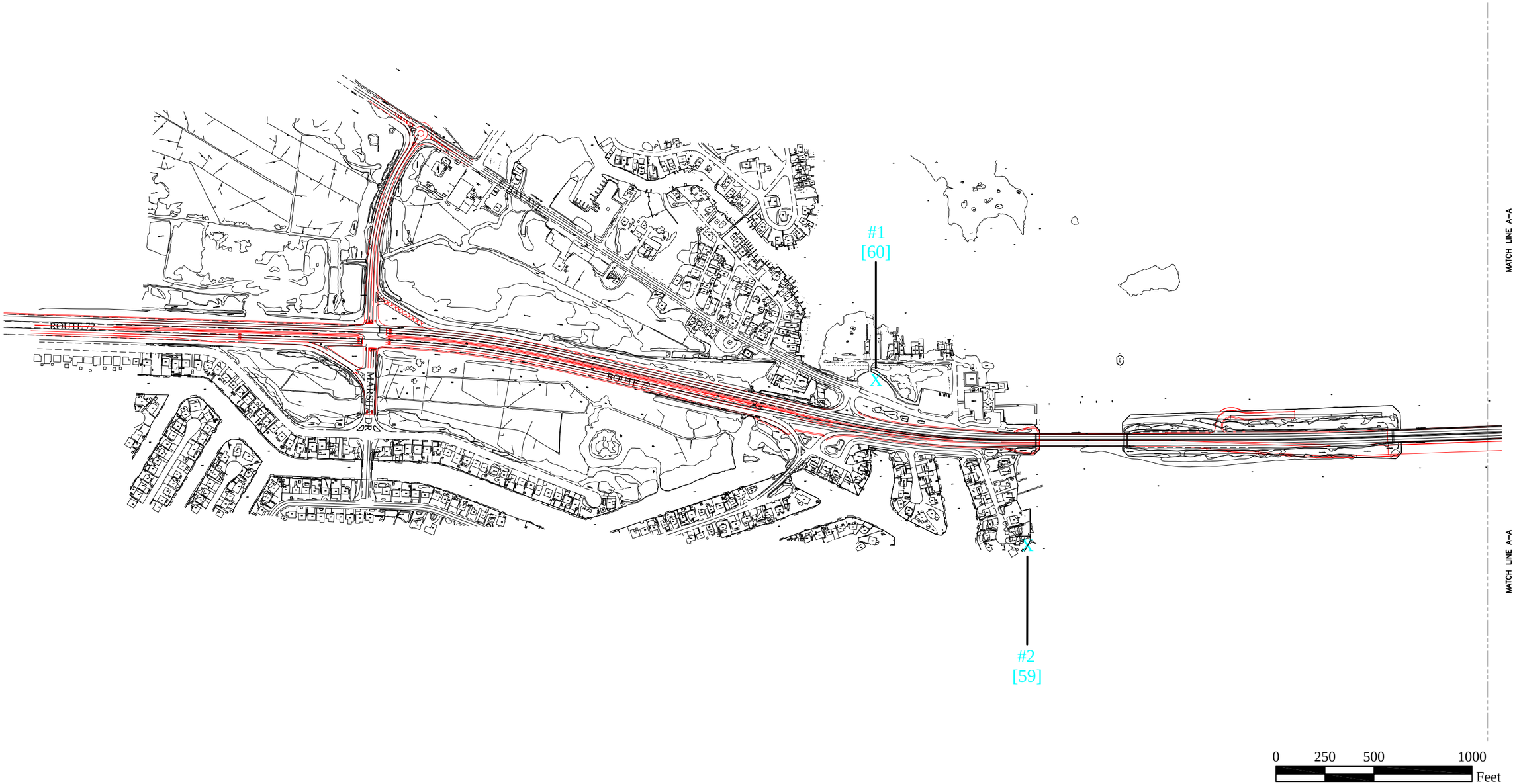
Each monitoring location was chosen due to the site sensitivity and location to proposed improvements. Peak noise levels range from 55 dBA (L_{eq}) to 61 dBA (L_{eq}). Peak noise levels as well as noise monitoring locations are shown in Figures A-1 and A-2. All locations currently possess noise levels below the Category B NAC. Table A-1 details peak noise levels documented at each monitoring location.

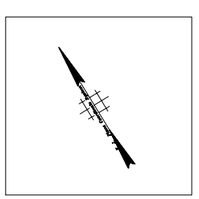
A noise level meter was located along Bay Avenue, adjacent to the Route 72 westbound exit (Location # 1). Residential noise levels along the Manahawkin Bay were documented at 36 Selma Drive (Location # 2). A noise monitor was also located on Cedar Bonnet Island, within the Edwin B. Forsythe National Wildlife Refuge (Location # 3). The residential noise levels along

the eastern shore line of Bonnett Island were documented at 25 Fourth Street, south of Route 72 (Location # 4).

TABLE A-1
Peak Noise Monitoring Results (dBA L_{eq})

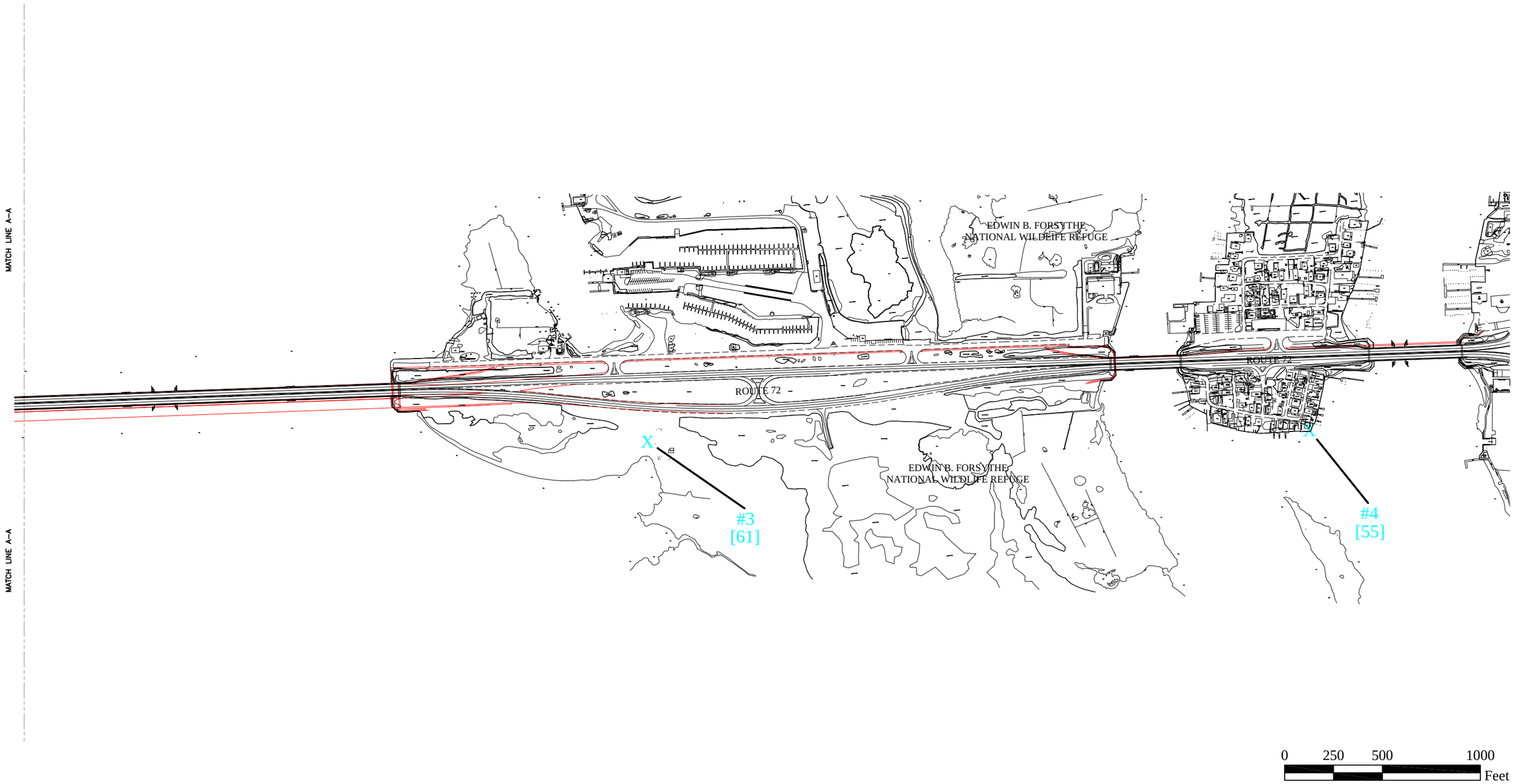
Monitoring Location	Peak Hour Noise Level
# 1 – Bay Avenue	60
# 2 – 36 Selma Drive	59
# 3 – Edwin B. Forsythe National Wildlife Refuge	61
# 4 – 25 Fourth Street	55

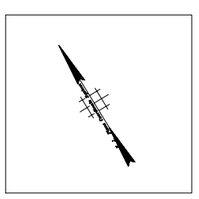




PROJECT NORTH

LEGEND	Date	July 30, 2009
Noise Figure Generated by Peak Traffic Conditions	New Jersey Department of Transportation	
X Location of Noise Monitor	Route 72 Manahawkin Bay Bridges	
# Noise Monitoring Location Number	Figure A-1	
[ ] Peak Saturday Noise Levels - dBA (L_{eq})	Noise Monitoring Locations	
Proposed Improvements	Drawn by: G. Druckenmiller	Checked by: S.P. Carpenter
	Paul Carpenter Associates, Inc.	





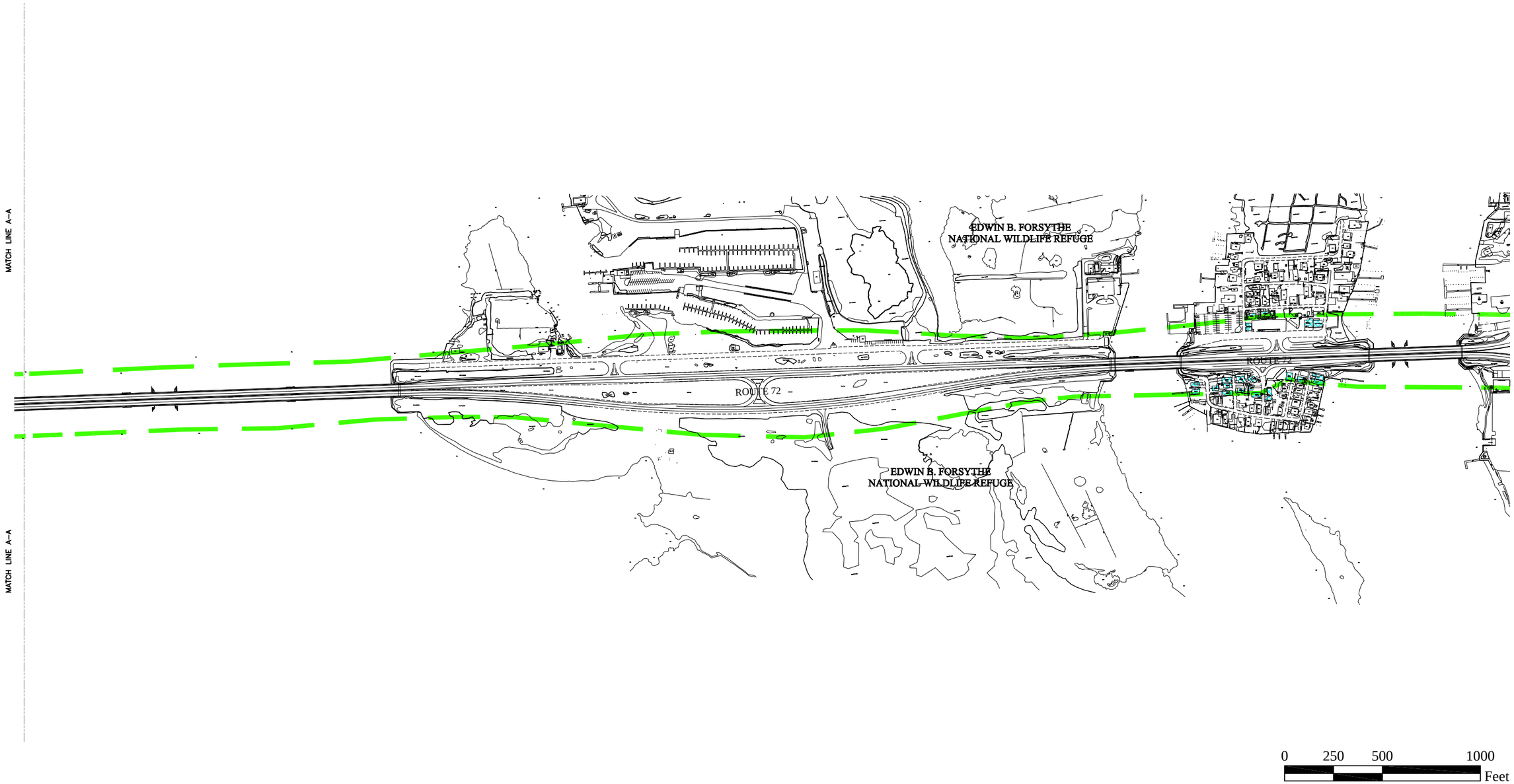
PROJECT NORTH

LEGEND	Date	July 30, 2009
Noise Figure Generated by Peak Traffic Conditions	New Jersey Department of Transportation	
X Location of Noise Monitor	Route 72 Manahawkin Bay Bridges	
# Noise Monitoring Location Number	Figure A-2	
[ ] Peak Saturday Noise Levels - dBA (L_{eq})	Noise Monitoring Locations	
Proposed Improvements	Drawn by: G. Druckenmiller	Checked by: S.P. Carpenter
	Paul Carpenter Associates, Inc.	

APPENDIX B
NOISE CONTOUR MAPS

LEGEND	Date	February 3, 2010
Noise figure generated from peak AM and PM conditions	New Jersey Department of Transportation	
Category B; Residential Structure that Approaches or Exceeds the NAC (66 dBA L_{eq})	Route 72 Manahawkin Bay Bridges	
Category C; Commercial Structure that Approaches or Exceeds the NAC (71 dBA L_{eq})	Figure 1.1A	
66 dBA (L_{eq}) Noise Contour	2035 "No-Build" 66 dBA Noise Contour	
	Drawn by: G. Druckenmiller	Checked by: S.P. Carpenter
	Paul Carpenter Associates, Inc.	

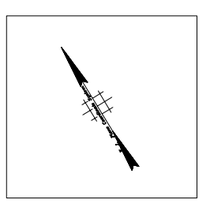
PROJECT NORTH



PROJECT NORTH

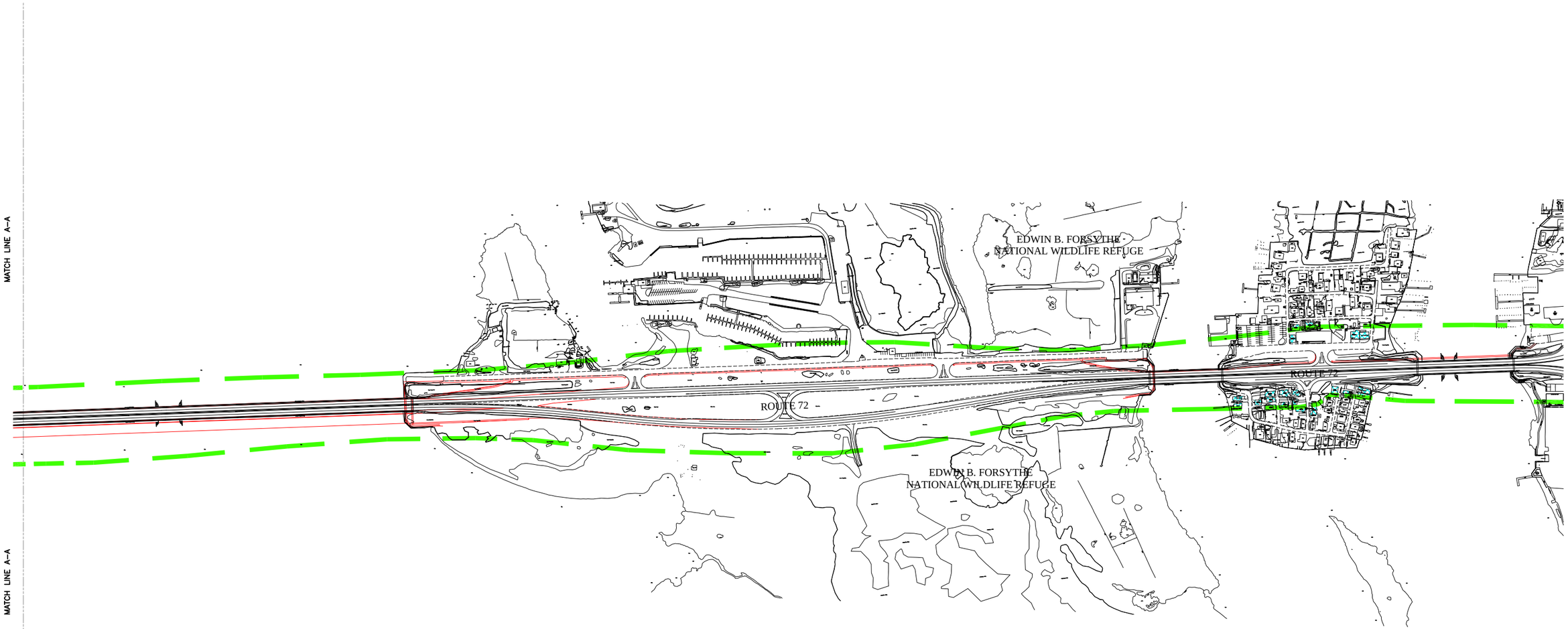
LEGEND	Date	February 3, 2010
Noise figure generated from peak AM and PM conditions	New Jersey Department of Transportation	
Category B; Residential Structure that Approaches or Exceeds the NAC (66 dBA L_{eq})	Route 72 Manahawkin Bay Bridges	
Category C; Commercial Structure that Approaches or Exceeds the NAC (71 dBA L_{eq})	Figure 1.1B	
66 dBA (L_{eq}) Noise Contour	2035 "No-Build" 66 dBA Noise Contour	
	Drawn by: G. Druckenmiller	Checked by: S.P. Carpenter
	Paul Carpenter Associates, Inc.	

0 250 500 1000 Feet



PROJECT NORTH

LEGEND	Date	February 3, 2010
Noise figure generated from peak AM and PM conditions	New Jersey Department of Transportation	
Category B; Residential Structure that Approaches or Exceeds the NAC (66 dBA L_{eq})	Route 72 Manahawkin Bay Bridges	
Category C; Commercial Structure that Approaches or Exceeds the NAC (71 dBA L_{eq})	Figure 1.2A	
66 dBA (L_{eq}) Noise Contour	2035 "Build" 66 dBA Noise Contour	
Proposed Improvements	Drawn by: G. Druckenmiller	Checked by: S.P. Carpenter
	Paul Carpenter Associates, Inc.	

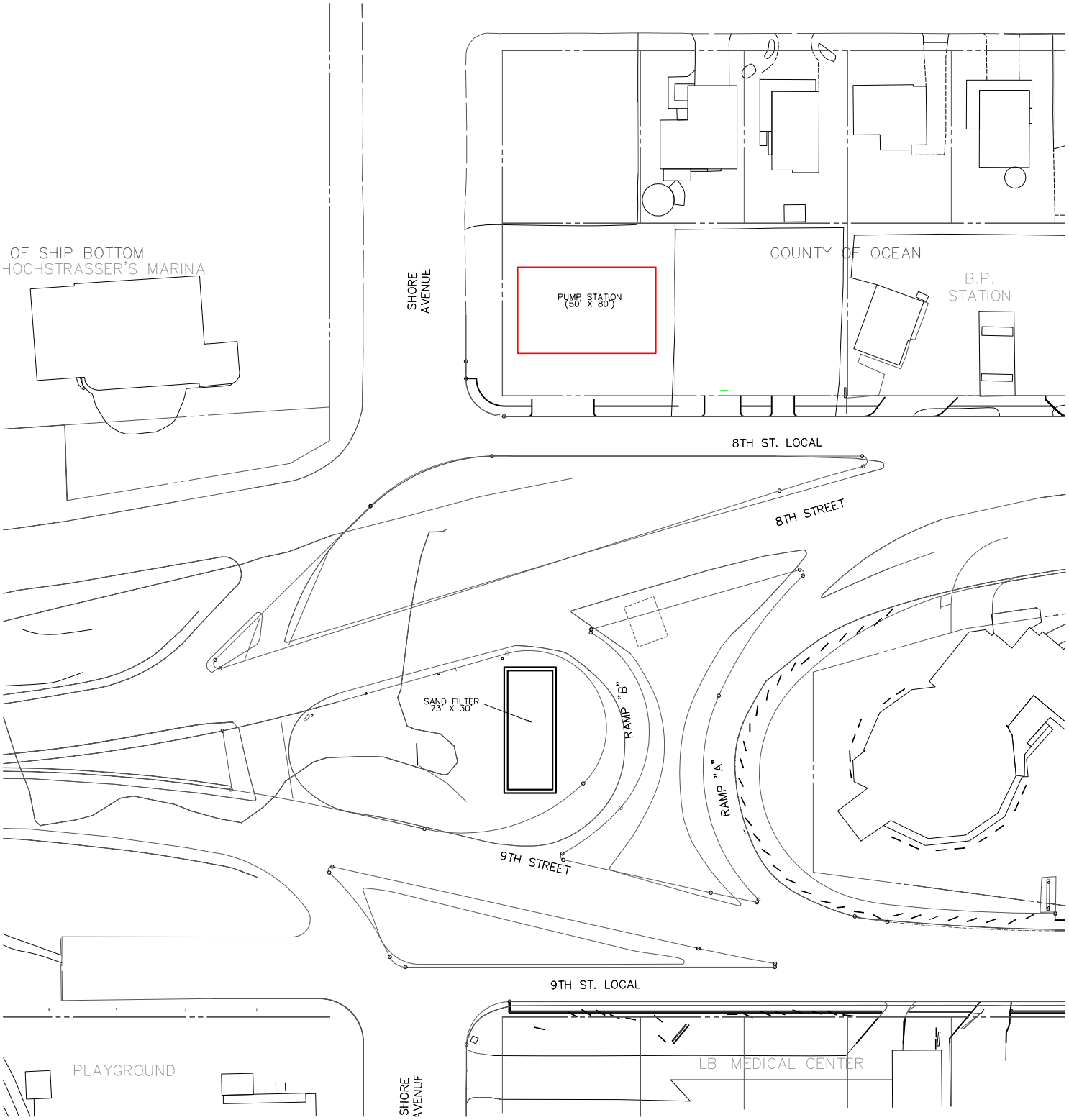


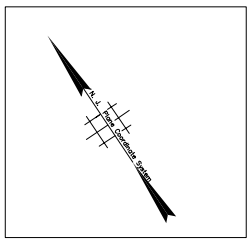
0 250 500 1000 Feet

PROJECT NORTH

LEGEND	Date	February 3, 2010
Noise figure generated from peak AM and PM conditions	New Jersey Department of Transportation	
Category B; Residential Structure that Approaches or Exceeds the NAC (66 dBA L_{eq})	Route 72 Manahawkin Bay Bridges	
Category C; Commercial Structure that Approaches or Exceeds the NAC (71 dBA L_{eq})	Figure 1.2B	
66 dBA (L_{eq}) Noise Contour	2035 "Build" 66 dBA Noise Contour	
Proposed Improvements	Drawn by: G. Druckenmiller	Checked by: S.P. Carpenter
	Paul Carpenter Associates, Inc.	

APPENDIX C
PUMP STATION LOCATION FIGURE





PROJECT NORTH

0 40 80 900 Feet

Date	February 9, 2010
New Jersey Department of Transportation	

Route 72 Manahawkin Bay Bridges

Figure 1.3

Proposed Pump Station Location

Drawn by: G. Druckenmiller Checked by: S.P. Carpenter

Paul Carpenter Associates, Inc.

ROUTE 72 PUMP STATION NOISE CALCULATIONS

Receiving Property	Source	Distance Building to Receiver (feet)	Shielding	Resultant Noise Level (dBA)	Cumulative Noise Level (dBA)	Applicable Limits	Exceedance
East - Gas Station	Pumps (2)	110.8	Roll-Up Doors	42	48	65 dBA (all times)	No
	Generator			46			
West - Marina	Pumps (2)	107.9	Building	42	48	65 dBA (all times)	No
	Generator			47			
North - Residences	Pumps (2)	25.5	Building	39	45	65 dBA (Daytime) 50 dBA (Nighttime)	No
	Generator			44			
South - Restaurant	Pumps (2)	91.1	Building	28	34	65 dBA (all times)	No
	Generator			33			

Noise Data (Source)		
Description	**Noise Level (dBA)**	**Distance (feet)**
Pump # 1	85	3
Pump # 2	85	3
Emergency Generator	75	23

Noise Data (Shielding Factor)	
Description	**Noise Level (dBA)**
Enclosed (Concrete Building)	30
Roll-up Doors	15

CULTURAL RESOURCES INVESTIGATION
IMPROVEMENTS TO ROUTE 72 MANAHAWKIN BAY BRIDGES AND MARSHA DRIVE INTERSECTION
TOWNSHIP OF STAFFORD AND BOROUGH OF SHIP BOTTOM
OCEAN COUNTY, NEW JERSEY

JULY 2009
(REVISED FEBRUARY 2010)

RICHARD GRUBB & ASSOCIATES, INC.
Cultural Resource Consultants

Cultural Resources Investigation
Improvements to Route 72 Manahawkin Bay Bridges
and Marsha Drive Intersection
Township of Stafford and Borough of Ship Bottom
Ocean County, New Jersey

By

Robert J. Lore
Jennifer B. Leynes

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Jennifer B. Leynes (Architecture)

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Princeton, New Jersey 08540

and

New Jersey Department of Transportation
1035 Parkway Avenue
Trenton, New Jersey 08625

Date: July 27, 2009 (revised February 11, 2010)

EXECUTIVE SUMMARY

The New Jersey Department of Transportation (NJDOT) is proposing to improve the Route 72 Manahawkin Bay Bridges and the intersection of Route 72 and Marsha Drive in Stafford Township and Ship Bottom Borough, Ocean County, New Jersey. The Federal Highway Administration (FHWA) is providing federal funds for the proposed improvements; therefore, a cultural resources investigation has been performed in compliance with Section 106 of the National Historic Preservation Act of 1966, as amended. This cultural resources investigation identified all resources listed in or eligible for the National Register of Historic Places in the Area of Potential Effects (APE) and assessed project effects on any National Register-listed or eligible resources. The cultural resources investigation consisted of a Phase IA archaeological survey of the APE-Archaeology and an intensive-level architectural survey of the APE-Architecture.

The undertaking as proposed would rehabilitate four Route 72 Bridges: Route 72 Bridge over Hilliards Thorofare (Structure No. 1513-151); Route 72 Bridge over Manahawkin Bay (a.k.a. Dorland J. Henderson Memorial Bridge; Structure No. 1513-152); Route 72 Bridge over West Thorofare (Structure No. 1513-153); and Route 72 Bridge over East Thorofare (Structure No. 1513-154). The rehabilitation of the Henderson Bridge will include replacement of the bridge deck and floor beams and the addition of a secondary bearing support system for the pin-suspended spans. Work on the three smaller, trestle-type structures will include pier cap rehabilitation, piling protection system, sealing and resurfacing of bridge decks, joint repair, and possibly a new bearing support system for the superstructures. A new high-level structure will be constructed parallel to and south of the Dorland J. Henderson Memorial Bridge. Lastly, two roundabouts not previously included in the Initially Preferred Alternative (IPA) are being considered (Marsha Drive and Bay Avenue Intersection; Route 72 and Bay Avenue Intersection).

This report has been revised based upon Section 106 consultation between the New Jersey Historic Preservation Office (HPO) and the NJDOT. The original report, dated July 27, 2009, identified one potentially eligible resource, the Route 72 Bridge over Manahawkin Bay (a.k.a. Dorland J. Henderson Memorial Bridge; Structure No. 1513-152). The bridge was recommended eligible for the National Register under Criterion C in the area of engineering for its low-level lighting system, which is comprised of fluorescent luminaires mounted in the bridge railing system. Subsequent Section 106 consultation between the HPO and the NJDOT has determined that the Henderson Bridge is not eligible for the National Register because the available information about post-war bridge lighting does not sufficiently support a level of significance that justifies eligibility under Criterion C. As a result, the HPO concluded that no historic properties would be affected by the proposed undertaking.

Revisions made to this report following the HPO comments include amending the National Register eligibility of the Henderson Bridge to reflect its ineligibility and revising the HPO survey form for the structure in accordance with the HPO's Guidelines for Architectural Survey.

No revisions were requested regarding the archaeological survey. The archaeological survey identified no significant prehistoric or historic cultural resources within the APE-Archaeology. No additional archaeological investigation was recommended.

Four bridges more than 50 years old were identified within the APE-Architecture. None of these structures are individually eligible for the National Register. As a result, no historic properties will be affected by the project.

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SECTION 1.0 INTRODUCTION

This revised report presents the results of a cultural resources investigation conducted within the Area of Potential Effects (APE) for the proposed improvements to the Route 72 Manahawkin Bay Bridges and Marsha Drive Intersection in Stafford Township and Ship Bottom Borough, Ocean County, New Jersey (see Figure 1.1). The cultural resources investigation consisted of a Phase IA archaeological survey of the APE-Archaeology and an intensive-level architectural survey of the APE-Architecture.

Because the NJDOT is using federal funds provided by the FHWA for the proposed undertaking, this cultural resources investigation has been conducted in accordance with the instructions and intent of the following regulations: Section 101(b)(4) of the National Environmental Policy Act of 1969; Sections 1(3) and 2(b) of Executive Order 11593; Section 106 of the National Historic Preservation Act; CFR 771, as amended October 30, 1980; the guidelines developed by the Advisory Council on Historic Preservation published November 26, 1980; and the Procedures for the Protection of Historic and Cultural Properties as set forth in 36 CFR Part 800. These regulations require sponsors of federally licensed or federally assisted projects to consider the effects of their actions on historic properties. The purpose of this cultural resources investigation is to identify all buildings, structures, and objects listed in or eligible for the National Register of Historic Places within the APE, and to assess the effects of the project on any National Register-listed or eligible resources according to the Criteria of Adverse Effect. The specific purpose of the Phase IA archaeological survey is to assess the potential for significant archaeological resources in the APE-Archaeology. A copy of this report will be placed on file with the New Jersey Historic Preservation Office (HPO) in Trenton, New Jersey.

This report has been revised based upon Section 106 consultation between the New Jersey Historic Preservation Office (HPO) and New Jersey Department of Transportation (NJDOT). The original report, dated July 29, 2009, identified one potentially eligible resource, the Route 72 Bridge over Manahawkin Bay (Dorland J. Henderson Bridge; Structure No. 1513-152), under Criterion C for its low-level lighting system. Subsequent Section 106 consultation between the HPO and the NJDOT has determined that insufficient information is available regarding the lighting system's engineering significance to support National Register eligibility under Criterion C. No revisions were requested regarding the archaeological survey.

Consequential revisions made to this report include amending the National Register eligibility of the Henderson Bridge to reflect its ineligibility and revising the HPO survey form for the bridge in accordance with the HPO's Guidelines for Architectural Survey. The HPO consultation comments

concluded that no historic properties would be affected by the proposed undertaking. A record of correspondence among the consulting parties is included in Appendix C.

Previous cultural resources investigations have been conducted for the Marsha Drive Intersection (URS Corporation 2005) and Route 72 Manahawkin Bay Bridges (URS Corporation 2006). The investigations consisted of an intensive-level architectural survey and a Phase I archaeological survey. No historic properties were identified for the Marsha Drive Intersection project (see Appendix C). For the Route 72 Manahawkin Bay Bridges project, URS recommended Margo's Marina eligible for the National Register. Section 106 consultation comments from the SHPO disagreed with this recommendation due to the "severe loss of interior and exterior integrity" (see Appendix C). The archaeological surveys for both projects did not identify significant archaeological resources and recommended no further survey; the SHPO subsequently concurred.

The four Route 72 Bridges (built 1958-1959) were not evaluated during the previous architectural surveys for the Marsha Drive Intersection and Route 72 Manahawkin Bay Bridges projects. Therefore, the scope of work for the intensive-level architectural survey is limited to the evaluation of the four bridges to determine their National Register eligibility. The scope of work for the Phase IA archaeological survey is limited to two potential roundabouts that are being considered in the revised Initially Preferred Alternative (IPA) and are described in the following section.

1.1 Project Description

Route 72 is classified as a divided urban principal arterial roadway and is the principal east-west corridor serving traffic from the mainland to Long Beach Island. Within the project limits (MP 26.1 to 28.25), Route 72 has two through lanes in each direction with variable width shoulders and median.

The Route 72 Manahawkin Bay Bridges include the high-level Route 72 Bridge over Manahawkin Bay (a.k.a. Dorland J. Henderson Memorial Bridge; Structure No. 1513-152) and three trestle-type structures carrying Route 72 over Hilliards Thorofare (Structure No. 1513-151), West Thorofare (Structure No. 1513-153), and East Thorofare (Structure No. 1513-154). Constructed in 1958-1959, all four structures have Moderne-style concrete parapets, narrow safety walks, and concrete median barriers. The bridges were not included in the 1994 New Jersey Historic Bridge Survey because they were built after 1946. All four structures have been rated structurally deficient and functionally obsolete.

Proposed improvements call for the rehabilitation of the four existing bridges and the construction of a new high-level structure parallel to the Henderson Bridge. The new structure will be constructed south of and parallel to the Henderson Bridge and will have a 60-foot vertical clearance over the channel and a curb-to-curb width of 46 feet. The rehabilitation of the Henderson Bridge will include replacement of the bridge deck and floor beams and addition of a secondary bearing support system for the pin-suspended spans; the new superstructure will be narrower than the existing because it will primarily carry traffic in one direction (westbound). Work on the three smaller structures will include pier cap rehabilitation, piling protection system, sealing and resurfacing of bridge decks, joint repair, and possibly a new bearing support system for the superstructures.

The construction of roundabouts are also being considered at the Bay Avenue and Marsha Drive Intersection, and the Route 72 and Bay Avenue intersection, both on the mainland in Stafford Township. The project plans are included as Figures 1.2, 1.3a, and 1.3b.

1.2 Area of Potential Effects

The APE includes locations that may potentially be impacted by construction or that may experience effects once construction is completed. Included within the APE are all locations where an undertaking may result in disturbance of the ground, from which elements of the undertaking may be visible, and where the activity may result in changes in traffic patterns, land use, and public access, for example. Project effects on historic resources may include both physical effects and contextual effects. Physical effects can include destruction, damage, or alteration of a historic resource. Indirect contextual effects may include isolation of a property from its surrounding environment; the introduction of visual, audible, or atmospheric elements that are out of character with a property or that alter its setting and context; or elimination of publicly accessible views to the resource.

The APE is defined in 36 CFR 800.16(d) as follows: "the geographic area or areas within which an undertaking may directly or indirectly cause changes in the character or use of historic properties, if any such properties exist. The area of potential effects is influenced by the scale and nature of an undertaking and may be different for different kinds of effects caused by the undertaking." The APE for the Route 72 Manahawkin Bay Bridges project was determined through consultation between the NJDOT and HPO in 2005 (see Appendix A).

APE-Archaeology

The APE-Archaeology encompasses any area of land disturbance required for obtaining permits or for successful completion of the project. Land disturbances include, but are not limited to, areas subject to excavation or deep grading, wetland mitigation sites, construction staging areas or borrow areas opened expressly for the project. The APE-Archaeology includes the area that will be directly impacted by the undertaking. For this undertaking, the APE-Archaeology was confined to the limits of disturbance for the potential roundabouts at the Marsha Drive and Bay Avenue intersection, and the Route 72 and Bay Avenue intersection (see Figure 1.4). Previously surveyed portions of the project were not considered (see URS Corporation 2005, 2006; A.D. Marble & Company (2005).

APE-Architecture

The APE-Architecture includes the entire area of the APE-Archaeology and the area in which the project may directly or indirectly cause changes in the character or use of historic properties. The APE-Architecture encompasses the properties adjacent to the proposed improvements, as well as resources that may be visually affected by the project. Since most of the resources more than 50 years of age were recently surveyed, they were not resurveyed for the current undertaking. Resources subject to an intensive-level architectural survey are limited to the four bridges that were not previously evaluated during the initial cultural resources investigations for the Marsha Drive Intersection and Route 72 Manahawkin Bay Bridges projects: Route 72 Bridges over Hilliards Thorofare, Manahawkin Bay, West Thorofare, and East Thorofare (see Figure 1.4).

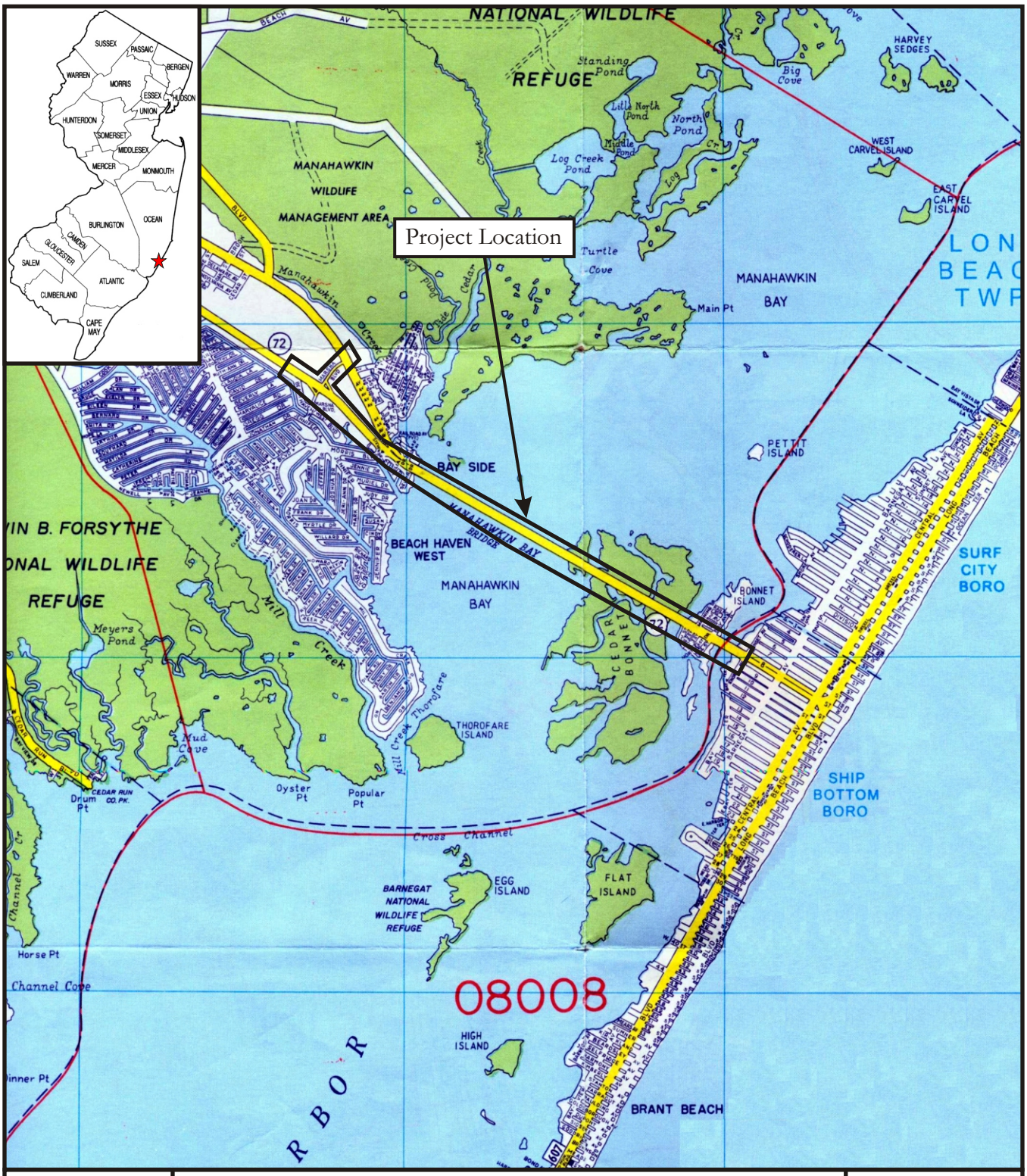


Figure 1.1:

County Map
(from 2002 Hagstrom Map Company, Inc.,
Street Map of Ocean County, New Jersey).

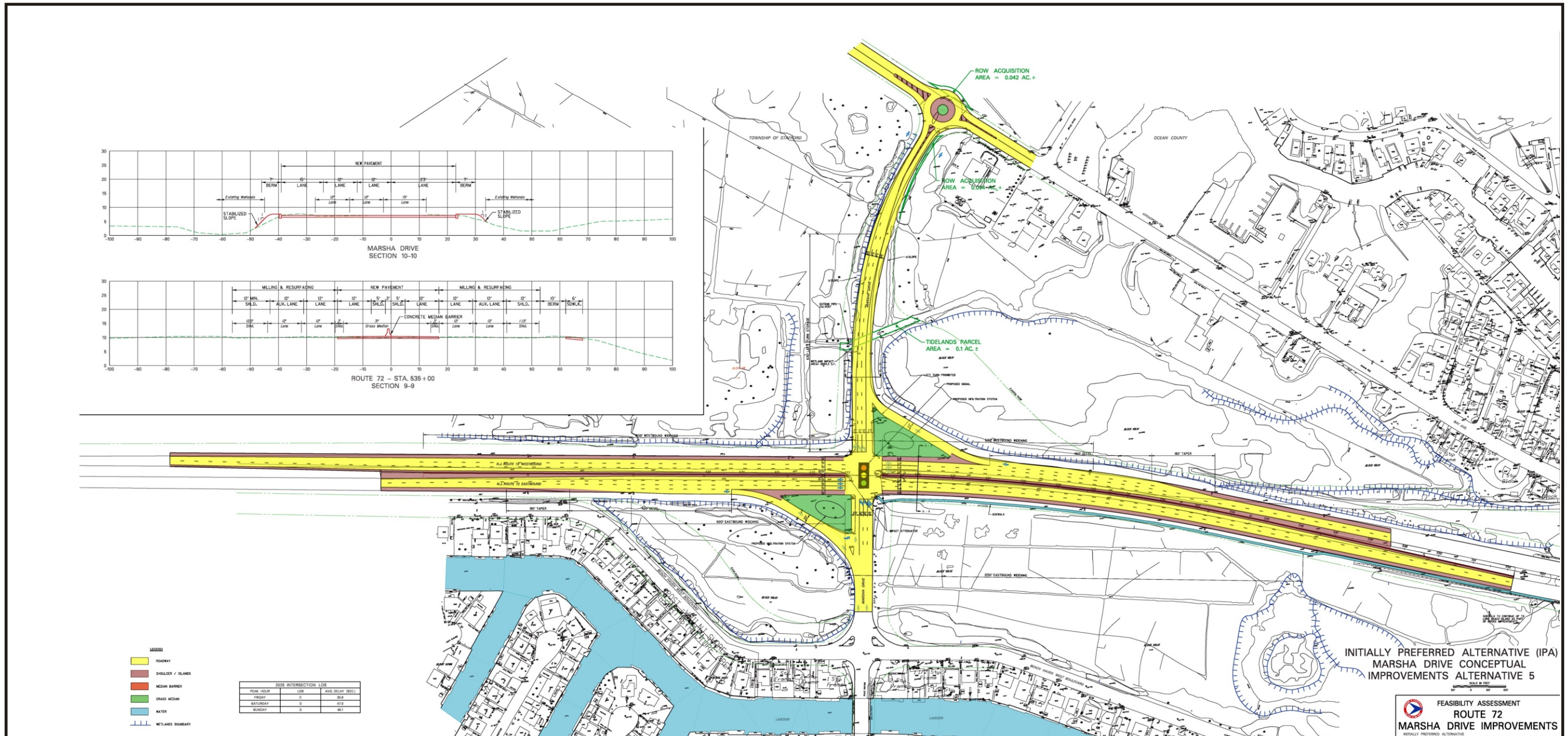
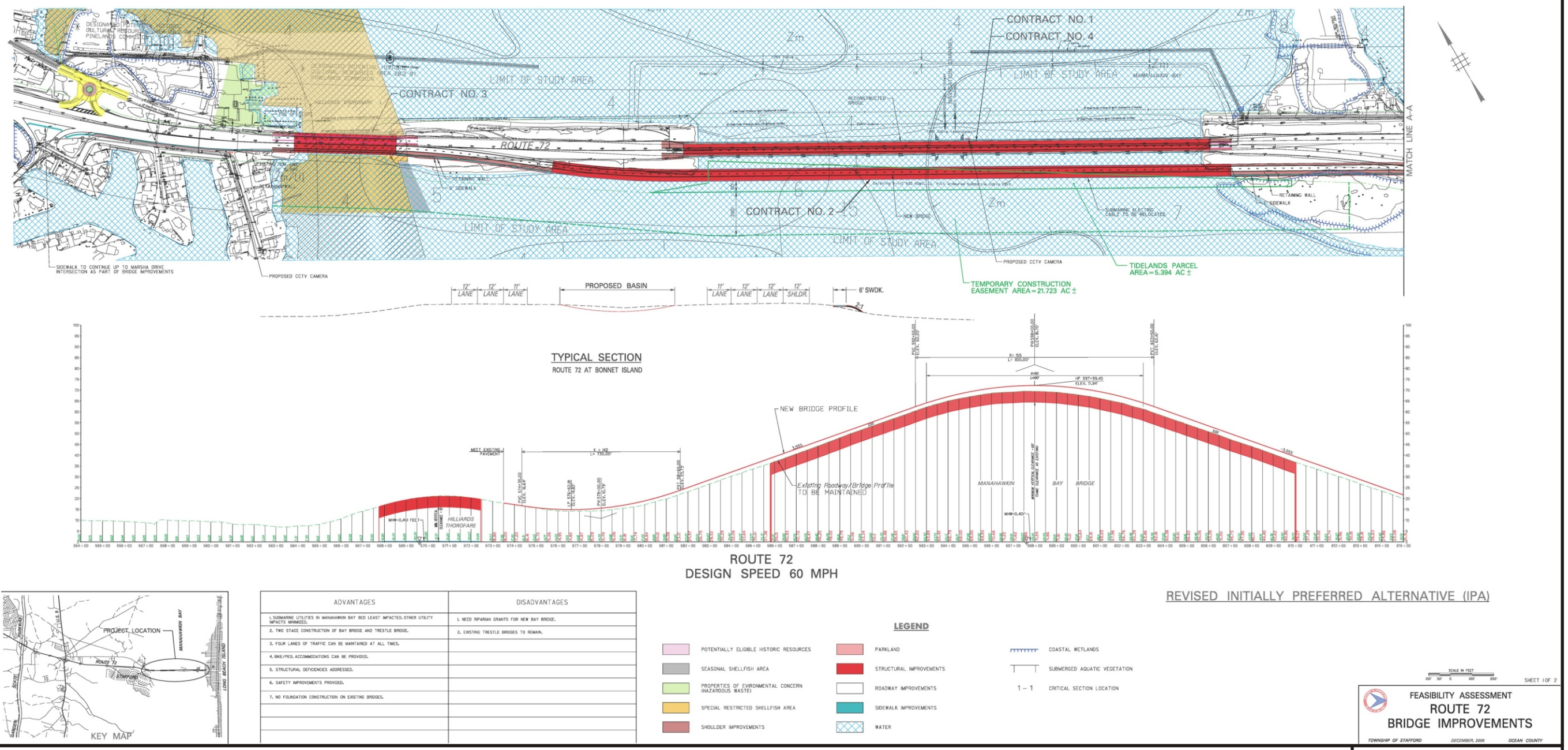


Figure 1.2:

Initially Preferred Alternative, Route 72 Marsha Drive Improvements.

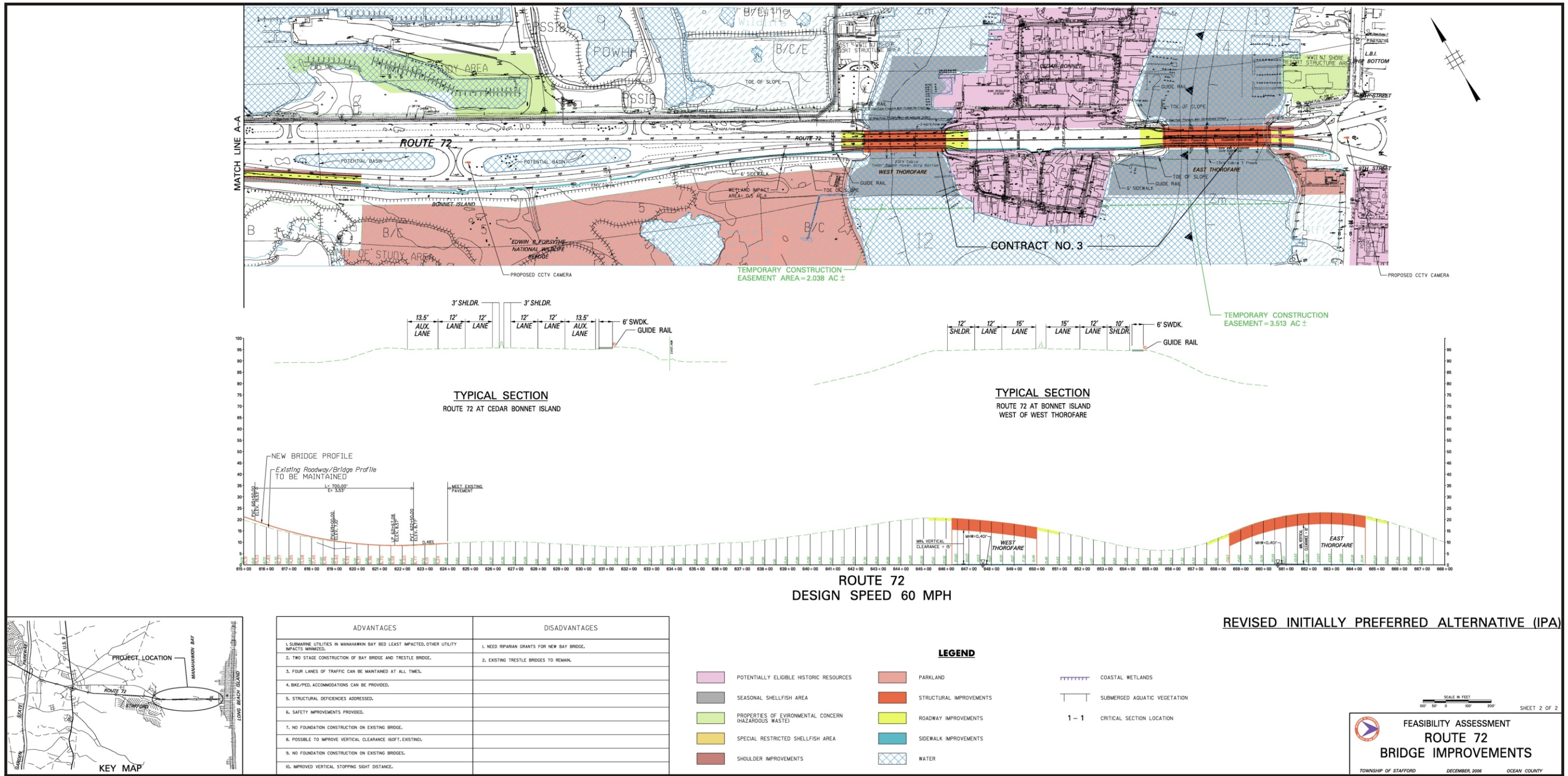
Feet
0 350



ADVANTAGES	DISADVANTAGES
1. SUBMARINE UTILITIES IN MANAHAWKIN BAY BED LEAST IMPACTED, OTHER UTILITY IMPACTS MINIMIZED.	1. NEED RIPARIAN GRANTS FOR NEW BAY BRIDGE.
2. TWO STAGE CONSTRUCTION OF BAY BRIDGE AND TRESTLE BRIDGE.	2. EXISTING TRESTLE BRIDGES TO REMAIN.
3. FOUR LANES OF TRAFFIC CAN BE MAINTAINED AT ALL TIMES.	
4. BIKE/PED. ACCOMMODATIONS CAN BE PROVIDED.	
5. STRUCTURAL DEFICIENCES ADDRESSED.	
6. SAFETY IMPROVEMENTS PROVIDED.	
7. NO FOUNDATION CONSTRUCTION ON EXISTING BRIDGES.	

Figure 1.3a:

Revised Initially Preferred Alternative, Route 72 Bridge Improvements.



ADVANTAGES	DISADVANTAGES
1. SUBMARINE UTILITIES IN MANAHAWKIN BAY BED LEAST IMPACTED. OTHER UTILITY IMPACTS MINIMIZED.	1. NEED RIPARIAN GRANTS FOR NEW BAY BRIDGE.
2. TWO STAGE CONSTRUCTION OF BAY BRIDGE AND TRESTLE BRIDGE.	2. EXISTING TRESTLE BRIDGES TO REMAIN.
3. FOUR LANES OF TRAFFIC CAN BE MAINTAINED AT ALL TIMES.	
4. BIKE/PED. ACCOMMODATIONS CAN BE PROVIDED.	
5. STRUCTURAL DEFICIENCIES ADDRESSED.	
6. SAFETY IMPROVEMENTS PROVIDED.	
7. NO FOUNDATION CONSTRUCTION ON EXISTING BRIDGE.	
8. POSSIBLE TO IMPROVE VERTICAL CLEARANCE (6OFT. EXISTING).	
9. NO FOUNDATION CONSTRUCTION ON EXISTING BRIDGES.	
10. IMPROVED VERTICAL STOPPING SIGHT DISTANCE.	

Figure 1.3b:

Revised Initially Preferred Alternative, Route 72 Bridge Improvements.

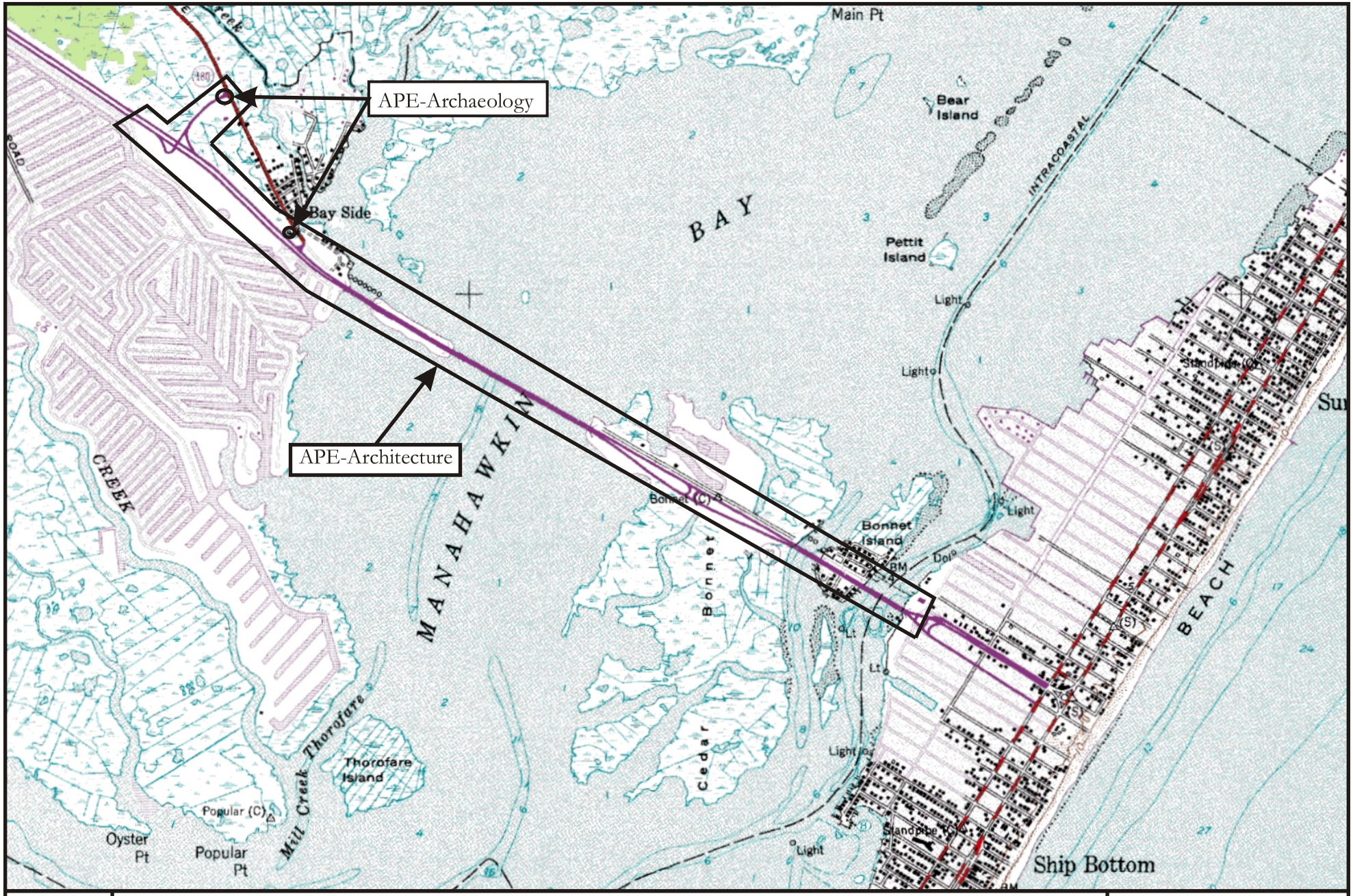


Figure 1.4:

U.S.G.S. Map showing APE-Architecture and APE-Archaeology
(from U.S.G.S. 7.5′ Quadrangle: Ship Bottom, NJ 1952 [photorevised 1972]).

N W E S

Feet
0 2000

SECTION 2.0 RESEARCH GOALS AND DESIGN

2.1 Archaeology

The first step of the archaeological survey was to identify the areas where project activities have the potential to affect archaeological sites through below ground disturbance, referred to as the APE-Archaeology as described in Section 1.2. After defining the APE-Archaeology, documentary research was conducted to determine which locations people could have used during the prehistoric (i.e. Native American) or historic periods, and to identify areas where intact archaeological evidence, such as foundations, structural remains or Native American artifacts and activity areas, are likely to be present. A site reconnaissance was then undertaken to observe the existing conditions, and to determine both the extent to which the original topography is still present, and the effects that subsequent landscape alterations may have had on potential archaeological resources. Archaeologically sensitive areas based on topographic features, vegetation and soils were noted, as were disturbances that would have compromised archaeological resources. The results of the site visit were used to determine appropriate management recommendations, including archaeological testing, if necessary.

2.2 Historic Architecture

The goals of the architectural survey were to identify the project's APE-Architecture, to identify all resources in the APE-Architecture that are listed in or eligible for listing in the National Register, to assess the project's foreseeable effects on any listed or eligible resources in the APE-Architecture, and to recommend measures to avoid or mitigate any adverse effects. The architectural survey began with the delineation of the APE-Architecture, defined as the area that will experience physical or contextual effects from the project. An intensive-level architectural survey was subsequently conducted to identify and to survey properties more than 50 years of age within the APE-Architecture. Surveyed properties were documented on HPO survey forms to assess significance and integrity, and to evaluate a property's eligibility for listing in the National Register of Historic Places. Project effects on any listed or eligible resources were assessed according to the Criteria of Adverse Effect (36 CFR 800.9).

Background research was conducted at the HPO to identify properties within the APE-Architecture that are listed in or eligible for listing in the National Register. Historic sites surveys and regulatory surveys on file at the HPO were reviewed to identify previously surveyed resources within the APE-Architecture. Additional background research consisted of a review of pertinent secondary and primary sources, including local and county histories, and historic maps and atlases.

2.3 Regulatory Framework

Section 106 of the National Historic Preservation Act of 1966 (NHPA), as implemented by the federal legislation 36 Code of Federal Regulations (CFR) Part 800, mandates that federal agencies must consider the effects of their actions on any properties listed in or determined eligible for listing in the National Register of Historic Places. Federal agency preservation officers, in consultation with the SHPO, must determine whether a proposed action would have any beneficial or adverse effects on the characteristics of a property that qualify it for the State and National Registers. Revised Section 106 regulations were adopted by the Advisory Council on Historic Preservation on May 4, 2004, published in the Federal Register on July 6, 2004 and went into effect on August 4, 2004. The basic steps of the Section 106 process, as revised, are as follows:

- The Section 106 process is initiated when the federal agency determines that a proposed action is an undertaking. Federal undertakings include those carried out by or on behalf of a federal agency, those carried out with federal financial assistance, those requiring a federal permit, license or approval, and those subject to state or local regulation administered pursuant to delegation or approval by a federal agency.

- As part of the initiation of the Section 106 process, the federal agency must identify the appropriate SHPO (or SHPO's if more than one state is involved) and consult with the SHPO in a manner appropriate to the federal agency planning process for the proposed undertaking. In addition, in consultation with the SHPO, the federal agency shall identify any other parties entitled to be consulting parties and invite them to participate in the Section 106 process.

- All properties that may be affected in the Area of Potential Effects (APE)- the area where project effects may occur- and that are listed on or eligible for the National Register must be identified, in consultation with the SHPO. If properties are identified that may be eligible for the National Register, but for which no determination has yet been made, the agency consults with the SHPO to determine eligibility or ineligibility.

- If there are National Register-listed or eligible properties (called historic properties), the potential effect of the proposed undertaking on each property must be assessed, in conjunction with the SHPO, to determine if the project would have adverse effects on them. To determine potential effects on historic properties, the Advisory Council on Historic Preservation's Criteria of Adverse Effect must be applied (Section 2.6 below). A project is deemed to have an adverse effect on a historic property if it would cause a change in the quality of the property that qualifies it for inclusion in the National Register. The Advisory Council must be notified of any findings of adverse effects.

- If it is determined that the undertaking will have an adverse effect on a historic property, the SHPO and other consulting parties are consulted to seek agreement on

ways to avoid or reduce the effects. An agreement regarding mitigation measures that will be implemented is typically made through a Memorandum of Agreement (MOA) or Programmatic Agreement between the applicant, the federal agency and the SHPO. The Advisory Council must be invited to participate when the federal agency sponsoring the project wants the Advisory Council's involvement, when the project would have an adverse effect on a National Historic Landmark, or when a Programmatic Agreement will be prepared.

- Programmatic Agreements are used when effects on historic properties are similar and repetitive or are multi-state or regional in scope; or when effects on historic properties cannot be fully determined before approval or an undertaking, among other reasons.

- Execution of the MOA or Programmatic Agreement and implementation of its terms satisfies the requirements of Section 106, provided that the Advisory Council is given reasonable opportunity to comment, and demonstrates that the federal agency has taken into account the effects of the undertaking.

2.4 Public Consultation

Because the views of the public are essential to informed federal decision-making in the Section 106 process, the public must be informed about the project and its effects on historic properties, and given the opportunity to comment. The Ocean County Cultural and Heritage Commission, the Ocean County Historical Society, Stafford Township Historic Preservation Commission, Stafford Township Historical Society, Long Beach Island Historical Association, and the Borough of Ship Bottom were identified as interested parties for the project and were contacted as part of this cultural resources investigation. Information was requested from each regarding opinions as to the significance of properties within the APE, project compatibility/incompatibility with existing historic resources, project effect(s) on eligible resources, and other thoughts and concerns relevant to the Section 106 process for the project. Appendix B contains a record of correspondence with all individuals and organizations contacted during this cultural resources investigation.

2.5 National Register of Historic Places Criteria

Determinations of significance are based on the National Register of Historic Places Criteria. Properties listed in or determined eligible for the National Register can be architectural and archaeological resources. Significant historic properties include districts, structures, objects, or sites that are at least 50 years old and which meet at least one National Register criterion. Criteria used in the evaluation process are specified in 36 CFR Part 63. To be eligible for inclusion in the National Register of Historic Places, a historic property(s) must possess:

the quality of significance in American history, architecture, archeology, engineering, and culture [that] is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association and:

(A) that are associated with events that have made a significant contribution to the broad patterns of our history, or

(B) that are associated with the lives of persons significant in our past, or

(C) that embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components lack individual distinction, or

(D) that have yielded, or may be likely to yield, information important in prehistory or history (36 CFR 60.4).

There are several criteria considerations. Ordinarily, cemeteries, birthplaces, or graves of historical figures, properties owned by religious institutions or used for religious purposes, structures that have been moved from their original locations, reconstructed historic buildings, properties primarily commemorative in nature, and properties that have achieved significance within the past 50 years shall not be considered eligible for the National Register. However, such properties will qualify if they are integral parts of districts that do meet the criteria or if they fall within one of the following categories:

(A) a religious property deriving primary significance from architectural or artistic distinction or historical importance, or

(B) a building or structure removed from its original location but which is significant primarily for architectural value, or which is the surviving structure most importantly associated with a historic person or event, or

(C) a birthplace or grave of a historical figure of outstanding importance if there is no other appropriate site or building directly associated with his/her productive life, or

(D) a cemetery which derives its primary significance from graves of persons of transcendent importance, from age, from distinctive design features, or from association with historic events, or

(E) a reconstructed building when accurately executed in a suitable environment and presented in a dignified manner as part of a restoration master plan, and when no other building or structure with the same association has survived, or

(F) a property primarily commemorative in intent if design, age, tradition, or symbolic value has invested it with its own historic significance, or

(G) a property achieving significance within the past 50 years if it is of exceptional importance (36 CFR 60.4).

When conducting National Register evaluations, the physical characteristics and historic significance of the overall property are examined. While a property in its entirety may be considered eligible based on Criteria A, B, C, and/or D, specific data is also required for individual components therein based on date, function, history, physical characteristics, and other information. Resources that do not relate in a significant way to the overall property may contribute if they independently meet the National Register criteria.

A contributing building, site, structure, or object adds to the historic architectural qualities, historic associations, or archeological values for which a property is significant because a) it was present during the period of significance, and possesses historic integrity reflecting its character at that time or is capable of yielding important information about the period, or b) it independently meets the National Register criteria. A noncontributing building, site, structure, or object does not add to the historic architectural qualities, historic associations, or archeological values for which a property is significant because a) it was not present during the period of significance, b) due to alterations, disturbances, additions, or other changes, it no longer possesses historic integrity reflecting its character at that time or is incapable of yielding important information about the period, or c) it does not independently meet the National Register criteria.

2.6 Criteria of Adverse Effect

Whenever a historic property may be affected by a proposed undertaking, Federal agency officials must assess whether the project constitutes an adverse effect on the historic property by applying the criteria of adverse effect. According to the Advisory Council on Historic Preservation, the criteria of adverse effect (36 CFR 800.5), is as follows:

(1) An adverse effect is found when an undertaking may alter, directly or indirectly, any of the characteristics of a historic property that would qualify it for inclusion in the National Register, in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association. Consideration shall be given to all qualifying characteristics of a historic property, including those that may have been identified subsequent to the original evaluation for the property's eligibility for the National Register. Adverse effects may include reasonably foreseeable

effects caused by the undertaking that may occur later in time, be farther removed in distance or cumulative.

(2) Adverse effects on historic properties include, but are not limited to (36 CFR 800.5(a)(2)):

(i) Physical destruction of or damage to all or part of the property;

(ii) Alteration of a property, including restoration, rehabilitation, repair, maintenance, stabilization, hazardous material remediation and provision of handicapped access, that is not consistent with the Secretary's Standards for the Treatment of Historic Properties (36 CFR part 68) and applicable guidelines;

(iii) Removal of the property from its historic location;

(iv) Change of the character of the property's use or of physical features within the property's setting that contribute to its historic significance;

(v) Introduction of visual, atmospheric or audible elements that diminish the integrity of the property's significant historic features;

(vi) Neglect of a property which causes its deterioration, except where such neglect and deterioration are recognized qualities of a property of religious and cultural significance to an Indian tribe or Native Hawaiian organization; and

(vii) Transfer, lease, or sale of property out of Federal ownership or control without adequate and legally enforceable restrictions or conditions to ensure long-term preservation of the property's historic significance.

A finding of adverse effect or no adverse effect could occur based on the extent of alteration to a historic property, and the proposed treatment measures to mitigate the effects of a proposed undertaking. According to 36 CFR 800.5(3)(b):

> The agency official, in consultation with the SHPO/THPO, may propose a finding of no adverse effect when the undertaking's effects do not meet the criteria of § 800.5(a)(1) or the undertaking is modified or conditions are imposed, such as the subsequent review of plans for rehabilitation by the SHPO/THPO to ensure consistency with the Secretary's Standards for the Treatment of Historic Properties (36 CFR part 68) and applicable guidelines, to avoid adverse effects.

SECTION 3.0 ENVIRONMENTAL SETTING

The APE-Archaeology lies within the New Jersey Outer Coastal Plain, a physiographic province characterized by Late Cretaceous and Tertiary-Age unconsolidated clays, marls, silts, and sands covered with Pleistocene interglacial gravels and sands (see Figure 3.1; Wolfe 1977). The Late Cretaceous-Early Tertiary marine deposits are stratified in beds gently dipping southeastwards. During the Tertiary period, fluvial erosion dissected the coastal plain, removing portions of the Late Cretaceous and Early Tertiary deposits from the coastal margins, but leaving a portion of them that now form the central upland areas in the Outer Coastal Plain (Wolfe 1977). Differential erosion of geologic strata has formed low northeast-southwest trending ridges (cuestas). Drainage systems generally follow the strikes of weaker geologic strata, and empty into the Atlantic Ocean or the Delaware River. The moderate elevations of the Coastal Plain Physiographic Province prevented the formation of deep river or stream valleys (Wolfe 1977:279-82). The bedrock geology of the APE-Archaeology is part of the middle and lower Miocene aged Kirkwood Formation, which consists of fossiliferous, micaceous, dark gray clay silt interbedded with pale gray brown sand (Owens et al. 1998). The surficial geology of the APE-Archaeology consists of Holocene to Pleistocene aged salt marsh deposits (Newell et al. 2000).

The APE-Archaeology lies less than 10 feet above mean sea level on a relatively flat plain surrounded by salt marshes associated with Manahawkin Bay. The closest watercourse to enter the bay is the Manahawkin Creek, located approximately 500 feet to the north of the APE-Archaeology. Soils within the APE-Archaeology consist of fill deposits identified as nearly level Psamments (PN) and sulfidic substratum Psamments (PO) (see Figure 3.2). The nearly level Psamments consist of excessively drained to well drained fill deposits placed in low, poorly drained, or very poorly drained areas (Hole and Smith 1980). The sulfidic substratum Psamments consists of moderate to well-drained fill material placed over natural soil horizons of Sulfaquents and Sulfihemists (SS). This group includes poorly drained soils and areas of organic material underlain by mineral material. Located in tidal marsh areas, these soils are subjected to frequent tidal flooding.

McCormick and Jones (1973) identified the APE-Archaeology as marsh or intertidal wetlands. The natural vegetation in these marshes includes salt meadow cordgrass, smooth cordgrass, and other grasses tolerant to daily tidal flooding (Hole and Smith 1980). A visual inspection of the APE-Archaeology and the surrounding area revealed that the vegetation is consistent with that described by these researchers.

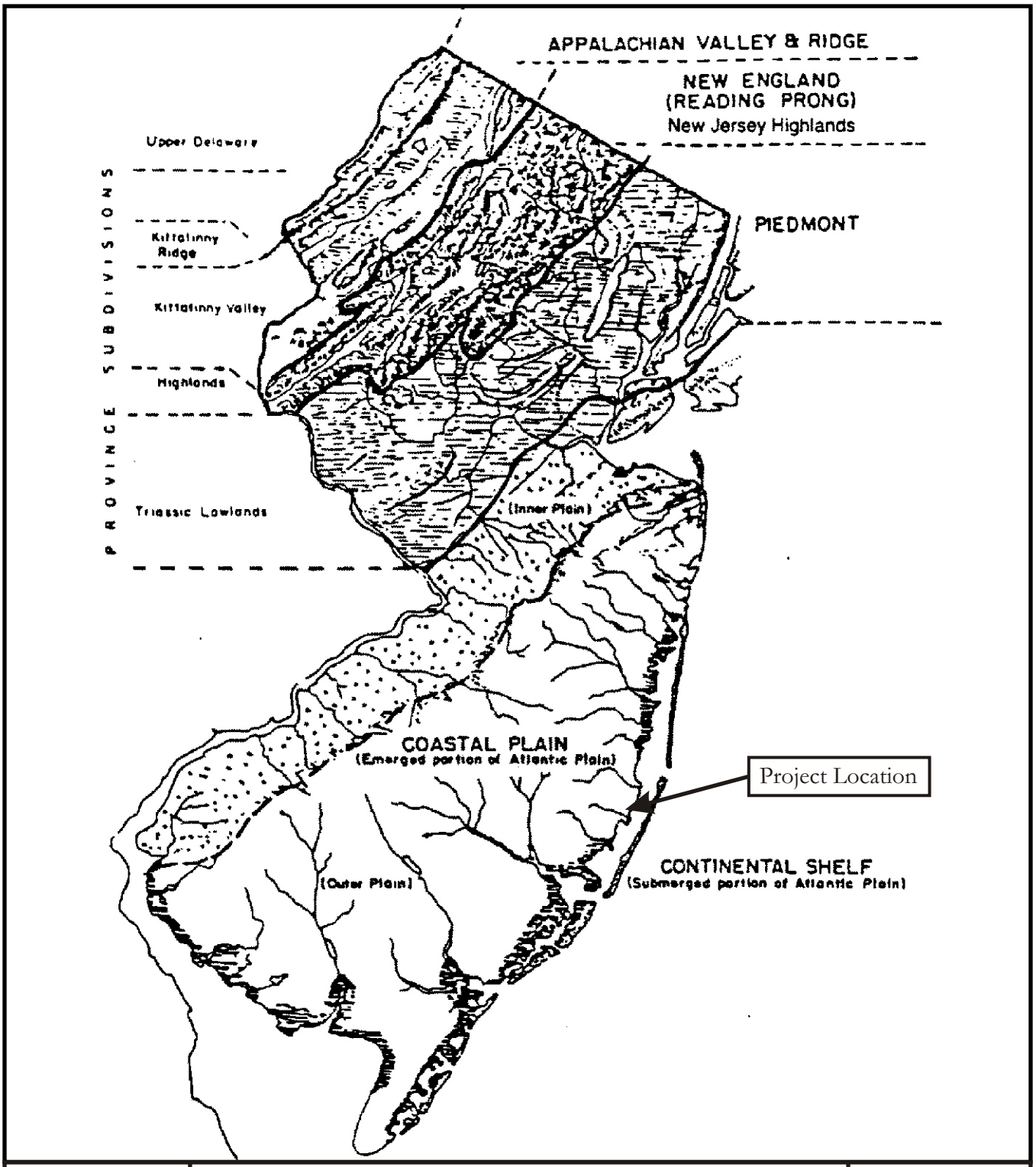


Figure 3.1:

Physiographic Provinces Map
(from Wolfe 1977).

Figure 3.2:

Soils Map
(from 1980 Thornton J.F. Hole and Howard C. Smith,
Soil Survey of Ocean County, New Jersey, Sheet Number 54).

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SECTION 4.0 BACKGROUND RESEARCH

Background research was conducted to locate previously identified archaeological and architectural resources in the APE, and to evaluate previously unidentified cultural resources within an appropriate historic context. Research was conducted at the HPO in Trenton to identify architectural and archaeological resources within the APE that are listed in or eligible for the National Register, and to review previously conducted cultural resources surveys. Site files at the New Jersey State Museum (NJSM) in Trenton were examined to identify the location of registered archaeological sites. Primary and secondary-source research was conducted at the following repositories: New Jersey State Library in Trenton; Ocean County Library, Long Beach Island Branch in Surf City; and Ocean County Library, Stafford Branch in Stafford Township.

4.1 Archaeology

An examination of the NJSM and the HPO site files, and other standard references indicates that no known prehistoric or historic archaeological sites are located within the APE-Archaeology (Bello 1986, 1990, 1995; Skinner and Schrabisch 1913; Cross 1941). A single prehistoric Pinelands designated site (Site R-18) is located approximately 1,400 feet to the northwest of the APE-Archaeology.

A review of files at the HPO indicates that four cultural resources surveys have occurred within the APE-Archaeology. These include surveys for Route 72 and the Manahawkin Bridges (URS Corporation 2006), roadway improvements at Route 72 and Marsha Drive (URS Corporation 2005), operational and drainage improvements for Route 72 (A.D. Marble & Company 2005), and construction of new sewer facilities (Mounier 1977). Three additional surveys have occurred within one-mile of the APE-Archaeology_and consisted of those for shoreline related improvements (Dolan Research, Inc. 2001; Hunter Research, Inc. 2003) and residential development (Wilson 1980).

Due to the small size of the APE-Archaeology, the current discussion focuses on those reports that occurred in proximity to the proposed roundabouts. Mounier (1977) conducted a Stage I cultural resources survey prior to sewer improvements in portions of Stafford Township. A single shovel test pit (STP) excavated approximately 350 feet southeast of the proposed Marsha Drive and Bay Avenue roundabout contained a humus layer, orange gravely sand, and dark gray to black clayey organics. The STP filled with water, which prevented excavation beyond 69 centimeters. This STP contained no cultural material and the soil descriptions indicate a combination of fill and salt marsh deposits. The profile of this test indicated that there is limited potential for significant cultural resources.

URS Corporation (2005) conducted a cultural resources investigation prior to proposed intersection improvements at Route 72 and Marsha Drive. This investigation included STP excavation to the south and southwest of the proposed roundabout at the Marsha Drive and Bay Avenue intersection. Excavated adjacent to Route 72, the profiles of these STPs indicated that significant ground disturbance had occurred in this area. None of these STPs contained cultural material. As a result, URS (2005) concluded that proposed intersection improvements would not affect significant cultural resources.

URS Corporation (2006) conducted a cultural resources investigation for Route 72 and the Manahawkin Bridges. A single STP excavated approximately 300 feet west of the proposed Bay Avenue and Route 72 roundabout contained a 21 centimeter thick Ao-horizon overlying a 27 centimeter thick Fill-horizon of mottled soils. Archaeologists abandoned this STP after excavating 39 centimeters into a C-horizon of yellow sand with pebbles. This STP contained no cultural material.

No known archaeological historic properties are present in the APE-Archaeology.

4.2 Historic Architecture

Known Historic Properties

There are resources listed in or eligible for the National Register of Historic Places within the APE-Architecture.

New Jersey Historic Bridge Survey

The 1994 New Jersey Historic Bridge Survey, conducted by A.G. Lichtenstein & Associates did not include bridges built after 1946. As all four of the bridges within the APE-Architecture were constructed in 1958-1959, they were not evaluated in the statewide survey (A.G. Lichtenstein & Associates 1994).

Planning Surveys

The 1981 county-wide historic sites survey did not identify any resources in or in the vicinity of the APE-Architecture in either Stafford Township or Ship Bottom Borough (Ocean County Cultural and Heritage Commission 1981).

Regulatory Surveys

Several regulatory surveys have been completed for projects related to the Route 72 Manahawkin Bay Bridges and Marsha Drive intersection projects, both within and adjacent to the APE-Architecture. URS Corporation completed a cultural resources investigation for the Route 72 and Marsha Drive intersection in November 2005; this investigation did not identify National Register-eligible resources; the SHPO concurred that no historic properties would be affected by the project (URS Corporation 2005).

In December 2005, A.D. Marble & Company completed a cultural resources survey for the section of Route 72 in Ship Bottom Borough, at the eastern end of the APE-Architecture for the current project. No historic architectural resources were identified in the survey. The investigation did not include the Route 72 Bridge over East Thorofare, most likely because it was then less than 50 years of age (A.D. Marble & Company 2005).

A third cultural resources investigation was completed in February 2006 for the Route 72 and Manahawkin Bay Bridges project by URS Corporation. The APE-Architecture for the 2006 project was identical to that of the current project. Although all four Manahawkin Bay Bridges were included within the APE-Architecture, they were not evaluated to determine their eligibility for the National Register, presumably because they were not yet 50 years of age. The report recommended one property, Margo's Marina, eligible for the National Register; however, the SHPO disagreed with the recommendation, citing a loss of integrity on the interior and exterior of the property (URS Corporation 2006; Guzzo 2006). The HPO review letter is contained in Appendix C.

4.3 Prehistoric Context

North American archaeologists typically assign chronological designations based on a theoretical construct known as a culture history. In its most simplistic form, this framework encompasses three broad time periods: Paleo-Indian 9000-7000 B.C., Archaic 7000-1000 B.C., and Woodland 100 B.C.-1600 A.D. (see Chesler 1982; Kraft 2001; Mounier 2003). The Archaic and Woodland periods are then subdivided into early, middle, and late sub-periods. All of these periods serve as a heuristic tool that helps to classify generalized adaptations and cultural attributes. Several researchers provide an overview of these periods (Chesler 1982; Custer 1996; Kraft 1986, 2001; Grossman-Bailey 2001), and they need not be repeated in detail. Table 4.1 presents a brief background of the prehistory of New Jersey and the Middle Atlantic region.

Table 4.1: New Jersey prehistory.

Time Frame	Period	Characteristics
1600 A.D.	Contact Period	-Initial colonization by Europeans -Extensive trade networks established between Europeans and Native Americans
1350-1600 A.D.	Late Woodland	-Expansion of maize based horticulture -Use of bows and arrows with triangular projectile points -Settlement in unfortified hamlets and camps -Increase in the diversity and use of decorative ceramics
1000 B.C.-1000 A.D.	Early/Middle Woodland	-Increase in shellfish exploitation from rivers and estuaries -Use of dugout canoes -Extensive trade networks for exotic raw materials -Evidence for mortuary ceremonialism
1000 to 7000 B.C.	Archaic	-Exploitation of multiple resources through hunting and gathering -First evidence for shellfish use -Diversity of raw material for stone tool production -Use of carved steatite bowls
7000 to 9000 B.C.	Paleo-Indian	-Earliest evidence for human occupation in New Jersey -Hunting of caribou and now extinct Pleistocene fauna -Probable exploitation of riverine resources including fish -Fluted projectile points usually manufactured from high grade raw material -Small mobile bands of hunters and gatherers that may have seasonally aggregated

4.4 Historic Context

Before 1886, the only means of access to Long Beach Island from the mainland was by boat (See Figure 4.1). The Stafford Beach Railroad is depicted on the 1872 Beers atlas and the 1883 U.S.G.S. Map; however, the railroad was not extended eastward from Manahawkin until 1886 (see Figures 4.2 and 4.3; Cunningham 1997; URS Corporation 2006). In that year, the Tuckerton Railroad constructed the first railroad bridge across Manahawkin Bay, opening the island to resort development. The railroad's right-of-way became the future location of modern day Route 72, extended from Manahawkin to Long Beach Boulevard in 1953 (A.D. Marble & Company 2005). The right-of-way was depicted on the 1948 U.S.G.S. map of the area (see Figure 4.4). Development occurred relatively slowly until a vehicular causeway was constructed to Long Beach Island in the early twentieth century. Maja Leon Berry, an Ocean County judge, and Charles Beck of Philadelphia, initiated a private effort to build the causeway in 1912. Berry and Beck solicited investors and formed the Long Beach Turnpike Company to erect the bridge. Berry also worked with state, county, and local governments to improve the network of roads that would lead to the structure. The causeway was completed in 1914 and included a swing span bridge over East Thorofare, between Cedar Bonnet Island and Ship Bottom (Lloyd 1994: 131-136).

In 1926, the State Highway Department (Department) took over ownership and maintenance of the causeway. Two years later, the Department completed a series of improvements, including widening the causeway from 18 to 30 feet and replacing the swing bridge with a single-leaf bascule (Brescia

2001: 26, 58). These improvements encouraged continued development of Long Beach Island, but by the mid-twentieth century the island's popularity had resulted in significant traffic and congestion problems, particularly during the summer months. The drawbridge, which spanned the busy Intracoastal Waterway, was a particular problem, as frequent openings for boat traffic created significant delays for motorists traveling to and from Long Beach Island. As a result, in the 1950's the Department began planning for a new, high-level span over the channel (Wright 1958: 29; Petersen 1958: 38).

A major obstacle to the construction of a high-level span was the required vertical clearance of 60 feet over the Intracoastal Waterway. At the time, this ship channel extended along the west coast of Long Beach Island, through the relatively narrow East Thorofare next to Bonnet Island. Construction of a high-level bridge at this location would have caused significant property damage; as a result, the Department received permission to relocate the Intracoastal Waterway to the west side of Cedar Bonnet Island (Petersen 1958: 38).

The new Manahawkin Bay crossing was built 120 feet south of and parallel to the existing causeway and consisted of three trestle bridges in addition to the high-level structure. The high-level Manahawkin Bay Bridge was designed by W.F. Hunter, Assistant Director and Chief Bridge Engineer in the Department, under the supervision of Director Lawrence C. Petersen. The 2,400-foot structure was comprised of 17 cantilevered girder spans, 13 of which had a length of 150 feet; the remaining spans had lengths of 100 and 125 feet. The bridge was supported on concrete piers faced with stone to about four feet above Mean High Water in order to protect the concrete from deterioration. The Conduit & Foundation Corporation of Philadelphia won the contract for the bridge superstructure, and Brann & Stuart Company of Trenton was awarded the contract for construction of the piers and abutments and also built the three trestle bridges (Petersen 1958: 38, 41).

The new crossing opened in November 1958, although it was not dedicated until Memorial Day weekend in 1959 (Wright 1959; *Courier-Post* 1959). The improvements were described in the *New York Times*:

> A $12,000,000 project, which officials on the island of Long Beach expect to be the greatest boon to resort business in nearly a half century, is nearing completion… It consists of a massive high-level concrete and steel bridge, three similar but smaller structures, concrete causeways and existing highway improvements… [T]he new facilities will provide, for the first time, a modern four-lane freeway for the uninterrupted movement of motor traffic from the Garden State Parkway exit west of Manahawkin eight miles east to this community (Wright 1958: 29).

The Manahawkin Bay Bridge was notable for its lighting system, which was incorporated into the bridge railing. Designed specifically for the crossing by Department engineer Dorland J. Henderson, the lighting was the first of its kind in the nation. The design was widely published in contemporary journals, including *Civil Engineering*, *Better Roads*, *Engineering News-Journal*, *Public Works*, and *Popular Science* (Petersen 1958; *Better Roads* 1959; Henderson 1959; *Public Works* 1959; *Popular Science* 1960). The lighting system was immediately popular with local residents and visitors to the area for the "string of pearls" visual effect it created over Manahawkin Bay (NJSL 2000).

In 2000, the New Jersey State Legislature renamed the Manahawkin Bay Bridge after Henderson (1898-1996). The act naming the bridge acknowledged Henderson's landmark lighting design for the structure as well as his struggles against racial discrimination as an African-American engineer in the Department in the mid-twentieth century. Henderson not only succeeded in earning promotion to head the Electrical Bureau, but also actively sought to eliminate racial distinctions as a departmental supervisor during his career (NJSL 2000; New Jersey Department of Transportation 2000).

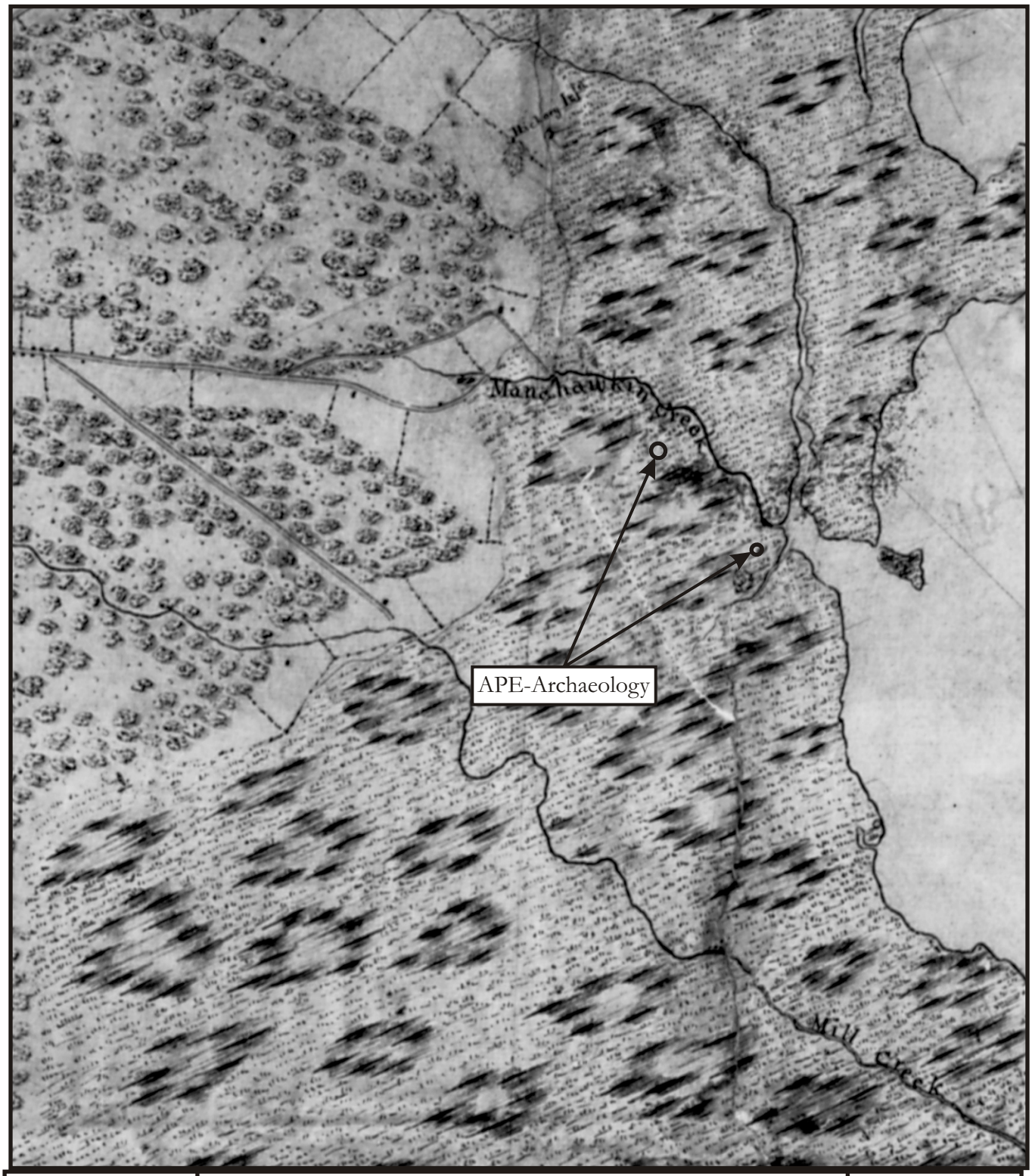

Figure 4.1:

1840-1841 U.S. Coast and Geodetic Survey,
U.S. Coast Survey Map.

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Figure 4.2:

1872 F. W. Beers, *Atlas of Ocean County, New Jersey.*

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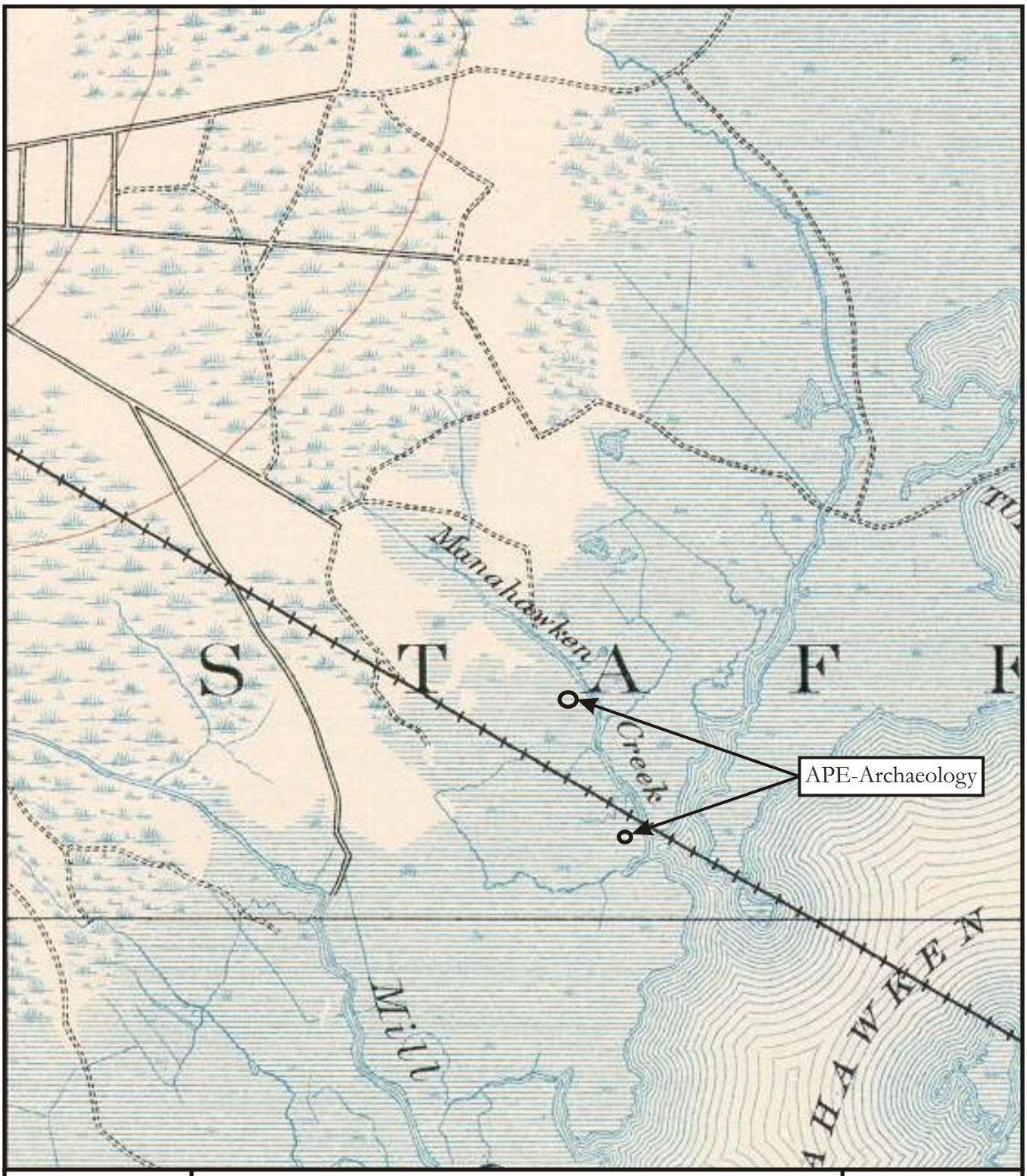

Figure 4.3:

1883 U.S.G.S. 15′ Quadrangle: Long Beach, New Jersey.

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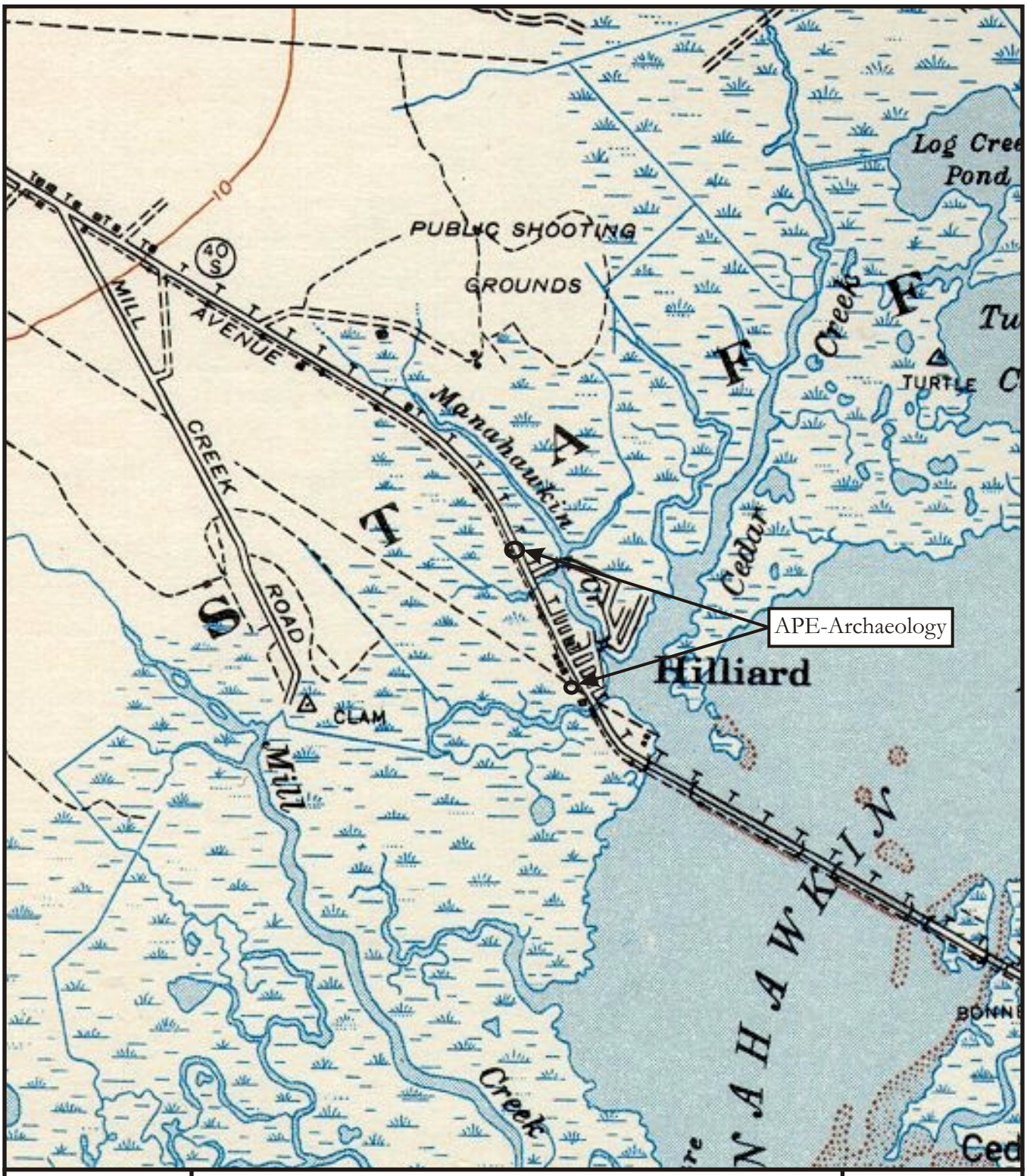

Figure 4.4:

1948 U.S.G.S. 15′ Quadrangle: Long Beach, New Jersey.

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SECTION 5.0 ARCHAEOLOGICAL SURVEY

5.1 Assessment of Archaeological Resources Sensitivity

Archaeological sensitivity is based on two concepts: the potential for archaeological sites to exist in a given area, and the sensitivity of those resources, if present, to proposed construction activities. In areas with no recorded archaeological sites, the potential for prehistoric resources is based primarily on environmental factors, including topography, proximity to water, and soil permeability. The potential for historic resources is usually determined by analyzing historic sources and cartographic materials. Historic road depiction on maps increases the potential for historic period resources to exist in the APE-Archaeology.

Prehistoric Archaeological Sensitivity

Archaeological evidence confirms occupation of the Coastal Plain from the Paleo-Indian period to the present (Grossman-Bailey 2001; Marshall 1982). The current site location data indicates that the majority of prehistoric sites consist of open-air campsites usually situated in proximity to wetlands (Hasenstab 1991). The results of archaeological investigations in the Outer Coastal Plain provide evidence that the majority of prehistoric sites are located within 300 feet of water and wetlands (Cavallo and Mounier 1982; Pagoulatos and Walwer 1991; Ranere and Hansell 1987). Sites have also been found in areas outside of 300 feet of water, particularly on drainage divides and upland areas (Mounier 1998), but are fewer in comparison to those near watercourses (Cavallo and Mounier 1982). Settlement data also provides evidence that prehistoric sites are more apt to be situated in areas with well-drained soils, level topography, historic trails, and a good vantage point (Pagoulatos and Walwer 1991).

Based upon the results of background research, previous archaeological investigations, environmental setting, and existing conditions, the APE-Archaeology has a low potential for prehistoric resources.

Historic Archaeological Sensitivity

Historic archaeological sensitivity is based on the results of background research and a review of historic maps. Historic period maps depict the area as salt marsh prior to infilling during the late nineteenth and twentieth century (see Figures 4.1-4.4). These maps depict development to the west near Manahawkin, but the APE-Archaeology remained undeveloped due to the presence of dense salt marsh. In 1886, the Tuckerton Railroad constructed a railroad bridge across Manahawkin Bay, which opened Long Beach Island and the surrounding area to resort development (see Figure 4.2). Historic period maps indicate that a portion of the railroad bed was located near the Route 72 and

Bay Avenue Intersection (see Figures 4.3 and 4.4). A discrepancy, however, exists between the railroad's location on these maps and the 1872 F.W. Beers map (see Figure 4.2). No cultural resources associated with the railroad are present in the APE-Archaeology. In general, the area remained undeveloped throughout the twentieth century due to limited areas suitable for development (see Figure 4.4). A visual inspection of the area and a review of modern maps (see Figure 1.3) confirmed that only road construction and maintenance has occurred within the APE-Archaeology.

Due to limited development and daily tidal flooding prior to infilling, the APE-Archaeology has a low potential for historic period resources.

5.2 Research Design

The research design included background research and a visual inspection of the APE-Archaeology. Background research was conducted prior to field investigation to determine if the APE-Archaeology contained documented cultural resources, and to assess the potential of the APE-Archaeology to contain undocumented significant prehistoric or historic cultural resources. This assessment was used to determine whether archaeological testing would be necessary, and if so, to devise a field-testing strategy to locate documented and/or undocumented significant archaeological resources within the APE-Archaeology.

5.3 Results

Visual inspection and photo documentation of the APE-Archaeology occurred on June 24, 2009 (see Figure 5.4; Plates 5.1-5.8). Proposed improvements at the potential locations of the roundabouts consist primarily of ground disturbance within the existing roadway (see Figures 1.4 and 1.5). The proposed improvements at the Marsha Drive and Bay Avenue intersection will also include widening a portion of the roadway on the approach to the roundabout (see Plates 5.1 and 5.4). A visual inspection of this area confirmed that the surrounding vegetation consists of salt marshes, colonizing trees, weeds, and grasses (see Plates 5.1-5.4). The salt marshes adjacent to the eastern edge of Bay Avenue indicate that road construction required extensive infilling to elevate it above the marshes. This observation supports the description of fill deposits provided in the Ocean County Soil Survey (Hole and Smith 1980).

A visual inspection of the Bay Avenue and Route 72 intersection indicate that proposed improvements consist primarily of ground disturbance within the existing road (see Figure 1.4; Plates 5.5-5.8). Construction plans include road widening on the approach to the proposed

roundabout (see Plate 5.6). The surrounding vegetation consists of salt marshes, colonizing trees, weeds, and grasses. The presence of low lying salt marshes indicates that road construction would have required substantial infilling to elevate the roadway. The extent of fill deposited during the nineteenth and twentieth century indicate that this area historically consisted of low lying salt marshes.

The results of the visual inspection indicate that there is limited potential for the APE-Archaeology to contain significant archaeological resources. As a result, additional archaeological survey is not recommended.

Figure 5.1:

Aerial Map showing photo locations
(from U.S.G.S. New Jersey Digital Ortho Quarter Quad Aerial Photography, 2002: Tile Numbers J16A16, J16B13, J16C4, J16D1).

N
W E
S

Feet
0 400

Plate:
5.1

Photo View:
Northwest

Photographer:
Robert J. Lore

Date:
June 24, 2009

Proposed location of Marsha Drive and Bay Avenue roundabout.

Plate:
5.2

Photo View:
West

Photographer:
Robert J. Lore

Date:
June 24, 2009

Marsha Drive and Bay Avenue intersection.

Plate:
5.3

Photo View:
South

Photographer:
Robert J. Lore

Date:
June 24, 2009

Marsha Drive and Bay Avenue intersection.

Plate:
5.4

Photo View:
Southeast

Photographer:
Robert J. Lore

Date:
June 24, 2009

Proposed location of Marsha Drive and Bay Avenue roundabout.

Plate:
5.5

Photo View:
East

Photographer:
Robert J. Lore

Date:
June 24, 2009

Proposed location of Bay Avenue and Route 72 roundabout.

Plate:
5.6

Photo View:
Northwest

Photographer:
Robert J. Lore

Date:
June 24, 2009

Bay Avenue and Route 72 intersection.

Plate:
5.7

Photo View:
Northeast

Photographer:
Robert J. Lore

Date:
June 24, 2009

Access roads to Route 72 and Bay Avenue.

Plate:
5.8

Photo View:
Southwest

Photographer:
Robert J. Lore

Date:
June 24, 2009

Proposed location of Route 72 and Bay Avenue roundabout.

SECTION 6.0 ARCHITECTURAL SURVEY

The following section has been revised based on Section 106 consultation between the HPO and the NJDOT. Consultation between the two agencies was based upon RGA's July 2009 draft Cultural Resources Investigation for this project. In the draft report, RGA recommended the Route 72 Bridge over Manahawkin Bay (Dorland J. Henderson Bridge; Structure No. 1513-152) eligible for the National Register under Criterion C for its low-level lighting system. As a result of consultation between the HPO and the NJDOT, the Henderson Bridge has been determined not eligible for the National Register due to a lack of information to support its engineering significance. As a result, the HPO has concluded that no historic properties will be affected by the proposed undertaking. A record of correspondence between the HPO and NJDOT subsequent to submission of the original report is included in Appendix C.

The intensive-level architectural survey was conducted in June 2009 and was limited to a survey of resources more than 50 years of age within the APE-Architecture that were not included in the previous cultural resources investigation for this undertaking. Four resources more than 50 years of age were identified (see Table 6.1).

As described in Section 4.2, previous cultural resources investigations for the improvements to the Route 72 Manahawkin Bay Bridges and improvements to the Marsha Drive intersection were completed in 2005 and 2006 (URS Corporation 2005 and 2006). The architectural surveys identified 37 properties more than 50 years of age within the APE-Architecture and recommended one resource, Margo's Marina, eligible for the National Register. The SHPO disagreed with the recommendation of eligibility, however, citing the property's "severe loss of interior and exterior integrity" (Guzzo 2006; see Appendix C). The SHPO concluded that no historic properties would be affected by the Route 72 Manahawkin Bay Bridges project. No historic properties were identified for the Marsha Drive intersection project.

The previous surveys did not include the four Route 72 bridges because they were not yet 50 years of age. Built in 1958-1959, the structures have now reached the 50-year mark and have been evaluated to determine their eligibility for the National Register. The current architectural survey was limited to the assessment of these four structures and has been conducted in accordance with the HPO Guidelines for Architectural Survey (Splain 1999). The survey data has been compiled on HPO Survey Forms located in Appendix D.

Table 6.1 summarizes the architectural resources identified during this survey. The location of surveyed architectural resources is shown on Figure 6.1.

Table 6.1: Summary of the historic architectural survey.

RGA Survey #	Address/Property Name	NR* Recommendation	Assessment of Effects
1	Route 72 Bridge over Hilliards Thorofare (Structure No. 1513-151)	Not eligible	No effect
2	Route 72 Bridge over Manahawkin Bay (Dorland J. Henderson Memorial Bridge; Structure No. 1513-152)	Not eligible	No effect
3	Route Bridge 72 over West Thorofare (Structure No. 1513-153)	Not eligible	No effect
4	Route Bridge 72 over East Thorofare (Structure No. 1513-154)	Not eligible	No effect

**NR=National Register of Historic Places*

As a result of consultation between the HPO and the NJDOT, none of the surveyed properties were determined eligible for the National Register. No additional architectural investigation is recommended.

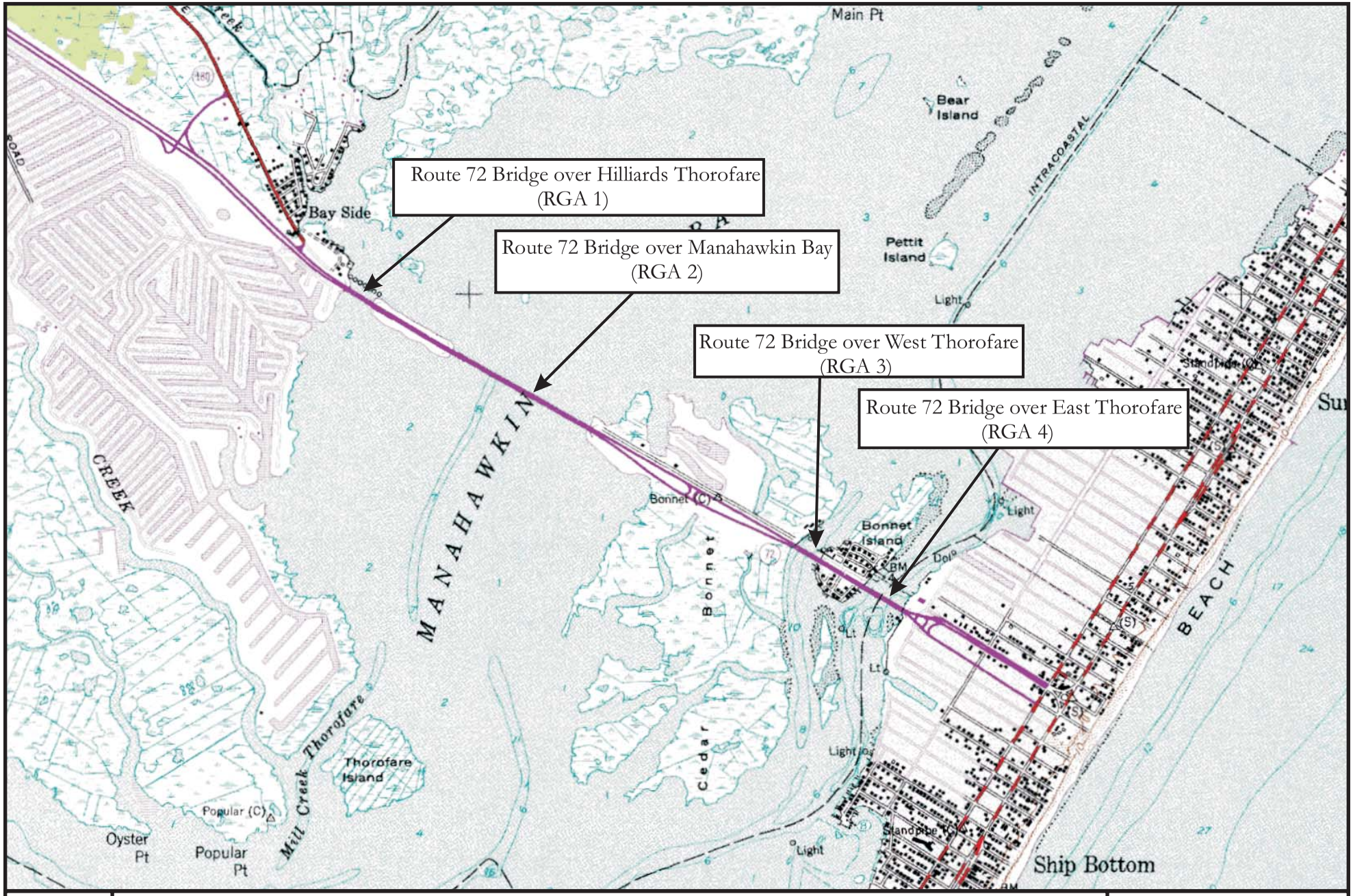

Figure 6.1:

Map of surveyed architectural resources
(from U.S.G.S. 7.5′ Quadrangle: Ship Bottom, NJ 1952 [photorevised 1972]).

N W E S

Feet
0 2000

SECTION 7.0 CONCLUSIONS AND RECOMMENDATIONS

This revised report presents the results of a cultural resources investigation conducted within the APE for the proposed improvements to the Route 72 Manahawkin Bay Bridges and Marsha Drive Intersection in the Township of Stafford and Borough of Ship Bottom, Ocean County, New Jersey. This investigation included historical research, a Phase IA archaeological survey, and an intensive-level architectural survey.

Archaeology

Based upon the results of background research, previous archaeological investigations, environmental setting, and existing conditions, the APE-Archaeology has a low potential for significant prehistoric and historic period resources. As a result, there is limited potential for the APE-Archaeology to contain significant archaeological resources. No further archaeological survey is recommended.

Historic Architecture

The intensive-level architectural survey identified four resources more than 50 years of age within the APE-Architecture. None of these resources are recommended eligible for the National Register. As a result, no historic properties will be affected by the proposed undertaking, and no additional architectural investigation is recommended.

SECTION 8.0 SOURCES

A.D. Marble & Company
2005 Cultural Resources Survey, New Jersey Route 72, Ship Bottom Operational and Drainage Improvements, Borough of Ship Bottom, Ocean County, New Jersey. On file, State Historic Preservation Office, Trenton, New Jersey.

A.G. Lichtenstein & Associates, Inc.
1994 New Jersey Historic Bridge Survey. Prepared for the New Jersey Department of Transportation, Bureau of Environmental Analysis, Trenton, New Jersey. Updated 3/1/2001. On file, State Historic Preservation Office, Trenton, New Jersey.

Beers, F.W.
1872 Atlas of Ocean County. Beers, Comstock, and Cline, New York, New York.

Bello, Charles A.
1986 Index, Bulletin No. 1, 1948 through Bulletin No. 40, 1986. *Bulletin of the Archaeological Society of New Jersey* 41:1-27.

1990 Index, Bulletin No. 41, 1986 through Bulletin No. 45, 1990. *Bulletin of the Archaeological Society of New Jersey* 45:96-110.

1995 Index, Bulletin No. 46, 1991 through Bulletin No. 50, 1995. *Bulletin of the Archaeological Society of New Jersey* 45:97-112.

Better Roads
1959 "Low-Level Lighting for Bridges Is Tried Out." March, p. 50.

Brescia, Lillias F.
2001 *Stafford Chronicles: A History of Manahawkin, New Jersey*. Down By the Shore Publishing: Harvey Cedars, New Jersey.

Cavallo, John, and R. Alan Mounier
1982 Aboriginal Settlement Patterns in the New Jersey Pinelands. In *History, Culture, and Archaeology of the Pine Barrens: Essays from the Third Annual Conference*, edited by John W. Sinton, pp. 68-100. Center for Environmental Research, Stockton State College, Pomona, New Jersey.

Chesler, Olga (editor)
1982 New Jersey's Archaeological Resources from the Paleo-Indian Period to the Present: A Review of Research Problems and Survey Priorities. Historic Preservation Office, Trenton, New Jersey.

Courier-Post [Camden, NJ]
1959 "Meyner Dedicates Causeway at Shore." May 29.

Cross, Dorothy
1941 *Archaeology of New Jersey*, Volume 1. The Archaeological Society of New Jersey and the New Jersey State Museum, Trenton, New Jersey.

Cunningham, John T.
1997 *Railroads in New Jersey: The Formative Years*. Afton, Andover, New Jersey.

Custer, Jay
1996 *Prehistoric Cultures of Eastern Pennsylvania*. Pennsylvania. Historical and Museum Commission, Anthropological Series No. 7, Harrisburg, Pennsylvania.

Dolan Research, Inc.
2001 Supplemental Phase IB and Phase II Cultural Resources Investigations New Jersey Atlantic Coast Long Beach Island Ocean County, New Jersey. On file, Historic Preservation Office, Trenton, New Jersey.

Grossman-Bailey, Ilene
2001 "The People Who Lived By the Ocean:" Native American Resource Use and Settlement in the Outer Coastal Plain of New Jersey. Ph. D. dissertation, Department of Anthropology, Temple University, Philadelphia, Pennsylvania.

Guzzo, Dorothy P.
2006 Letter to Pamela Garrett re: Route 72 Manahawkin Bay Bridges Project. On file, Historic Preservation Office, Trenton, New Jersey.

Hagstrom Map Company, Inc.
2002 Street Map of Ocean County, New Jersey. Hagstrom Map Company, Inc., Maspeth, New York.

Hasenstab, Robert
1991 Wetlands as a Critical Variable in Predictive Modeling of Prehistoric Site Locations: A Case Study from the Passaic River Basin. *Man in the Northeast* 42: 39-61.

Henderson, D. J.
1959 "Down-to-Earth Bridge Lighting." *Engineering News-Record*. 4 June, Vol. 162, No. 22.

Hole, Thornton J. F. and Howard C. Smith
1980 *Soil Survey of Ocean County, New Jersey*. United States Department of Agriculture, Soil Conservation Service, Washington, D.C.

Hunter Research, Inc.
2003 Phase IB/II Submerged and Shoreline Cultural Resources Investigations Beach Haven Borough, Long Beach Township Ship Bottom Borough and Surf City Borough. On file, Historic Preservation Office, Trenton, New Jersey.

Kraft, Herbert
1986 *The Lenape: Archaeology, History, and Ethnography*. Collections of the New Jersey Historical Society, Vol 21. New Jersey Historical Society, Newark, New Jersey.

2001 *The Lenape-Delaware Heritage 10,000 B.C. - A.D. 2000*. Lenape Books, Union, New Jersey.

Lloyd, John Bailey
1994 *Eighteen Miles of History on Long Beach Island*. Down the Shore Publishing and The Sand Paper, Inc., Harvey Cedars, New Jersey.

Marshall, Sydne
1982 Aboriginal Settlement in New Jersey During the Paleo-Indian Cultural Period: ca. 10,000 B.C. - 6000 B.C. In, *New Jersey's Archeological Resources: A Review of Research Problems and Survey Priorities- The Paleo-Indian Period to the Present*. Edited by Olga Chesler, Pp.10-51. Trenton: Office of New Jersey Heritage.

McCormick, Jack, and Leslie Jones
1973 *The Pine Barrens: Vegetation Geography*. Research Report Number 3, New Jersey State Museum, Trenton, New Jersey.

Mounier, R. Alan
1977 A Stage I Archaeological Survey of Portions of Stafford Township Ocean County, New Jersey. On file, Historic Preservation Office, Trenton, New Jersey.

1998 Small Things, Considered Closely. *Bulletin of the Archaeological Society of New Jersey* 53: 33-39.

2003 *Looking Beneath the Surface: The Story of Archaeology in New Jersey*. Rutgers University Press, New Brunswick, New Jersey.

Newark Preservation and Landmarks Committee
n.d. The Annual Recognition Awards. Electronic document, http://www.newarklandmarks.org/recognitionawards.htm, viewed 3 June 2009.

Newell, Wayne L., David S. Powars, James P. Owens, Scott D. Stanford, and Byron D. Stone
2000 Surficial Geologic Map of Central and Southern New Jersey. Miscellaneous Investigations Series, Map I-2540-D, U.S. Geological Survey, Reston Virginia.

New Jersey Department of Transportation [NJDOT]
2000 "News Release: NJDOT to Honor Visionary Engineer." 30 October. Electronic document, http://www.state.nj.us/transportation/about/press/2000/103000.shtm, accessed 9 April 2009.

New Jersey State Legislature
2000 An Act Designating the State Highway Route No. 72 Bridge over Manahawkin Bay as the "Dorland J. Henderson Memorial Bridge." P.L. 2000, c.144 (S1554). Electronic document, http://www.njleg.state.nj.us/2000/bills/p100/144_.htm, accessed 9 April 2009.

Ocean County Cultural and Heritage Commission
1981 New Jersey Historic Sites Inventory, Ocean County. Ocean County Cultural and Heritage Commission, Toms River, New Jersey.

Owens, James P., Peter J. Sugarman, Norman F. Sohl, Ronald A. Parker, Hugh F. Houghton, Richard A. Volkert, Avery A. Drake, Jr., and Randall C. Orndorff
1998 Bedrock Geologic Map of Central and Southern New Jersey. Miscellaneous Investigations Series, Map I-2540-B, U.S. Geological Survey, Reston Virginia.

Pagoulatos, Peter, and Gregory Walwer
1991 Native American Land-Use Patterns of the Outer Coastal Plain of New Jersey. *Man in the Northeast* 41: 85-104.

Petersen, Lawrence C.
1958 "New Manahawkin Bay Bridges Built for Long Life across Salt Water." *Civil Engineering*. August, Vol. 28, No. 8.

Popular Science
1960 "PS Picture News: Fluorescent Bridge." December, p. 108.

Public Works
1959 "Lighted Railings Give Continuous Illumination on Bridge Roadway." August, Vol. 90, No. 8.

Ranere, Anthony J., and Patricia Hansell
1987 A Comprehensive Work Plan for the Development of a Predictive Model of Prehistoric Site Occurrences within the Pinelands Area. Unpublished manuscript on file, the New Jersey Pinelands Commission, New Lisbon, New Jersey.

Skinner, Alanson, and Max Schrabisch
1913 A Preliminary Report of the Archaeological Survey of the State of New Jersey. Geological Survey of *New Jersey Bulletin* No. 9. Trenton, New Jersey.

Splain, Shelby Weaver
1999 Guidelines for Architectural Survey. New Jersey Department of Environmental Protection, Division of Parks and Forestry, Historic Preservation Office, Trenton, New Jersey.

United States Coast and Geodetic Survey
1840 Map T-119. United States Coast and Geodetic Survey.

United States Geological Survey (U.S.G.S.)
1883 15' Quadrangle: Long Beach, NJ.
1948 15' Quadrangle: Long Beach, NJ.
1952 7.5' Quadrangle: Ship Bottom, NJ (photorevised 1972).

URS Corporation
2005 Cultural Resources Investigation Route 72 and Marsha Drive Intersection, Stafford Township, Ocean County, New Jersey. On file, State Historic Preservation Office, Trenton, New Jersey.

2006 Cultural Resources Investigation, Route 72 and Manahawkin Bridges, Stafford Township and Ship Bottom Borough, Ocean County, New Jersey. Prepared for New Jersey Department of Transportation. On file, State Historic Preservation Office, Trenton, New Jersey.

Wilson, Budd
1980 Cultural Resource Survey Linpro Property South of Mill Creek, Stafford Township, Ocean County, New Jersey. On file, State Historic Preservation Office, Trenton, New Jersey.

Wolfe, Peter E.
1977 *Geology and Landscapes of New Jersey*. Crane, Russak & Company, New York, New York.

Wright, George Cable
1958 "Jersey Plans Fall Completion of Links to Long Beach Island." *New York Times*. 20 August, p. 29.

1959 "New Jersey Roads: $200,000,000 Improvement Program Is Being Carried out in State." *New York Times*. 14 June, p. XX15.

Wright, Marion Thompson
1953 "Extending Civil Rights in New Jersey Through the Division Against Discrimination." *Journal of Negro History*. January, Vol. 38, No. 1.

APPENDICES

APPENDIX A: APE CONCURRENCE

State of New Jersey

Richard J. Codey
Acting Governor

Department of Environmental Protection
Natural and Historic Resources, Historic Preservation Office
PO Box 404, Trenton, NJ 08625
TEL: (609) 292-2023 FAX: (609) 984-0578
www.state.nj.us/dep/hpo

Bradley M. Campbe
Commissioner

HPO-F2005-25
June 6, 2005
Log # 05-0794-2

Ms. Pamela Garrett
Environmental Team Leader, Group Six
Division of Environmental Resources
New Jersey Department of Transportation
1035 Parkway Avenue
Post Office Box 600
Trenton, New Jersey 08625-0600

Dear Ms. Garrett:

As Deputy State Historic Preservation Officer for New Jersey, in accordance with 36 CFR Part 800: Protection of Historic Properties, as published in the ***Federal Register*** on December 12, 2000 (65 FR 77725-77739) and amended on July 6, 2004 (69 FR 40544-40555), I am providing **Initial Consultation Comments** for the following proposed undertaking:

Route 72 Corridor (Roadway, Intersections, and Structures)
Mileposts 25.5 to 28.74
Borough of Ship Bottom and Township of Stafford, Ocean County.

This letter is in response to your submission of documents initiating consultation in accordance with 36 CFR Parts 800.3 and 800.4.

800.3 Initiation of the Section 106 Process

I concur that the New Jersey Department of Transportation (NJDOT), Historic Preservation Office (HPO), the County of Ocean, Borough of Ship Bottom, and Township of Stafford are the appropriate public agency consulting parties at this stage of the Section 106 consultation. Public involvement activities may identify or elicit additional consulting parties. The public involvement activities described on page 4 of your memorandum appear appropriate to the nature and magnitude of the proposed undertaking.

The cultural resources report(s) should acknowledge, in accordance with the public involvement plan, the comments and/or information provided by consulting parties and individuals and organizations with a knowledge of or an interest in historic properties within the project Area of Potential Effects (APE). The documentation of public participation in the evaluation of historic resources and project effects will substantially enhance the quality, timeliness, and public value of the Section 106 consultation. Please note that, as a result of the discussions between HPO and NJDOT staff at a Section 106 Implementation Procedures Meeting held on June 7, 2000, NJDOT agreed (as presented in a June 7, 2000 NJDOT memorandum of record) that "cultural resources survey reports will be sent to all consulting parties in order to solicit input on the various elements of the project [identification, evaluation, alternatives to avoid or minimize adverse effects if they are anticipated, and potential mitigation measures]." The HPO requests that all consulting parties be afforded a concurrent opportunity to review and comment on the cultural resources report(s).

I agree that the described and delineated historic archaeology and architecture Areas of Potential Effects (APE) are appropriate to the scale and nature of the proposed project and that the Ocean County Cultural and Heritage Commission, Ocean County Historical Society, Stafford Township Historical Society, Stafford Township Heritage Center, and Long Beach Island Historical Association may have an interest in or a knowledge of historic resources within the APE and should be involved in the identification and evaluation of historic properties.

Should you need any assistance in identifying or evaluating potential historic resources or if you have any questions regarding these comments, please contact Charles Scott at (609) 633-2396 or Steve Hardegen at (609) 984-0141.

Sincerely,

Dorothy P. Guzzo
Deputy State Historic
Preservation Officer

C: Elkins Green, NJDOT, BEPS
Jeanette Mar, Environmental Coordinator, FHWA
Lourdes Castaneda, Area Engineer, FHWA
Consulting and Interested Parties List

CS/C/NJDOTF2005-25Route72Bridges

AREA OF POTENTIAL EFFECTS REPORT
ROUTE 72 CORRIDOR IMPROVEMENTS

STAFFORD TOWNSHIP AND SHIP BOTTOM BOROUGH
OCEAN COUNTY

JANUARY 2005

Prepared by:
New Jersey Department
of Transportation
Bureau of Environmental
Project Support

Area of Potential Effects Report
Route 72 Corridor Improvements
Stafford Township and Ship Bottom Borough
Ocean County

Introduction

This report delineates the Area of Potential Effects (APE) for improvements to segments of the Route 72 corridor (milepost 25.5 to milepost 28.74) in Stafford Township and Ship Bottom Borough, Ocean County (see Figure 1). The need to improve segments of the Route 72 corridor was developed from the Regional Transportation Problem Statement covering Route 72, the latest Bridge Evaluation Survey Reports for the Route 72 structures over Manahawkin Bay and coordination with local officials and stakeholders. The problem statement notes unacceptable conditions for the physical aspects of Route 72 including structures, operational problems, capacity issues and safety (flooding) concerns. Also identified was the need to improve the facilities for pedestrian and bicycle compatibility and compliance with ADA requirements.

Route 72 is an east-west, four-lane rural principal arterial route, multi-functional roadway providing both local and regional accessibility to Long Beach Island in Ocean County. Route 72 provides access to numerous residential and commercial establishments within the project limits. In the project area from west to east, Route 72 is divided by a grass median until it crosses Manahawkin Bay, in Ship Bottom the highway divides again and is separated by commercial development. Route 72 terminates at a T intersection with Long Beach Boulevard.

Project Description

The project will consist of improving three distinct segments of Route 72. The limits of the first section include the intersection of Marsha Drive and extend from M.P. 25.50 to M.P. 25.85. The second section contains the portion of Route 72 beginning at M.P. 26.25, it includes the existing structures over Manahawkin Bay and terminates at the eastern end of the bridge over East Thorofare at M.P. 28.20. The third section extends the remainder of the project limits from M.P. 28.20 to the eastern project limit at M.P. 28.74. Continuous sidewalk will be provided where needed from Marsha Drive to Long Beach Boulevard.

The first section contains the signalized intersection of Route 72 and Marsha Drive where operational improvements are needed. The second section contains the four bridges over Manahawkin Bay for which structural and geometric issues need to be addressed. A new parallel structure to the south of the existing Manahawkin Bay Bridge is being considered for this section. The third section is the Long Beach Island portion where improvements to the drainage and operational issues are of primary concern. It is anticipated that all improvements will be made within the existing ROW of Route 72 and the local streets.

Area of Potential Effects

The APE is defined in 36 CFR 800.16(d) as "the geographic area or areas within which an undertaking may directly or indirectly cause changes in the character or use of historic properties, if any such properties exist. The area of potential effects is influenced by the scale and nature of the undertaking and may be different for different kinds of effects cause(d) by the undertaking." Included within the APE are all locations where an undertaking may result in disturbance of the ground, from which elements of the undertaking may be visible, and where the activity may result in changes in traffic patterns, land use, public access, etc. The APE for archaeology and architecture are often different as a result of this definition.

The APE footprint for archaeology includes the areas that will be directly impacted by the project as shown on map Figures 2, 3 & 4. Specifically, the APE includes an approximate 2.84-mile corridor of Route 72 from M.P. 25.5 to M.P. 25.85 and from M.P. 26.25 to M.P. 28.74, as well as intersecting street approaches.

The APE footprint for architecture is a considerably larger area in which the project may directly or indirectly cause changes in the character or use of historic properties, see map Figures 5, 6 & 7. The APE begins approximately 800 feet west of Marsha Drive and extends approximately 800 feet east beyond the signal along a 400-foot wide corridor centered on the center line of Route 72 and including the approaches. The APE resumes approximately 200 feet west of the Hillards Thorofare structure's western abutment and the 400-foot wide corridor extends to the eastern abutment of the East Thorofare structure. The APE for Ship Bottom begins at the eastern abutment of the East Thorofare and encompasses all properties fronting on 8th and 9th Streets from the bay to Long Beach Boulevard and roadway work abutting properties fronting on Barnegat and Central Avenues and Long Beach Boulevard from 12th Street to 3rd Street. A preliminary cultural resources screening of the project limits identified no listed properties on the National Register. However, three potentially eligible structures/districts were identified in both municipalities. Buildings more than 50 year of age within the APE will be documented on SHPO historic structure survey forms. Background research and fieldwork will be performed to provide a historic and architectural context in which to evaluate the National Register-eligibility of affected resources within the APE.

Consulting Parties

In accordance with 36 CFR 800.2 participation in the Section 106 process has been initiated via the Department's prior individual meetings with public officials of the affected municipalities. A project Kick-off Meeting (Manahawkin Bay structures) was held October 27, 1999 and subsequent officials meetings January 3, 2001, May 9, 2001 and November 9, 2004. Public Officials meetings for the Ship Bottom project were held April 2, 2002, March 5, 2004, May 20, 2004 and a Public Information Center (PIC) was held at the Long Beach Island Grade School on June 10, 2004. The PIC was held as part of the public outreach/consultation program to provide a means to keep stakeholders and the public informed of the progress and development of the project.

Consulting Parties

New Jersey Department of Transportation
PO Box 600
Trenton, New Jersey 08625-0600

New Jersey Department of Environmental Protection
Division of Parks and Forestry, Historic Preservation Office
PO Box 404
Trenton, New Jersey 08625-0404

Mr. Steven Pollock
Ocean County Administrator
PO Box 2191
Toms River, New Jersey 08754-2191

Mayor William Huelsenbeck
Borough of Ship Bottom
1621 Long Beach Boulevard
Ship Bottom, New Jersey 08008

Mayor Carl Block
Township of Stafford
260 East Bay Avenue
Manahawkin, New Jersey 08050

Identified local historic preservation groups/local individuals with an identified interest in preservation

Stafford Township Heritage Center
North Main Street (Route 9)
Manahawkin, New Jersey 08050

Barbara Hopkins, Director
Stafford Township Historical Society
27 Sycamore Road
Manahawkin, New Jersey 08050

Ms. Suzette Whiting
Long Beach Island Historical Association
Engleside and Beach Avenues
PO Box 1222
Beach Haven, New Jersey 08008

Ms. Cynthia H. Smith, Administrator
Ocean County Cultural and Heritage Commission
101 Hooper Avenue, Room 203-2
CN 2192
Toms River, New Jersey 08754-2192

Ms. Marian G. Moore
Ocean County Historical Society
26 Hadley Avenue
PO Box 2191
Toms River, New Jersey 08754-2191

Involvement of Public Participation

Pursuant to 36 CFR 800.3(e) and (f) consulting is to be performed with the public and interested parties to identify potential cultural resources and to determine the potential impacts that may be caused by the project.

Presentation of the Initially Preferred Alternative for the Ship Bottom project, developed as a result of the Feasibility Study, was made to the public via a Public Information Center on June 10, 2004. A project information handout was mailed to surrounding property owners and stakeholders. The project handout to be prepared for the next PIC will include a statement that the project will be developed in compliance with NEPA and more specifically, pursuant to the National Historic Preservation Act of 1966.

During data collection the interested parties and consultant parties noted above will be contacted to ensure the identification of known resources. Discussions will continue with these parties through the analysis phase to assist in the determination of effects.

Concurrent with the submission of the project's cultural resources report to the State Historic Preservation Office, the cultural resources report will be circulated to the organizations/individuals noted above for comments.

APPENDIX B: RECORD OF SECTION 106 PUBLIC CONSULTATION

Under the revised 36 CFR Part 800 Protection of Historic Properties, the Advisory Council on Historic Preservation has established an enhanced role for the public and interested parties to participate in the Section 106 Consultation process. As a result, the following persons and/or organizations were contacted requesting information on and possible impacts to historic resources:

Consulting and Interested Parties:

Mr. Timothy G. Hart, Administrator, Ocean County Cultural and Heritage Commission, P.O. Box 2191, Toms River, NJ 08754
No response.

Mr. Robert Garthwaite, President, Ocean County Historical Society, 26 Hadley Avenue, Toms River, NJ 08754
No response.

Mr. Craig Brearley, Chairman, Stafford Township Historic Preservation Commission, 260 East Bay Avenue, Manahawkin NJ 08050
No response.

Mr. Tim Hart, President, Stafford Township Historical Society (Stafford Township Heritage Center), P.O Box 1097, Manahawkin, NJ 08050
No response.

Ms. Jaime Ciardelli, Long Beach Island Historical Association, PO Box 1222, Beach Haven, NJ 08008
No response.

Mr. William Huelsenbeck, Mayor, Borough of Ship Bottom, 1621 Long Beach Blvd., Ship Bottom, NJ 08008
No response.

Richard Grubb & Associates, Inc.
Cultural Resource Consultants

email: mail@richardgrubb.com • www.richardgrubb.com

June 19, 2009

Mr. Timothy G. Hart, Administrator
Ocean County Cultural and Heritage Commission
P.O. Box 2191
Toms River, NJ 08754

Re: Route 72 Manahawkin Bay Bridges Project
Township of Stafford and Borough of Ship Bottom, Ocean County, New Jersey

Dear Mr. Hart:

The New Jersey Department of Transportation, using federal funds provided by the Federal Highway Administration, is proposing improvements to four bridges carrying Route 72 between Stafford Township and Ship Bottom Borough. Improvements include the rehabilitation of the Route 72 Bridge over Hilliards Thorofare, Route 72 Bridge over West Thorofare, and Route 72 Bridge over East Thorofare. The superstructure of the Route 72 Bridge over Manahawkin Bay (Dorland J. Henderson) Bridge will be replaced and a new parallel bridge will be constructed to the south. Opened in 1959, the Dorland J. Henderson Memorial Bridge is notable for its "string of pearls" lighting system. Additionally, roundabouts are being considered at Bay Avenue and Marsha Drive, and Bay Avenue and Route 72.

On behalf of the NJDOT and to comply with Section 106 of the National Historic Preservation Act, Richard Grubb & Associates, Inc. (RGA) is preparing a cultural resources investigation to identify significant architectural and archaeological resources that may be affected by the project. Section 106 requires federally funded projects to take into account the potential project effects to significant historic and/or prehistoric resources and entitles parties with a demonstrated interest in history, historic preservation, and archaeology to review, provide comments and suggest mitigation measures, if necessary, for the project.

RGA is particularly interested in any relevant information pertaining to the history of the Henderson Memorial Bridge in particular, and the Route 72 Bridges in general. If you are aware of other significant historic, architectural, or archaeological resources that may be affected by the project, can identify properties that are highly valued by the community, would like to suggest measures to enhance the project, or would like to review a copy of the cultural resources report prepared for this project, please respond on the enclosed Comment Sheet within 30 days of receipt of this letter.

Enclosed for your use is a map showing the location of the project area. Should you have any questions or require additional information feel free to contact me at 609-655-0692 x314.

Yours truly,

Jennifer B. Leynes
Senior Architectural Historian

enclosure

cc: Pamela Garrett, NJDOT (w/o enclosure)
Joseph Mumber, PB Americas, Inc. (w/o enclosure)
Kuldip Singh, PB Americas, Inc. (w/o enclosure)

New Jersey, Headquarters
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Illinois
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Plainfield, Illinois 60585
815-439-3501 • fax: 815-439-1628

Richard Grubb & Associates, Inc.
Cultural Resource Consultants

email: mail@richardgrubb.com • www.richardgrubb.com

June 19, 2009

Mr. Robert Garthwaite, President
Ocean County Historical Society
26 Hadley Ave
Toms River, NJ 08753

Re: Route 72 Manahawkin Bay Bridges Project
Township of Stafford and Borough of Ship Bottom, Ocean County, New Jersey

Dear Mr. Garthwaite:

The New Jersey Department of Transportation, using federal funds provided by the Federal Highway Administration, is proposing improvements to four bridges carrying Route 72 between Stafford Township and Ship Bottom Borough. Improvements include the rehabilitation of the Route 72 Bridge over Hilliards Thorofare, Route 72 Bridge over West Thorofare, and Route 72 Bridge over East Thorofare. The superstructure of the Route 72 Bridge over Manahawkin Bay (Dorland J. Henderson) Bridge will be replaced and a new parallel bridge will be constructed to the south. Opened in 1959, the Dorland J. Henderson Memorial Bridge is notable for its "string of pearls" lighting system. Additionally, roundabouts are being considered at Bay Avenue and Marsha Drive, and Bay Avenue and Route 72.

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June 19, 2009

Mr. Craig Brearley, Chairman
Stafford Township Historic Preservation Commission
260 East Bay Avenue
Manahawkin NJ 08050

Re: Route 72 Manahawkin Bay Bridges Project
Township of Stafford and Borough of Ship Bottom, Ocean County, New Jersey

Dear Mr. Brearley:

The New Jersey Department of Transportation, using federal funds provided by the Federal Highway Administration, is proposing improvements to four bridges carrying Route 72 between Stafford Township and Ship Bottom Borough. Improvements include the rehabilitation of the Route 72 Bridge over Hilliards Thorofare, Route 72 Bridge over West Thorofare, and Route 72 Bridge over East Thorofare. The superstructure of the Route 72 Bridge over Manahawkin Bay (Dorland J. Henderson) Bridge will be replaced and a new parallel bridge will be constructed to the south. Opened in 1959, the Dorland J. Henderson Memorial Bridge is notable for its "string of pearls" lighting system. Additionally, roundabouts are being considered at Bay Avenue and Marsha Drive, and Bay Avenue and Route 72.

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enclosure

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June 19, 2009

Mr. Tim Hart, President
Stafford Township Historical Society
PO Box 1097
Manahawkin, NJ 08050

Re: Route 72 Manahawkin Bay Bridges Project
Township of Stafford and Borough of Ship Bottom, Ocean County, New Jersey

Dear Mr. Hart:

The New Jersey Department of Transportation, using federal funds provided by the Federal Highway Administration, is proposing improvements to four bridges carrying Route 72 between Stafford Township and Ship Bottom Borough. Improvements include the rehabilitation of the Route 72 Bridge over Hilliards Thorofare, Route 72 Bridge over West Thorofare, and Route 72 Bridge over East Thorofare. The superstructure of the Route 72 Bridge over Manahawkin Bay (Dorland J. Henderson) Bridge will be replaced and a new parallel bridge will be constructed to the south. Opened in 1959, the Dorland J. Henderson Memorial Bridge is notable for its "string of pearls" lighting system. Additionally, roundabouts are being considered at Bay Avenue and Marsha Drive, and Bay Avenue and Route 72.

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June 19, 2009

Ms. Jaime Ciardelli
Long Beach Island Historical Association
PO Box 1222
Beach Haven, NJ 08008

Re: Route 72 Manahawkin Bay Bridges Project
Township of Stafford and Borough of Ship Bottom, Ocean County, New Jersey

Dear Ms. Ciardelli:

The New Jersey Department of Transportation, using federal funds provided by the Federal Highway Administration, is proposing improvements to four bridges carrying Route 72 between Stafford Township and Ship Bottom Borough. Improvements include the rehabilitation of the Route 72 Bridge over Hilliards Thorofare, Route 72 Bridge over West Thorofare, and Route 72 Bridge over East Thorofare. The superstructure of the Route 72 Bridge over Manahawkin Bay (Dorland J. Henderson) Bridge will be replaced and a new parallel bridge will be constructed to the south. Opened in 1959, the Dorland J. Henderson Memorial Bridge is notable for its "string of pearls" lighting system. Additionally, roundabouts are being considered at Bay Avenue and Marsha Drive, and Bay Avenue and Route 72.

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Yours truly,

Jennifer B. Leynes
Senior Architectural Historian

enclosure

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Cultural Resource Consultants

email: mail@richardgrubb.com • www.richardgrubb.com

June 19, 2009

Mayor William Huelsenbeck
Borough of Ship Bottom
1621 Long Beach Blvd.
Ship Bottom, NJ 08008

Re: Route 72 Manahawkin Bay Bridges Project
Township of Stafford and Borough of Ship Bottom, Ocean County, New Jersey

Dear Mayor Huelsenbeck:

The New Jersey Department of Transportation, using federal funds provided by the Federal Highway Administration, is proposing improvements to four bridges carrying Route 72 between Stafford Township and Ship Bottom Borough. Improvements include the rehabilitation of the Route 72 Bridge over Hilliards Thorofare, Route 72 Bridge over West Thorofare, and Route 72 Bridge over East Thorofare. The superstructure of the Route 72 Bridge over Manahawkin Bay (Dorland J. Henderson) Bridge will be replaced and a new parallel bridge will be constructed to the south. Opened in 1959, the Dorland J. Henderson Memorial Bridge is notable for its "string of pearls" lighting system. Additionally, roundabouts are being considered at Bay Avenue and Marsha Drive, and Bay Avenue and Route 72.

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APPENDIX C: AGENCY CORRESPONDENCE

HPO-L2009-195
05-0794-4

State of New Jersey

DEPARTMENT OF ENVIRONMENTAL PROTECTION
NATURAL & HISTORIC RESOURCES, HISTORIC PRESERVATION OFFICE
PO Box 404, Trenton, NJ 08625
TEL: (609) 984-0176 FAX: (609) 984-0578
www.state.nj.us/dep/hpo

JON S. CORZINE
Governor

MARK N. MAURIELLO
Acting Commissioner

December 29, 2009

Pamela Garrett
Supervising Environmental Specialist
Bureau of Environmental Program Resources
New Jersey Department of Transportation
1035 Parkway Avenue
P.O. Box 600
Trenton, NJ 08625

Dear Ms. Garrett,

As Deputy State Historic Preservation Officer for New Jersey, in accordance with 36 CFR Part 800: Protection of Historic Properties, as published in the Federal Register on December 12, 2000 (65 FR 77725-77739) and amended on July 6, 2004 (69 FR 40553-40555), I am providing consultation comments on the following proposed undertaking:

Ocean County, Township of Stafford and Borough of Ship Bottom
Route 72 Manahawkin Bay Bridge

This letter was prepared in response to your submission of a cover letter and a copy of the following report, received by the Historic Preservation Office (HPO) on December 1, 2009:

Leynes, Jennifer B. and Robert J. Lore. July 27, 2009. *Cultural Resources Investigation, Improvements to Route 72 Manahawkin Bay Bridges and Marsha Drive Intersection, Township of Stafford and Borough of Ship Bottom, Ocean County, New Jersey.* Cranbury, NJ: Richard Grubb & Associates, Inc. Prepared for PB Americas, Inc. and New Jersey Department of Transportation.

800.4 Identifying Historic Properties

The submitted report states that based upon the results of background research, previous archaeological investigations, environmental setting, and existing conditions, the APE-Archaeology has a low potential for significant prehistoric and historic period resources. The HPO concurs with this assessment.

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The submitted report identified one new architectural resource, the Dorland J. Henderson Memorial Bridge (Route 72 over the Manahawkin Bay, Structure No. 1513-152) as eligible for listing in the New Jersey and National Registers of Historic Places for state level significance under Criterion C in the area of engineering for its low-level lighting system.

The HPO respectfully disagrees with this determination of eligibility. In addition to the information provided in the submitted report, HPO staff conducted additional research in an attempt to gain a better contextual understanding of post-war highway bridge construction with a focus on lighting systems and the extent to which this technology was utilized in other locations on future bridge projects. While the Dorland J. Henderson Memorial Bridge and particularly its low-level lighting system do retain integrity from the time of construction, HPO staff does not feel that the information available at this time sufficiently supports a level of significance that justifies register eligibility under Criterion C.

The HPO concludes that there are **no historic properties affected** by the proposed undertaking. Consequently, pursuant to 36 CFR 800.4(d)(1), no further consultation is required unless additional resources are discovered or there is a change in the scope of work during the project implementation pursuant to 36 CFR 800.13.

It should be noted that the history of Dorland Henderson and his low-level lighting system is intriguing and the well-known "string of pearls" effect produced by the lighting system has certainly made the bridge a familiar landmark for anyone traveling to or from Long Beach Island. The HPO commends the New Jersey Department of Transportation's commitment to replicate the low-level lighting system using modern technology on both the rehabilitated Dorland J. Henderson Memorial Bridge and the new bridge to be constructed parallel to the existing structure.

Thank you for providing the opportunity to review and comment on the potential for the above-referenced project to affect historic properties. Please do not hesitate to contact Jonathan Kinney of my staff at (609) 984-0141 with any questions.

Sincerely,

Daniel D. Saunders/KM

Daniel D. Saunders
Deputy State Historic
Preservation Officer

Cc:

Timothy Hart, Ocean County Cultural and Heritage Commission
Robert Garthwaite, Ocean County Historical Society
Craig Brearly, Stafford Township Historic Preservation Commission
Timothy Hart, Stafford Township Historical Society
Jaime Ciardelli, Long Beach Island Historical Association
Mayor William Huelsenbeck, Borough of Ship Bottom
Mayor John McMenimon, Township of Stafford

65

State of New Jersey

DEPARTMENT OF TRANSPORTATION
P.O. BOX 600
TRENTON, NJ 08625-0600

RICHARD J. CODEY
Acting Governor

JOHN F. LETTIERE
Commissioner

HPO-A2006-177 NP

RECEIVED
DEC 29 2005
HISTORIC PRESERVATION OFFICE

06-0225-2SH

December 22, 2005

Dorothy Guzzo
Department of Environmental Protection
Historic Preservation Office
CN 404
Trenton, New Jersey 08625-0404

Attn.: Transportation Planning Group

Ref.: Route 72 & Marsha Drive Intersection
Ocean County
Finding of No Eligible Properties

Dear Ms. Guzzo:

The New Jersey Department of Transportation is proposing to reconstruct the Route 72 & Marsha Drive intersection in Stafford Township, Ocean County using funds provided by the Federal Highway Administration (FHWA). The proposed undertaking consists of a limited reconstruction of the intersection that will provide an improved flow of Route 72 and Marsha Drive traffic through the signal and conveyance to/from Long Beach Island. In compliance with the requirements of Section 106 of the National Historic Preservation Act of 1966 (as amended), implemented by the regulations described in 36 CFR 800, and in accordance with the provisions of the Programmatic Agreement delegating certain FHWA responsibilities to NJDOT, the NJDOT initiated studies to determine if the proposed project would cause effects to properties included in or eligible for inclusion in the National Register of Historic Places. Cultural Resources investigations resulted in a finding that no National Register listed or eligible properties lie within the Area of Potential Effects of the project. A copy of the study is enclosed for your review and comment. A CD photo inventory will be submitted upon receipt of the Section 106 comments/concurrence.

In addition, copies of this study have been submitted to the Consulting Parties List as defined in the project's Area of Potential Effects Report. No project interest responses were received from the Interested Parties List. The Department has given the Consulting Parties 30 days to provide written concerns.

This Route 72 project will be advanced to comply with NEPA via the preparation of a Categorical Exclusion Document. Therefore, we would appreciate your comments or

indicating your concurrence at the conclusion of this letter and returning it to me within 45 days.

Should you have any questions during the course of your review or not be able to complete your review by the requested time frame, please contact me at 530-2721 or Jerry Thomas at 530-2997.

Very respectfully,

Pamela Garrett

Pamela Garrett
Environmental Team Leader
Division of Environmental Resources

Enclosure

cc w/o enc.: Mahesh Patel
Young Kim (FHWA)
Jerry Thomas

✓ I concur with the conclusion that there are no historic properties within the Area of Potential Effects as presented in the Route 72 & Marsha Drive Intersection Cultural Resources Investigation Report as prepared by the URS Corporation.

_____ I do not concur for the following reason(s):

Deputy State Historic Preservation Officer

01/27/2006
Date

cc w/o att.: Mahesh Patel Jerry Thomas Rt72ManCRInves

HPO-C2006-215 (NP)
Log # 05-0794-03

State of New Jersey
DEPARTMENT OF ENVIRONMENTAL PROTECTION
Natural and Historic Resources, Historic Preservation Office
PO Box 404, Trenton, NJ 08625
TEL: (609) 292-2023 FAX: (609) 984-0578
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JON S. CORZINE
Governor

LISA P. JACKSON
Commissioner

March 24, 2006

Ms. Pamela Garrett
Environmental Team Leader
Division of Environmental Resources
New Jersey Department of Transportation
1035 Parkway Avenue
Post Office Box 600
Trenton, New Jersey 08625-0600

Dear Ms. Garrett:

As Deputy State Historic Preservation Officer for New Jersey, in accordance with 36 CFR Part 800: Protection of Historic Properties, as published with amendments in the Federal Register on 6 July 2004 (69 FR 40544-40555), I am providing consultation comments for the following project:

Route 72 Manahawkin Bay Bridges Project
Stafford Township and Ship Bottom Borough
Ocean County

SUMMARY: No historic properties have been identified within the APE. No historic properties will be affected. (Please see **Report Comments** to address inconsistency with the assessment of effects.)

These comments are in response to: your cover letter dated February 15, 2006, received at the Historic Preservation Office (HPO) on February 16, 2006, with *Cultural Resources Investigation Route 72 and Manhawkin Bay Bridges, Stafford Township and Ship Bottom Borough, Ocean County, New Jersey*, (URS, Inc., February 2006), attached, and a telephone conversation with USR staff on March 23, 2006 to facilitate review pursuant to Section 106 of the National Historic Preservation Act (NHPA) of 1966 as amended.

800.4 Identification of Historic Properties

I do not concur with the consultant's findings that Margo's Marina is eligible for inclusion on the National Register of Historic Places (NHRP), because of the severe loss of interior and exterior integrity. The structure no longer operates as a bay front hotel, nor does it convey a

historic association to its' setting. This finding was based upon submitted documentation and opinions of the HPO staff.

800.5 Assessing Effects

No historic properties have been identified within the APE. No historic properties will be affected. Consequently, pursuant to 36 CFR 800.4(d)(1), no further Section 106 consultation is required unless additional resources are discovered or there is a change in the scope of work during the project implementation pursuant to 36 CFR 800.13.

Report Comments

The HPO would like to commend the cultural resource consultant for the overall thoroughness of the report, however the findings in the conclusion present inconstancies with the HPO procedures on the assessment of effects. Visual effects to historic properties must be taken into consideration when determining effects. If project development has not advanced to a point where visual effects can be assessed, then effect assessments cannot be made.

If you have questions concerning this project review, please contact HPO staff Steven Hardegen at 609 984-0141.

Sincerely,

Dorothy P. Guzzo
Deputy Historic
Preservation Officer

HPO-C2006-215 Route 72
c Elkins Green, NJDOT
Jeanette Mar, FHWA
Ocean County Department of Engineering
Clerk, Borough of Ship Bottom
Clerk, Strafford Township
Strafford Township Heritage Center
Strafford Township Historical Society
Long Beach Island Historical Association
Ocean County Cultural and Heritage Commission
Ocean County Historical Society

APPENDIX D: NEW JERSEY HISTORIC PRESERVATION OFFICE SURVEY FORMS

INDEX:

1. Route 72 Bridge over Hilliards Thorofare
2. Route 72 Bridge over Manahawkin Bay (Dorland J. Henderson Memorial Bridge)
3. Route 72 Bridge over West Thorofare
4. Route 72 Bridge over East Thorofare

BASE SURVEY FORM

Historic Sites #:

Property Name: Route 72 Bridge over Hilliards Thorofare (Structure No. 1513-151)

Street Address: *Street #:* _____ (Low) _____ (High) *Apartment #:* _____ (Low) _____ (High)

Prefix: _____ *Street Name:* Route 72 *Suffix:* _____ *Type:* _____

County(s): Ocean **Zip Code:** 08050

Municipality(s): Stafford Township **Block(s):** n/a

Local Place Name(s): Manahawkin **Lot(s):** n/a

Ownership: Public **USGS Quad(s):** Ship Bottom

Description:

The Route 72 Bridge over Hilliards Thorofare is an 11-span, simply supported, multi-girder composite bridge. The main span has rolled steel stringers with cover plate, and the 10 approach spans are comprised of prestressed concrete stringers. The structure is supported on timber pile bents with concrete caps. The bridge has a total length of 475 feet and a deck width of 69 feet; the structure carries two lanes of traffic in each direction on either side of a concrete median barrier. Safety walks extends along the bridge's outer lanes. Moderne-style concrete parapet walls with horizontal grooves support the aluminum bridge railings. The structure has light poles on its north side.

Registration and Status Dates:

National Historic Landmark: _____ SHPO Opinion: _____

National Register: _____ Local Designation: _____

New Jersey Register: _____ Other Designation: _____

Determination of Eligibility: _____ Other Designation Date: _____

Photograph:

Survey Name: Route 72 Manahawkin Bay Bridges

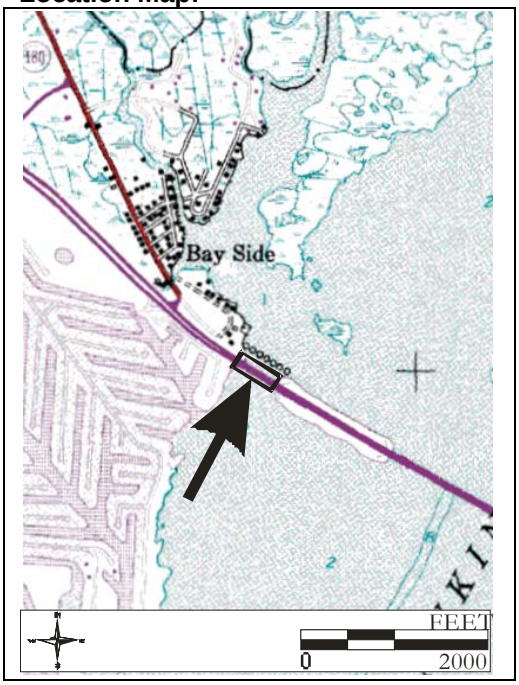
Surveyor: Jennifer B. Leynes Date: June 2009

Organization: Richard Grubb & Associates

BASE SURVEY FORM

Historic Sites #:

Location Map:



Site Map:

Bibliography/Sources: See Continuation Sheet.

Additional Information: This structure was built after 1946 and therefore was not included in the 1994 New Jersey Historic Bridge Survey (A.G. Lichtenstein & Associates, Inc. 1994).

More Research Needed? ☐ Yes ☒ No

INTENSIVE LEVEL USE ONLY

Attachments Included: _____ Building _____ Landscape _____ Farm
1 Bridge _____ Industry

Within Historic District? ☐ Yes ☒ No **Historic District Name:** _____

Status: ☐ Key-Contributing ☐ Contributing ☐ Non-Contributing

Associated Archaeological Site/Deposit? ☐ Yes ☒ No
(Known or potential Sites – if yes, please describe briefly)

Survey Name: Route 72 Manahawkin Bay Bridges
Surveyor: Jennifer B. Leynes Date: June 2009
Organization: Richard Grubb & Associates

BRIDGE ATTACHMENT

Historic Sites #:

Common Name: Route 72 Bridge over Hilliards Thorofare
Historic Name:
Feature Carried: Route 72
Feature Crossed: Hilliards Thorofare **Milepost:** 26.4

Owner/Operator: NJDOT **SI&A Structure Number:** 1 5 1 3 1 5 1

Construction Date: 1959 **Source:** Bridge plaque
Alteration Date(s): **Source:**

Engineer: W.F. Hunter
Builder: Brann & Stuart Co.
Type: Stringer
Design: n/a
Material: Steel

Physical Condition: Poor
Remaining Historic Fabric: High
Spans: 11
Length: 475 feet
Width: 69 feet

Patent Holder:
Patent Date:

Description: See Base Form.

Setting:

The Route 72 Bridge over Hilliards Thorofare is the westernmost of the four bridges spanning Manahawkin Bay between the mainland and Long Beach Island. A modern event facility is located at the bridge's northwest quadrant; a low-density residential neighborhood is located nearby. Southwest of the bridge lies a residential neighborhood with single-family dwellings. The bridge's eastern terminus is on a manmade causeway; this small land mass has low vegetation and no standing structures. The Route 72 Bridge over Manahawkin Bay (Dorland J. Henderson Bridge) extends from the eastern end of the causeway.

ELIGIBILITY WORKSHEET

Historic Sites #:

History:

In 1914, the Long Beach Turnpike Company erected the first vehicular causeway over Manahawkin Bay, connecting Manahawkin on the mainland with Ship Bottom on Long Beach Island. The road was taken over by the State Highway Department (Department) in 1926 and widened in 1928. By the 1950s, the wooden causeway and drawbridge were unable to handle the seasonal influx of cars to Long Beach Island, and the Department embarked on a highway improvement project, widening Route 72 to four lanes from its intersection with the Garden State Parkway eastward and replacing most of the causeway. Built in 1959, the Route 72 Bridge over Hilliards Thorofare was one of three similar trestle-type bridges erected over Manahawkin Bay, in addition to a high-level structure (Henderson Bridge) that spanned the Intracoastal Waterway (Wright 1958: 29; Petersen 1958: 40-41).

Significance:

The Route 72 Bridge over Hilliards Thorofare does not meet the National Register Criteria. The construction of the bridge was part of a larger highway and bridge project planned to improve access to Long Beach Island; however, while the project did facilitate access to the island, it was an enhancement of an existing roadway and did not bring about significant changes to the surrounding community as required for significance under Criterion A. The bridge is not associated with an individual significant in history (Criterion B). The structure is a common bridge type built by the New Jersey State Highway Department that is not technologically significant and not eligible under Criterion C.

Eligibility for New Jersey and National Registers: ☐ Yes ☒ No **National Register Criteria:** ☐ A ☐ B ☐ C ☐ D

Level of Significance ☐ Local ☐ State ☐ National

Justification of Eligibility/Ineligibility:

The Route 72 Bridge over Hilliards Thorofare lacks historical and technological significance and is not recommended eligible for listing in the National Register of Historic Places.

For Historic Districts Only:

Property Count: Key Contributing: _____ Contributing: _____ Non Contributing: _____

For Individual Properties Only:

List the completed attachments related to the property's significance:

Bridge Attachment, Route 72 Bridge over Hilliards Thorofare

Narrative Boundary Description:

Survey Name: Route 72 Manahawkin Bay Bridges
Surveyor: Jennifer B. Leynes Date: June 2009
Organization: Richard Grubb & Associates

CONTINUATION SHEET

Historic Sites #

Bibliography:

A.G. Lichtenstein & Associates, Inc.
1994 New Jersey Historic Bridge Survey. On file, New Jersey Historic Preservation Office, Trenton, New Jersey.

Petersen, Lawrence C.
1958 "New Manahawkin Bay Bridges Built for Long Life across Salt Water." *Civil Engineering*. August, Vol. 28, No. 8.

United States Geological Survey [U.S.G.S.]
1952 7.5' Quadrangle: Ship Bottom, NJ. Photorevised 1972.
2002 New Jersey Digital Ortho Quarter Quad Aerial Photography. Tile Numbers J16A16, J16B13, 14, 15, J16C4, 8, J16D1, 2, 3, 5, 6, 7.

Wright, George Cable
1958 "Jersey Plans Fall Completion of Links to Long Beach Island." *New York Times*. 20 August, p. 29.

BASE SURVEY FORM

Historic Sites #:

Property Name: Route 72 Bridge over Manahawkin Bay (Dorland J. Henderson Memorial Bridge; Structure No. 1513-152)

Street Address: *Street #:* _____ (Low) _____ (High) *Apartment #:* _____ (Low) _____ (High)

Prefix: _____ *Street Name:* Route 72 *Suffix:* _____ *Type:* _____

County(s): Ocean **Zip Code:** 08050

Municipality(s): Stafford Township **Block(s):** n/a

Local Place Name(s): _____ **Lot(s):** n/a

Ownership: Public **USGS Quad(s):** Ship Bottom

Description:

The Dorland J. Henderson Memorial Bridge is a 17-span, Moderne-style structure comprised of a cantilevered steel girder and floorbeam superstructure with pin suspended spans. The high-level bridge has concrete parapet walls with an aluminum railing, which contains the lighting system for the structure; the parapets have horizontal grooves and terminate in streamlined piers characteristic of the Moderne style. The bridge measures 2400 feet long and has a deck width of 69 feet, carrying two lanes of traffic and two sidewalks separated by a concrete barrier in each direction over Manahawkin Bay. Concrete hammerhead piers support the structure; the piers are faced with stone to four feet above Mean High Water.

Registration and Status Dates:

National Historic Landmark: _____ SHPO Opinion: _____

National Register: _____ Local Designation: _____

New Jersey Register: _____ Other Designation: _____

Determination of Eligibility: _____ Other Designation Date: _____

Photograph:

Survey Name: Route 72 Manahawkin Bay Bridges

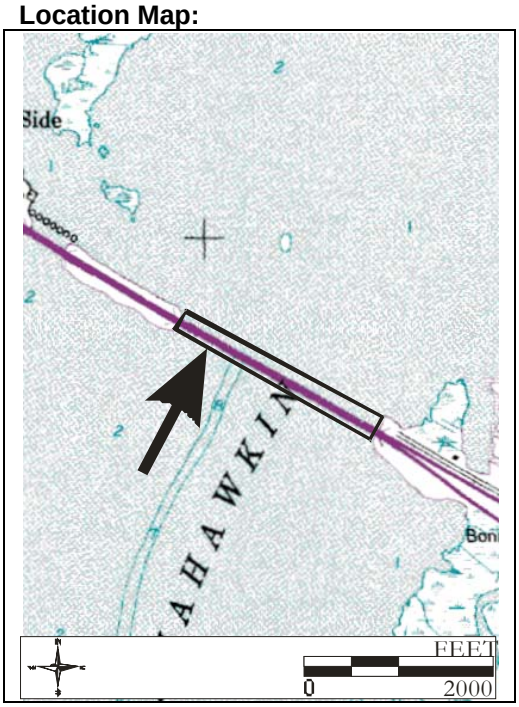
Surveyor: Jennifer B. Leynes Date: June 2009

Organization: Richard Grubb & Associates

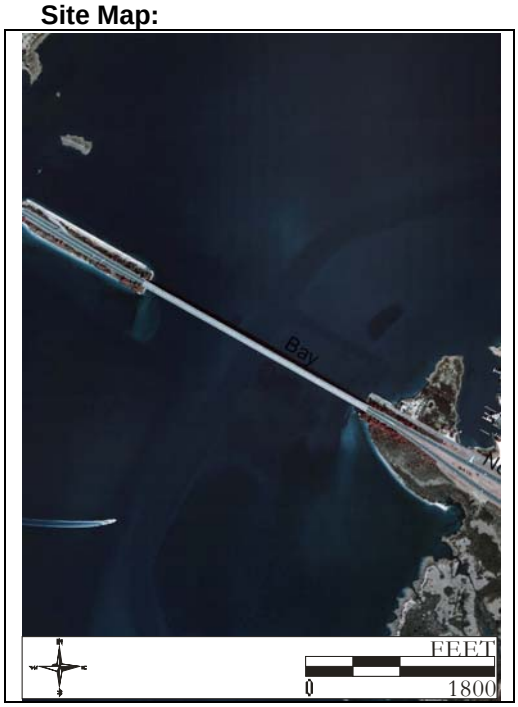
BASE SURVEY FORM

Historic Sites #:

Location Map:



Site Map:



Bibliography/Sources:
See Continuation Sheet.

Additional Information: This structure was built after 1946 and was not included in the 1994 New Jersey Historic Bridge Survey (A.G. Lichtenstein & Associates, Inc. 1994).

More Research Needed? ☐ Yes ☒ No

INTENSIVE LEVEL USE ONLY

Attachments Included: _____ Building _____ Landscape _____ Farm
1 Bridge _____ Industry

Within Historic District? ☐ Yes ☒ No **Historic District Name:** _____

Status: ☐ Key-Contributing ☐ Contributing ☐ Non-Contributing

Associated Archaeological Site/Deposit? ☐ Yes ☒ No
(Known or potential Sites – if yes, please describe briefly)

Survey Name: Route 72 Manahawkin Bay Bridges
Surveyor: Jennifer B. Leynes Date: June 2009
Organization: Richard Grubb & Associates

BRIDGE ATTACHMENT

Historic Sites #:

Common Name: Dorland J. Henderson Memorial Bridge
Historic Name: Manahawkin Bay Bridge
Feature Carried: NJ Route 72
Feature Crossed: Manahawkin Bay **Milepost:** 26.92

Owner/Operator: NJDOT **SI&A Structure Number:** 1 5 1 3 1 5 2

Construction Date: 1958 **Source:** Bridge plaque
Alteration Date(s): **Source:**

Engineer: W.F. Hunter; Dorland J. Henderson
Builder: Brann & Stuart Co.; Conduit and Foundation Corp.
Type: Cantilevered steel girder
Design: n/a
Material: Steel

Physical Condition: Poor
Remaining Historic Fabric: High
Spans: 17
Length: 2400 feet
Width: 69 feet

Patent Holder:
Patent Date:

Description: See Base Form.

Setting:

The Henderson Bridge spans Manahawkin Bay from a manmade causeway east of Hilliards Thorofare to Cedar Bonnet Island. The 2400-foot high-level structure spans the Intracoastal Waterway. The causeway at the west end of the structure was created in the 1950s for construction of the Manahawkin Bay Bridges; the narrow land mass has low vegetation and is undeveloped. Cedar Bonnet Island has scattered private residences at the bridge's northeast quadrant; the southeast quadrant is undeveloped marshland.

ELIGIBILITY WORKSHEET

Historic Sites #:

History: See Continuation Sheet.

Significance:
The Dorland J. Henderson Memorial Bridge is notable for its low-level lighting system, which was the first of its kind in the nation. The design, which incorporated fluorescent luminaires into the bridge railing, was widely published in engineering journals at the time of construction and was touted as having many advantages over traditional overhead pole lights. The bridge is also widely admired for creating a "string of pearls" visual effect over Manahawkin Bay. An act of the state legislature passed in 2000 renamed the bridge after Henderson, the engineer who designed the lighting; this legislation specifically recognized the importance of the lighting system.

Eligibility for New Jersey and National Registers: ☐ Yes ☒ No

National Register Criteria: ☐ A ☐ B ☐ C ☐ D

Level of Significance ☐ Local ☐ State ☐ National

Justification of Eligibility/Ineligibility:
Consultation between the NJDOT and the HPO in 2009 has determined that the Henderson Bridge is not eligible for the National Register. The bridge, and particularly its lighting system, retain integrity from the time of construction; however, the information available regarding post-war highway bridge lighting and the extent to which the low-level lighting technology developed for the Henderson Bridge was subsequently utilized on future bridge projects is lacking. As a result, the information available at this time does not sufficiently support a level of significance that justifies National Register eligibility under Criterion C.

For Historic Districts Only:

Property Count: Key Contributing: _____ Contributing: _____ Non Contributing: _____

For Individual Properties Only:

List the completed attachments related to the property's significance:
Bridge Attachment, Dorland J. Henderson Bridge

Narrative Boundary Description:

Survey Name: Route 72 Manahawkin Bay Bridges
Surveyor: Jennifer B. Leynes Date: June 2009
Organization: Richard Grubb & Associates

CONTINUATION SHEET

Historic Sites #

History:

The Dorland J. Henderson Memorial Bridge was constructed in 1958 by the New Jersey State Highway Department (Department) to replace an existing bascule span carrying Route 72 over Manahawkin Bay. Known as the Manahawkin Bay Bridge until 2000, when the New Jersey State Legislature renamed the bridge after engineer Dorland J. Henderson, the structure was part of a larger project designed to improve access from the mainland at Manahawkin to Ship Bottom on Long Beach Island (Petersen 1958: 38; New Jersey State Legislature [NJSL] 2000).

Before 1886, the only means of access to Long Beach Island from the mainland was by boat. In that year, the Tuckerton Railroad constructed the first railroad bridge across Manahawkin Bay, opening the island to resort development. This development occurred relatively slowly until the early twentieth century when a vehicular causeway was constructed to Long Beach Island. Maja Leon Berry, an Ocean County judge, and Charles Beck of Philadelphia, are credited with initiating a private effort to build the causeway in 1912. Berry and Beck solicited investors and formed the Long Beach Turnpike Company to erect the bascule bridge; Berry also worked with state, county, and local governments to improve the network of roads that would lead to the structure. The wooden causeway (see Figure 1) was completed in 1914 and included a swing span bridge over East Thorofare, between Cedar Bonnet Island and Ship Bottom (Lloyd 1994: 131-136).

The Department took over ownership and maintenance of the causeway in 1926 and renamed the road State Route S-40 the following year. In 1928, the Department completed a series of improvements, including widening the causeway from 18 feet to 30 feet and replacing the swing bridge with a single-leaf bascule, as shown on Figure 2 (Brescia 2001: 26, 58). These improvements permitted the continued development of Long Beach Island, but by the mid-twentieth century its popularity as a vacation destination had created significant traffic and congestion problems on the causeway during the summer months. The bascule bridge that spanned the busy Intracoastal Waterway was a particular problem, as frequent openings for maritime traffic created significant delays for motorists traveling to and from Long Beach Island. As a result, the Department began planning for a new, high-level span over the channel, first under the leadership of Chief Bridge Engineer Morris Goodkind and later by his successor, Lawrence C. Petersen (Wright 1958: 29; Petersen 1958: 38).

A major obstacle to the construction of a high-level span was the required vertical clearance of 60 feet over the Intracoastal Waterway. At the time, this ship channel extended along the west coast of Long Beach Island, through the relatively narrow East Thorofare next to Bonnet Island. Construction of a high-level bridge at this location would have required significant property acquisition; as a result, the Department applied for and received permission from the New Jersey Department of Conservation and Economic Development and the United States Army Corps of Engineers to relocate the Intracoastal Waterway to the west side of Cedar Bonnet Island (Petersen 1958: 38).

The new Manahawkin Bay crossing was built 120 feet south of and parallel to the existing causeway and consisted of three trestle bridges in addition to the high-level structure. The high-level Manahawkin Bay Bridge was designed by W.F. Hunter, Assistant Director and Chief Bridge Engineer in the Department, under the direction of Petersen. The 2,400-foot long structure was comprised of 17 cantilevered girder spans, 13 of which had a length of 150 feet; the remaining spans had lengths of 100 and 125 feet. The bridge was supported on concrete piers faced with stone to about four feet above Mean High Water in order to protect the concrete from deterioration. The Brann & Stuart Company of Trenton was awarded the contract for construction of the piers and abutments, and the Conduit & Foundation Corporation of Philadelphia won the contract for the bridge superstructure. Brann & Stuart also built the three trestle bridges (Petersen 1958: 38, 41).

The bridge opened in November 1958, although it was not dedicated until Memorial Day weekend in 1959 (Wright 1959; *Courier-Post* 1959). The improvements were described in the *New York Times*:

> A $12,000,000 project, which officials on the island of Long Beach expect to be the greatest boon to resort business in nearly a half century, is nearing completion… It consists of a massive high-level concrete and steel bridge, three similar but smaller structures, concrete causeways and existing highway improvements… [T]he new facilities will provide, for the first time, a modern four-lane freeway for the uninterrupted movement of motor traffic from the Garden State Parkway exit west of Manahawkin eight miles east to this community (Wright 1958: 29).

Figure 3 shows an undated postcard view of the completed project.

The Manahawkin Bay Bridge's most notable feature was its lighting system, which Petersen described in an article published in *Civil Engineering* as "different from any we have used on other bridges" (Petersen 1958: 40). In fact, the system, which utilized fluorescent luminaires installed in the bridge railing, was described in contemporary publications as the first of its type in the country (*Better Roads* 1959: 50; *Public Works* 1959: 214; Finch 1969: 54). Comprised of 384 units, each containing two, 42-inch long fluorescent tubes, the system was mounted in the elliptical aluminum railing and designed to direct light across the travel lanes at a right angle to traffic (*Popular Science* 1960: 108; *Better Roads* 1959: 50; *Public Works* 1959: 214). A detail drawing of the design from the as-built plans is included as Figure 4.

The lighting system was designed by Dorland J. Henderson (1898-1996), an electrical engineer and head of the Department's Electrical Bureau. An African-American, Henderson was born in North Carolina in 1898 and graduated from Purdue University with a degree in electrical engineering in 1917. He worked in Indianapolis for a number of years before joining the Department around 1940 (*The Star-Ledger* 1996). Henderson was promoted to lead the Electrical Bureau during the 1950s, overcoming racial discrimination to achieve a position of leadership in the Department (Mann 1992; NJSL 2000). As a supervisor, Henderson actively sought to eliminate racial distinctions from the workplace, establishing "a policy of removing references to race, creed, color or national origin from all personnel forms and records" (NJSL 2000; New Jersey Department of Transportation 2000). He was actively involved in civil rights issues in his personal life as well, holding a leadership role in the New Jersey Conference of the State Branches of the National Association for the Advancement of Colored People (NAACP) during the 1950s (Wright 1953: 95, 105). He and his wife Elizabeth were also involved in historic preservation activities in Newark. The Hendersons nominated their home, the circa 1712 Sydenham House, to the State and National Registers in 1969; it was listed in the following year, and the couple later received awards from local preservation organizations for their stewardship of the house (Henderson 1969; Newark Preservation and Landmarks Committee n.d.).

One of Henderson's first projects as head of the Electrical Bureau came from Commissioner Dwight Palmer, who wanted to investigate the possibility of using a low-level lighting system on the Manahawkin Bay Bridge. Palmer believed a low-level system would be more efficient than the standard overhead lighting used in highway and bridge construction. At Palmer's direction, Henderson began developing the system in the early 1950s, often testing his designs in the Department's parking lots at night (Mann 1992). The luminaires were fabricated by General Electric and the railings by the Michael Flynn Manufacturing Company of Philadelphia (*Public Works* 1959: 214). In a 1992 interview, Henderson recounted the first nighttime test of the system on the bridge:

> "As we stood around… one guy in the group asked me, 'Do you think it will work?' I said that I had confidence in the design," recalled Henderson… "Actually, I didn't have confidence in anything. I was absolutely terrified. I really didn't know what the thing would look like as we stood at the end of the bridge."
>
> At darkness, Henderson told the foreman to throw the switch. The rest is local history. "It looked like the pathway to heaven. I'm not kidding. It was unbelievable. The commissioner came over to hug me" (Mann 1992).

CONTINUATION SHEET

Historic Sites #

As Henderson's story suggests, the lighting system was a great success. Contemporary publications lauded the design for uniformly lighting the roadway, eliminating glare, and efficiently using the candle power of the light source. The design was also touted for its performance in inclement weather. Unlike lamp poles, the railing system could also be serviced from the safety walks alongside the roadway with minimal interruption to traffic (*Better Roads* 1959: 50; Henderson 1959: 57; Kearney 1966: 113).

Perhaps most importantly, the lighting on the Manahawkin Bay Bridge became a beacon to motorists traveling to Long Beach Island, as shown on Figure 5. Author Paul W. Kearney, who touted the design in his book on highway safety, described the bridge lights:

> Seeing it for the first time, the visitor is fascinated by a half-mile ribbon of brilliance cleaving the darkness with 'no visible means of support' (Kearney 1966: 113).

The visual effect of the lights, which is frequently referred to as a "string of pearls," was immediately popular with local residents and visitors. In 1992, more than 30 years after the bridge opened, the New Jersey Department of Transportation abandoned an effort to replace the system due in large part to public opposition (Mann 1992). In 2000, the New Jersey State Legislature designated the Manahawkin Bay Bridge as the Dorland J. Henderson Memorial Bridge and highlighted Henderson's role as designer of the "innovative and now historically-classic lighting system" (NJSL 2000; New Jersey Department of Transportation 2000).

Bibliography:

Better Roads
1959 "Low-Level Lighting for Bridges Is Tried Out." March, p. 50.

Brescia, Lillias F.
2001 *Stafford Chronicles: A History of Manahawkin, New Jersey*. Down the Shore Publishing and The SandPaper, Inc., Harvey Cedars, New Jersey.

CardCow.com
2009 Long Beach Island Causeway. Electronic document, http://www.cardcow.com/109126/long-beach-island-causeway-long-beach-island-us-state-town-views-new-jersey-long-beach-island/, accessed 10 June 2009.

Courier-Post [Camden, NJ]
1959 "Meyner Dedicates Causeway at Shore." May 29.

Finch, Dan M.
1969 "Factors in Highway Lighting." In *Visual Factors in Transportation Systems*. Proceedings of Spring Meeting, 1969, NAS-NRC Committee on Vision. National Academy of Sciences – National Research Council, Washington, D.C.

Hartnett, George C., and Kevin Hughes
2004 *Long Beach Island*. Images of America series. Arcadia Publishing, Charleston, South Carolina.

Henderson, D. J.
1959 "Down-to-Earth Bridge Lighting." *Engineering News-Record*. 4 June, Vol. 162, No. 22.

Henderson, Dorland and Elizabeth
1969 National Register of Historic Places Nomination Form: Sydenham House. On file, New Jersey Historic Preservation Office, Trenton, New Jersey.

Kearney, Paul W.
1966 *Highway Homicide*. Thomas Y. Crowell Company, New York, New York.

Lloyd, John Bailey
1990 *Six Miles at Sea: A Pictorial History of Long Beach Island, N.J.* Down the Shore Publishing and The SandPaper, Inc., Harvey Cedars, New Jersey.

1994 *Eighteen Miles of History on Long Beach Island*. Down the Shore Publishing and The SandPaper, Inc., Harvey Cedars, New Jersey.

Mann, Jay
1992 "The Man Who Lit the Bay Bridge." *The SandPaper* [Surf City, NJ]. Reprinted in DotLine, Issue 38, February 2002. Electronic document, http://www.dotra.org/dotline2_2002.htm, accessed 27 May 2009.

Newark Preservation and Landmarks Committee
n.d. The Annual Recognition Awards. Electronic document, http://www.newarklandmarks.org/recognitionawards.htm, accessed 3 June 2009.

New Jersey Department of Transportation [NJDOT]
2000 "News Release: NJDOT to Honor Visionary Engineer." 30 October. Electronic document, http://www.state.nj.us/transportation/about/press/2000/103000.shtm, accessed 9 April 2009.

New Jersey State Highway Department
1956 Route S 40 (1927) Route 72 (1953) Section 5E, Manhawkin Bay Bridge, Contract No. 2, Superstructure. On file, New Jersey Department of Transportation, Trenton, New Jersey.

New Jersey State Legislature
2000 An Act Designating the State Highway Route No. 72 Bridge over Manahawkin Bay as the "Dorland J. Henderson Memorial Bridge." P.L. 2000, c.144 (S1554). Electronic document, http://www.njleg.state.nj.us/2000/bills/p100/144_.htm, accessed 9 April 2009.

Petersen, Lawrence C.
1958 "New Manahawkin Bay Bridges Built for Long Life across Salt Water." *Civil Engineering*. August, Vol. 28, No. 8.

Popular Science
1960 "PS Picture News: Fluorescent Bridge." December, p. 108.

Public Works
1959 "Lighted Railings Give Continuous Illumination on Bridge Roadway." August, Vol. 90, No. 8.

Star-Ledger [Newark, NJ], *The*
1996 "Dorland J. Henderson, Electrical Engineer." 14 March, p. 46.

United States Geological Survey [U.S.G.S.]
1952 7.5' Quadrangle: Ship Bottom, NJ. Photorevised 1972.

2002 New Jersey Digital Ortho Quarter Quad Aerial Photography. Tile Numbers J16A16, J16B13, 14, 15, J16C4, 8, J16D1, 2, 3, 5, 6, 7.

Wright, George Cable
1958 "Jersey Plans Fall Completion of Links to Long Beach Island." *New York Times*. 20 August, p. 29.

1959 "New Jersey Roads: $200,000,000 Improvement Program Is Being Carried out in State." *New York Times*. 14 June, p. XX15.

Wright, Marion Thompson
1953 "Extending Civil Rights in New Jersey Through the Division Against Discrimination." *Journal of Negro History*. January, Vol. 38, No. 1.

CONTINUATION SHEET

Historic Sites #:

Figure 1. Causeway over Manahawkin Bay (undated). Built in 1914, the causeway continued to carry automobiles to and from Long Beach Island until the completion of the Henderson Bridge in 1958 (Hartnett and Hughes 2004).

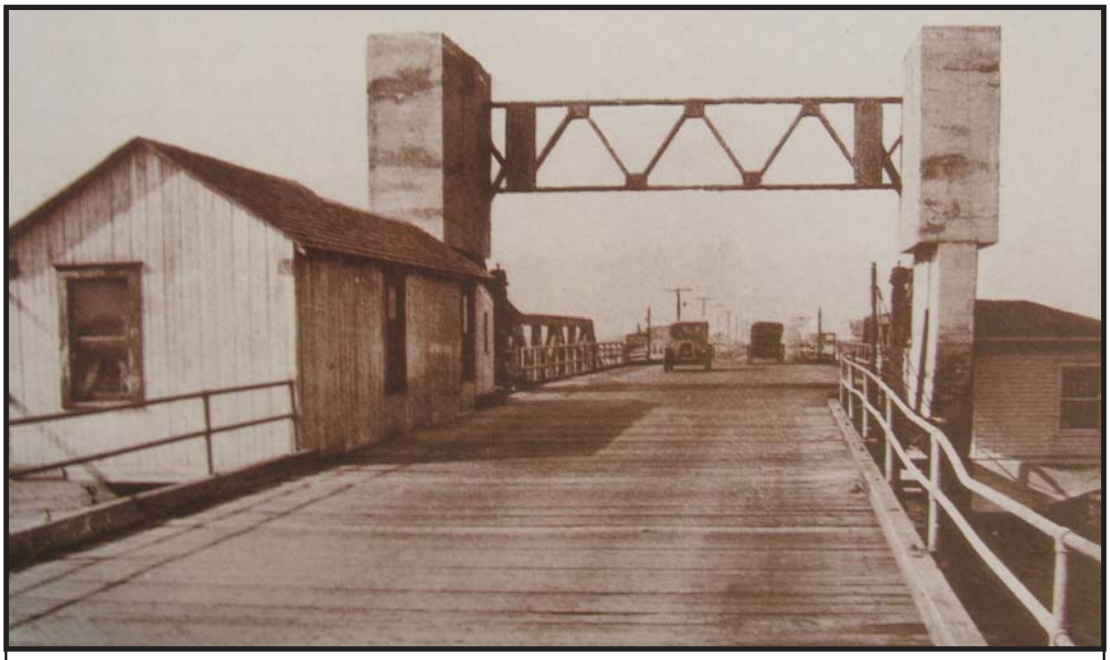


Figure 2. Drawbridge over East Thorofare (undated but probably circa 1920s based on the cars). This single-leaf bascule replaced the original swing span in 1928 (Lloyd 1990).

CONTINUATION SHEET

Historic Sites #:

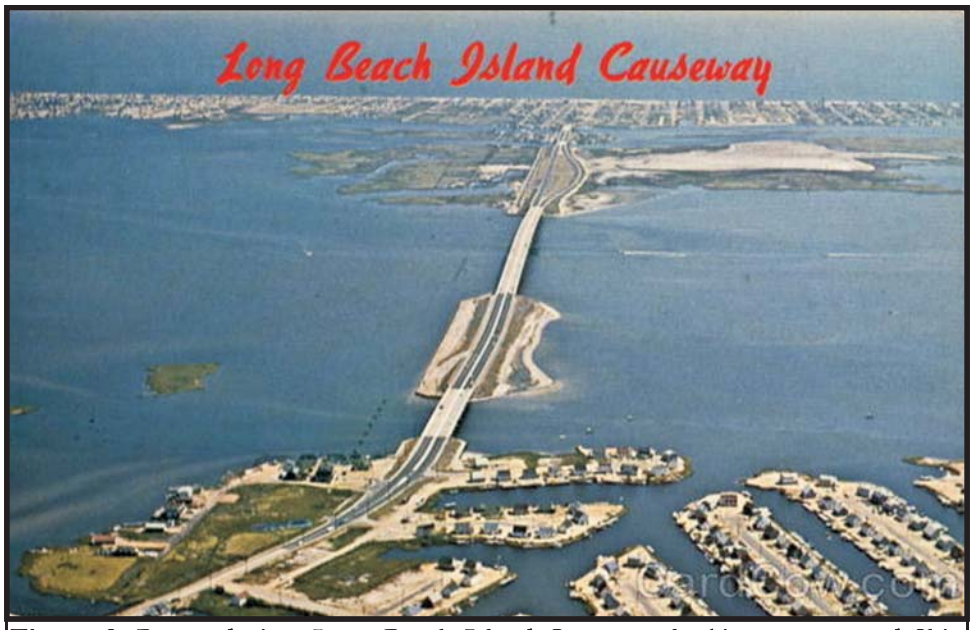


Figure 3. Postcard view, Long Beach Island Causeway, looking east toward Ship Bottom. The Hilliards Thorofare Bridge is in the foreground and the Henderson Bridge at center (CardCow.com 2009).

CONTINUATION SHEET

Historic Sites #:

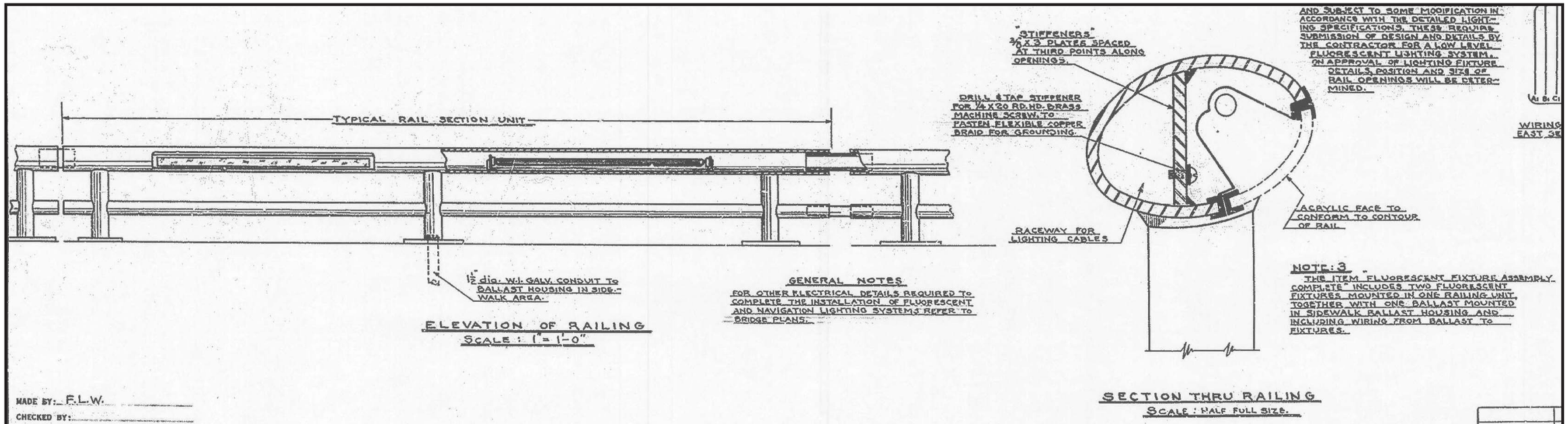


Figure 4. Typical section of bridge lighting design from as-built plans (New Jersey State Highway Department 1956).

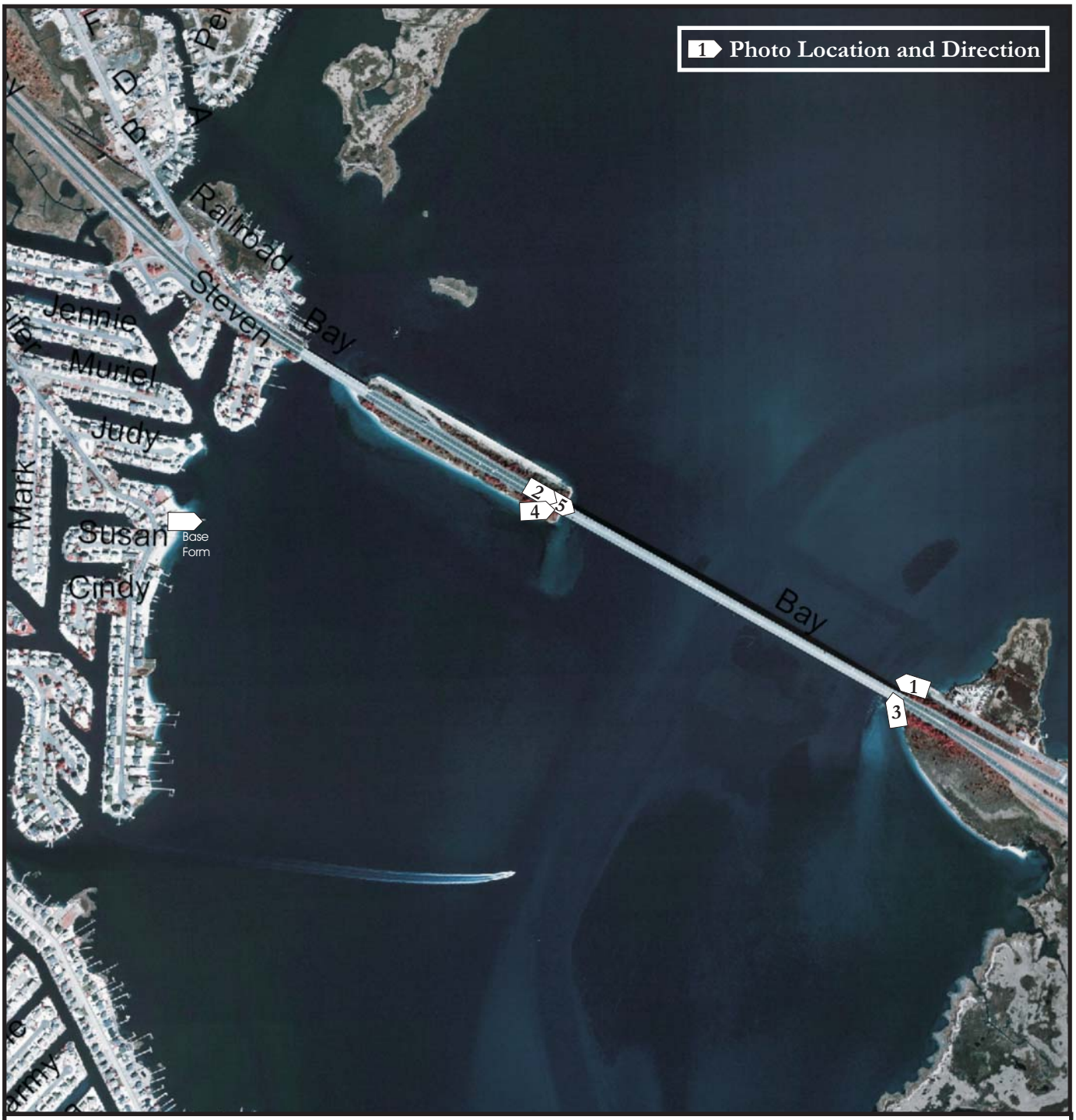
CONTINUATION SHEET

Historic Sites #:

Figure 5. Henderson Bridge at night, circa 1960 (Brescia 2001).

CONTINUATION SHEET

Historic Sites #:



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Site map showing photo locations.

Feet
0 800

Survey Name: Route 72 Manahawkin Bay Bridges
Date: June 2009
Surveyor: Jennifer B. Leynes
Organization: Richard Grubb & Associates

CONTINUATION SHEET

Historic Sites #:

Henderson Bridge over Manahawkin Bay, looking southwest. The concrete hammerhead piers and steel girders are evident in this view.

Plate: 1

Photo View:
Southwest

Photographer:
Jennifer B. Leynes

Date:
June 8, 2009

Henderson Bridge, looking southeast. The four lanes are separated by a concrete barrier, and the concrete parapets have metal railings containing the bridge lighting system.

Plate: 2

Photo View:
Southeast

Photographer:
Jennifer B. Leynes

Date:
June 8, 2009

CONTINUATION SHEET

Historic Sites #:

Detail of parapet railing on Henderson Bridge. Note the light fixtures in the top rail; the luminaires are set two feet apart and angled downward to create an even distribution of light on the roadway. The lights create a "string of pearls" visual effect.

Plate: 3

Photo View:
Northwest

Photographer:
Jennifer B. Leynes

Date:
June 8, 2009

End of parapet on the northwest end of the Henderson Bridge. Note the grooves in the concrete, which continue on both the inside and outside of the parapet wall, and the streamlined appearance typical of the Moderne style.

Plate: 4

Photo View:
Southeast

Photographer:
Jennifer B. Leynes

Date:
June 8, 2009

CONTINUATION SHEET

Historic Sites #:

Henderson Bridge at night, showing the "string of pearls" visual effect created by the lighting.

Plate: 5

Photo View:
East

Photographer:
Jessica Bookin

Date:
June 20, 2009

BASE SURVEY FORM

Historic Sites #:

Property Name: Route 72 Bridge over West Thorofare (Structure No. 1513-153)

Street Address: *Street #:* _____ (Low) _____ (High) *Apartment #:* _____ (Low) _____ (High)

Prefix: _____ *Street Name:* Route 72 *Suffix:* _____ *Type:* _____

County(s): Ocean **Zip Code:** 08050

Municipality(s): Stafford Township **Block(s):** n/a

Local Place Name(s): Manahawkin **Lot(s):** n/a

Ownership: Public **USGS Quad(s):** Ship Bottom

Description:

The Route 72 Bridge over West Thorofare is a nine-span, multi-girder composite structure. The spans are comprised of prestressed concrete stringers supported on timber piles with concrete caps. The bridge is 368 feet long and has a deck width of 69 feet; it carries two lanes of traffic and sidewalks in each direction across West Thorofare. The easternmost span extends over a one-lane U-turn that provides access between Route 72 westbound and the south side of Bonnet Island. Moderne-style concrete parapet walls with horizontal grooves support the aluminum bridge railings. The structure has light poles on its north side.

Registration and Status Dates:

National Historic Landmark: _____ SHPO Opinion: _____

National Register: _____ Local Designation: _____

New Jersey Register: _____ Other Designation: _____

Determination of Eligibility: _____ Other Designation Date: _____

Photograph:

Survey Name: Route 72 Manahawkin Bay Bridges

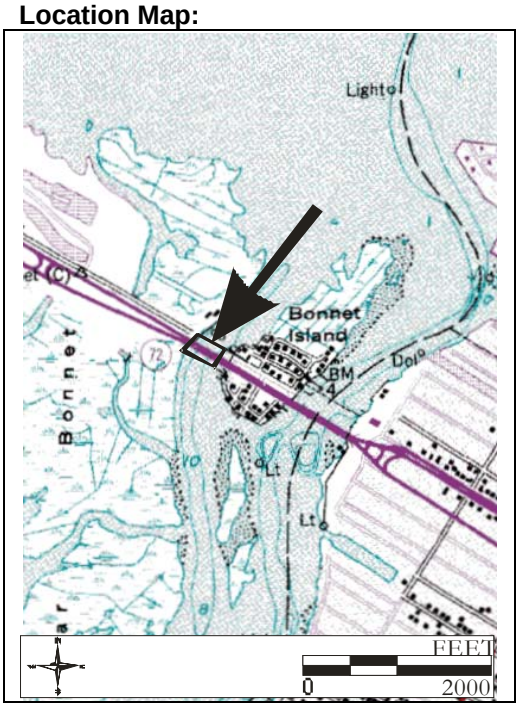
Surveyor: Jennifer B. Leynes Date: June 2009

Organization: Richard Grubb & Associates

BASE SURVEY FORM

Historic Sites #:

Location Map:



Site Map:

Bibliography/Sources: See Continuation Sheet.

Additional Information: This structure was built after 1946 and therefore was not included in the 1994 New Jersey Historic Bridge Survey (A.G. Lichtenstein & Associates, Inc. 1994).

More Research Needed? ☐ Yes ☒ No

INTENSIVE LEVEL USE ONLY

Attachments Included: _____ Building _____ Landscape _____ Farm
1 Bridge _____ Industry

Within Historic District? ☐ Yes ☒ No **Historic District Name:** _____

Status: ☐ Key-Contributing ☐ Contributing ☐ Non-Contributing

Associated Archaeological Site/Deposit? ☐ Yes ☒ No
(Known or potential Sites – if yes, please describe briefly)

Survey Name: Route 72 Manahawkin Bay Bridges
Surveyor: Jennifer B. Leynes Date: June 2009
Organization: Richard Grubb & Associates

BRIDGE ATTACHMENT

Historic Sites #:

Common Name: Route 72 Bridge over West Thorofare
Historic Name:
Feature Carried: Route 72
Feature Crossed: West Thorofare and one-lane U-turn (Circle Drive) **Milepost:** 27.88

Owner/Operator: NJDOT **SI&A Structure Number:** 1 5 1 3 1 5 1

Construction Date: 1958 **Source:** Bridge plaque
Alteration Date(s): **Source:**

Engineer: W.F. Hunter
Builder: Brann & Stuart Co.
Type: Stringer
Design: n/a
Material: Concrete

Physical Condition: Poor
Remaining Historic Fabric: High
Spans: 9
Length: 368 feet
Width: 69 feet

Patent Holder:
Patent Date:

Description: See Base Form.

Setting:

The Route 72 Bridge spans West Thorofare, a narrow waterway between Cedar Bonnet Island on the west and Bonnet Island on the east. Cedar Bonnet Island is relatively undeveloped, with a modern event facility on the bridge's northest quadrant. Bonnet Island is predominantly residential in character, with a restaurant located at the northeast quadrant of the bridge. A one-lane U-turn (Circle Drive) extends under the easternmost span on Bonnet Island; traffic lights on either side regulate the traffic. Remnants of the original causeway, parallel to and north of Route 72, are maintained as local roads on both Cedar Bonnet (East Bay Avenue) and Bonnet Island (Old Causeway).

ELIGIBILITY WORKSHEET

Historic Sites #:

History:

In 1914, the Long Beach Turnpike Company erected the first vehicular causeway over Manahawkin Bay, connecting Manahawkin on the mainland with Ship Bottom on Long Beach Island. The road was taken over by the New Jersey State Highway Department (Department) in 1926 and widened in 1928. By the 1950s, the wooden causeway and drawbridge were unable to handle the seasonal influx of cars to Long Beach Island, and the Department embarked on a highway improvement project, widening Route 72 to four lanes from its intersection with the Garden State Parkway eastward and replacing most of the causeway. Built in 1958, the Route 72 Bridge over West Thorofare was one of three similar trestle-type bridges erected over Manahawkin Bay, in addition to a high-level structure (Henderson Bridge) that spanned the Intracoastal Waterway (Wright 1958: 29; Petersen 1958: 40-41).

Significance:

The Route 72 Bridge over West Thorofare does not meet the National Register Criteria. The construction of the bridge was part of a larger highway and bridge project planned to improve access to Long Beach Island; however, while the project did facilitate access to the island, it was an enhancement of an existing roadway and did not bring about significant changes to the surrounding community as required under Criterion A. The bridge is not associated with an individual significant in history (Criterion B). The structure is a common bridge type built by the New Jersey State Highway Department that is not technologically significant and not eligible under Criterion C.

Eligibility for New Jersey and National Registers: ☐ Yes ☒ No **National Register Criteria:** ☐ A ☐ B ☐ C ☐ D

Level of Significance ☐ Local ☐ State ☐ National

Justification of Eligibility/Ineligibility: The Route 72 Bridge over West Thorofare lacks historical and technological significance and is not recommended eligible for listing in the National Register of Historic Places.

For Historic Districts Only:

Property Count: Key Contributing: _____ Contributing: _____ Non Contributing: _____

For Individual Properties Only:

List the completed attachments related to the property's significance:

Bridge Attachment, Route 72 Bridge over West Thorofare

Narrative Boundary Description:

Survey Name: Route 72 Manahawkin Bay Bridges
Surveyor: Jennifer B. Leynes Date: June 2009
Organization: Richard Grubb & Associates

CONTINUATION SHEET

Historic Sites #

Bibliography:

A.G. Lichtenstein & Associates, Inc.
1994 New Jersey Historic Bridge Survey. On file, New Jersey Historic Preservation Office, Trenton, New Jersey.

Petersen, Lawrence C.
1958 "New Manahawkin Bay Bridges Built for Long Life across Salt Water." *Civil Engineering*. August, Vol. 28, No. 8.

United States Geological Survey [U.S.G.S.]
1952 7.5' Quadrangle: Ship Bottom, NJ. Photorevised 1972.
2002 New Jersey Digital Ortho Quarter Quad Aerial Photography. Tile Numbers J16A16, J16B13, 14, 15, J16C4, 8, J16D1, 2, 3, 5, 6, 7.

Wright, George Cable
1958 "Jersey Plans Fall Completion of Links to Long Beach Island." *New York Times*. 20 August, p. 29.

BASE SURVEY FORM

Historic Sites #:

Property Name: Route 72 Bridge over East Thorofare (Structure No. 1513-154)

Street Address: *Street #:* _____ (Low) _____ (High) *Apartment #:* _____ (Low) _____ (High)

Prefix: _____ *Street Name:* Route 72 *Suffix:* _____ *Type:* _____

County(s): Ocean **Zip Code:** 08008

Municipality(s): Ship Bottom Borough **Block(s):** n/a

Local Place Name(s): _____ **Lot(s):** n/a

Ownership: Public **USGS Quad(s):** Ship Bottom

Description:
The Route 72 Bridge over East Thorofare is an 11-span multi-girder composite bridge. The main span has rolled steel stringers with cover plates, and the 10 approach spans are prestressed concrete stringers; the structure is supported on timber pile bents with concrete caps. The bridge has a length of 485 feet and a deck width of 69 feet. The bridge carries two lanes of traffic in each direction and has safety walks on both sides. The Moderne-style parapets are concrete with horizontal grooves and aluminum railing. Light poles are located on the north parapet.

Registration and Status Dates:

National Historic Landmark: _____ SHPO Opinion: _____

National Register: _____ Local Designation: _____

New Jersey Register: _____ Other Designation: _____

Determination of Eligibility: _____ Other Designation Date: _____

Photograph:

Survey Name: Route 72 Manahawkin Bay Bridges

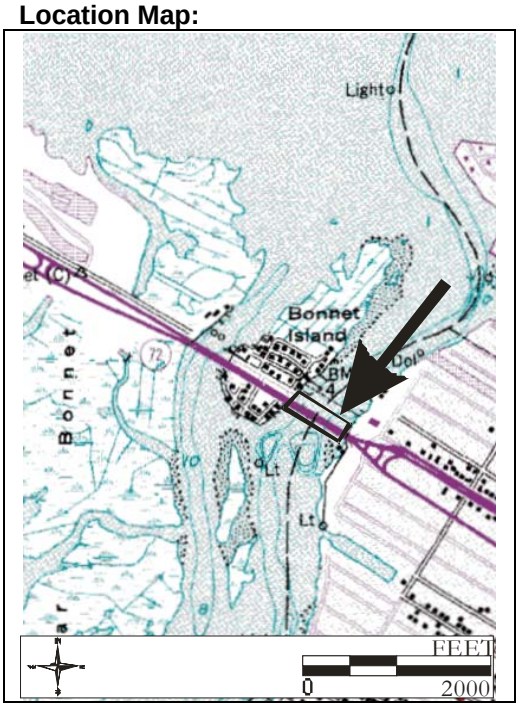
Surveyor: Jennifer B. Leynes Date: June 2009

Organization: Richard Grubb & Associates

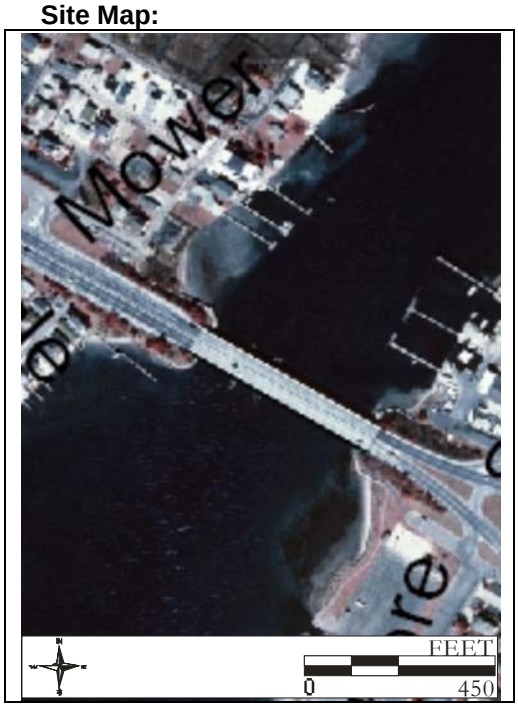
BASE SURVEY FORM

Historic Sites #:

Location Map:



Site Map:



Bibliography/Sources: See Continuation Sheet.

Additional Information: This structure was built after 1946 and therefore was not included in the 1994 New Jersey Historic Bridge Survey (A.G. Lichtenstein & Associates 1994).

More Research Needed? ☐ Yes ☒ No

INTENSIVE LEVEL USE ONLY

Attachments Included: _____ Building _____ Landscape _____ Farm
1 Bridge _____ Industry

Within Historic District? ☐ Yes ☒ No **Historic District Name:** _____

Status: ☐ Key-Contributing ☐ Contributing ☐ Non-Contributing

Associated Archaeological Site/Deposit? ☐ Yes ☒ No
(Known or potential Sites – if yes, please describe briefly)

Survey Name: Route 72 Manahawkin Bay Bridges
Surveyor: Jennifer B. Leynes Date: June 2009
Organization: Richard Grubb & Associates

BRIDGE ATTACHMENT

Historic Sites #:

Common Name: Route 72 Bridge over East Thorofare
Historic Name:
Feature Carried: Route 72
Feature Crossed: East Thorofare **Milepost:** 28.14

Owner/Operator: NJDOT **SI&A Structure Number:** 1 5 1 3 1 5 4

Construction Date: 1958 **Source:** Bridge plaque
Alteration Date(s): **Source:**

Engineer: W.F. Hunter
Builder: Brann & Stuart Co.
Type: Stringer
Design: n/a
Material: Steel

Physical Condition: Poor
Remaining Historic Fabric: Poor
Spans: 11
Length: 485 feet
Width: 69 feet

Patent Holder:
Patent Date:

Description: See Base Form.

Setting:
The Route 72 Bridge over East Thorofare spans a narrow channel between Bonnet Island on the west and the Borough of Ship Bottom on Long Beach Island on the east. Bonnet Island is largely residential in character; modern single-family houses are located near the bridge on both the northwest and southwest quadrants. Development in the northeast quadrant includes a boat marina and residences. Robert W. Nissan Park, a municipal facility featuring a boat ramp, parking area, gazebo, and playground, is located on the waterfront at the bridge's southeast quadrant.

ELIGIBILITY WORKSHEET

Historic Sites #:

History:

In 1914, the Long Beach Turnpike Company erected the first vehicular causeway over Manahawkin Bay, connecting Manahawkin on the mainland with Ship Bottom on Long Beach Island. The road was taken over by the New Jersey State Highway Department in 1926 and widened in 1928. By the 1950s, the wooden causeway and drawbridge were unable to handle the seasonal influx of cars to Long Beach Island, and the Department embarked on a highway improvement project, widening Route 72 to four lanes from its intersection with the Garden State Parkway eastward and replacing most of the causeway. Built in 1958, the Route 72 Bridge over East Thorofare was one of three similar trestle-type bridges erected over Manahawkin Bay, in addition to a high-level structure (Henderson Bridge) that spanned the Intracoastal Waterway (Wright 1958: 29; Petersen 1958: 40-41).

Significance:

The Route 72 Bridge over East Thorofare does not meet National Register Criteria. The construction of the bridge was part of a larger highway and bridge project planned to improve access to Long Beach Island; however, while the project did facilitate access to the island, it was an enhancement of an existing roadway and did not bring about significant changes to the surrounding community as required under Criterion A. The bridge is not associated with an individual significant in history (Criterion B). The structure is a common bridge type built by the New Jersey State Highway Department that is not technologically significant and not eligible under Criterion C.

Eligibility for New Jersey and National Registers: ☐ Yes ☒ No **National Register Criteria:** ☐ A ☐ B ☐ C ☐ D

Level of Significance ☐ Local ☐ State ☐ National

Justification of Eligibility/Ineligibility: The Route 72 Bridge over East Thorofare lacks historical and technological significance and is not recommended eligible for listing in the National Register of Historic Places.

For Historic Districts Only:

Property Count: Key Contributing: _____ Contributing: _____ Non Contributing: _____

For Individual Properties Only:

List the completed attachments related to the property's significance:

Bridge Attachment, Route 72 Bridge over East Thorofare

Narrative Boundary Description:

Survey Name: Route 72 Manahawkin Bay Bridges
Surveyor: Jennifer B. Leynes Date: June 2009
Organization: Richard Grubb & Associates

CONTINUATION SHEET

Historic Sites #

Bibliography:

A.G. Lichtenstein & Associates, Inc.
1994 New Jersey Historic Bridge Survey. On file, New Jersey Historic Preservation Office, Trenton, New Jersey.

Petersen, Lawrence C.
1958 "New Manahawkin Bay Bridges Built for Long Life across Salt Water." *Civil Engineering*. August, Vol. 28, No. 8.

United States Geological Survey [U.S.G.S.]
1952 7.5' Quadrangle: Ship Bottom, NJ. Photorevised 1972.
2002 New Jersey Digital Ortho Quarter Quad Aerial Photography. Tile Numbers J16A16, J16B13, 14, 15, J16C4, 8, J16D1, 2, 3, 5, 6, 7.

Wright, George Cable
1958 "Jersey Plans Fall Completion of Links to Long Beach Island." *New York Times*. 20 August, p. 29.

APPENDIX E: ANNOTATED BIBLIOGRAPHY

Authors:	Robert J. Lore and Jennifer B. Leynes
Title:	Cultural Resources Investigation, Improvements to Route 72 Manahawkin Bay Bridges and Marsha Drive Intersection, Township of Stafford and Borough of Ship Bottom, Ocean County, New Jersey
Date:	July 2009 (revised February 2010)
RGA Database Title	Route 72 Manahawkin Bridges
RGA Project No.:	2009-069
State:	New Jersey
County	Ocean County
Municipality:	Stafford Township, Ship Bottom Borough
U.S.G.S. Quad:	Ship Bottom, NJ
Drainage Basin:	Manahawkin Bay
Regulation:	Section 106
Project Type:	Transportation: bridge rehabilitation
Project Sponsor:	NJDOT
Client:	PB Americas, Inc.
Level of Survey:	Phase IA archaeological survey and intensive-level architectural survey
Cultural Resources:	None

REPORT
HAZARDOUS WASTE SCREENING

ROUTE 72 MANAHAWKIN BAY BRIDGES
TOWNSHIP OF STRAFFORD & THE BOROUGH OF SHIP BOTTOM
OCEAN COUNTY, NEW JERSEY

Prepared for:
New Jersey Department of Transportation
1035 Parkway Avenue
Trenton, New Jersey 08625-0600

and

PB Americas, Inc.
506 Carnegie Center
Princeton, New Jersey 08540

by:

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Edison, New Jersey 08820

February 11, 2010

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TABLE 1 PRELIMINARY LIST OF ENVIRONMENTALLY SENSATIVE SITES IN THE PROJECT CORRIDOR

TABLE 2 LIST OF ENVIRONMENTALLY SENSATIVE SITES IN THE PROJECT CORRIDOR IN CLOSE PROXIMITY TO THE PROPOSED IMPROVEMENTS

FIGURE 1 PROJECT LOCATION MAP

APPENDIX A PRELIMINARY PROJECT PLANS

APPENDIX B SANBORN™ FIRE INSURANCE MAP SEARCH

APPENDIX C AERIAL PHOTOGRAPHS

APPENDIX D ENVIRONMENTAL DATABASES REPORT

APPENDIX E REQUEST FOR INFORMATION TO NJEDP, STAFFORD TOWNSHIP, SHIP BOTTOM BOROUGH AND OCEAN COUNTY

APPENDIX F DOCUMENTS RECEIVED FROM NJEDP, STAFFORD TOWNSHIP, SHIP BOTTOM BOROUGH AND OCEAN COUNTY

EXECUTIVE SUMMARY

Prestige Environmental conducted a Hazardous Waste Screening for the Route 72 Manahawkin Bay Bridges Project in the Township of Strafford and the Borough of Ship Bottom in Ocean County. The objective of this study was to identify and evaluate recognized environmental conditions relating to hazardous materials and wastes within the project corridor, and to evaluate their potential impact on the project. This report is based upon site reconnaissance's; review of readily available historical data and environmental databases of regulatory agencies lists of sites for the project corridor and surrounding areas; and correspondence and telephone interviews with the state, county and local regulatory agencies.

The New Jersey Department of Transportation (NJDOT) has initiated efforts to improve Route 72, in the Township of Strafford and the Borough of Ship Bottom in Ocean County. Based upon the preliminary layout plans the project study area comprises of a 2.75-mile stretch along Route 72 in the vicinity of its intersection with Marsha Drive up to 500 feet east of Shore Avenue in Ship Bottom. The project scope includes: rehabilitation of the existing bridge over Manahawkin Bay; improvements to Marsha Drive and Route 72 intersection; construction of a new parallel structure over Manahawkin Bay to the south of the existing structure; rehabilitation of the three smaller bridges over Hillards Thorofare, West Thorofare and East Thorofare; and safety improvements such as roadway widening, intersection improvements and associated drainage modifications.

Several properties with areas of environmental concern are situated within the project study area. Details of these properties are summarized in Table 1. Based upon a review of the available project plans, potential impact of these environmentally sensitive parcels was evaluated, and the following four parcels with a relatively higher potential for project impact were identified.

Sr. No.	Block and Lot	Location
1	Block 185 Lot 75	Margos Inn, Inc. 1432 E Bay Avenue Manahawkin, Stafford Township
2	Block 110 Lot 17.01	Long Beach Marine 8th Street/9th Street Ship Bottom
3	Block 110 Lot 18	Mr. Big Russo 379 W 8th Street Ship Bottom
4	Block 111 Lot 1	Hochstrassers Marina Inc. 401 West 8th Street Ship Bottom, NJ 08008

Information collected from the regulatory agencies and observations during the subsequent site reconnaissance's indicated that the parcels located at Block 110, Lots 17.01 and 18 have a relatively higher potential to impact the project. Their impact will be evaluated once the preliminary construction plans are available.

Based upon the age of the bridges, lead-based paint and asbestos containing materials are likely to be present within the bridge superstructure. It is likely that these materials will be disturbed during the rehabilitation process. Therefore, evaluation of the superstructure for the presence of lead-based paint and asbestos containing materials (ACMs) will also be required once the scope of the bridge rehabilitation is finalized.

Wooden bulkheads were observed in the vicinity of the trestle bridge abutments. It is likely that the bulkheads comprise of creosote-treated wood. If these bulkheads are to be replaced or modified, it is recommended that the project plans and specifications indicate that the treated wood will have to be disposed at an off-site facility in accordance with the applicable regulations and guidelines.

1.0 INTRODUCTION

This report presents the results of a Hazardous Waste Screening conducted by Prestige Environmental, Inc. for the Route 72 Manahawkin Bay Bridges Project in the Township of Strafford and the Borough of Ship Bottom in Ocean County. The objective of this study was to identify and evaluate recognized environmental conditions relating to hazardous materials and wastes within the project corridor, and to evaluate their potential impact on the project. This report is based upon site reconnaissance's; review of readily available historical data and environmental databases of regulatory agencies lists of sites for the project corridor and surrounding areas; and correspondence and telephone interviews with the state, county and local regulatory agencies. Figure 1 presents the Project Location Map.

2.0 PROJECT DESCRIPTION

The New Jersey Department of Transportation (NJDOT) has initiated efforts to improve Route 72, in the Township of Strafford and the Borough of Ship Bottom in Ocean County. Based upon the preliminary layout plans the project study area comprises of a 2.75-mile stretch along Route 72 just west of its intersection with Marsha Drive in Stafford Township to 500 feet east of Shore Avenue in Ship Bottom. The project scope includes: rehabilitation of the existing bridge over Manahawkin Bay; improvements to Marsha Drive and Route 72 intersection; construction of a new parallel structure over Manahawkin Bay to the south of the existing structure; rehabilitation of the three smaller bridges over Hillards Thorofare, West Thorofare and East Thorofare; and safety improvements such as roadway widening, intersection improvements and associated drainage modifications. The preliminary plans are presented in Appendix A.

Hazardous waste screening was conducted by Prestige Environmental to evaluate whether proposed construction activities associated with the project will disturb areas of environmental concern which may contain hazardous or toxic substances, or areas previously used as landfills.

3.0 TECHNICAL APPROACH

Hazardous waste screening provides the basis for investigating properties within the project area for potential contamination. Our project team conducted site reconnaissances to identify such properties. Historical resources such as available

aerial photographs, Sanborn™ fire insurance maps, and other resources such as local tax maps and township records were also reviewed. In addition, environmental databases of the federal and state environmental regulatory agencies were reviewed for information regarding the sites of environmental concern. Prestige Environmental also reviewed pertinent and readily available documents at the Office of Records Custodian, New Jersey Department of Environmental Protection (NJDEP). The review was conducted to obtain relevant information regarding environmental issues for the properties with a relatively higher potential for environmental concern.

A brief description of each task is presented below:

3.1 Site Reconnaissances

Site reconnaissance's of the project study area were conducted in late May and early June 2009 and late December 2009 and early January 2010. Each property within the project study area was inspected from the public roadways for the presence of hazardous materials, underground or aboveground storage tanks, gasoline service stations, and evidence of soil discoloration, distressed vegetation, or landfills. Attempts were also made to physically locate each environmentally sensitive parcel/property identified on the databases report (Ref. Section 3.3 and Table 1). No visual evidence of surficial spills and releases listed on the NJ Spills and NJ Release Databases such as distressed vegetation, evidence of soil discoloration was observed along the roadway.

The project study area is located within a mixed commercial and residential section of Strafford Township. Residential and commercial properties as well as undeveloped vacant parcels are situated within this area. With the exception of a minor roadside litter, no evidence of solid waste or hazardous materials was observed during the site reconnaissance.

Within Ship Bottom, the project corridor is located within a densely developed and primarily commercial section of the Borough primarily between and on either side of 8th and 9th Street. The parcels within this section include environmentally sensitive locations such as active and former fuel dispensing facilities (Brennans Gas & Go, Getty, Mr. Big Russo etc); Marinas and boat repair facilities (Long Beach Marine, Hochstrassers Marina,

Inc. etc). Offices, retail establishments, restaurants, an electrical substation are also situated within the project study area.

Based upon preliminary project plans and their proximity to the project corridor, the following four environmentally sensitive parcels with a relatively higher potential for project impact were identified.

Serial	Block and Lot	Location
1	Block 185 Lot 75	Margos Inn, Inc. 1432 E Bay Avenue Manahawkin, Stafford Township
2	Block 110 Lot 18	Mr. Big Russo 379 W 8th Street Ship Bottom
3	Block 110 Lot 17.01	Long Beach Marine 8th Street/9th Street Ship Bottom
4	Block 111 Lot 1	Hochstrassers Marina Inc. 401 West 8th Street Ship Bottom, NJ 08008

The information collected from the regulatory agencies and observations during the subsequent site reconnaissance's which were broadly focused upon the above properties are summarized in Table 2.

Wooden bulkheads were observed in the vicinity of the trestle bridge abutments. It is likely that the bulkheads comprise of creosote treated wood. If these bulkheads are to be replaced or modified, it is recommended that the project plans and specifications indicate that the treated wood will have to be disposed at an off-site facility in accordance with the applicable regulations and guidelines.

3.2 Review of Historical Resources

Historical resources that were reviewed included available aerial photographs for the project corridor and surrounding areas. A search for the Sanborn Fire Insurance maps was conducted by Environmental Data Resources, Inc. (EDR) of

Southport, Connecticut. According to EDR, Sanborn Fire Insurance maps coverage for the project corridor and surrounding areas is not available. A copy of EDR=s fire insurance maps search report is attached as Appendix B. A summary of historical information obtained from the remaining resources is presented below:

3.2.1 Aerial Photographs

Aerial photographs of the project corridor and surrounding area were obtained from Aerial Viewpoint of Spring, Texas for the years 1940, 1951, 1961, 1974. Aerial coverage prior to 1940 and after 1974 was not available with Aerial Viewpoint. Therefore additional aerial photographs for the years 1931 and 1986 were procured online from historicaerials.com. The scale on these photographs varied from 1 inch equals 1667 feet to 1 inch equals 3000 feet. Photographic quality ranged from fair to good. Copies of aerial photographs are attached as Appendix C. A summary of our review of aerial photographs is presented below:

1931 Photographs: Two photographs covering the eastern and western portions the entire project study area were available. The photographs show that the causeway connecting Long Beach Island to Stafford Township consists of a number of smaller bridges. The roadway follows the general alignment of Easy Bay Avenue and terminates at Long Beach Boulevard. The Tuckerton Railroad is apparent approximately 600 feet northeast running parallel to this roadway over the bay and intersects the roadway on the mainland. Development on Long Beach Island (LBI) is generally restricted to the eastern side of Long Beach Boulevard. Residential development is apparent on Ceader Bonnet Island and the street construction appears to be completed. On the mainland, residential and commercial development on the northern side of Bay Avenue is evident.

1940 Photograph: Compared to the 1931 photograph, major land erosion within the bay is apparent. The northwestern and southeastern ends of Tuckerton Railroad alignment are evident while the portion over the bay is no longer apparent. Central Avenue and 7th Street are evident. Along with an increase in development on both sides of Long Beach Boulevard, additional development is evident on LBI between 7th and 8th Street. On the mainland, a significant increase in residential and commercial development on the northern side of Bay Avenue is evident.

1951 Photograph: The photograph shows continued development of the streets on LBI and development on the northwestern side of Shore Avenue which appears to extend between 7th Street and 9th Street. A general increase in development within the project corridor is evident.

1961 Photograph: The photograph shows that the series of smaller bridges have been replaced by a single bridge over Manahawkin Bay. The entrance to LBI appears to be in its present configuration and a significant increase in development and virtual completion of the street layout is apparent. Hoecstrasser Marina on the north side of the causeway is also evident. On the mainland, Morris Boulevard is now apparent and the residential marina complex on the southeastern side of Morris Boulevard and the southern side of Bay Avenue appears to be fully developed. Disturbance consistent with construction to extend this development northwest of Morris Avenue is evident.

1974 Photograph: Except for an increase in commercial and residential development no other significant changes are apparent as compared to the 1961 photograph. A large marina (presently Causeway Rentals) is evident on Bonnet Island. On the mainland, the photograph shows the Route 72 to be completed along the Tuckerton Railroad alignment. Significant expansion of the residential marina complex to the south of Route 72 and additional development between Route 72 and Bay Avenue is evident.

1986 Photographs: Two photographs covering the eastern and western portions the entire project study area were available. Except for an increase in development throughout the project study area as compared to the earlier photographs, no other significant changes are apparent.

3.3 Regulatory Agency Databases Review

EDR conducted a regulatory file review and prepared an environmental databases report to identify properties with environmental concern within the project corridor. The federal databases included the United States Environmental Protection Agency (USEPA's) National Priority List (NPL) for Superfund Sites; Comprehensive

Environmental Response, Compensation and Liability Index System (CERCLIS) List; Resource Conservation and Recovery Act (RCRA) waste generators list and Treatment, Storage and Disposal (TSD) facilities; and Emergency Response Notification System (ERNS) information. At the state level, the databases included the New Jersey Department of Environmental Protection (NJDEP's) State Hazardous Waste Sites (SHWS) list; Underground Storage Tank (UST) list; Leaking Underground Storage Tank (LUST) list; and Solid Waste Facilities and/or State Landfills (SW/LF) list. A copy of Environmental Databases Report is attached as Appendix D.

The report identified several properties with areas of environmental concern within the project study area. Details of these properties are summarized in Table 1. Several facilities are listed on the State Hazardous Waste Sites (SHWS), New Jersey Spills, and Leaking Underground Storage Tank (LUST) databases, which report hazardous substance releases, spills and similar incidents. Based upon preliminary project plans and site reconnaissance, facilities with a greater potential to impact the project, based upon their proximity to the project are listed on Table 2.

3.4 NJDEP Industrial Site Recovery Act (ISRA) Database

The New Jersey Environmental Cleanup Responsibility Act (ECRA) was passed on December 31, 1983. ECRA established preconditions on transfer of ownership, or closing of operations at certain commercial and industrial properties to assure that the contaminated properties were remediated. On June 16, 1993, New Jersey enacted a new legislation to replace and amend ECRA. The new legislation is called the Industrial Site Recovery Act (ISRA), which maintains the original intent of ECRA. Similar to ECRA, ISRA also requires that the establishments operating within certain Standard Industrial Classification (SIC) Code Numbers, and whose activities involve storage, use, generation and/or disposal of hazardous substances or wastes, must comply with the requirements of ISRA prior to sale or transfer of ownership of the property, or closing of operations at such locations.

According to the information provided on the NJDEP databases, the environmentally sensitive sites listed in Table 1 do not appear on the ISRA database and no other ISRA sites were identified within the project corridor.

3.5 Local and Regulatory Agency Contacts

Prestige Environmental submitted requests to the Borough of Ship Bottom, Township of Stafford, and the Ocean County Health Department to obtain records of environmental issues; underground storage tanks and contamination incidents within the project study area. In addition, requests for documents were submitted to the NJDEP-Office of Records Custodian for the properties listed on the environmental databases with a relatively higher potential to impact the project. (Ref. Table 2). Copies of requests are presented as Appendix E.

Pertinent information obtained from documents provided by the Borough of Ship Bottom is provided below. Information related to these incidents is also incorporated in Table 2. A copy of the documents is provided in Appendix F.

- Hochstrassers Marina Inc. (Block 111, Lot 1)
  The facility applied to the NJDEP for a permit to close a 1,000-gallon gasoline UST in June 1999. The Borough issued a Certificate of Approval for the closure in March 2000. The NJDEP issued a permit to upgrade a 4000-gallon gasoline UST in 1999.

- Russo Fuel Inc. (Block 110, Lot 18)
  The facility doing business as Mr. Big Texaco, applied to the NJDEP for installation of Stage II Vapor Controls in February 1988. A Certificate of Approval for closure of a 550-gallon heating oil tank was requested by Renova Environmental services on September 22, 2007. The Certificate of Approval was not available in the Borough file.

The Township of Stafford indicated that a fuel tank was installed at Margos Inn, Inc (Block 185, Lot 52) in 1991. The Construction Official indicated that all environmental problems were resolved by the owner of this facility before reconstruction was completed in 2006. The township was not aware of any other hazardous material incidents on the properties within the project study area (Ref. Appendix F).

Ocean County Board of Health (OCBOH) indicated that NJDEP issued a No Further Action (NFA) letter dated November 11, 2005 for the UST related discharge

at Margos Inn, Inc (Block 185, Lot 52), thus corroborating the information provided by Stafford Township. OCBOH confirmed that no other pertinent contamination related data related to the properties within the project study area was available in their files.

A document review was conducted at the NJDEP's Trenton, New Jersey office on January 25, 2010. Copies of documents received are attached hereto Appendix F. Information related to the facilities of interest is presented below and incorporated into Table 2.

- Margos Inn, Inc (Block 185, Lot 52)

  During removal of underground storage tanks evidence of petroleum product discharge was observed. The NJDEP databases show that an unconditional NFA approval was issued on November 11, 2005 indicating that the sub-surface contamination was addressed by the responsible party.

- Russo Fuel Inc. (Block 110, Lot 18)

  The property was operated by Russo Fuels, Inc as a gasoline service station until December 2004 when UST removal activities commenced. The property was seized thru foreclosure shortly afterwards and purchased by Ewing Fuels II, LLC in a public auction. Remedial action/investigations conducted in late 2007 and early 2008 by Brownfield Associates, Inc. of Belmar, New Jersey were summarized in a report dated June 30, 2008. The report indicates that the contaminated soils have been addressed and recommended remedial investigations to delineate groundwater contamination at the property. The report is presently under review by the NJDEP.

4.0 CONCLUSIONS AND RECOMMENDATIONS

Prestige Environmental conducted a Hazardous Waste Screening for the Route 72 Manahawkin Bay Bridges Project in the Township of Strafford and the Borough of Ship Bottom in Ocean County. The objective of this study was to identify and evaluate recognized environmental conditions relating to hazardous materials and wastes within the project corridor, and to evaluate their potential impact on the project.

This report is based upon site reconnaissance's; review of readily available historical data and environmental databases of regulatory agencies lists of sites for the project corridor and surrounding areas; and correspondence and telephone interviews with the state, county and local regulatory agencies.

Several properties with areas of environmental concern are situated within the project study area. Details of these properties are summarized in Table 1. Based upon a review of the available project plans, potential impact of these environmentally sensitive parcels was evaluated, and the following four parcels with a relatively higher potential for project impact were identified.

Serial	Block and Lot	Location
1	Block 185 Lot 75	Margos Inn, Inc. 1432 E Bay Avenue Manahawkin, Stafford Township
2	Block 110 Lot 17.01	Long Beach Marine 8th Street/9th Street Ship Bottom
3	Block 110 Lot 18	Mr. Big Russo 379 W 8th Street Ship Bottom
4	Block 111 Lot 1	Hochstrassers Marina Inc. 401 West 8th Street Ship Bottom, NJ 08008

Information collected from the regulatory agencies and observations during the subsequent site reconnaissance's indicated that the parcels located at Block 110, Lots 17.01 and 18 have a relatively higher potential to impact the project. Their impact will be evaluated once the preliminary construction plans are available.

Based upon the age of the bridges, lead-based paint and asbestos containing materials are likely to be present within the bridge superstructure. It is likely that these materials will be disturbed during the rehabilitation process. Therefore, evaluation of the superstructure for the presence of lead-based paint and asbestos containing materials (ACMs) will also be required once the scope of the bridge rehabilitation is finalized.

Wooden bulkheads were observed in the vicinity of the trestle bridge abutments. It is likely that the bulkheads comprise of creosote treated wood. If these bulkheads are to be replaced or modified, it is recommended that the project plans and specifications indicate that the treated wood will have to be disposed at an off-site facility in accordance with the applicable regulations and guidelines.

5.0 SIGNATURES OF ENVIRONMENTAL PROFESSIONALS

Report Prepared by:		Reviewed by:
Name:	Xerxes Antia	Girish Mehta, P.E.
Title:	Project Engineer	Principal
Date:	February 11, 2010	February 11, 2010

Firm: Prestige Environmental, Inc.
27 Progress Street
Edison, New Jersey 08820
Tel: 908 757-9700
Fax: 908 757-5050
Email: xerxes@prestige-environmental.com

TABLE 1

PRELIMINARY LIST OF ENVIRONMENTALLY SENSATIVE SITES IN THE PROJECT CORRIDOR

TABLE 1
NJDOT Route 72 Manahawkin Bay Bridges Project
Preliminary List of Environmentally Sensitive Sites in the Project Corridor
Township of Stafford and Borough of Ship Bottom, Ocean County, New Jersey

Item No.	EDR Map ID	Site Location	Site ID/Reference	Potential Contaminants	Remarks
1	2	1128 East Bay Road Stafford Twp, NJ 08050	NJ SPILL: Case ID: 01-04-21-1543-17	Petroleum products, PAHs from used engine oil	Low potential for project impact based upon its location
2	3	Hance & Smythe Inc 1225 E Bay Avenue Manahawkin, NJ 08050	RCRA-NonGen: Site ID: NJN008004699	Unknown No violations are reported	
3	3	Causeway Construction 1205 Bay Avenue Manahawkin, NJ	NJ Release: Case ID: 94-2-22-1241-42	Petroleum products, PAHs from used engine oil Incident related to a citizen complaint regarding old motor vehicles	
4	3	Residence 1201 E. Bay Avenue Manahawkin, NJ	NJ Spill: Case ID: 00-03-06-1003-07 NJ Release: 03-06-04-1356-28	Unknown Incidents based upon citizen complaints.	
5	11	Roadway East Bay Ave/Marsha Blvd. Stafford Twp, NJ	NJ Spills: Case ID: 99-04-01-1557-22	Petroleum products Incident related to a motor vehicle related spill clean-up by local fire department	
6	11	On Roadway Marsha Dr/E. Bay Avenue Stafford, NJ	NJ Spills: Case ID: 99-08-02-0827-15	Petroleum products Incident related a motor vehicle related spill clean-up by local public works department	
7	14	Mallard Island Near 1377 Bay Avenue Stafford Twp, NJ	NJ Release: Case ID: 02-02-19-0820-28	Unknown Incident related to a citizen complaint regarding improper installation of sewage lines	
8	16	1450 Bay Avenue Stafford Township, NJ	NJ Release: Case ID: 02-06-26-1239-27	Unknown Incident related to a citizen complaint regarding sloppy housekeeping	

TABLE 1
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Preliminary List of Environmentally Sensitive Sites in the Project Corridor
Township of Stafford and Borough of Ship Bottom, Ocean County, New Jersey

Item No.	EDR Map ID	Site Location	Site ID/Reference	Potential Contaminants	Remarks
9	16	Margos Inn, Inc. 1432 E Bay Avenue Manahawkin, NJ 08050	NJPDES: NJ0113727 RCRA-NonGen: NJN0080004673 NJ Release: 92-09-14-1542-00, Case ID 92-10-21-1052-51 NJ PDES: NJG0113727 SHWS: U000367826 UST:N/A HIST LUST: Case ID: 92-07-05-1016	Gasoline Soil and groundwater contamination noted during tank removal	Review of documents available with the regulatory agencies is recommended if any type of project impact is anticipated
10	22	16 Steven Drive Stafford TWP, NJ	NJ Release Case ID: 06-01-04-1008-20 NJ Release: Case ID: 06-03-28-0734-09 NJ Release: Case ID: 05-12-31-1215-10	Unknown Incidents related to dilapidated boats in the nearby lagoon	Low potential for project impact based upon its location
11	23	Roadway 25 Julia Drive Holgate, NJ	NJ Spills: Case ID: 93-2-5-1143-35	Petroleum products Incident related to discharge of hydraulic oil from an Atlantic Electric vehicle	
12	23	9 Juila Drive Stafford Twp, NJ	NJ Spillls Case ID: 06-03-28-1134-47	Unknown Incidents related to dilapidated boats in the nearby lagoon	
13	23	Julia Drive/ Steven Drive Stafford Twp, NJ	NJ Release: Case ID: 06-12-21-1635-46	Unknown Incidents related to dilapidated boats in the nearby lagoon	
14	24	Resident 12 Jennie Drive Beach Haven West, NJ	NJ Release: Case ID: 91-12-23-0930-02	Petroleum products Incident related to discharge of oil from a parked truck	
15	27	18 Jeri-Ann Lane Stafford Twp, NJ	NJ Release: Case ID: 06-09-29-1222-14	Unknown Complaint by Stafford Township Zoning Department	
16	28	Block #171, Lot 98 Mark/Jennifer Lane Manahawkin, NJ	NJ Release: Case ID: 88-08-11-0902	Petroleum products Incident related to illegal dumping at the site.	
17	28	28 Muriel Drive Stafford, NJ	NJ Release: Case ID: 02-06-18-1350-27	Unknown Incident related to a citizen complaint about soil contamination	

TABLE 1
NJDOT Route 72 Manahawkin Bay Bridges Project
Preliminary List of Environmentally Sensitive Sites in the Project Corridor
Township of Stafford and Borough of Ship Bottom, Ocean County, New Jersey

Item No.	EDR Map ID	Site Location	Site ID/Reference	Potential Contaminants	Remarks
18	29	Manahawkin Bay Behind 3 Susan Lane Stafford Twp, NJ	NJ Spills: Case ID: 97-3-31-1032-00	Unknown Incident related to an abandoned motor boat	Low potential for project impact based upon its location
19	30	On Roadway at Rt 9 & Bay Avenue Stafford Twp, NJ	NJ Release: Case ID: 02-09-09-0907-16 NJ release: Case ID: 92-06-09-1544-05	Petroleum product spill at Manahawkin Plaza Contaminated soil discovered during utility installation.	Location is outside the project study area.
20	30	In the Area of Bay Avenue Bay Avenue, Stafford Twp, NJ	NJ Spills: Case ID: 95-07-20-1836-00	Leak from pole mounted transformer	Low potential for project impact based upon its location
21	33, 34	Causeway Boat Rentals 2200 E Bay Avenue Manahawkin, NJ	RCRA-NonGen: EPA ID: NJN008004608 HIST LUST: Case ID: 90-11-01-0855 NJ PDES: Permit #: NJG0141429 SHWS: Site ID: 2782 NJ Release: Case ID: 90-11-01-0855 LUST: Case ID: 15177 UST: Facility ID: 015177 HIST SHWS:	Petroleum product impacts to soil and groundwater confirmed.	
22	34	Cedar Bonnet Island Pump Station Railroad Avenue Stafford Township, NJ	UST: Facility ID: 026545 Hist LUST: Case ID: Not Reported	Petroleum product discharge. Facility was issued a No Further Action determination by the NJDEP	
23	34	2552 2nd Avenue Stafford Twp, NJ	NJ Release: Case ID: 08-09-11-1148-34	Incident related to a citizen complaint. No further information available	
25	35	12 1st Street Stafford Twp, NJ	NJ Release: Case ID: 02-07-13-1107-56	Incident related to a citizen complaint. No further information available	
26	35	On Roadway East Bay / Rt 72 Stafford Twp, NJ	NJ Spill: Case ID: 94-8-9-1412-24	Incident related to a discharge of antifreeze during a vehicle accident. Available information indicates that cleanup was performed.	

TABLE 1
NJDOT Route 72 Manahawkin Bay Bridges Project
Preliminary List of Environmentally Sensitive Sites in the Project Corridor
Township of Stafford and Borough of Ship Bottom, Ocean County, New Jersey

Item No.	EDR Map ID	Site Location	Site ID/Reference	Potential Contaminants	Remarks
27	37	Rose Hogson Former Owner 332 West 4th Street Ship Bottom, NJ	NJ Release: Case ID: 93-9-16-1143-43	Incident related to dumping of tree stumps	Low potential for project impact based upon its location
28	38	16 4th Street Stafford Twp, NJ	NJ Release: Case ID: 02-05-28-1503-13 NJ Release: Case ID: 02-05-30-1001-07	Incident related to a citizen complaint. No further information available	
29	38	Mellor Residence 7 Third Street Stafford Twp, NJ	NJ Spills: Case ID: 95-12-22-2007-37	Incident related to a discharge from a fuel oil tank.	
30	41	Rainbow Beverage 705 So Shore Road Forked River, NJ	NJ Release: Case ID: 93-10-29-1036-39	Facility location improperly mapped	Facility is not within the project study area
31	42	9th Street/ Shore Ave Ship Bottom, NJ	NJ Spills: Case ID: 03-02-25-1646-16	Incident location shown as Russo Gas Station. No further information available	Russo facility is located at 379 8th Street. Review of documents available with the regulatory agencies is recommended if any type of project impact is anticipated.
32	42	Long Beach Marine 8th Street + 9th Street Ship Bottom, NJ	NJ Release: Case ID: 94-2-18-1548-30	Petroleum product impacts due to improper housekeeping	Review of documents available with the regulatory agencies is recommended if any type of project impact is anticipated.
33	42	Hochstrassers Marina Inc. 401 West 8th Street Ship Bottom, NJ 08008	Hist LUST: NJPDES: Permit #: NJG0114049 RCRA-NonGen: EPA ID: NJN00800 UST: Facility ID: 000045	Petroleum products from leaking underground tanks	Review of documents available with the regulatory agencies is recommended if any type of project impact is anticipated.
34	43	Ship Bottom Garage 6th & Barnegat Avenue Ship Bottom Boro, NJ	LUST: Case ID: 3042 UST: Facility ID: 003042 Hist SHWS:Case ID: 003042 SHWS: Site ID: 45586	Active UST facility with documented subsurface impacts	Low potential for project impact based upon its location
35	43	Public Works Dept West 6th Street Ship Bottom Boro, NJ	UST: Facility ID: 001584	Active UST facility	

TABLE 1
NJDOT Route 72 Manahawkin Bay Bridges Project
Preliminary List of Environmentally Sensitive Sites in the Project Corridor
Township of Stafford and Borough of Ship Bottom, Ocean County, New Jersey

Item No.	EDR Map ID	Site Location	Site ID/Reference	Potential Contaminants	Remarks
36	43	Stream In Backyard 292A West 6th Street Howell, NJ	NJ Spills: Case ID: 90-09-16-1507	Incident related to a citizen complaint about a surficial discharge	Low potential for project impact based upon the site
37	45	Fantasy Island Amusement Park 320 West 7th Street Beach Haven, NJ	NJ Release: Case ID: 96-9-10-1143-16	Incident related to a citizen complaint	Low potential for project impact based upon the site
38	46	Woolley Property 342 West 9th Street Ship Bottom, NJ	HIST LUST: Case ID: 00-02-18-1506-02 UST: Facility ID: 033079	Incident related to a discharge of petroleum products from a UST	Low potential for project impact based upon the site location
39	46	Woolley Property 301 West Ninth Street Ship Bottom, NJ	UST: Facility ID: 032894 HIST LUST: Case ID: 98-12-18-1008-08	Site issued a NFA letter	
40	46	Sunoco Service Station 305 8th Street Ship Bottom Boro, NJ	INS Control: Facility ID: 2817 HIST LUST: Case ID: 92-06-05-1703	Active gasoline dispensing facility	
41	46	Mr. Big Russo 379 W 8th Street Ship Bottom Boro, NJ	SHWS: Site ID: 13454 LUST: Case ID: 22627 UST: Facility ID: 022627 HIST SHWS: Case ID: 022627 NJ Spills: Case ID:91-10-18-1417-25 NJ Release: Case ID: 03-03-24-1404-46 NJ Spills: Case ID: 91-4-5-1544-43	Former fuel storage facility with documented sub surface impacts	Review of documents available with the regulatory agencies is recommended if any type of project impact is anticipated
42	47	245 West 6th Street Ship Bottom Boro, NJ	NJ Release: Case ID: 06-03-20-1012-37	Unknown release	Low potential for project impact based upon its location
43	48	Brennans Gas & Go Service Station 237 West 8th Street Ship Bottom, NJ	INS Control: Facility ID: 2816	Former fuel storage facility with documented sub surface impacts	
44	48	Atlantic City Electric Company 236 West 8th Street Ship Bottom, NJ	NJ Manifest: EPA ID: NJR000056093 RCRA-NonGen: EPA ID: NJR000056093	Manifest for drum/barrel disposal	

TABLE 1
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Preliminary List of Environmentally Sensitive Sites in the Project Corridor
Township of Stafford and Borough of Ship Bottom, Ocean County, New Jersey

Item No.	EDR Map ID	Site Location	Site ID/Reference	Potential Contaminants	Remarks
45	48	Getty 56307 237 West 8th Street Ship Bottom Boro, NJ	SHWS: Site ID: 2816	Former fuel storage facility with documented sub surface impacts from petroleum products	Low potential for project impact based upon its location
46	48	Gosline-Nissen Fire Protection 236 West 8th Street Ship Bottom, NJ	NJ Release: Case ID: 97-10-28-1608-52	Citizen complaint related to surficial discharge of petroleum products	
47	48	Long Beach Marine 236 West 8th Street Ship Bottom, NJ	NJ Release: Case ID: 97-9-18-1443-49 NJ Release: Case ID: 97-10-28-1043-28	Citizen complaint related to unauthorized dumping Incident related to petroleum product discharge from an above ground tank	
48	48	Brennens Citgo W. 8th Street Ship Bottom, NJ	NJ Release: Case ID: 93-12-10-1039-07 HIST LUST: Case ID: 92-04-10-1511 NJ Release: Case ID: 92-4-10-1511-48	Citizen complaint related to unauthorized dumping Former fuel storage facility with documented sub surface impacts from petroleum products	
49	48	256 West 8th Street Ship Bottom Boro, NJ	NJ Spills: Case ID: 04-06-04-1627-26	Citizen complaint related to a spill at the electric substation	
50	48	Area of Gateway Inn 227 West 8th Street Ship Bottom, NJ	NJ Spills: Case ID: 99-05-28-1117-37	Incident related to a leak from a hose on a truck. Report indicates cleanup in progress	
51	49	Vacant Lot 301 West 9th Street Ship Bottom, NJ	NJ Spills: Case ID: 98-12-18-1008-08	Incident related to a petroleum product discharge from a UST	
52	50	In Manahawkin Bay 352 W 11th Street Surf City, NJ	NJ Release: Case ID: 00-12-04-1647-51	Unknown release	
53	51	Area near 275 West 9th Street Ship Bottom, NJ	NJ Release: Case ID: 00-06-10-1709-31	Unknown release	

TABLE 1
NJDOT Route 72 Manahawkin Bay Bridges Project
Preliminary List of Environmentally Sensitive Sites in the Project Corridor
Township of Stafford and Borough of Ship Bottom, Ocean County, New Jersey

Item No.	EDR Map ID	Site Location	Site ID/Reference	Potential Contaminants	Remarks
54	52	Pole # P5409 233 West 9th Street Surf City, NJ	NJ Spills: Case ID: 94-2-7-1758-39	Surficial spill from pole mounted transformer. Databases report indicates that cleanup is in progress.	Low potential for project impact based upon its location
55	53	Residence at 309 E 13th Street Lakewood Twp, NJ	NJ Spills: Case ID: 94-9-28-1048-42	Incident related to surficial spill of motor oil.	

RCRA-Non Gen: RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and /or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

SHWS: Listing of known contaminated sites in New Jersey. .The known contaminated sites in New Jersey includes sites under the purview of the Site Remediation Program which have contamination present at levels greater than the applicable cleanup criteria for soil and /or groundwater standards.

LUST: A listing of regulated Underground Storage Tanks (USTs) that have a cleanup underway.

HIST LUST: Available listing of historical leaking USTs. This listing is no longer updated or maintained by DEP

UST: Listing of facilities with registered USTs. UST's are regulated under subtitle I of the Resource Conservation and Recovery Act (RCRA) and must be registered with the state department responsible for administering the UST program.

NJ MANIFEST: Listing of sites with registered as points of origination on hazardous waste manifests.

NJ Spills: Listing of initial notification information related to hazardous material incidents, where there is land contamination, reported to the Department of Environmental Protection's (DEP) Environmental Action Line. The DEP does not conduct any investigation to determine its validity or accuracy of the information.

NJ Release: Listing of Hazardous material releases reported to the DEP Environmental Action Line. The DEP does not conduct any investigation to determine its validity or accuracy of the information.

INST CONTROLS: Listing of sites with institutional controls providing notice that contamination exists in a particular location above State standards.

NJPDES:
The New Jersey Pollutant Discharge Elimination System (NJPDES) listing contains the names, addresses and other information of all permitted NJPDES dischargers

TABLE 2

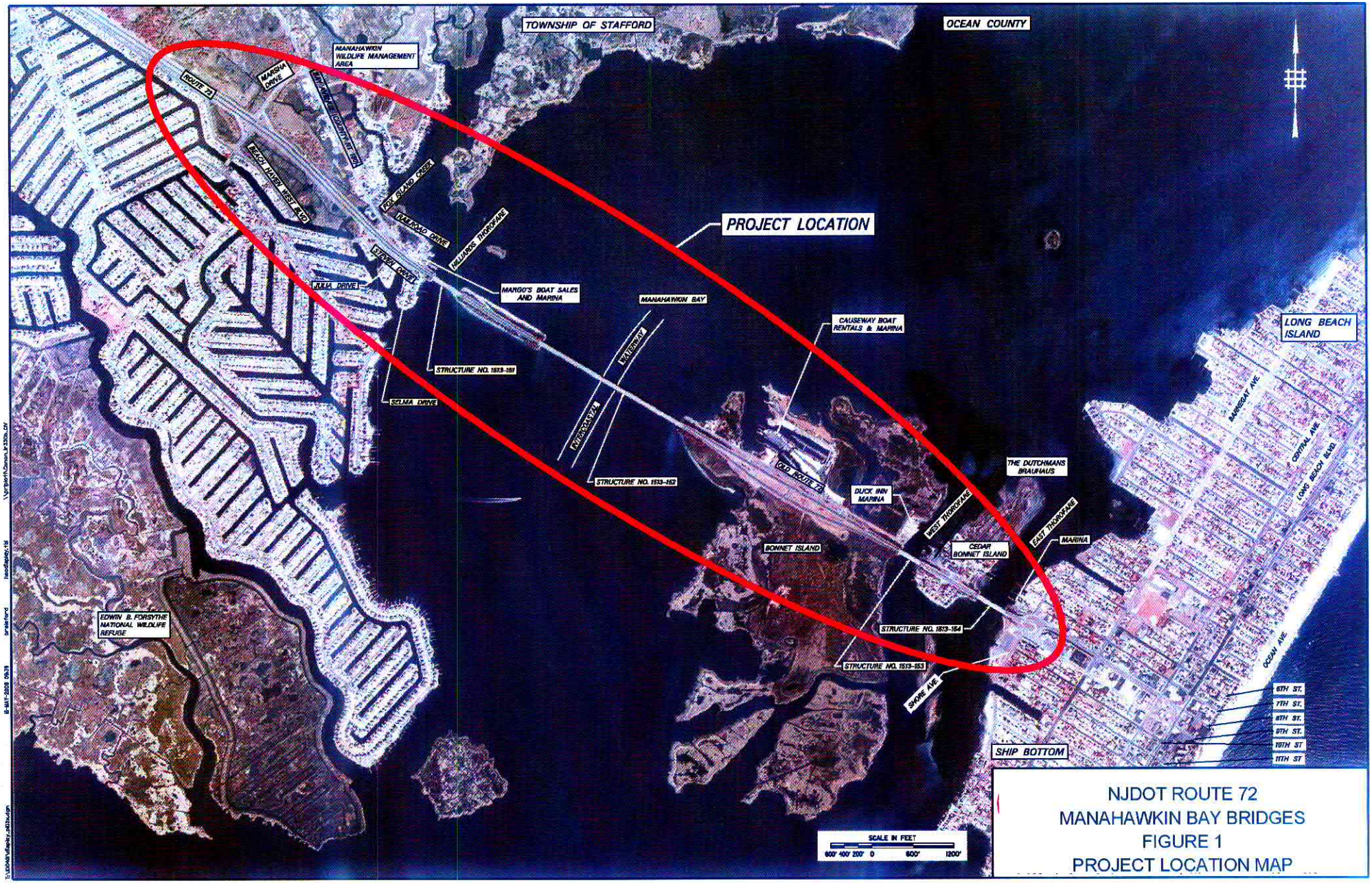
LIST OF ENVIRONMENTALLY SENSATIVE SITES IN THE PROJECT CORRIDOR IN CLOSE PROXIMITY TO THE PROPOSED IMPROVEMENTS

TABLE 2
NJDOT Route 72 Manahawkin Bay Bridges Project
List of Environmentally Sensitive Sites in the Project Corridor in Close Proximity to the Proposed Improvements
Township of Stafford and Borough of Ship Bottom, Ocean County, New Jersey

Item No.	Block & Lot	Site Location	Environmental Issues Potential Contaminants	Current Status	Recommendations
1	185 75	Margos Inn, Inc. 1432 E Bay Avenue Manahawkin, NJ 08050	Soil and groundwater contamination noted during tank removal	Stafford Township indicated that all environmental issues were resolved before 2006. NJDEP issued an unrestricted No Further Action letter on November 30, 2005 indicating that the issues were addressed.	Based upon the available information no further investigations are warranted.
2	110 18	Mr. Big Russo Mr. Big Texaco 379 W 8th Street Ship Bottom, NJ 08008	Environmentally sensitive due to its historic utilization as a gasoline dispensing facility with a major spill on the property in 1987. Gasoline constituents documented in the groundwater and direction of groundwater flow is southwest.	The property was operated by Russo Fuels, Inc as a gasoline service station until December 2004 when UST removal activities commenced. The property was seized thru foreclosure shortly afterwards and purchased by Ewing Fuels II, LLC in a public auction. Remedial action/investigations conducted in late 2007 and early 2008 by Brownfield Associates, Inc. of Belmar, New Jersey were summarized in a report dated June 30, 2008. The report is under review by the NJDEP. The report indicates that the contaminated soils have been addressed and recommended remedial investigations to delineate groundwater contamination at the property. Borough records indicate that a 550 gallon heating oil tank was removed on or about September22, 2007 and no evidence of contamination was observed.	Additional evaluations/investigations are warranted if significant project impact is anticipated at these parcels based upon a review of the project plans.
3	110 17.01	Long Beach Marine 8th /9th Street Ship Bottom, NJ 08008	Based upon an anonymous complaint about sloppy housekeeping, the NJDEP assigned Case No.: 94-02-18-1548-30	The facility is currently utilized as a recreational boat yard with an associated retail store. No pertinent documents were available with the NJDEP, the Ocean County Board of Health or Ship Bottom Borough.	
4	111 1	Hochstrassers Marina Inc. 401 West 8th Street Ship Bottom, NJ 08008	Environmentally sensitive due to its listing on the HIST LUST database which is a listing of historical leaking USTs. Reportedly, this listing is no longer updated or maintained by the NJDEP	The facility is currently utilized as a marina with an associated boat fuelling and servicing facility. No pertinent documents were available with the NJDEP or Ocean County Board of Health.	Based upon its location the fueling facility at the property has a low potential to impact the project.

FIGURE 1

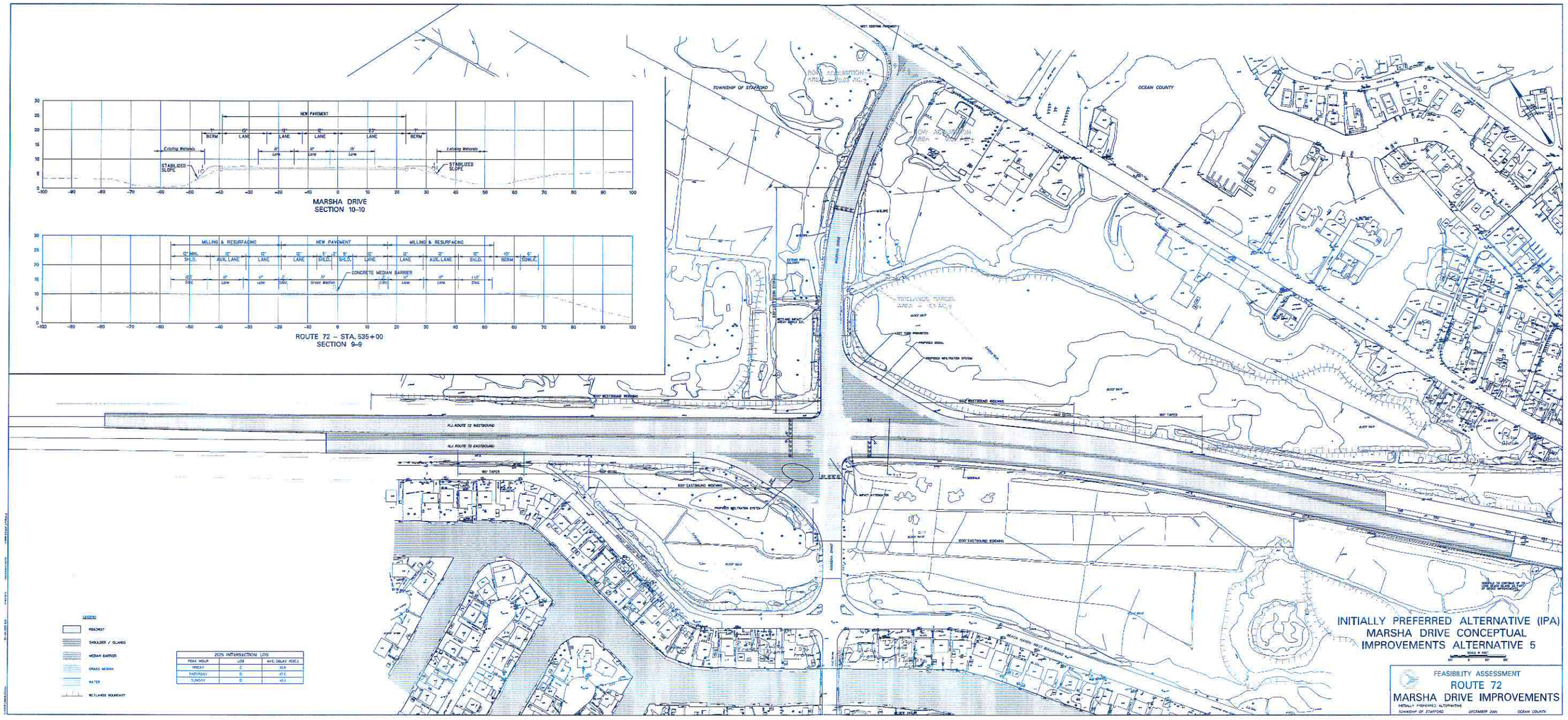
PROJECT LOCATION MAP

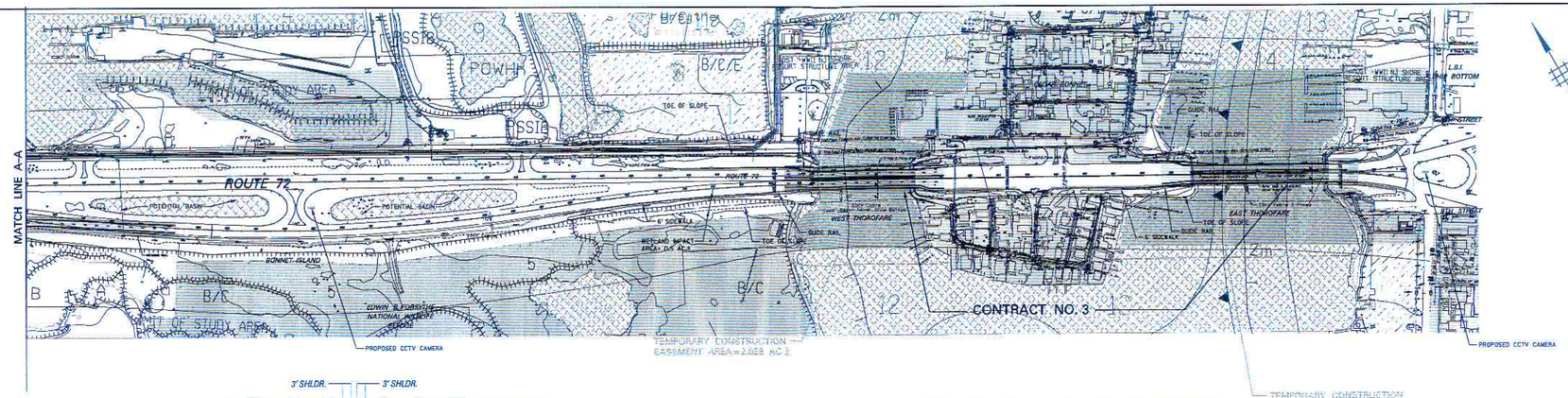


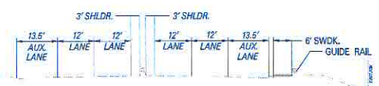
NJDOT ROUTE 72
MANAHAWKIN BAY BRIDGES
FIGURE 1
PROJECT LOCATION MAP

APPENDIX A

PRELIMINARY PROJECT PLANS


MARSHA DRIVE
SECTION 10-10
ROUTE 72 – STA. 535+00
SECTION 9-9
TOWNSHIP OF STAFFORD
OCEAN COUNTY
N.J. ROUTE 72 WESTBOUND
N.J. ROUTE 72 EASTBOUND
MARSHA DRIVE
LEGEND
PAVEMENT
SHOULDER / ISLANDS
MEDIAN BARRIER
GRASS MEDIAN
WATER
WETLANDS BOUNDARY
2025 INTERSECTION LOS
PEAK HOUR | LOS | AVG. DELAY (SEC.)
FRIDAY | C | 30.9
SATURDAY | D | 47.0
SUNDAY | D | 43.1
INITIALLY PREFERRED ALTERNATIVE (IPA)
MARSHA DRIVE CONCEPTUAL
IMPROVEMENTS ALTERNATIVE 5
FEASIBILITY ASSESSMENT
ROUTE 72
MARSHA DRIVE IMPROVEMENTS
INITIALLY PREFERRED ALTERNATIVE
TOWNSHIP OF STAFFORD
DECEMBER 2001
OCEAN COUNTY



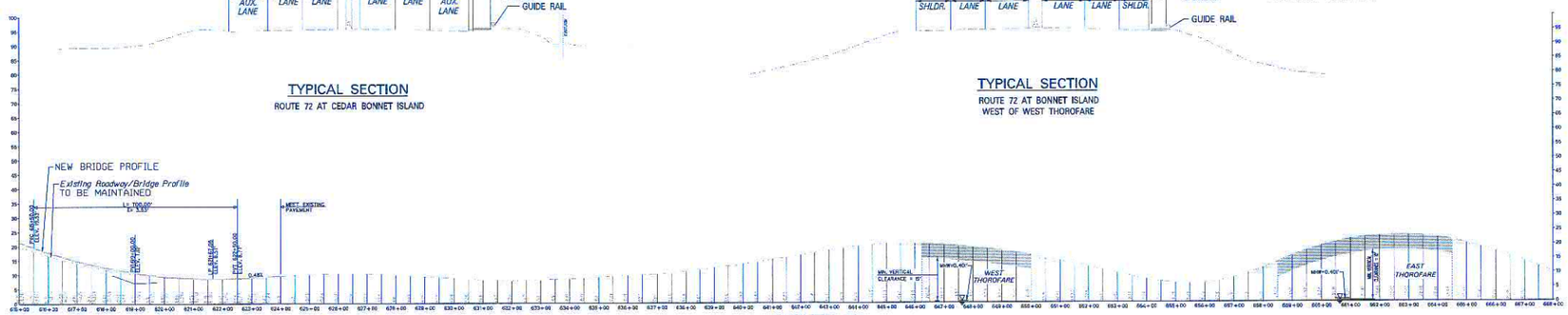


TYPICAL SECTION

ROUTE 72 AT CEDAR BONNET ISLAND

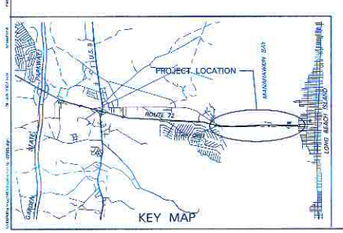
TYPICAL SECTION

ROUTE 72 AT BONNET ISLAND
WEST OF WEST THOROFARE



ROUTE 72
DESIGN SPEED 60 MPH

REVISED INITIALLY PREFERRED ALTERNATIVE (IPA)



KEY MAP

ADVANTAGES	DISADVANTAGES
1. SUBMARINE UTILITIES IN MANAHAWKIN BAY BRD LEAST IMPACTED. OTHER UTILITY IMPACTS MINIMIZED.	1. NEED RIPARIAN GRANTS FOR NEW BAY BRIDGE.
2. TWO STAGE CONSTRUCTION OF BAY BRIDGE AND TRESTLE BRIDGE.	2. EXISTING TRESTLE BRIDGES TO REMAIN.
3. FOUR LANES OF TRAFFIC CAN BE MAINTAINED AT ALL TIMES.	
4. BIKE/PED. ACCOMMODATIONS CAN BE PROVIDED.	
5. STRUCTURAL DEFICIENCIES ADDRESSED.	
6. SAFETY IMPROVEMENTS PROVIDED.	
7. NO FOUNDATION CONSTRUCTION ON EXISTING BRIDGE.	
8. POSSIBLE TO IMPROVE VERTICAL CLEARANCE (60FT. EXISTING).	
9. NO FOUNDATION CONSTRUCTION ON EXISTING BRIDGES.	
10. IMPROVED VERTICAL STOPPING SIGHT DISTANCE.	

LEGEND

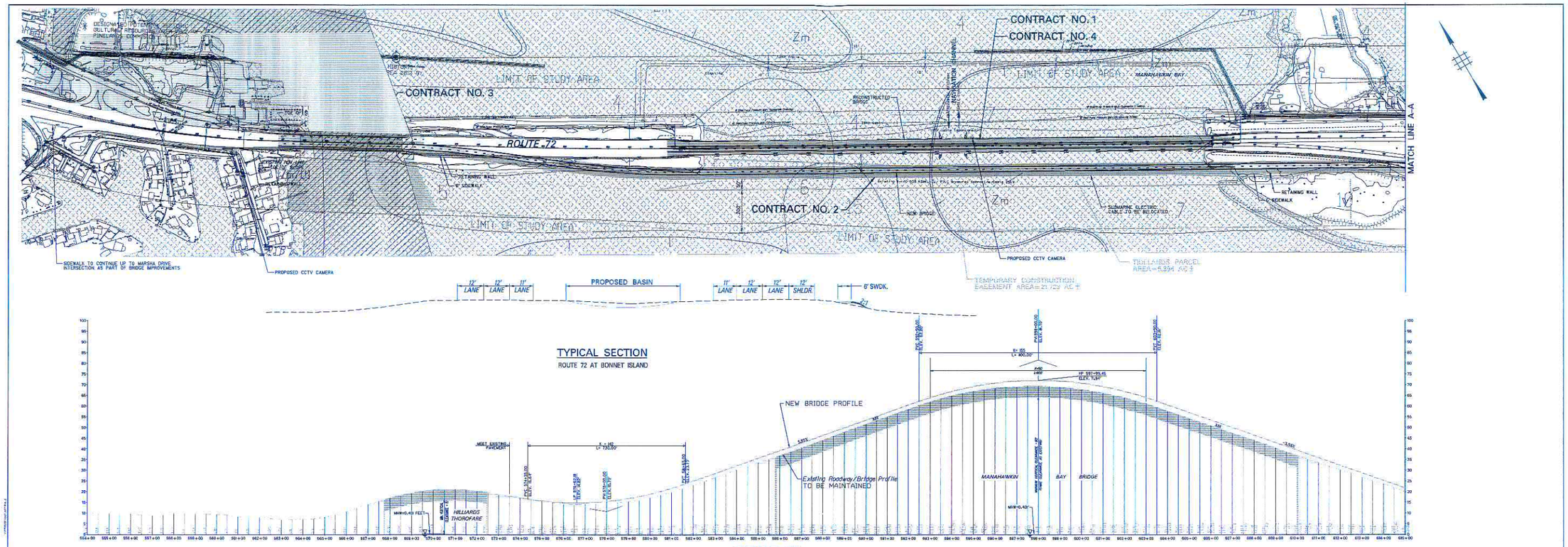
- POTENTIALLY ELIGIBLE HISTORIC RESOURCES
- SEASONAL SHELLFISH AREA
- PROPERTIES OF ENVIRONMENTAL CONCERN (HAZARDOUS WASTE)
- SPECIAL RESTRICTED SHELLFISH AREA
- SHOULDER IMPROVEMENTS
- PARKLAND
- STRUCTURAL IMPROVEMENTS
- ROADWAY IMPROVEMENTS
- SIDEWALK IMPROVEMENTS
- WATER
- COASTAL WETLANDS
- SUBMERGED AQUATIC VEGETATION
- 1 – 1 CRITICAL SECTION LOCATION

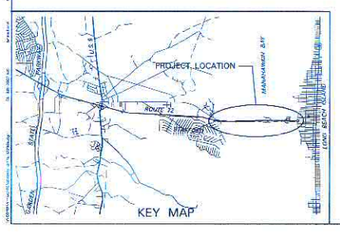
SCALE IN FEET
100' 50' 0 100' 200'

SHEET 2 OF 2

FEASIBILITY ASSESSMENT
ROUTE 72
BRIDGE IMPROVEMENTS

TOWNSHIP OF STAFFORD — DECEMBER, 2006 — OCEAN COUNTY





ADVANTAGES	DISADVANTAGES
1. SUBMARINE UTILITIES IN MANAHAWKIN BAY BED LEAST IMPACTED. OTHER UTILITY IMPACTS MINIMIZED.	1. NEED RIPARIAN GRANTS FOR NEW BAY BRIDGE.
2. TWO STAGE CONSTRUCTION OF BAY BRIDGE AND TRESTLE BRIDGE.	2. EXISTING TRESTLE BRIDGES TO REMAIN.
3. FOUR LANES OF TRAFFIC CAN BE MAINTAINED AT ALL TIMES.	
4. BIKE/PED. ACCOMMODATIONS CAN BE PROVIDED.	
5. STRUCTURAL DEFICIENCIES ADDRESSED.	
6. SAFETY IMPROVEMENTS PROVIDED.	
7. NO FOUNDATION CONSTRUCTION ON EXISTING BRIDGES.	

REVISED INITIALLY PREFERRED ALTERNATIVE (IPA)

LEGEND

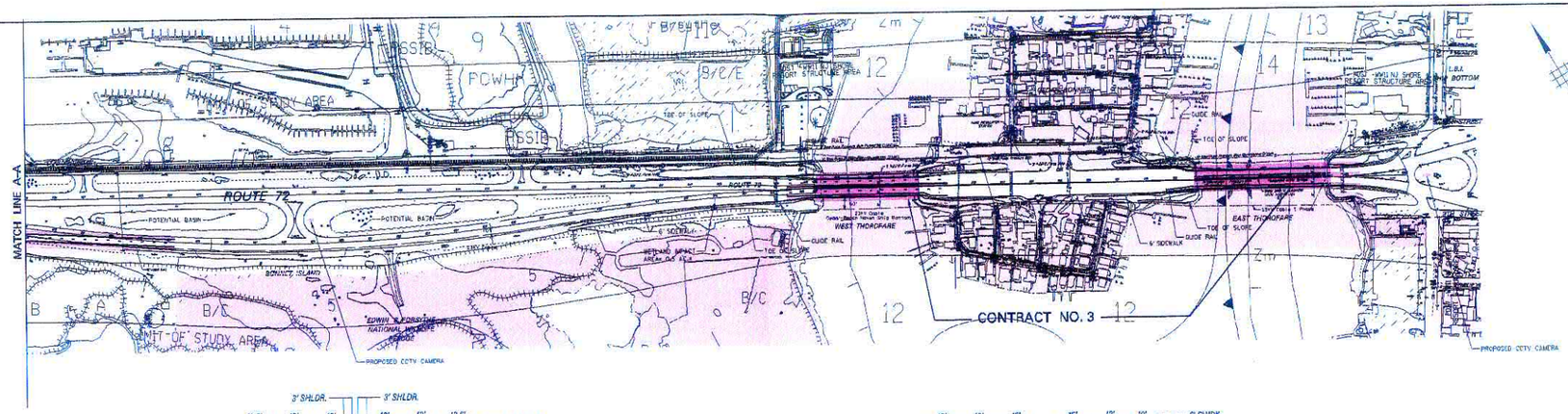
- POTENTIALLY ELIGIBLE HISTORIC RESOURCES
- SEASONAL SHELLFISH AREA
- PROPERTIES OF ENVIRONMENTAL CONCERN (HAZARDOUS WASTE)
- SPECIAL RESTRICTED SHELLFISH AREA
- SHOULDER IMPROVEMENTS
- PARKLAND
- STRUCTURAL IMPROVEMENTS
- ROADWAY IMPROVEMENTS
- SIDEWALK IMPROVEMENTS
- WATER
- COASTAL WETLANDS
- SUBMERGED AQUATIC VEGETATION
- 1 – 1 CRITICAL SECTION LOCATION

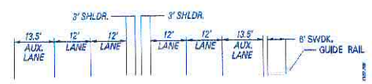
SCALE IN FEET
100' 50' 0 100' 200'

SHEET 1 OF 2

FEASIBILITY ASSESSMENT
ROUTE 72
BRIDGE IMPROVEMENTS

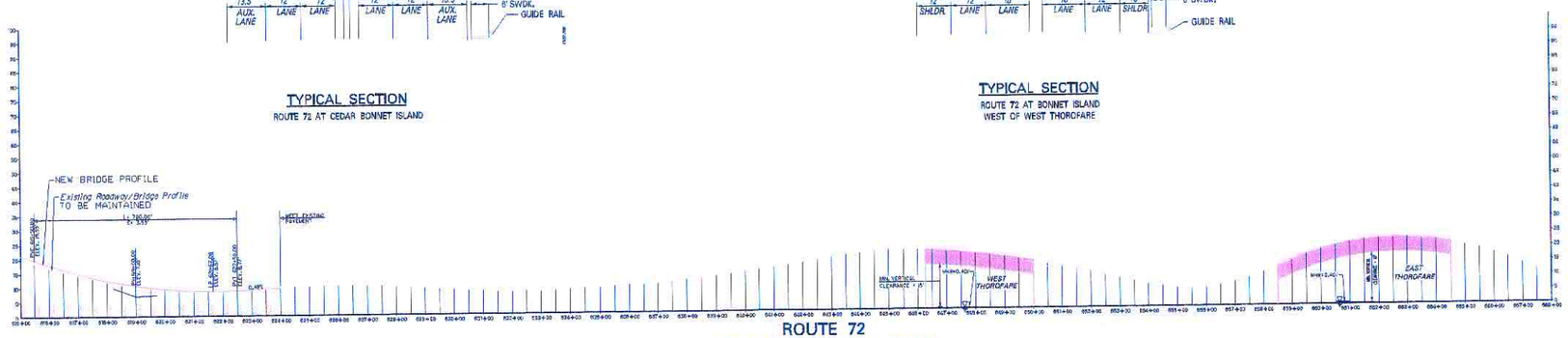
TOWNSHIP OF STAFFORD DECEMBER, 2006 OCEAN COUNTY





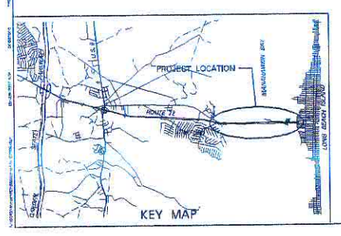
TYPICAL SECTION
ROUTE 72 AT CEDAR BONNET ISLAND

TYPICAL SECTION
ROUTE 72 AT BONNET ISLAND
WEST OF WEST THOROFARE



ROUTE 72
DESIGN SPEED 60 MPH

REVISED INITIALLY PREFERRED ALTERNATIVE (IPA)



ADVANTAGES	DISADVANTAGES
1. SUBMARINE UTILITIES IN MANAHAWKIN BAY BEG LEAST IMPACTED. OTHER UTILITY IMPACTS MINIMIZED.	1. NEED MANAHAWKIN GRAVES FOR NEW BAY BRIDGE.
2. TWO STAGE CONSTRUCTION OF BAY BRIDGE AND TRESTLE BRIDGE.	2. EXISTING TRESTLE BRIDGES TO REMAIN.
3. FOUR LANES OF TRAFFIC CAN BE MAINTAINED AT ALL TIMES.	
4. BIKE/PED. ACCOMMODATIONS CAN BE PROVIDED.	
5. STRUCTURAL DEFICIENCIES ADDRESSED.	
6. SAFETY IMPROVEMENTS PROVIDED.	
7. NO FOUNDATION CONSTRUCTION ON EXISTING BRIDGE.	
8. POSSIBLE TO IMPROVE VERTICAL CLEARANCE (NEW, EXISTING).	
9. NO FOUNDATION CONSTRUCTION ON EXISTING BRIDGES.	
10. IMPROVES VERTICAL STOPPING SIGHT DISTANCE.	

LEGEND

- POTENTIALLY ELIGIBLE HISTORIC RESOURCES
- SEASONAL SHELLFISH AREA
- PROPERTIES OF ENVIRONMENTAL CONCERN (HAZARDOUS WASTE)
- SPECIAL RESTRICTED SHELLFISH AREA
- SHOULDER IMPROVEMENTS
- PARKLAND
- STRUCTURAL IMPROVEMENTS
- ROADWAY IMPROVEMENTS
- SIDEWALK IMPROVEMENTS
- WATER
- COASTAL WETLANDS
- SUBMERGED AQUATIC VEGETATION
- 1 — 1 CRITICAL SECTION LOCATION

SCALE IN FEET
100 50 0 100 200

SHEET 2 OF 2

FEASIBILITY ASSESSMENT
ROUTE 72
BRIDGE IMPROVEMENTS

TOWNSHIP OF STAFFORD — DECEMBER 2006 — OCEAN COUNTY

APPENDIX B

SANBORN™ FIRE INSURANCE MAP SEARCH

NJDOT Route 72 Project

NJDOT Route 72 Project

Ocean County, NJ 08050

Inquiry Number: 2667826.1s

December 30, 2009

Certified Sanborn® Map Report

EDR® Environmental Data Resources Inc

440 Wheelers Farms Road
Milford, CT 06461
800.352.0050
www.edrnet.com

Certified Sanborn® Map Report

12/30/09

Site Name:
NJDOT Route 72 Project
NJDOT Route 72 Project
Ocean County, NJ 08050

Client Name:
Prestige Env. Inc.
27 Progress Street
Edison, NJ 08820

EDR Inquiry # 2667826.1s

Contact: Xerxes Anita

EDR® Environmental Data Resources Inc

The complete Sanborn Library collection has been searched by EDR, and fire insurance maps covering the target property location provided by Prestige Env. Inc. were identified for the years listed below. The certified Sanborn Library search results in this report can be authenticated by visiting www.edrnet.com/sanborn and entering the certification number. Only Environmental Data Resources Inc. (EDR) is authorized to grant rights for commercial reproduction of maps by Sanborn Library LLC, the copyright holder for the collection.

Certified Sanborn Results:

Site Name: NJDOT Route 72 Project
Address: NJDOT Route 72 Project
City, State, Zip: Ocean County, NJ 08050
Cross Street:
P.O. # NA
Project: NA
Certification # EDEA-45A8-B3CF

Sanborn® Library search results
Certification # EDEA-45A8-B3CF

UNMAPPED PROPERTY

This report certifies that the complete holdings of the Sanborn Library, LLC collection have been searched based on client supplied target property information, and fire insurance maps covering the target property were not found.

The Sanborn Library includes more than 1.2 million Sanborn fire insurance maps, which track historical property usage in approximately 12,000 American cities and towns. Collections searched:

- ✔ Library of Congress
- ✔ University Publications of America
- ✔ EDR Private Collection

Total Maps: 0

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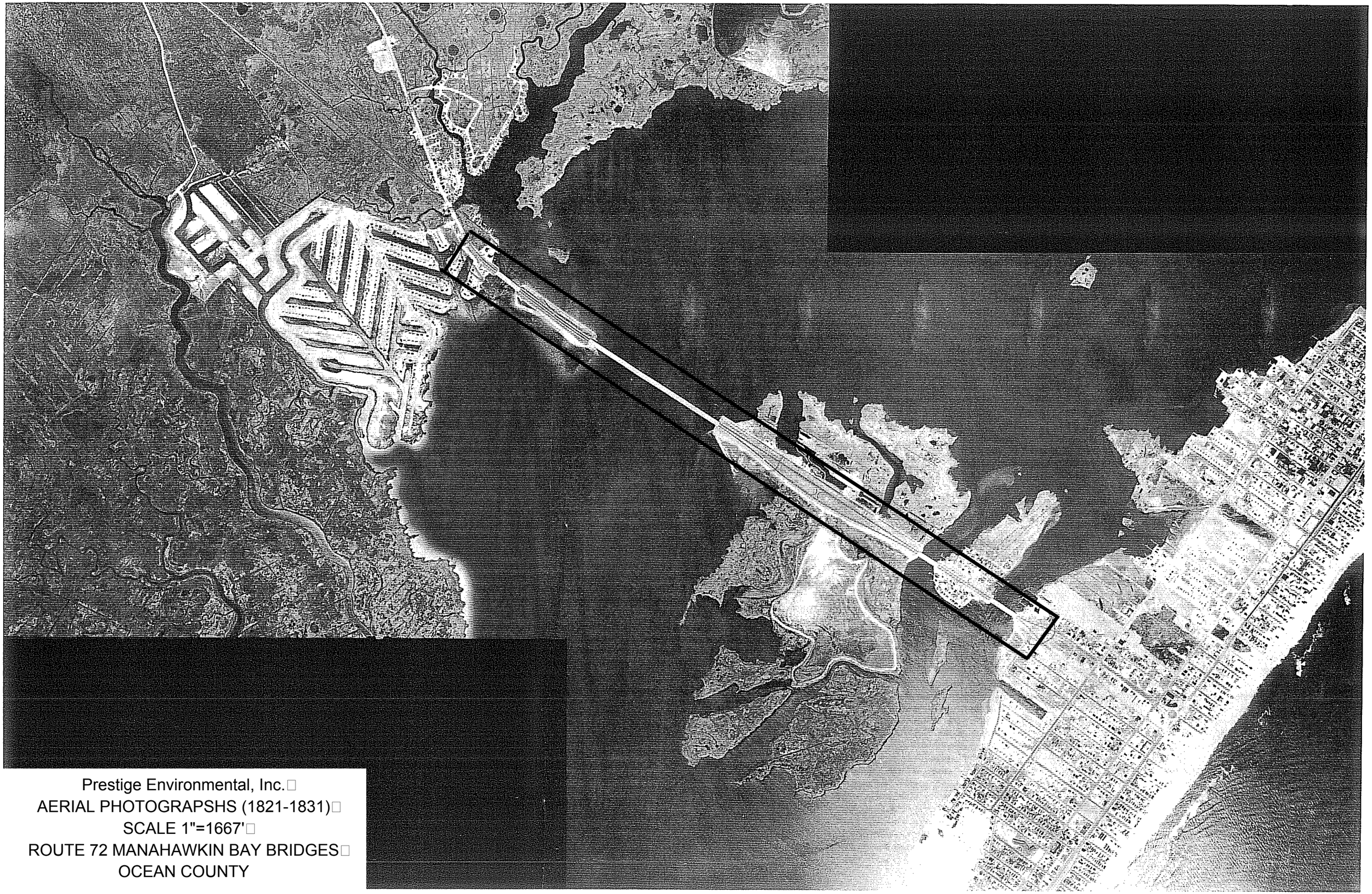
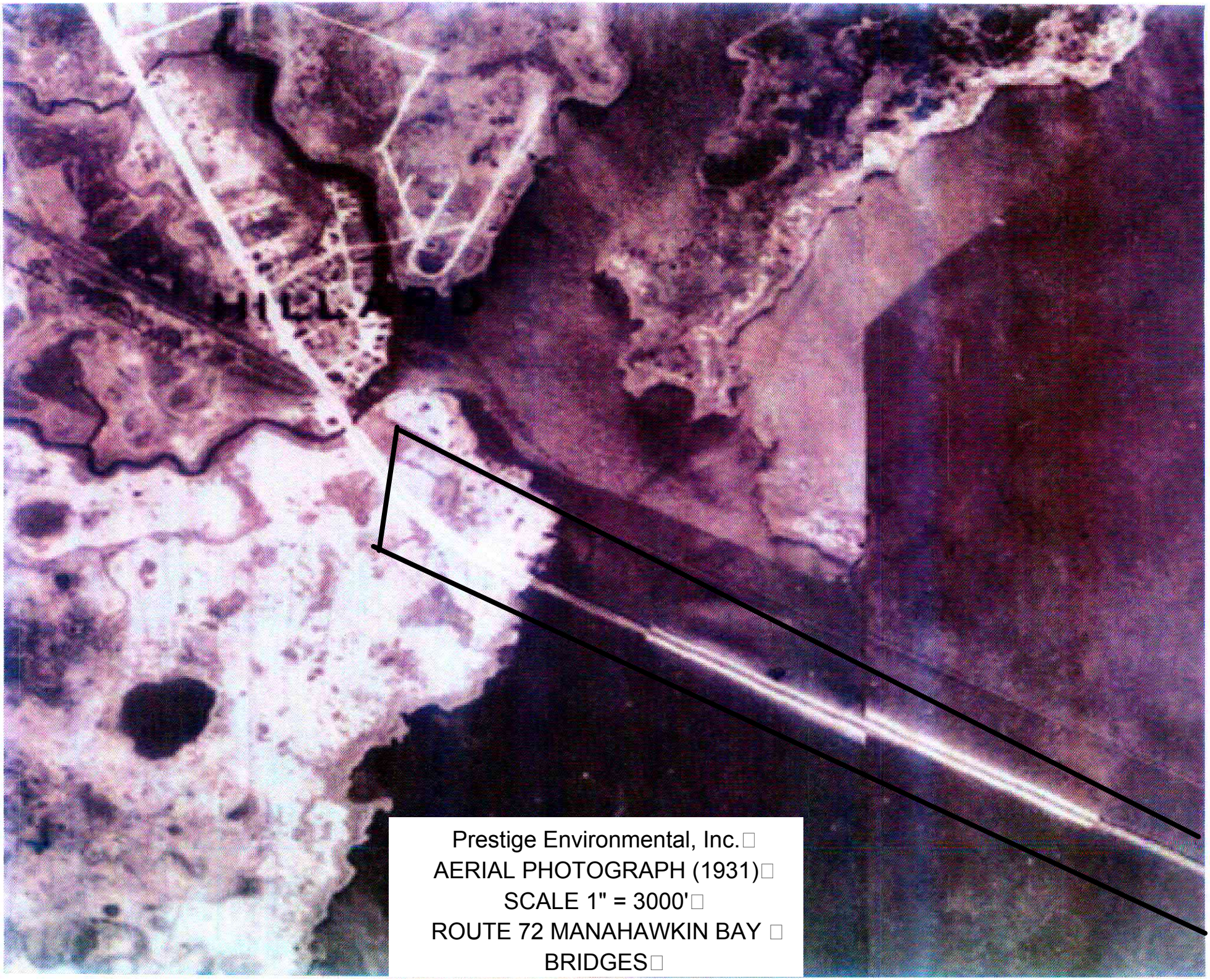
APPENDIX C

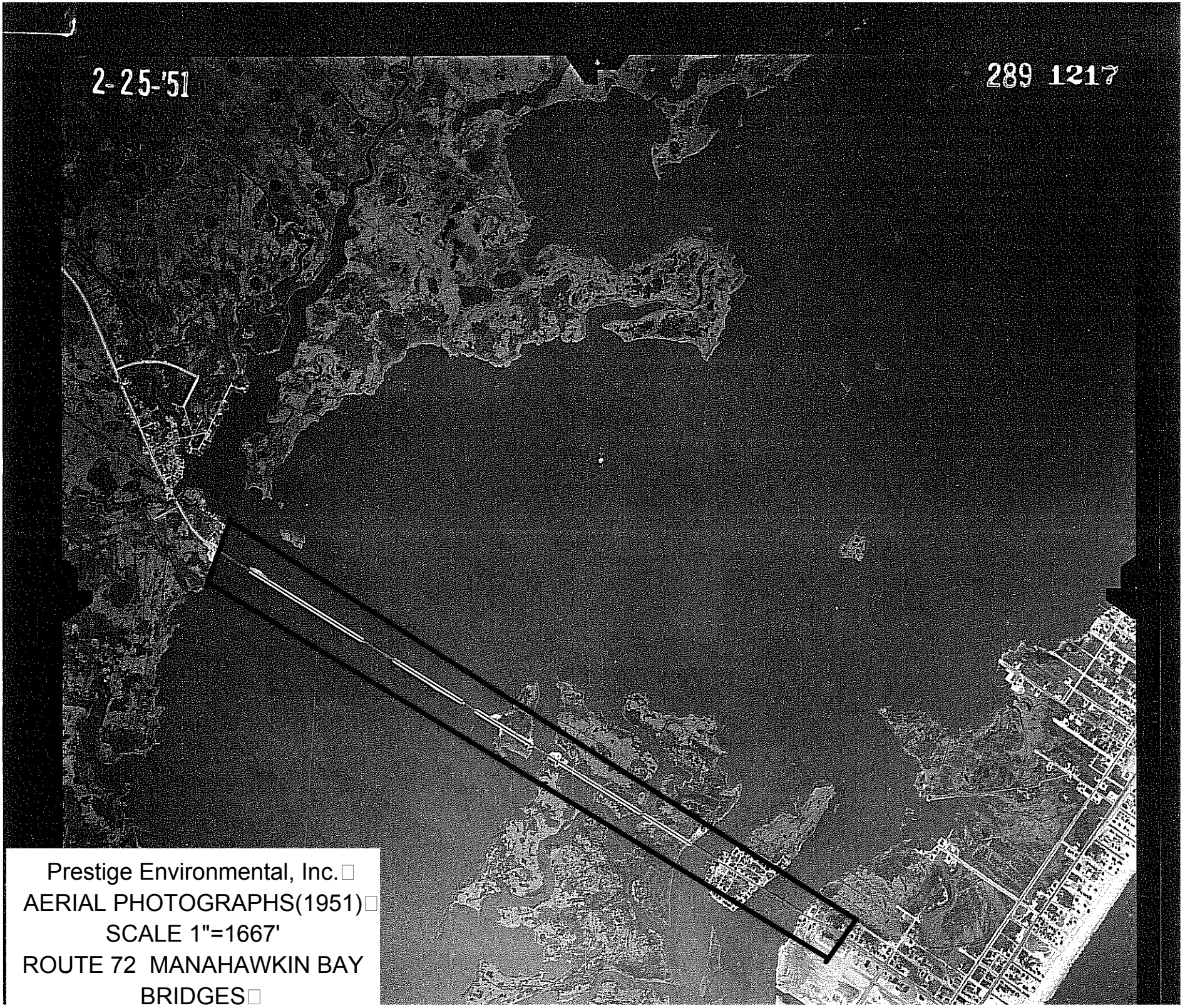
AERIAL PHOTOGRAPHS



Prestige Environmental, Inc.
AERIAL PHOTOGRAPSHS (1821-1831)
SCALE 1"=1667'
ROUTE 72 MANAHAWKIN BAY BRIDGES
OCEAN COUNTY


Prestige Environmental, Inc.
AERIAL PHOTOGRAPH (1931)
SCALE 1" = 3000'
ROUTE 72 MANAHAWKIN BAY
BRIDGES

Prestige Environmental, Inc.
AERIAL PHOTOGRAPH (1940)
SCALE 1" = 1667'
ROUTE 72 MANAHAWKIN BAY
BRIDGES
OCEAN COUNTY



Prestige Environmental, Inc.
AERIAL PHOTOGRAPHS(1951)
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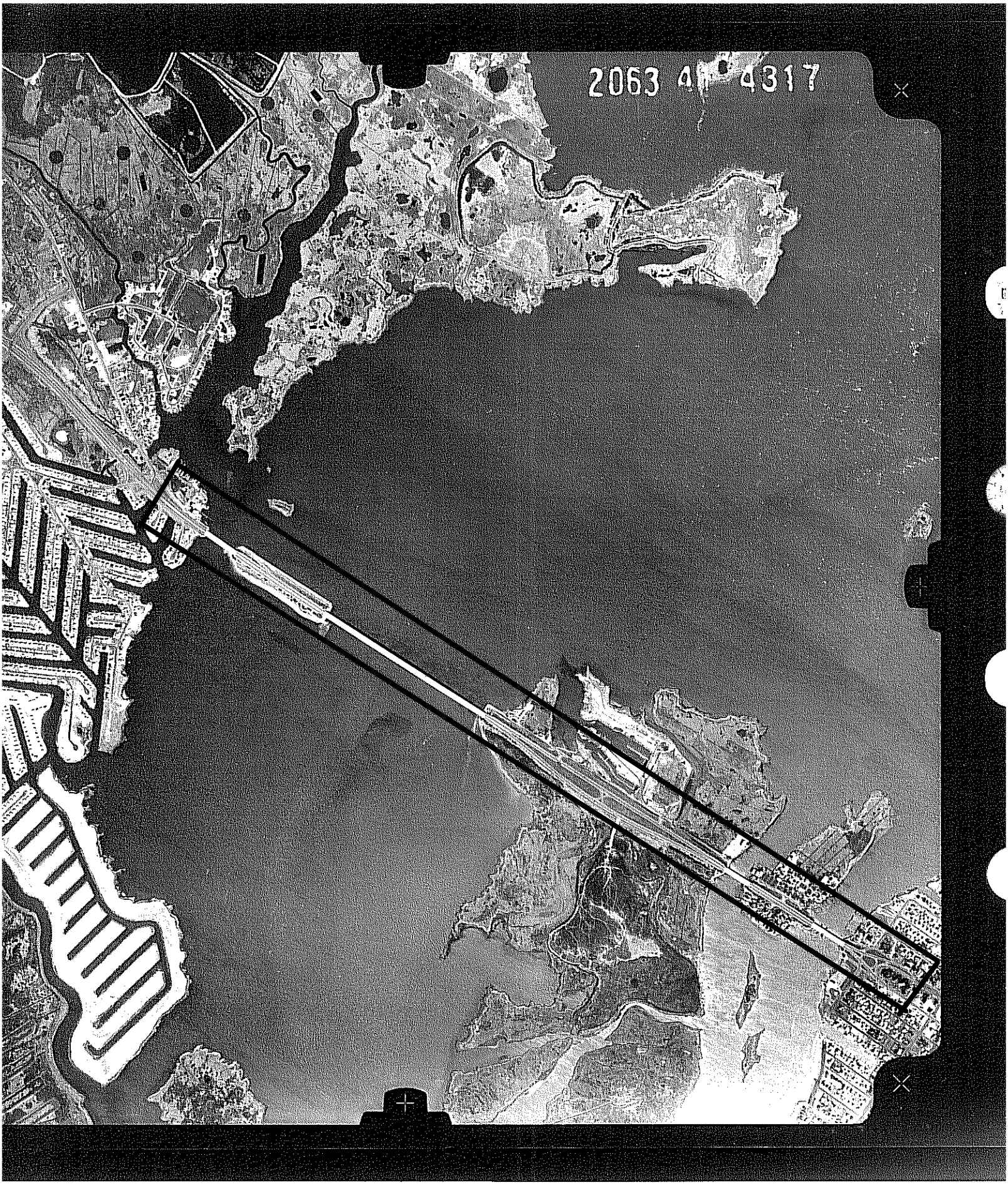
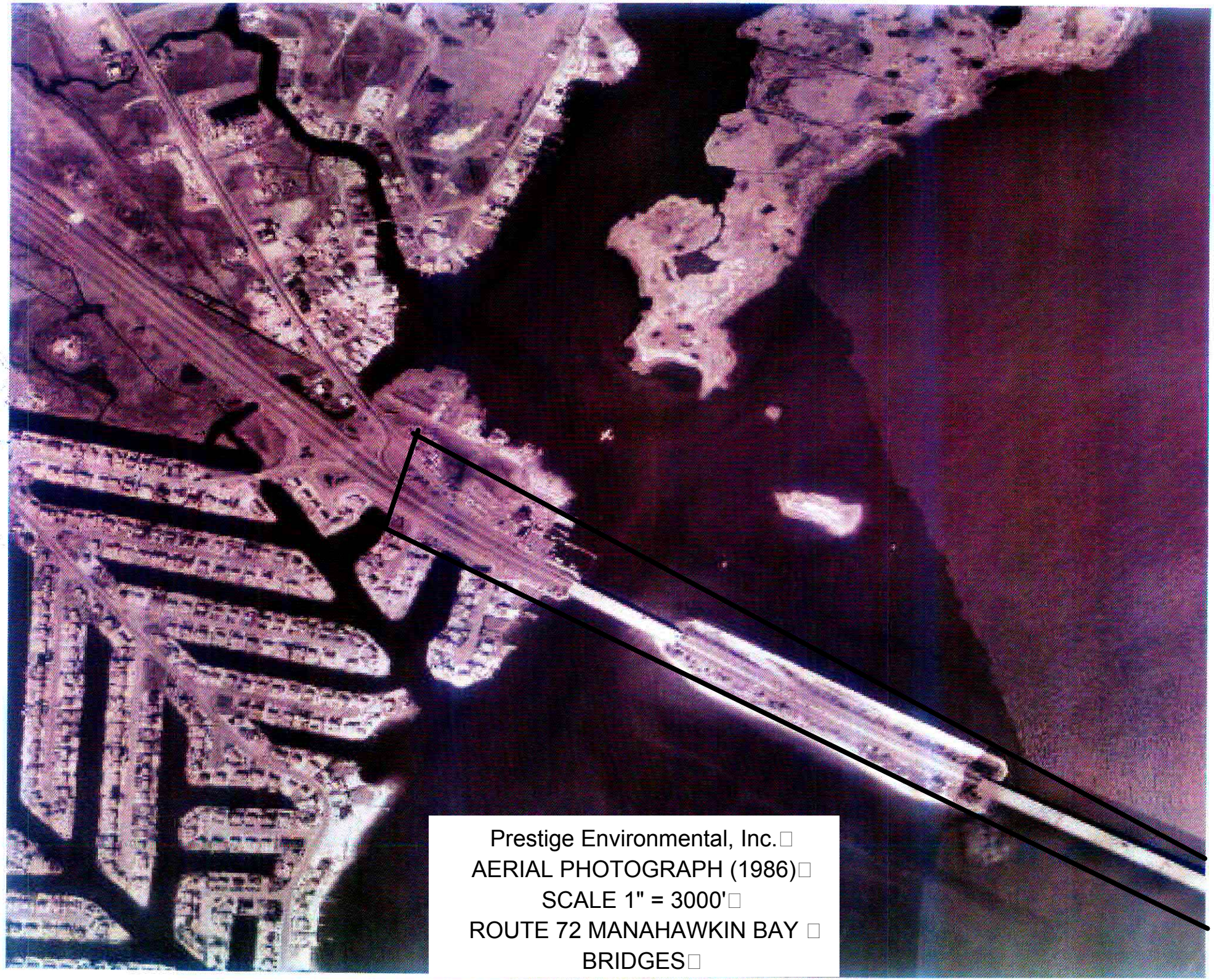
ROUTE 72 MANAHAWKIN BAY
BRIDGES



Prestige Environmental, Inc.
AERIAL PHOTOGRAPH (1974)
SCALE 1" = 1667'
ROUTE 72 MANAHAWKIN BAY
BRIDGES
OCEAN COUNTY


Prestige Environmental, Inc.
AERIAL PHOTOGRAPH (1986)
SCALE 1" = 3000'
ROUTE 72 MANAHAWKIN BAY
BRIDGES

APPENDIX D

ENVIRONMENTAL DATABASES REPORT

NJDOT Route 72 Project
Beach Haven, NJ 08008

Inquiry Number: 02494660.1r
May 15, 2009

EDR DataMap™ Area Study

Environmental Data Resources Inc

440 Wheelers Farms Road
Milford, CT 06461
Toll Free: 800.352.0050
www.edrnet.com

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

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EXECUTIVE SUMMARY

TARGET PROPERTY INFORMATION

ADDRESS

BEACH HAVEN, NJ 08008
BEACH HAVEN, NJ 08008

DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records within the requested search area for the following databases:

FEDERAL RECORDS

NPL	National Priority List
Proposed NPL	Proposed National Priority List Sites
Delisted NPL	National Priority List Deletions
NPL LIENS	Federal Superfund Liens
CERCLIS	Comprehensive Environmental Response, Compensation, and Liability Information System
CERC-NFRAP	CERCLIS No Further Remedial Action Planned
LIENS 2	CERCLA Lien Information
CORRACTS	Corrective Action Report
RCRA-TSDF	RCRA - Transporters, Storage and Disposal
RCRA-LQG	RCRA - Large Quantity Generators
RCRA-SQG	RCRA - Small Quantity Generators
RCRA-CESQG	RCRA - Conditionally Exempt Small Quantity Generator
US ENG CONTROLS	Engineering Controls Sites List
US INST CONTROL	Sites with Institutional Controls
HMIRS	Hazardous Materials Information Reporting System
DOT OPS	Incident and Accident Data
US CDL	Clandestine Drug Labs
US BROWNFIELDS	A Listing of Brownfields Sites
DOD	Department of Defense Sites
FUDS	Formerly Used Defense Sites
LUCIS	Land Use Control Information System
CONSENT	Superfund (CERCLA) Consent Decrees
ROD	Records Of Decision
UMTRA	Uranium Mill Tailings Sites
DEBRIS REGION 9	Torres Martinez Reservation Illegal Dump Site Locations
ODI	Open Dump Inventory
MINES	Mines Master Index File
TRIS	Toxic Chemical Release Inventory System
TSCA	Toxic Substances Control Act
FTTS	FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
HIST FTTS	FIFRA/TSCA Tracking System Administrative Case Listing
SSTS	Section 7 Tracking Systems
ICIS	Integrated Compliance Information System
PADS	PCB Activity Database System

EXECUTIVE SUMMARY

MLTS	Material Licensing Tracking System
RADINFO	Radiation Information Database
RAATS	RCRA Administrative Action Tracking System
SCRD DRYCLEANERS	State Coalition for Remediation of Drycleaners Listing

STATE AND LOCAL RECORDS

NJ PF	Publicly Funded Cleanups Site Status Report
CHROME	Chromate Chemical Production Waste Sites
SWF/LF	Solid Waste Facility Directory
SWRCY	Approved Class B Recycling Facilities
HIST LF	Solid Waste Facility Directory
LIENS	Environmental LIENS
MAJOR FACILITIES	List of Major Facilities
HIST MAJOR FACILITIES	List of Major Facilities
ENG CONTROLS	Declaration Environmental Restriction/Deed Notice Sites
DRYCLEANERS	Drycleaner List
BROWNFIELDS	Brownfields Database
ISRA	ISRA Database
HWS RE-EVAL	Site Re-Evaluation Report

TRIBAL RECORDS

INDIAN RESERV	Indian Reservations
INDIAN ODI	Report on the Status of Open Dumps on Indian Lands
INDIAN LUST	Leaking Underground Storage Tanks on Indian Land
INDIAN UST	Underground Storage Tanks on Indian Land
INDIAN VCP	Voluntary Cleanup Priority Listing

EDR PROPRIETARY RECORDS

Manufactured Gas Plants	EDR Proprietary Manufactured Gas Plants

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were identified.

Page numbers and map identification numbers refer to the EDR Radius Map report where detailed data on individual sites can be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

Unmappable (orphan) sites are not considered in the foregoing analysis.

FEDERAL RECORDS

RCRA-NonGen: RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

A review of the RCRA-NonGen list, as provided by EDR, and dated 11/12/2008 has revealed that there

are 5 RCRA-NonGen sites within the searched area.

Site	Address	Map ID	Page
HANCE & SMYTHE INC	***1225 E BAY AVE***	***3***	***5***
MARGOS INN INC & MARINA	***1432 E BAY AVE***	***16***	***25***
CAUSEWAY BOAT RENTALS	***LONG BEACH ISLAND CAUSE***	***33***	***70***
HOCHSTRASSERS MARINA INC	***401 W 8TH ST***	***42***	***99***
ATLANTIC CITY ELECTRIC CO	***236 W 8TH ST***	***48***	***131***

ERNS: The Emergency Response Notification System records and stores information on reported releases of oil and hazardous substances. The source of this database is the U.S. EPA.

A review of the ERNS list, as provided by EDR, and dated 12/31/2007 has revealed that there are 3 ERNS sites within the searched area.

Site	Address	Map ID	Page
16 STEVEN DRIVE	16 STEVEN DRIVE	22	40
16 STEVEN DRIVE	16 STEVEN DRIVE	22	42
16 STEVEN DRIVE	16 STEVEN DRIVE	22	42

FINDS: The Facility Index System contains both facility information and "pointers" to other sources of information that contain more detail. These include: RCRIS; Permit Compliance System (PCS); Aerometric Information Retrieval System (AIRS); FATES (FIFRA [Federal Insecticide Fungicide Rodenticide Act] and TSCA Enforcement System, FTTS [FIFRA/TSCA Tracking System]; CERCLIS; DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes); Federal Underground Injection Control (FURS); Federal Reporting Data System (FRDS); Surface Impoundments (SIA); TSCA Chemicals in Commerce Information System (CICS); PADS; RCRA-J (medical waste transporters/disposers); TRIS; and TSCA. The source of this database is the U.S. EPA/NTIS.

A review of the FINDS list, as provided by EDR, and dated 01/20/2009 has revealed that there are 89 FINDS sites within the searched area.

Site	Address	Map ID	Page
SZATHMARY SUPPLY CO	1016 BAY AVE	1	3
HANCE & SMYTHE INC	***1225 E BAY AVE***	***3***	***5***
DIXON PEARCE W	1152 W MALLARD DR	4	12
MUD CITY CRAB HOUSE	1185 BAY AVE	5	12
RESSLER TODD P	1197 W MALLARD DR	6	12
BAYTOFF MICHAEL	1180 W MALLARD DR	6	12
BONAVITACOLA ANTHONY	1205 BAY AVE	7	13
HANCE & SMYTHE INC	1225 BAY AVE	8	13
REPASY GEORGE W & GEORGE J	1275 W MALLARD DR	9	13
ROCKLYN ROBERT R	1267 W MALLARD DR	9	13
DELFING PAUL M JR	1259 W MALLARD DR	9	14
HANCE WALTER & AVIS	1264 BAY AVE	10	14
MCNALLY JOHN	1293 W MALLARD DR	12	18
MONTICELLI ARMAND	1279 E MALLARD DR	13	18
WOODFORD STEVEN & MARGARET	1296 E MALLARD DR	13	18
HAUGE JON	1317 E MALLARD DR	13	19
BLINN AMANDA	1329 E MALLARD DR	13	19
AMBROGI JANE LEE TRUSTEE	1343 E MALLARD DR	13	19
KULPER BERNARD	1347 E MALLARD DR	13	20

EXECUTIVE SUMMARY

Site	Address	Map ID	Page
LONGNECKER ROBERT	1351 E MALLARD DR	13	20
EDDIN ICE	1279 BAY AVE	14	20
WEED FREE LANDSCAPES	77 JONATHAN DR	15	22
OCEAN CNTY DEPT OF ENGINEERING	1355 BAY AVE	16	22
MARGOS INN INC & MARINA	***1432 E BAY AVE***	***16***	***25***
FAMILY BOAT SALES INC	1450 BAY AVE	17	35
MALLARD ISLAND YACHT CLUB	1432 BAY AVE	17	35
SAVAGE VINCENT	1406 RAILROAD AVE	18	35
COLVILLE THOMAS	1400 RAILROAD AVE	18	36
VALINTINI RAUL	1394 RAILROAD AVE	18	36
ASHTON GEORGE & ANN	1390 RAILROAD AVE	18	36
OWENS WILBUR & HELEN	1388 RAILROAD AVE	18	36
ANGELOW WILLIAM	1384 RAILROAD AVE	18	37
OWENS B & SOFKA PO	1386 RAILROAD AVE	18	37
OJEDA JULIO	87 MORRIS BLVD	19	37
QUIGLEY SHARON	96 MORRIS BLVD	19	37
GENARO ROBERTA	15 JEFFREY DR	20	38
SMNIRALDI THOMAS J	60 MORRIS BLVD	21	38
SHORE CONNECTION	67 MORRIS BLVD	21	38
FERONE ROBERT	25 JULIA DR	23	46
SZELC ROBERT & TERESA	21 JULIA DR	23	46
BOYTON ELIZABETH	4 JULIA DR	23	48
DELANEY THOMAS	28 JENNIE DR	24	50
HENDERSON FLOYD	63 JENNIE DR	25	51
SCHEFFLER WILLIAM R III & LORI	59 JENNIE DR	25	52
FIAMINGO FRANK	36 SELMA DR	26	52
STROBOLAKOS GLORIA	28 SELMA DR	26	52
CHAMAS PETER	24 SELMA DR	26	53
DONOFRY JOSEPH & MAURA ANNE	23 SELMA DR	26	53
LONG JOHN S	12 SELMA DR	26	53
CIFONE SALVATORE F	15 MARK DR	28	55
DECORSO GARY	1108 JENNIFER LN	28	55
OROSZ JOHN	47 MURIEL DR	28	57
MALVASIO PETER	35 MURIEL DR	28	58
SCHWEGLER JOSEPH	32 MURIEL DR	28	58
MEISSNER HAROLD & MARGLE	27 MURIEL DR	28	60
WILLIAMS WALTER & ELAINE	1203 JENNIFER LN	29	60
STAFFORD TWP JENNIFER LANE BEA	1198 JENNIFER LN	29	60
COYNE MICHAEL & JOANNE	1186 JENNIFER LN	29	63
GUTH WILLIAM G	1178 JENNIFER LN	29	63
ARMENTI TROY	1174 JENNIFER LN	29	63
WEILBOLDT DENNIS	1170 JENNIFER LN	29	63
WEIHMANN PETE & JOAN	1154 JENNIFER LN	29	64
SHICORA GEORGE	16 ANNE LN	29	64
BOTTA ROBERT	24 JUDY DR	29	64
CAUSEWAY BOAT RENTALS	2200 BAY AVE	31	70
VERNON CHRISTOPHER	2390 E BAY AVE	32	70
CAUSEWAY BOAT RENTALS	***LONG BEACH ISLAND CAUSE***	***33***	***70***
CAUSEWAY BOAT RENTALS	***2200 BAY AVE***	***34***	***73***
WILSON GYM	45 RAILROAD AVE	34	81
KLIPPER URI & MONICA	41 RAILROAD AVE	34	81
EGAN BRUCE	30 MANNING DR	34	81
DANLEY ROBERT C	517 SHORE AVE	36	85
TJ BAY PROPERTIES	613 SHORE AVE	39	92
HANKS JOHN & CONDON FRANCES	601 SHORE AVE	39	92
MELLOR LORI	2 3RD ST	40	93

EXECUTIVE SUMMARY

Site	Address	Map ID	Page
MELLOR LORI RESIDENCE	7 3RD ST	40	93
HOCHSTRASSERS MARINA INC	***401 W 8TH ST***	***42***	***99***
REMS SERVICES INC	310 W 6TH ST	43	108
SHIP BOTTOM GULF SERVICE STATI	301 W 8TH ST	46	113
LBI STONE SPREADER & DECK CO	319 W 8TH ST	46	115
BARNEGAT LIGHT PLUMBING INC	347 W 8TH ST	46	117
RUSSO BP SHIP BOTTOM	379 W8TH ST.	46	117
MR BIG TEXACO SERVICE STATION	379 W 8TH ST	46	125
CONECTIV POWER SHIP BOTTOM RON	236 W 8TH ST	48	129
BRENNANS GAS & GO SERVICE STAT	***237 W 8TH ST***	***48***	***130***
CONECTIV POWER DELIVERY SHIP B	236 W 8TH ST	48	138
CONECTIV POWER DELIVERY SHIP B	242 W 8TH ST	48	141
MAZUR RONNIE & MICHAEL	359 W 12TH ST	50	151
ATLANTIC CITY ELECTRIC CO	233 W 9TH ST	52	157

STATE AND LOCAL RECORDS

SHWS: Known contaminated sites in New Jersey except those associated with Bureau of Underground Storage Sites (BUST)

A review of the SHWS list, as provided by EDR, and dated 05/09/2008 has revealed that there are 6 SHWS sites within the searched area.

Site	Address	Map ID	Page
MARGO'S INN INC.ASHTON JO V Status: CLOSED	***1432 BAY AVE***	***16***	***31***
CAUSEWAY BOAT RENTALS Status: ACTIVE	***2200 BAY AVE***	***34***	***73***
7 3RD STREET Status: CLOSED	7 3RD ST	40	93
SHIP BOTTOM GARAGE Status: ACTIVE	6TH ST / BARNEGAT AVE	43	108
MR BIG RUSSO Status: ACTIVE	379 W 8TH ST	46	117
GETTY 56307 Status: ACTIVE	237 W 8TH ST	48	134

HIST HWS: The Known Contaminated Sites in New Jersey report is a municipal listing of sites where contamination of soil and/or ground water is confirmed at levels greater than the applicable cleanup criteria or standards. Remedial activities are underway or required at the sites with an on-site source(s) of contamination and at locations where the source(s) of contamination is unknown. Sites with completed remedial work that require engineering and/or institutional controls have reporting measures in place to ensure the effectiveness of past actions, and some include maintenance and/or monitoring

A review of the HIST HWS list, as provided by EDR, and dated 05/09/2008 has revealed that there are 3

EXECUTIVE SUMMARY

HIST HWS sites within the searched area.

Site	Address	Map ID	Page
CAUSEWAY BOAT RENTALS	***2200 BAY AVE E***	***34***	***75***
SHIP BOTTOM GARAGE	***6TH & BARNEGATE STS***	***43***	***102***
MR BIG RUSSO	***379 WEST 8TH ST***	***46***	***118***

LUST: A listing of regulated Underground Storage Tanks that have a cleanup underway.

A review of the LUST list, as provided by EDR, and dated 03/17/2009 has revealed that there are 3 LUST sites within the searched area.

Site	Address	Map ID	Page
CAUSEWAY BOAT RENTALS	***2200 BAY AVE E***	***34***	***75***
SHIP BOTTOM GARAGE	***6TH & BARNEGATE STS***	***43***	***102***
MR BIG RUSSO	***379 WEST 8TH ST***	***46***	***118***

HIST LUST: This listing is no longer updated or maintained by the DEP.

A review of the HIST LUST list, as provided by EDR, and dated 09/17/2002 has revealed that there are 8 HIST LUST sites within the searched area.

Site	Address	Map ID	Page
MARGO'S MARINA Facility Status: Assigned to a Program	1432 E BAY AVE	16	34
CAUSEWAY BOAT RENTALS Facility Status: Assigned to a Program	***2200 E BAY AVE***	***34***	***72***
CEDAR BONNET ISLAND PUMP STATI Facility Status: Site Issued Letter of No Further Action for Area(s) Of Concern	***RAILROAD AVE***	***34***	***78***
HOCHSTRASSERS MARINA INC Facility Status: Assigned to a Program	***401 W 8TH ST***	***42***	***99***
WOOLLEY PROPERTY Facility Status: Case Awaiting Assignment	342 WEST 9TH ST	46	113
WOOLLEY PROPERTY Facility Status: Site Issued Letter of No Further Action for Area(s) Of Concern	***301 W NINTH ST***	***46***	***113***
SUNOCO S/S #0010-0230 Facility Status: Assigned to a Program	305 E 8TH ST	46	116
BRENNANS CITGO Facility Status: Assigned to a Program	237 W 8TH ST	48	147

EXECUTIVE SUMMARY

UST: The Underground Storage Tank database contains registered USTs. USTs are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA). The data come from the Department of Environmental Protection & Energy's UST Data.

A review of the UST list, as provided by EDR, and dated 01/23/2009 has revealed that there are 9 UST sites within the searched area.

Site	Address	Map ID	Page
MARGO'S INN INC.ASHTON JO V	***1432 BAY AVE***	***16***	***31***
CAUSEWAY BOAT RENTALS	***2200 BAY AVE E***	***34***	***75***
CEDAR BONNET ISLAND PUMP STATI	***RAILROAD AVE***	***34***	***78***
SHIP BOTTOM GARAGE	***6TH & BARNEGATE STS***	***43***	***102***
PUBLIC WORKS DEPT	W 6TH ST	43	105
HOCHSTRASSER'S MARINA INC	8TH & BAYSHORE AVE	44	108
WOOLLEY PROPERTY	***301 W NINTH ST***	***46***	***113***
WOOLLEY PROPERTY	342 W NINTH ST	46	116
MR BIG RUSSO	***379 WEST 8TH ST***	***46***	***118***

MANIFEST: Hazardous waste manifest information.

A review of the MANIFEST list, as provided by EDR, and dated 09/30/2007 has revealed that there is 1 MANIFEST site within the searched area.

Site	Address	Map ID	Page
ATLANTIC CITY ELECTRIC CO	***236 W 8TH ST***	***48***	***131***

NJ Release: Hazardous material release. Initial notification information reported to the Dept. of Env. Protection's Action Line. The office has not conducted any investigations to determine it's validity. or accuracy.

A review of the NJ Release list, as provided by EDR, and dated 02/10/2009 has revealed that there are 35 NJ Release sites within the searched area.

Site	Address	Map ID	Page
CAUSEWAY CONSTRUCTION	1205 BAY AVE	3	6
Not reported	1201 E BAY AVE.	3	10
MALLARD ISLAND NEAR	1377 BAY AVE	14	20
Not reported	1450 BAY AVE	16	23
MARGO MARINA	1432 EAST BAY AVE	16	27
MARGO'S INC	1432 E BAY AVE	16	33
Not reported	16 STEVEN DR	22	38
Not reported	16 STEVEN DRIVE	22	40
Not reported	16 STEVEN DRIVE	22	42
Not reported	9 JULIA DR	23	46
Not reported	JULIA DR / STEVEN DR	23	48
RESIDENT	12 JENNIE DR	24	50
Not reported	18 JERI-ANN LANE	27	53
BLOCK #171, LOT 98	MARK / JENNIFER LANE	28	56
Not reported	28 MURIEL DR	28	58
ON ROADWAY RT 9 &	BAY AVE	30	64
CAUSWAY BOAT RENTAL	2200 EAST BAY	34	74
Not reported	2552 2ND AVE	34	79

Site	Address	Map ID	Page
Not reported	12 1 ST ST	35	82
ROSE HOGSON FORMER OWNER	332 WEST 4TH ST	37	85
Not reported	16 4TH ST	38	87
Not reported	16 4TH ST	38	89
RAINBOW BEVERAGE	705 SO SHORE RD	41	93
LONG BEACH MARINE	8TH ST+9TH ST	42	97
FANTASY ISLAND AMUSEMENT PARK	320 W 7TH ST	45	110
ENVIRONMENTAL EVAL	342 WEST NINTH ST	46	111
Not reported	379 WEST 8TH ST	46	124
Not reported	245 WEST 6TH ST	47	128
GOSLINE-NISSEN FIRE PROTECTION	236 W. 8TH ST	48	134
LONG BEACH MARINE	***236 W 8TH ST***	***48***	***136***
LONG BEACH MARINE	236 W. 8TH ST	48	138
BRENNENS CITGO	W.8TH ST	48	142
BRENNAN GAS & GO	237 WEST 8 TH ST	48	148
IN MANAHAWKIN BAY	352 WEST 11TH STREET	50	151
AREA NEAR	275 WEST 9TH ST	51	153

SPILLS: All hazmat known or unknown spills to the ground reported to the DEP's Env. Action Line. The office has not conducted any investigations to determine it's validity or accuracy.

A review of the SPILLS list, as provided by EDR, and dated 02/10/2009 has revealed that there are 18 SPILLS sites within the searched area.

Site	Address	Map ID	Page
AREA OF	1128 EAST BAY RD	2	3
RESIDENCE	1201 E. BAY AVE	3	8
ROADWAY	EAST BAY AV/MARSHA BL	11	14
ON ROADWAY	MARSHA DR/ E. BAY AVE	11	16
ROADWAY	25 JULIA DR	23	44
MANAHAWKIN BAY BEHIND	3 SUSAN LANE	29	61
IN THE AREA OF	BAY AVE	30	68
ON ROADWAY	EAST BAY / RT 72	35	83
MELLOR RESIDENCE	7 THIRD ST	38	90
Not reported	9TH ST / SHORE AVE	42	95
STREAM IN BACKYARD	292A WEST 6TH ST	43	106
RUSSO FUEL OIL	379 W. 8TH ST	46	122
RUSSO FUEL	379 WEST 8TH	46	126
Not reported	256 WEST 8TH ST	48	143
AREA OF GATEWAY INN	227 WEST 8TH ST	48	145
VACANT LOT AT	301 WEST 9TH ST	49	149
POLE #P5409	233 WEST 9TH ST	52	155
AT RESIDENCE AT	309 E 13TH ST	53	157

INST CONTROL: Sites where engineering and/or institutional controls remain in place as part of a remedial action to address soil and/or groundwater contamination. These restrictions ensure protection of human health and the environment as long as they are maintained.

A review of the INST CONTROL list, as provided by EDR, and dated 01/12/2009 has revealed that there

are 2 INST CONTROL sites within the searched area.

Site	Address	Map ID	Page
SUNOCO SERVICE STATION #0010-0	305 8TH ST	46	115
BRENNANS GAS & GO SERVICE STAT	***237 W 8TH ST***	***48***	***130***

VCP: Through the VCP, responsible parties, developers, local officials, or individuals may work with the department to remediate non-priority contaminated sites that pose no immediate threat to human health or the environment.

A review of the VCP list, as provided by EDR, and dated 12/18/2008 has revealed that there is 1 VCP site within the searched area.

Site	Address	Map ID	Page
LONG BEACH MARINE	***236 W 8TH ST***	***48***	***136***

NPDES: The NJPDES contains the names, addresses and other information of all permitted New Jersey Pollutant Discharge Elimination Sytem dischargers.

A review of the NPDES list, as provided by EDR, and dated 01/18/2008 has revealed that there are 4 NPDES sites within the searched area.

Site	Address	Map ID	Page
MARGOS INN INC	1432 E BAY AVE	16	24
MALLARD ISLAND YACHT CLUB	1432 E BAY AVE	16	30
CAUSEWAY BOAT RENTALS	***2200 E BAY AVE***	***34***	***72***
HOCHSTRASSERS MARINA INC	***401 W 8TH ST***	***42***	***99***

EXECUTIVE SUMMARY

Please refer to the end of the findings report for unmapped orphan sites due to poor or inadequate address information.

MAP FINDINGS SUMMARY

Database	Total Plotted
FEDERAL RECORDS	
NPL	0
Proposed NPL	0
Delisted NPL	0
NPL LIENS	0
CERCLIS	0
CERC-NFRAP	0
LIENS 2	0
CORRACTS	0
RCRA-TSDF	0
RCRA-LQG	0
RCRA-SQG	0
RCRA-CESQG	0
RCRA-NonGen	5
US ENG CONTROLS	0
US INST CONTROL	0
ERNS	3
HMIRS	0
DOT OPS	0
US CDL	0
US BROWNFIELDS	0
DOD	0
FUDS	0
LUCIS	0
CONSENT	0
ROD	0
UMTRA	0
DEBRIS REGION 9	0
ODI	0
MINES	0
TRIS	0
TSCA	0
FTTS	0
HIST FTTS	0
SSTS	0
ICIS	0
PADS	0
MLTS	0
RADINFO	0
FINDS	89
RAATS	0
SCRD DRYCLEANERS	0
STATE AND LOCAL RECORDS	
SHWS	6
HIST HWS	3
NJ PF	0
CHROME	0

MAP FINDINGS SUMMARY

Database	Total Plotted
SWF/LF	0
SWRCY	0
HIST LF	0
LUST	3
HIST LUST	8
UST	9
LIENS	0
MAJOR FACILITIES	0
HIST MAJOR FACILITIES	0
MANIFEST	1
NJ Release	35
SPILLS	18
ENG CONTROLS	0
INST CONTROL	2
VCP	1
DRYCLEANERS	0
BROWNFIELDS	0
ISRA	0
NPDES	4
HWS RE-EVAL	0

TRIBAL RECORDS

INDIAN RESERV	0
INDIAN ODI	0
INDIAN LUST	0
INDIAN UST	0
INDIAN VCP	0

EDR PROPRIETARY RECORDS

Manufactured Gas Plants	0

NOTES:

Sites may be listed in more than one database

1 **SZATHMARY SUPPLY CO** **FINDS** **1010548236**
1016 BAY AVE **N/A**
MANAHAWKIN, NJ 08050

FINDS:
Other Pertinent Environmental Activity Identified at Site

Registry ID: 110032478968

NJ-NJEMS (New Jersey - New Jersey Environmental Management System). The Department of Environmental Protection (NJDEP) manages large databases of environmental information in this integrated system.

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2 **AREA OF** **SPILLS** **S105068787**
1128 EAST BAY RD **N/A**
STAFFORD TWP, NJ 08050

NJ SPILL:

Facility ID:	77255
Case Number:	01-04-21-1543-17
Notify Type:	Municipality
Date Received:	4/21/2001
Location:	Other
Other Location:	Not reported
Incident Date:	4/21/2001
Incident Time:	1512
A310 Letter:	False
Ref. Code:	101
COMU:	1530
CAS Number:	Not reported
Hazardous:	No
Incident Location:	Not reported
Facility Phone:	Not reported
Substance(s):	Not reported
Substance Type:	Not reported
Substance Identity:	Not reported
TCPA Chemical:	Not reported
Hazrds Material:	Not reported
Amnt Released:	Not reported
Release VE:	Not reported
Contained:	Not reported
Release Type:	Not reported
Incident Desc:	Not reported
Status at Spill:	UNKNOWN INDIVIDUAL DUMPED MATERIAL FROM BOAT ENGINE. CLEANUP PENDING
NJ Spill Date:	Not reported
NJ Spill Time:	Not reported
NJ Spill Name:	Not reported
NJ Spill Title:	Not reported
NJ Spill Phone:	Not reported
Other Date:	Not reported
Other Time:	Not reported
Other Name:	Not reported
Other Title:	Not reported
Other Phone:	Not reported
Injuries:	No
Public Exposure:	No
Road Closed:	No
Facility Evacuation:	No
Receiving Water:	Not reported

AREA OF (Continued) **S105068787**

Public Evacuation:No
Police at Scene: Yes
Firemen at Scene:No
Contamination of: Land
Nature of Incident:Not reported

Wind Direction/Speed:	0
Assistance Requested:	No
Memo. Of Understanding:	No
Drill/trng Exercise:	No
Operator:	CRAIG
Contact Name:	Not reported
Caller Name:	REDACTED
Caller Title:	STAFFORD TWP PD
Caller Address:	Not reported
Caller City,St,Zip:	Not reported
Caller Phone:	Not reported
Responsible Party:	Unknown
Responsible Party Name:	Not reported
Responsible Party Contact:	Not reported
Responsible Party Title:	Not reported
Responsible Party Telphone:	Not reported
Responsible Party Street:	Not reported
Responsible Party Municipality:	Not reported
Responsible Party State:	Not reported
Responsible Party Zip:	Not reported
Responsible City,St,Zip:	Not reported
Responsible Party County:	Not reported
Local Municipality:	No
Local Municipality Name:	Not reported
Local Municipality Title:	Not reported
Local Municipality Phone:	Not reported
Local Municipality Date:	Not reported
Local Municipality Time:	Not reported
Incident Name:	Not reported
Incident Referred To:	Not reported
Incident Region:	Not reported
Incident Phone:	Not reported
Incident Date:	Not reported
Comments: SOP 9 CHART F	
Date A310 Letter Printed:	Not reported
Date Local Authority Was Notified:	Not reported
Date Update:	Not reported
Date Report Faxed to Local Authority:	Not reported
Local Authority Notification Date:	Not reported
Reporter Name:	Not reported
Reporter Type:	Not reported
Rep Received Date:	Not reported
Reporter Title:	Not reported
Reporter Orgzn:	Not reported
Reporter Address:	Not reported
Reporter City,St,Zip:	Not reported
Reporter County:	Not reported
Incident Type:	Not reported
Incident Status:	Not reported
Incident Category:	Not reported
Incident Source:	Not reported
Incident Address:	Not reported

AREA OF (Continued) **S105068787**

Incident Address 2: Not reported
Incident City,St,Zip: Not reported
Incident County: Not reported
DEP Requested: Not reported
Confidential: Not reported

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3 HANCE & SMYTHE INC **FINDS** **1001124538**
1225 E BAY AVE **RCRA-NonGen** **NJN008004699**
MANAHAWKIN, NJ 08050

FINDS:
Other Pertinent Environmental Activity Identified at Site

Registry ID: 110004246227

RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

RCRA-NonGen:
Date form received by agency: 01/01/2007
Facility name: HANCE & SMYTHE INC
Facility address: 1225 E BAY AVE
MANAHAWKIN, NJ 08050
EPA ID: NJN008004699
Mailing address: E BAY AVE
MANAHAWKIN, NJ 08050
Contact: HARRY SMYTHE
Contact address: E BAY AVE
MANAHAWKIN, NJ 08050
Contact country: US
Contact telephone: (609) 597-7813
Contact email: Not reported
EPA Region: 02
Land type: Private
Classification: Non-Generator
Description: Handler: Non-Generators do not presently generate hazardous waste

Owner/Operator Summary:
Owner/operator name: NON REGULATED
Owner/operator address: NOT REQUIRED
NOT REQUIRED, NJ 99999
Owner/operator country: US
Owner/operator telephone: (609) 555-1212
Legal status: Private
Owner/Operator Type: Owner
Owner/Op start date: Not reported
Owner/Op end date: Not reported

Owner/operator name: NON REGULATED
Owner/operator address: NOT REQUIRED
NOT REQUIRED, NJ 99999
Owner/operator country: US

HANCE & SMYTHE INC (Continued) **1001124538**

Owner/operator telephone: (609) 555-1212
Legal status: Private
Owner/Operator Type: Operator
Owner/Op start date: Not reported
Owner/Op end date: Not reported

Handler Activities Summary:
U.S. importer of hazardous waste: Unknown
Mixed waste (haz. and radioactive): Unknown
Recycler of hazardous waste: No
Transporter of hazardous waste: Unknown
Treater, storer or disposer of HW: No
Underground injection activity: No
On-site burner exemption: Unknown
Furnace exemption: Unknown
Used oil fuel burner: No
Used oil processor: No
User oil refiner: No
Used oil fuel marketer to burner: No
Used oil Specification marketer: No
Used oil transfer facility: No
Used oil transporter: No
Off-site waste receiver: Commercial status unknown

Historical Generators:
Date form received by agency: 01/01/2006
Facility name: HANCE & SMYTHE INC
Classification: Not a generator, verified

Date form received by agency: 10/11/1996
Facility name: HANCE & SMYTHE INC
Classification: Unverified

Violation Status: No violations found

Evaluation Action Summary:
Evaluation date: 09/27/1996
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

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3 **CAUSEWAY CONSTRUCTION** **NJ Release** **S102202147**
1205 BAY AVE **N/A**
MANAHAWKIN, NJ

NJ Release:
Facility ID: 2859
Date Received: 2/22/1994
Operator: JULIE1
Incident Type: Not reported
Location: Other
Other Location: Not reported
Contact Name: Not reported
Caller Name: REDACTED
Caller Title: CITIZEN
Caller Address: Not reported

Case Number: 94-2-22-1241-42
Nature of Incident: Citizen
Incident Location: Not reported

CAUSEWAY CONSTRUCTION (Continued) **S102202147**

Caller City,St,Zip:	Not reported		
Caller Telephone:	Not reported		
Facility Phone:	Not reported		
Incident Date:	2/22/1994	Incident Time:	ONGO
Substance(s):	MOTOR OIL, CONCRETE, GASOLINE		
Substance Type:	Liquid	Substance Identity:	Suspected
CAS Number:	Not reported	A310 Letter:	Yes
TCPA Chemical:	No	Hazrds Material:	Yes
COMU:	1530	Ref. Code:	101
Amnt Released:	UNKNOWN	Contained:	No
Release Type:	Intermittent	Release VE:	Not reported
Injuries:	No		
Public Exposure:	No	Facility Evacuation:	No
Police at Scene:	No	Firemen at Scene:	No
Contamination of:	Land	Receiving Water:	NONE
Status at Spill:	OLD MOTOR VEHICLES AND EQUIPMENT ON PROPERTY LEAKING MATERIAL.SOLID WASTE MATERIALS ALSO PILED AT LOCATION. NO CLEAN UP		
NJ Spill Date:	Not reported	NJ Spill Time:	Not reported
NJ Spill Name:	Not reported	NJ Spill Title:	Not reported
NJ Spill Phone:	Not reported		
Other Date:	Not reported	Other Time:	Not reported
Other Name:	Not reported	Other Title:	Not reported

Other Telephone:	Not reported
Public Evacuation:	No
Assistance Requested:	Yes
Wind Direction/Speed:	Not reported
Local Municipality Notified:	Not reported
Local Municipality Name:	STAFFORD TWP
Local Municipality Title:	DISP 305
Local Municipality Telephone:	609-597-8581
Local Municipality Date:	2/22/1994
Local Municipality Time:	1245
Incident Description:	Sloppy Housekeeping
Incident Name:	Not reported
Incident Referred To:	DRPSR
Incident Region:	BFO-CAS
Incident Telephone:	Faxed,Mailed
Incident Date:	2/22/1994
Incident time:	Not reported
Incident ITM:	B
Incident Name:	Not reported
Incident Referred To:	DSWM
Incident Region:	HQ1
Incident Telephone:	Faxed
Incident Date:	2/22/1994
Incident Time:	Not reported
Incident ITM:	T
Comments:	Not reported
Date A310 Letter Printed:	Not reported
Date Local Authority Was Notified:	Not reported
Date Updated:	Not reported
Date Report Faxed to Local Authority:	Not reported
Local Authority Notification Date:	Not reported
Rep Receive Date:	Not reported
Reporter Type:	Not reported
Reporter Name:	Not reported
Reporter Title:	Not reported

CAUSEWAY CONSTRUCTION (Continued) **S102202147**

Reporter Org:	Not reported
Reporter Address:	Not reported
Reporter City,St,Zip:	Not reported
Reporter County:	Not reported
Incident Status:	Not reported
Incident Category:	Not reported
Incident Source:	Not reported
Incident Address:	Not reported
Incident Address 2:	Not reported
Incident City,St,Zip:	Not reported
Incident County:	Not reported
DEP Requested:	Not reported
Confidential:	Not reported
Notify Type:	Not reported
Road Closed:	Not reported
Direction:	Not reported
Responsible Party:	Known
Responsible Party Name:	CAUSEWAY CONSTRUCTIO
Responsible Party Contact:	BONAVITACOLA
Responsible Party Title:	OWNER
Responsible Party Phone:	Not reported
Responsible Party Street:	1205 BAY AVE
Responsible Party County:	OCEAN
Responsible Party City,St,Zip:	MANAHAWKIN, NJ
Memo. Of Understanding:	Not reported
Drill/trng Exercise:	Not reported
Hazardous:	Not reported

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3 **RESIDENCE** **SPILLS** **S104447495**
1201 E. BAY AVE **N/A**
MANAHAWKIN, NJ

NJ SPILL:

Facility ID:	57974
Case Number:	00-03-06-1003-07
Notify Type:	Citizen
Date Received:	3/6/2000
Location:	Other
Other Location:	Not reported
Incident Date:	3/4/2000
Incident Time:	Not reported
A310 Letter:	True
Ref. Code:	101
COMU:	1530
CAS Number:	Not reported
Hazardous:	No
Incident Location:	Not reported
Facility Phone:	- -
Substance(s):	Not reported
Substance Type:	Not reported
Substance Identity	Not reported
TCPA Chemical:	Not reported
Hazrds Material:	Not reported
Amnt Released:	Not reported
Release VE:	Not reported
Contained:	Not reported
Release Type:	Not reported
Incident Desc:	Not reported

RESIDENCE (Continued) **S104447495**

Status at Spill: Information REDACTED due to data corrutpion causing status reporting errors
NJ Spill Date: Not reported
NJ Spill Time: Not reported
NJ Spill Name: Not reported
NJ Spill Title: Not reported
NJ Spill Phone: Not reported
Other Date: Not reported
Other Time: Not reported
Other Name: Not reported
Other Title: Not reported
Other Phone: Not reported
Injuries: No
Public Exposure: No
Road Closed: No
Facility Evacuation: No
Receiving Water: Not reported
Public Evacuation: No
Police at Scene: No
Firemen at Scene: No
Contamination of: Land
Nature of Incident: Not reported
Wind Direction/Speed: 0
Assistance Requested: No
Memo. Of Understanding: No
Drill/trng Exercise: No
Operator: PAT
Contact Name: Not reported
Caller Name: REDACTED
Caller Title: CITIZEN
Caller Address: Not reported
Caller City,St,Zip: Not reported
Caller Phone: Not reported
Responsible Party: Known
Responsible Party Name: PROP OWNER
Responsible Party Contact: ELIZABETH BOYTON
Responsible Party Title: PROP OWNER
Responsible Party Telphone: 609-597-3798
Responsible Party Street: 807 E. BAY AVE
Responsible Party Municipality: MANAHAWKIN
Responsible Party State: NJ
Responsible Party Zip: Not reported
Responsible City,St,Zip: MANAHAWKIN, NJ
Responsible Party County: OCEAN
Local Municipality: No
Local Municipality Name: Not reported
Local Municipality Title: Not reported
Local Municipality Phone: Not reported
Local Municipality Date: Not reported
Local Municipality Time: Not reported
Incident Name: Not reported
Incident Referred To: Not reported
Incident Region: Not reported
Incident Phone: Not reported
Incident Date: Not reported
Comments: Not reported
Date A310 Letter Printed: Not reported

RESIDENCE (Continued) **S104447495**

Date Local Authority Was Notified:	Not reported
Date Update:	Not reported
Date Report Faxed to Local Authority:	Not reported
Local Authority Notification Date:	Not reported
Reporter Name:	Not reported
Reporter Type:	Not reported
Rep Received Date:	Not reported
Reporter Title:	Not reported
Reporter Orgzn:	Not reported
Reporter Address:	Not reported
Reporter City,St,Zip:	Not reported
Reporter County:	Not reported
Incident Type:	Not reported
Incident Status:	Not reported
Incident Category:	Not reported
Incident Source:	Not reported
Incident Address:	Not reported
Incident Address 2:	Not reported
Incident City,St,Zip:	Not reported
Incident County:	Not reported
DEP Requested:	Not reported
Confidential:	Not reported

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3 **NJ Release** **S107075243**
N/A

1201 E BAY AVE.
STAFFORD TWP, NJ

NJ Release:

Facility ID:	58599	Case Number:	03-06-04-1356-28
Date Received:	6/4/2003	Nature of Incident:	Not reported
Operator:	Not reported		
Incident Type:	Wetlands/Stream Encroach	Incident Location:	IN REAR OF
Location:	Not reported		
Other Location:	Not reported		
Contact Name:	Not reported		
Caller Name:	Not reported		
Caller Title:	Not reported		
Caller Address:	Not reported		
Caller City,St,Zip:	Not reported		
Caller Telephone:	Not reported		
Facility Phone:	Not reported		
Incident Date:	6/4/2003	Incident Time:	Not reported
Substance(s):	Not reported		
Substance Type:	Not reported	Substance Identity:	Not reported
CAS Number:	Not reported	A310 Letter:	Not reported
TCPA Chemical:	Not reported	Hazrds Material:	Not reported
COMU:	Not reported	Ref. Code:	Not reported
Amnt Released:	Not reported	Contained:	Not reported
Release Type:	Not reported	Release VE:	Not reported
Injuries:	No		
Public Exposure:	No	Facility Evacuation:	No
Police at Scene:	No	Firemen at Scene:	No
Contamination of:	Not reported	Receiving Water:	Not reported
Status at Spill:	Not reported		
NJ Spill Date:	Not reported	NJ Spill Time:	Not reported
NJ Spill Name:	Not reported	NJ Spill Title:	Not reported
NJ Spill Phone:	Not reported		
Other Date:	Not reported	Other Time:	Not reported

(Continued) **S107075243**

Other Name: Not reported
Other Title: Not reported
Other Telephone: Not reported
Public Evacuation: No
Assistance Requested: Not reported
Wind Direction/Speed: Not reported
Local Municipality Notified: Not reported
Local Municipality Name: Not reported
Local Municipality Title: Not reported
Local Municipality Telephone: Not reported
Local Municipality Date: Not reported
Local Municipality Time: Not reported
Incident Description: Not reported
Incident Name: Not reported
Incident Referred To: Not reported
Incident Region: Not reported
Incident Telephone: Not reported
Incident Date: Not reported
Incident time: Not reported
Incident ITM: Not reported
Comments: Not reported
Date A310 Letter Printed: Not reported
Date Local Authority Was Notified: Not reported
Date Updated: Not reported
Date Report Faxed to Local Authority: Not reported
Local Authority Notification Date: Not reported
Rep Receive Date: 6/4/2003
Reporter Type: Citizen Complaint
Reporter Name: REDACTED
Reporter Title: Not reported
Reporter Org: Not reported
Reporter Address: Not reported
Reporter City,St,Zip: Not reported
Reporter County: Not reported
Incident Status: Intermittent
Incident Category: Other
Incident Source: UNKNOWN
Incident Address: Not reported
Incident Address 2: Not reported
Incident City,St,Zip: Not reported
Incident County: Not reported
DEP Requested: Yes
Confidential: Not reported
Notify Type: Not reported
Road Closed: No
Direction: Not reported
Responsible Party: Not reported
Responsible Party Name: Not reported
Responsible Party Contact: Not reported
Responsible Party Title: Not reported
Responsible Party Phone: Not reported
Responsible Party Street: Not reported
Responsible Party County: Not reported
Responsible Party City,St,Zip: Not reported
Memo. Of Understanding: Not reported
Drill/trng Exercise: Not reported
Hazardous: Not reported

4 **DIXON PEARCE W** **FINDS** **1010468846**
1152 W MALLARD DR **N/A**
STAFFORD TWP, NJ 08050

FINDS:
Other Pertinent Environmental Activity Identified at Site

Registry ID: 110031880490

NJ-NJEMS (New Jersey - New Jersey Environmental Management System). The Department of Environmental Protection (NJDEP) manages large databases of environmental information in this integrated system.

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5 **MUD CITY CRAB HOUSE** **FINDS** **1010542948**
1185 BAY AVE **N/A**
MANAHAWKIN, NJ 08050

FINDS:
Other Pertinent Environmental Activity Identified at Site

Registry ID: 110032444932

NJ-NJEMS (New Jersey - New Jersey Environmental Management System). The Department of Environmental Protection (NJDEP) manages large databases of environmental information in this integrated system.

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6 **RESSLER TODD P** **FINDS** **1010455631**
1197 W MALLARD DR **N/A**
STAFFORD TWP, NJ 08050

FINDS:
Other Pertinent Environmental Activity Identified at Site

Registry ID: 110031748054

NJ-NJEMS (New Jersey - New Jersey Environmental Management System). The Department of Environmental Protection (NJDEP) manages large databases of environmental information in this integrated system.

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6 **BAYTOFF MICHAEL** **FINDS** **1010425372**
1180 W MALLARD DR **N/A**
STAFFORD TWP, NJ 08050

FINDS:
Other Pertinent Environmental Activity Identified at Site

Registry ID: 110031659239

NJ-NJEMS (New Jersey - New Jersey Environmental Management System). The Department of Environmental Protection (NJDEP) manages large databases of environmental information in this integrated system.

7 **BONAVITACOLA ANTHONY** **FINDS** **1010466328**
1205 BAY AVE **N/A**
STAFFORD TWP, NJ 08050

FINDS:
Other Pertinent Environmental Activity Identified at Site

Registry ID: 110031768479

NJ-NJEMS (New Jersey - New Jersey Environmental Management System). The Department of Environmental Protection (NJDEP) manages large databases of environmental information in this integrated system.

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8 **HANCE & SMYTHE INC** **FINDS** **1010457921**
1225 BAY AVE **N/A**
MANAHAWKIN, NJ 08050

FINDS:
Other Pertinent Environmental Activity Identified at Site

Registry ID: 110031818843

NJ-NJEMS (New Jersey - New Jersey Environmental Management System). The Department of Environmental Protection (NJDEP) manages large databases of environmental information in this integrated system.

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9 **REPASY GEORGE W & GEORGE J** **FINDS** **1010531311**
1275 W MALLARD DR **N/A**
STAFFORD TWP, NJ 08050

FINDS:
Other Pertinent Environmental Activity Identified at Site

Registry ID: 110032375533

NJ-NJEMS (New Jersey - New Jersey Environmental Management System). The Department of Environmental Protection (NJDEP) manages large databases of environmental information in this integrated system.

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9 **ROCKLYN ROBERT R** **FINDS** **1010552204**
1267 W MALLARD DR **N/A**
STAFFORD TWP, NJ 08050

FINDS:
Other Pertinent Environmental Activity Identified at Site

Registry ID: 110032582532

NJ-NJEMS (New Jersey - New Jersey Environmental Management System). The Department of Environmental Protection (NJDEP) manages large databases of environmental information in this integrated system.

9 **DELFING PAUL M JR** **FINDS** **1010528963**
1259 W MALLARD DR **N/A**
STAFFORD TWP, NJ 08050

FINDS:
Other Pertinent Environmental Activity Identified at Site

Registry ID: 110032320842

NJ-NJEMS (New Jersey - New Jersey Environmental Management System). The Department of Environmental Protection (NJDEP) manages large databases of environmental information in this integrated system.

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10 **HANCE WALTER & AVIS** **FINDS** **1010466851**
1264 BAY AVE **N/A**
STAFFORD TWP, NJ 08050

FINDS:
Other Pertinent Environmental Activity Identified at Site

Registry ID: 110031838108

NJ-NJEMS (New Jersey - New Jersey Environmental Management System). The Department of Environmental Protection (NJDEP) manages large databases of environmental information in this integrated system.

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11 **ROADWAY** **SPILLS** **S103791406**
EAST BAY AV/MARSHA BL **N/A**
STAFFORD TWP, NJ

NJ SPILL:

Facility ID:	40971
Case Number:	99-04-01-1557-22
Notify Type:	Municipality
Date Received:	4/1/1999
Location:	Transportation
Other Location:	Not reported
Incident Date:	4/1/1999
Incident Time:	1552
A310 Letter:	False
Ref. Code:	101
COMU:	1530
CAS Number:	Not reported
Hazardous:	No
Incident Location:	Not reported
Facility Phone:	Not reported
Substance(s):	Not reported
Substance Type:	Not reported
Substance Identity	Not reported
TCPA Chemical:	Not reported
Hazrds Material:	Not reported
Amnt Released:	Not reported
Release VE:	Not reported
Contained:	Not reported
Release Type:	Not reported
Incident Desc:	Not reported

ROADWAY (Continued) **S103791406**

Status at Spill:	MVA CAUSED SPILL. CLEAN UP BY FD.
NJ Spill Date:	Not reported
NJ Spill Time:	Not reported
NJ Spill Name:	Not reported
NJ Spill Title:	Not reported
NJ Spill Phone:	Not reported
Other Date:	Not reported
Other Time:	Not reported
Other Name:	Not reported
Other Title:	Not reported
Other Phone:	Not reported
Injuries:	No
Public Exposure:	No
Road Closed:	No
Facility Evacuation:	No
Receiving Water:	Not reported
Public Evacuation:	No
Police at Scene:	Yes
Firemen at Scene:	Yes
Contamination of:	Land
Nature of Incident:	Not reported
Wind Direction/Speed:	0
Assistance Requested:	No
Memo. Of Understanding:	No
Drill/trng Exercise:	No
Operator:	JON
Contact Name:	Not reported
Caller Name:	REDACTED
Caller Title:	STAFFORD PD
Caller Address:	Not reported
Caller City,St,Zip:	Not reported
Caller Phone:	Not reported
Responsible Party:	Unknown
Responsible Party Name:	Not reported
Responsible Party Contact:	Not reported
Responsible Party Title:	Not reported
Responsible Party Telphone:	Not reported
Responsible Party Street:	Not reported
Responsible Party Municipality:	Not reported
Responsible Party State:	Not reported
Responsible Party Zip:	Not reported
Responsible City,St,Zip:	Not reported
Responsible Party County:	Not reported
Local Municipality:	No
Local Municipality Name:	Not reported
Local Municipality Title:	Not reported
Local Municipality Phone:	Not reported
Local Municipality Date:	Not reported
Local Municipality Time:	Not reported
Incident Name:	Not reported
Incident Referred To:	Not reported
Incident Region:	Not reported
Incident Phone:	Not reported
Incident Date:	Not reported
Comments:	Not reported
Date A310 Letter Printed:	Not reported
Date Local Authority Was Notified:	Not reported

ROADWAY (Continued) **S103791406**

Date Update:	Not reported
Date Report Faxed to Local Authority:	Not reported
Local Authority Notification Date:	Not reported
Reporter Name:	Not reported
Reporter Type:	Not reported
Rep Received Date:	Not reported
Reporter Title:	Not reported
Reporter Orgzn:	Not reported
Reporter Address:	Not reported
Reporter City,St,Zip:	Not reported
Reporter County:	Not reported
Incident Type:	Not reported
Incident Status:	Not reported
Incident Category:	Not reported
Incident Source:	Not reported
Incident Address:	Not reported
Incident Address 2:	Not reported
Incident City,St,Zip:	Not reported
Incident County:	Not reported
DEP Requested:	Not reported
Confidential:	Not reported

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11 **ON ROADWAY** **SPILLS** **S104339202**
MARSHA DR/ E. BAY AVE **N/A**
STAFFORD TWP, NJ

NJ SPILL:

Facility ID:	47255
Case Number:	99-08-02-0827-15
Notify Type:	Municipality
Date Received:	8/2/1999
Location:	Transportation
Other Location:	Not reported
Incident Date:	8/2/1999
Incident Time:	0812
A310 Letter:	False
Ref. Code:	101
COMU:	1530
CAS Number:	Not reported
Hazardous:	No
Incident Location:	Not reported
Facility Phone:	Not reported
Substance(s):	Not reported
Substance Type:	Not reported
Substance Identity	Not reported
TCPA Chemical:	Not reported
Hazrds Material:	Not reported
Amnt Released:	Not reported
Release VE:	Not reported
Contained:	Not reported
Release Type:	Not reported
Incident Desc:	Not reported
Status at Spill:	SPILL ALONG ROAD APROX 30 YARDS LONG. CLEAN UP BY LOCAL DPW.
NJ Spill Date:	Not reported
NJ Spill Time:	Not reported
NJ Spill Name:	Not reported
NJ Spill Title:	Not reported
NJ Spill Phone:	Not reported

ON ROADWAY (Continued) **S104339202**

Other Date:	Not reported
Other Time:	Not reported
Other Name:	Not reported
Other Title:	Not reported
Other Phone:	Not reported
Injuries:	No
Public Exposure:	No
Road Closed:	No
Facility Evacuation:	No
Receiving Water:	Not reported
Public Evacuation:	No
Police at Scene:	Yes
Firemen at Scene:	No
Contamination of:	Land
Nature of Incident:	Not reported
Wind Direction/Speed:	0
Assistance Requested:	No
Memo. Of Understanding:	No
Drill/trng Exercise:	No
Operator:	CHRIS
Contact Name:	Not reported
Caller Name:	REDACTED
Caller Title:	STAFFORD TWP PD
Caller Address:	Not reported
Caller City,St,Zip:	Not reported
Caller Phone:	Not reported
Responsible Party:	Unknown
Responsible Party Name:	Not reported
Responsible Party Contact:	Not reported
Responsible Party Title:	Not reported
Responsible Party Telphone:	Not reported
Responsible Party Street:	Not reported
Responsible Party Municipality:	Not reported
Responsible Party State:	Not reported
Responsible Party Zip:	Not reported
Responsible City,St,Zip:	Not reported
Responsible Party County:	Not reported
Local Municipality:	No
Local Municipality Name:	Not reported
Local Municipality Title:	Not reported
Local Municipality Phone:	Not reported
Local Municipality Date:	Not reported
Local Municipality Time:	Not reported
Incident Name:	Not reported
Incident Referred To:	Not reported
Incident Region:	Not reported
Incident Phone:	Not reported
Incident Date:	Not reported
Comments:	Not reported
Date A310 Letter Printed:	Not reported
Date Local Authority Was Notified:	Not reported
Date Update:	Not reported
Date Report Faxed to Local Authority:	Not reported
Local Authority Notification Date:	Not reported
Reporter Name:	Not reported
Reporter Type:	Not reported
Rep Received Date:	Not reported

ON ROADWAY (Continued) **S104339202**

Reporter Title:	Not reported
Reporter Orgzn:	Not reported
Reporter Address:	Not reported
Reporter City,St,Zip:	Not reported
Reporter County:	Not reported
Incident Type:	Not reported
Incident Status:	Not reported
Incident Category:	Not reported
Incident Source:	Not reported
Incident Address:	Not reported
Incident Address 2:	Not reported
Incident City,St,Zip:	Not reported
Incident County:	Not reported
DEP Requested:	Not reported
Confidential:	Not reported

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12 **MCNALLY JOHN** **FINDS** **1010465951**
1293 W MALLARD DR **N/A**
STAFFORD TWP, NJ 08050

FINDS:
Other Pertinent Environmental Activity Identified at Site

Registry ID: 110031836770

NJ-NJEMS (New Jersey - New Jersey Environmental Management System). The Department of Environmental Protection (NJDEP) manages large databases of environmental information in this integrated system.

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13 **MONTICELLI ARMAND** **FINDS** **1010530765**
1279 E MALLARD DR **N/A**
STAFFORD TWP, NJ 08050

FINDS:
Other Pertinent Environmental Activity Identified at Site

Registry ID: 110032357492

NJ-NJEMS (New Jersey - New Jersey Environmental Management System). The Department of Environmental Protection (NJDEP) manages large databases of environmental information in this integrated system.

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13 **WOODFORD STEVEN & MARGARET** **FINDS** **1010545520**
1296 E MALLARD DR **N/A**
STAFFORD TWP, NJ 08050

FINDS:
Other Pertinent Environmental Activity Identified at Site

Registry ID: 110032465598

NJ-NJEMS (New Jersey - New Jersey Environmental Management System). The Department of Environmental Protection (NJDEP) manages large

WOODFORD STEVEN & MARGARET (Continued) **1010545520**

databases of environmental information in this integrated system.

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13 **HAUGE JON** **FINDS** **1010520637**
1317 E MALLARD DR **N/A**
STAFFORD TWP, NJ 08050

FINDS:
Other Pertinent Environmental Activity Identified at Site

Registry ID: 110032197183

NJ-NJEMS (New Jersey - New Jersey Environmental Management System). The Department of Environmental Protection (NJDEP) manages large databases of environmental information in this integrated system.

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13 **BLINN AMANDA** **FINDS** **1010543485**
1329 E MALLARD DR **N/A**
MANAHAWKIN, NJ 08050

FINDS:
Other Pertinent Environmental Activity Identified at Site

Registry ID: 110032458819

NJ-NJEMS (New Jersey - New Jersey Environmental Management System). The Department of Environmental Protection (NJDEP) manages large databases of environmental information in this integrated system.

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13 **AMBROGI JANE LEE TRUSTEE** **FINDS** **1010466726**
1343 E MALLARD DR **N/A**
MANAHAWKIN, NJ 08050

FINDS:
Other Pertinent Environmental Activity Identified at Site

Registry ID: 110031862802

NJ-NJEMS (New Jersey - New Jersey Environmental Management System). The Department of Environmental Protection (NJDEP) manages large databases of environmental information in this integrated system.

13 **KULPER BERNARD** **FINDS** **1010466403**
1347 E MALLARD DR **N/A**
STAFFORD TWP, NJ 08050

FINDS:
Other Pertinent Environmental Activity Identified at Site

Registry ID: 110031861484

NJ-NJEMS (New Jersey - New Jersey Environmental Management System). The Department of Environmental Protection (NJDEP) manages large databases of environmental information in this integrated system.

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13 **LONGNECKER ROBERT** **FINDS** **1010533013**
1351 E MALLARD DR **N/A**
STAFFORD TWP, NJ 08050

FINDS:
Other Pertinent Environmental Activity Identified at Site

Registry ID: 110032363243

NJ-NJEMS (New Jersey - New Jersey Environmental Management System). The Department of Environmental Protection (NJDEP) manages large databases of environmental information in this integrated system.

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14 **EDDIN ICE** **FINDS** **1010551992**
1279 BAY AVE **N/A**
MANAHAWKIN, NJ 08050

FINDS:
Other Pertinent Environmental Activity Identified at Site

Registry ID: 110032479832

NJ-NJEMS (New Jersey - New Jersey Environmental Management System). The Department of Environmental Protection (NJDEP) manages large databases of environmental information in this integrated system.

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14 **MALLARD ISLAND NEAR** **NJ Release** **S107068155**
1377 BAY AVE **N/A**
STAFFORD TWP, NJ

NJ Release:

Facility ID:	91550	Case Number:	02-02-19-0820-28
Date Received:	2/19/2002	Nature of Incident:	Not reported
Operator:	CHRIS		
Incident Type:	Not reported	Incident Location:	Not reported
Location:	Other		
Other Location:	Not reported		
Contact Name:	Not reported		
Caller Name:	REDACTED		
Caller Title:	Not reported		
Caller Address:	Not reported		

MALLARD ISLAND NEAR (Continued) **S107068155**

Caller City,St,Zip: Not reported
Caller Telephone: Not reported
Facility Phone: Not reported
Incident Date: 2/19/2002 Incident Time: Not reported
Substance(s): Not reported
Substance Type: Not reported Substance Identity: Not reported
CAS Number: Not reported A310 Letter: False
TCPA Chemical: Not reported Hazrds Material: Not reported
COMU: 1530 Ref. Code: 028
Amnt Released: Not reported Contained: Not reported
Release Type: Not reported Release VE: Not reported
Injuries: No
Public Exposure: No Facility Evacuation: No
Police at Scene: No Firemen at Scene: No
Contamination of: None Receiving Water: Not reported
Status at Spill: CALLER STATES THAT MUA IS INSTALLING SEWER LINES IMPROPERLY AND WILL EFFECT BAY AREA.
NJ Spill Date: Not reported NJ Spill Time: Not reported
NJ Spill Name: Not reported NJ Spill Title: Not reported
NJ Spill Phone: Not reported
Other Date: Not reported Other Time: Not reported
Other Name: Not reported Other Title: Not reported
Other Telephone: Not reported
Public Evacuation: No
Assistance Requested: No
Wind Direction/Speed: Not reported
Local Municipality Notified: Not reported
Local Municipality Name: Not reported
Local Municipality Title: Not reported
Local Municipality Telephone: Not reported
Local Municipality Date: Not reported
Local Municipality Time: Not reported
Incident Description: Not reported
Incident Name: Not reported
Incident Referred To: Not reported
Incident Region: Not reported
Incident Telephone: Not reported
Incident Date: Not reported
Incident time: Not reported
Incident ITM: Not reported
Comments: Not reported
Date A310 Letter Printed: Not reported
Date Local Authority Was Notified: Not reported
Date Updated: Not reported
Date Report Faxed to Local Authority: Not reported
Local Authority Notification Date: Not reported
Rep Receive Date: Not reported
Reporter Type: Not reported
Reporter Name: Not reported
Reporter Title: Not reported
Reporter Org: Not reported
Reporter Address: Not reported
Reporter City,St,Zip: Not reported
Reporter County: Not reported
Incident Status: Not reported
Incident Category: Not reported
Incident Source: Not reported

MALLARD ISLAND NEAR (Continued) **S107068155**

Incident Address:	Not reported
Incident Address 2:	Not reported
Incident City,St,Zip:	Not reported
Incident County:	Not reported
DEP Requested:	Not reported
Confidential:	Not reported
Notify Type:	Citizen
Road Closed:	No
Direction:	Not reported
Responsible Party:	Suspected
Responsible Party Name:	MANAHAWKEN TWP
Responsible Party Contact:	Not reported
Responsible Party Title:	Not reported
Responsible Party Phone:	Not reported
Responsible Party Street:	Not reported
Responsible Party County:	Not reported
Responsible Party City,St,Zip:	Not reported
Memo. Of Understanding:	Not reported
Drill/trng Exercise:	Not reported
Hazardous:	Not reported

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15 **WEED FREE LANDSCAPES** **FINDS** **1008963395**
77 JONATHAN DR **N/A**
MANAHAWKIN, NJ 08050

FINDS:
Other Pertinent Environmental Activity Identified at Site

Registry ID: 110030615216

NJ-NJEMS (New Jersey - New Jersey Environmental Management System). The Department of Environmental Protection (NJDEP) manages large databases of environmental information in this integrated system.

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16 **OCEAN CNTY DEPT OF ENGINEERING** **FINDS** **1010221043**
1355 BAY AVE **N/A**
STAFFORD TWP, NJ 08050

FINDS:
Other Pertinent Environmental Activity Identified at Site

Registry ID: 110029402000

NJ-NJEMS (New Jersey - New Jersey Environmental Management System). The Department of Environmental Protection (NJDEP) manages large databases of environmental information in this integrated system.

16 **NJ Release** **S106208782**
N/A

1450 BAY AVE
STAFFORD TWP, NJ

NJ Release:

Facility ID:	25218	Case Number:	02-06-26-1239-27
Date Received:	6/26/2002	Nature of Incident:	Not reported
Operator:	Not reported		
Incident Type:	Sloppy Housekeeping	Incident Location:	FAMILY BOAT CENTER
Location:	Not reported		
Other Location:	Not reported		
Contact Name:	Not reported		
Caller Name:	Not reported		
Caller Title:	Not reported		
Caller Address:	Not reported		
Caller City,St,Zip:	Not reported		
Caller Telephone:	Not reported		
Facility Phone:	Not reported		
Incident Date:	6/26/2002	Incident Time:	Not reported
Substance(s):	Not reported		
Substance Type:	Not reported	Substance Identity:	Not reported
CAS Number:	Not reported	A310 Letter:	Not reported
TCPA Chemical:	Not reported	Hazrds Material:	Not reported
COMU:	Not reported	Ref. Code:	Not reported
Amnt Released:	Not reported	Contained:	Not reported
Release Type:	Not reported	Release VE:	Not reported
Injuries:	No		
Public Exposure:	No	Facility Evacuation:	No
Police at Scene:	No	Firemen at Scene:	No
Contamination of:	Not reported	Receiving Water:	Not reported
Status at Spill:	Not reported		
NJ Spill Date:	Not reported	NJ Spill Time:	Not reported
NJ Spill Name:	Not reported	NJ Spill Title:	Not reported
NJ Spill Phone:	Not reported		
Other Date:	Not reported	Other Time:	Not reported
Other Name:	Not reported	Other Title:	Not reported

Other Telephone:	Not reported
Public Evacuation:	No
Assistance Requested:	Not reported
Wind Direction/Speed:	Not reported
Local Municipality Notified:	Not reported
Local Municipality Name:	Not reported
Local Municipality Title:	Not reported
Local Municipality Telephone:	Not reported
Local Municipality Date:	Not reported
Local Municipality Time:	Not reported
Incident Description:	Not reported
Incident Name:	Not reported
Incident Referred To:	Not reported
Incident Region:	Not reported
Incident Telephone:	Not reported
Incident Date:	Not reported
Incident time:	Not reported
Incident ITM:	Not reported
Comments:	Not reported
Date A310 Letter Printed:	Not reported
Date Local Authority Was Notified:	Not reported
Date Updated:	Not reported
Date Report Faxed to Local Authority:	Not reported

(Continued) **S106208782**

Local Authority Notification Date:	Not reported
Rep Receive Date:	6/26/2002
Reporter Type:	Citizen Complaint
Reporter Name:	REDACTED
Reporter Title:	Not reported
Reporter Org:	Not reported
Reporter Address:	Not reported
Reporter City,St,Zip:	Not reported
Reporter County:	Not reported
Incident Status:	Continuous
Incident Category:	Facility
Incident Source:	Not reported
Incident Address:	1450 BAY AVE
Incident Address 2:	Not reported
Incident City,St,Zip:	Stafford Twp, NJ
Incident County:	Ocean
DEP Requested:	Yes
Confidential:	Not reported
Notify Type:	Not reported
Road Closed:	No
Direction:	Not reported
Responsible Party:	Not reported
Responsible Party Name:	Not reported
Responsible Party Contact:	Not reported
Responsible Party Title:	Not reported
Responsible Party Phone:	Not reported
Responsible Party Street:	Not reported
Responsible Party County:	Not reported
Responsible Party City,St,Zip:	Not reported
Memo. Of Understanding:	Not reported
Drill/trng Exercise:	Not reported
Hazardous:	Not reported

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16 **MARGOS INN INC** **NPDES** **S104437923**
1432 E BAY AVE **N/A**
MANAHAWKIN, NJ 08050

NJ PDES:

NJPDES Permit Number:	NJ0113727
Flag:	PERMINFO
Facility PO Box:	Not reported
Facility Telephone:	6095978909
Facility Contact:	F FREESE
Facility Municipality:	STAFFORD TWP.
Facility Enforcement region:	CENTRAL
Discharger Classification:	Not reported
Facility Primary SIC code:	Not reported
Facility Ownership:	PRIVATE
Facility Discharge Basin code:	Not reported
Facility Discharge Basin name:	Not reported
Facility Lat/Long:	0 0
Facility Lot number:	Not reported
Facility Block number:	Not reported
Facility Addr 2:	Not reported
Facility Addr 3:	Not reported
Permittee Name:	MARGOS INN INC
Permittee Address:	1432 EAST BAY AVENUE
Permittee Street Address2:	Not reported

MARGOS INN INC (Continued) **S104437923**

Permittee Street Address3:	Not reported
Permittee PO Box:	Not reported
Permittee City,St,Zip:	MANAHAWKIN, NJ 08050 0000
Date Permit Application Received:	2/5/1996
Date Draft Permit Issued:	Not reported
Date Final Permit Issued:	5/5/1997
Date Final Permit Effective:	5/5/1997
Date Final Permit Expires:	1/31/2002
PI Number:	Not reported
Regional Office:	Not reported
Major / Minor Facility:	Not reported
Last Action:	Not reported
Owner Name:	Not reported
Owner Contact:	Not reported
Owner Address:	Not reported
Owner Addr 2:	Not reported
Owner Addr 3:	Not reported
Owner City,St,Zip:	Not reported
Mailing Address:	Not reported
Mailing Addr 2:	Not reported
Mailing City,St,Zip:	Not reported
Program:	Not reported
Permit Discharge Category:	5G2
Permit Category Desc:	STORMWATER BASIC (GP)

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16 **MARGOS INN INC & MARINA** **FINDS** **1001124536**
1432 E BAY AVE **RCRA-NonGen** **NJN008004673**
MANAHAWKIN, NJ 08050

FINDS:
Other Pertinent Environmental Activity Identified at Site

Registry ID: 110004246209

RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

ICIS (Integrated Compliance Information System) is the Integrated Compliance Information System and provides a database that, when complete, will contain integrated Enforcement and Compliance information across most of EPA's programs. The vision for ICIS is to replace EPA's independent databases that contain Enforcement data with a single repository for that information. Currently, ICIS contains all Federal Administrative and Judicial enforcement actions. This information is maintained in ICIS by EPA in the Regional offices and its Headquarters. A future release of ICIS will replace the Permit Compliance System (PCS) which supports the NPDES and will integrate that information with Federal actions already in the system. ICIS also has the capability to track other activities occurring in the Region that support Compliance and Enforcement programs. These include; Incident Tracking, Compliance Assistance, and Compliance Monitoring.

MARGOS INN INC & MARINA (Continued) **1001124536**

RCRA-NonGen:

Date form received by agency:	01/01/2007
Facility name:	MARGOS INN INC & MARINA
Facility address:	1432 E BAY AVE MANAHAWKIN, NJ 08050
EPA ID:	NJN008004673
Mailing address:	E BAY AVE MANAHAWKIN, NJ 08050
Contact:	WILL FREESE
Contact address:	E BAY AVE MANAHAWKIN, NJ 08050
Contact country:	US
Contact telephone:	(609) 597-8909
Contact email:	Not reported
EPA Region:	02
Land type:	Private
Classification:	Non-Generator
Description:	Handler: Non-Generators do not presently generate hazardous waste

Owner/Operator Summary:

Owner/operator name:	NON REGULATED
Owner/operator address:	NOT REQUIRED NOT REQUIRED, NJ 99999
Owner/operator country:	US
Owner/operator telephone:	(609) 555-1212
Legal status:	Private
Owner/Operator Type:	Owner
Owner/Op start date:	Not reported
Owner/Op end date:	Not reported

Owner/operator name:	NON REGULATED
Owner/operator address:	NOT REQUIRED NOT REQUIRED, NJ 99999
Owner/operator country:	US
Owner/operator telephone:	(609) 555-1212
Legal status:	Private
Owner/Operator Type:	Operator
Owner/Op start date:	Not reported
Owner/Op end date:	Not reported

Handler Activities Summary:

U.S. importer of hazardous waste:	Unknown
Mixed waste (haz. and radioactive):	Unknown
Recycler of hazardous waste:	No
Transporter of hazardous waste:	Unknown
Treater, storer or disposer of HW:	No
Underground injection activity:	No
On-site burner exemption:	Unknown
Furnace exemption:	Unknown
Used oil fuel burner:	No
Used oil processor:	No
User oil refiner:	No
Used oil fuel marketer to burner:	No
Used oil Specification marketer:	No
Used oil transfer facility:	No
Used oil transporter:	No

MARGOS INN INC & MARINA (Continued) **1001124536**

Off-site waste receiver: Commercial status unknown

Historical Generators:
Date form received by agency: 01/01/2006
Facility name: MARGOS INN INC & MARINA
Classification: Not a generator, verified

Date form received by agency: 10/11/1996
Facility name: MARGOS INN INC & MARINA
Classification: Unverified

Violation Status: No violations found

Evaluation Action Summary:
Evaluation date: 09/26/1996
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

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16 **MARGO MARINA** **NJ Release** **S105312507**
1432 EAST BAY AVE **N/A**
MANAHAWKIN, NJ

NJ Release:

Facility ID:	15131	Case Number:	92-9-14-1542-00
Date Received:	9/14/1992	Nature of Incident:	Citizen
Operator:	CARM		
Incident Type:	Not reported	Incident Location:	Not reported
Location:	Facility		
Other Location:	Not reported		
Contact Name:	Not reported		
Caller Name:	REDACTED		
Caller Title:	CITIZEN		
Caller Address:	Not reported		
Caller City,St,Zip:	Not reported		
Caller Telephone:	Not reported		
Facility Phone:	Not reported		
Incident Date:	9/14/1992	Incident Time:	ONGO
Substance(s):	GASOLINE		
Substance Type:	Liquid	Substance Identity:	Known
CAS Number:	Not reported	A310 Letter:	Yes
TCPA Chemical:	No	Hazrds Material:	Yes
COMU:	1530	Ref. Code:	046
Amnt Released:	UNKNOWN	Contained:	Unknown
Release Type:	Continuous	Release VE:	Not reported
Injuries:	No		
Public Exposure:	No	Facility Evacuation:	No
Police at Scene:	No	Firemen at Scene:	No
Contamination of:	Land	Receiving Water:	NONE
Status at Spill:	CALLER HAS PURCHASED GASOLINE AT REPORTED LOCATION WHICH WAS MIXED WITH WATER.SUSPECTED LUST.NO SHEEN VISABLE ON WATER.		
NJ Spill Date:	Not reported	NJ Spill Time:	Not reported
NJ Spill Name:	Not reported	NJ Spill Title:	Not reported
NJ Spill Phone:	Not reported		
Other Date:	Not reported	Other Time:	Not reported
Other Name:	Not reported	Other Title:	Not reported
Other Telephone:	Not reported		

MARGO MARINA (Continued) **S105312507**

Public Evacuation:	No
Assistance Requested:	Yes
Wind Direction/Speed:	Not reported
Local Municipality Notified:	Not reported
Local Municipality Name:	STAFFORD TWP
Local Municipality Title:	DISP POWELL
Local Municipality Telephone:	609-597-8581
Local Municipality Date:	9/14/1992
Local Municipality Time:	1546
Incident Description:	L.U.S.T.
Incident Name:	Not reported
Incident Referred To:	DRPSR
Incident Region:	BAC
Incident Telephone:	Faxed,Mailed
Incident Date:	9/14/1992
Incident time:	Not reported
Incident ITM:	B
Comments:	Not reported
Date A310 Letter Printed:	Not reported
Date Local Authority Was Notified:	Not reported
Date Updated:	Not reported
Date Report Faxed to Local Authority:	Not reported
Local Authority Notification Date:	Not reported
Rep Receive Date:	Not reported
Reporter Type:	Not reported
Reporter Name:	Not reported
Reporter Title:	Not reported
Reporter Org:	Not reported
Reporter Address:	Not reported
Reporter City,St,Zip:	Not reported
Reporter County:	Not reported
Incident Status:	Not reported
Incident Category:	Not reported
Incident Source:	Not reported
Incident Address:	Not reported
Incident Address 2:	Not reported
Incident City,St,Zip:	Not reported
Incident County:	Not reported
DEP Requested:	Not reported
Confidential:	Not reported
Notify Type:	Not reported
Road Closed:	Not reported
Direction:	Not reported
Responsible Party:	Known
Responsible Party Name:	MARGO MARINA
Responsible Party Contact:	Not reported
Responsible Party Title:	Not reported
Responsible Party Phone:	Not reported
Responsible Party Street:	1432 EAST BAY AVE
Responsible Party County:	OCEAN
Responsible Party City,St,Zip:	MANAHAWKIN, NJ
Memo. Of Understanding:	Not reported
Drill/trng Exercise:	Not reported
Hazardous:	Not reported

Facility ID:	11928	Case Number:	92-7-23-0845-47
Date Received:	7/23/1992	Nature of Incident:	Citizen

MARGO MARINA (Continued) **S105312507**

Operator:	CARM		
Incident Type:	Not reported	Incident Location:	Not reported
Location:	Facility		
Other Location:	Not reported		
Contact Name:	Not reported		
Caller Name:	REDACTED		
Caller Title:	CIT		
Caller Address:	Not reported		
Caller City,St,Zip:	Not reported		
Caller Telephone:	Not reported		
Facility Phone:	Not reported		
Incident Date:	7/18/1992	Incident Time:	1500
Substance(s):	GASOLINE		
Substance Type:	Liquid	Substance Identity:	Known
CAS Number:	Not reported	A310 Letter:	Yes
TCPA Chemical:	No	Hazrds Material:	Yes
COMU:	1530	Ref. Code:	013
Amnt Released:	UNKNOWN	Contained:	No
Release Type:	Continuous	Release VE:	Not reported
Injuries:	No		
Public Exposure:	Yes	Facility Evacuation:	No
Police at Scene:	No	Firemen at Scene:	No
Contamination of:	Land	Receiving Water:	NONE
Status at Spill:	COMPLAINTANT PURCHASED 200 GALLONS OF GASOLINE ON INCIDENT DATE;PURCHASED GASOLINE WAS MIXED WITH WATER.		
NJ Spill Date:	Not reported	NJ Spill Time:	Not reported
NJ Spill Name:	Not reported	NJ Spill Title:	Not reported
NJ Spill Phone:	Not reported		
Other Date:	Not reported	Other Time:	Not reported
Other Name:	Not reported	Other Title:	Not reported

Other Telephone:	Not reported
Public Evacuation:	No
Assistance Requested:	Yes
Wind Direction/Speed:	Not reported
Local Municipality Notified:	Not reported
Local Municipality Name:	STAFFORD TWP
Local Municipality Title:	DISP 303
Local Municipality Telephone:	609-597-8581
Local Municipality Date:	7/23/1992
Local Municipality Time:	0859
Incident Description:	L.U.S.T.
Incident Name:	Not reported
Incident Referred To:	DRPSR
Incident Region:	Bust
Incident Telephone:	Faxed,Mailed
Incident Date:	7/23/1992
Incident time:	Not reported
Incident ITM:	B
Comments:	Not reported
Date A310 Letter Printed:	7/23/1992
Date Local Authority Was Notified:	Not reported
Date Updated:	Not reported
Date Report Faxed to Local Authority:	7/23/1992
Local Authority Notification Date:	Not reported
Rep Receive Date:	Not reported
Reporter Type:	Not reported
Reporter Name:	Not reported

MARGO MARINA (Continued) **S105312507**

Reporter Title:	Not reported
Reporter Org:	Not reported
Reporter Address:	Not reported
Reporter City,St,Zip:	Not reported
Reporter County:	Not reported
Incident Status:	Not reported
Incident Category:	Not reported
Incident Source:	Not reported
Incident Address:	Not reported
Incident Address 2:	Not reported
Incident City,St,Zip:	Not reported
Incident County:	Not reported
DEP Requested:	Not reported
Confidential:	Not reported
Notify Type:	Not reported
Road Closed:	Not reported
Direction:	Not reported
Responsible Party:	Known
Responsible Party Name:	MARGO MARINA
Responsible Party Contact:	Not reported
Responsible Party Title:	Not reported
Responsible Party Phone:	Not reported
Responsible Party Street:	1432 EAST BAY AVE
Responsible Party County:	OCEAN
Responsible Party City,St,Zip:	MANAHAWKIN, NJ
Memo. Of Understanding:	Not reported
Drill/trng Exercise:	Not reported
Hazardous:	Not reported

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16 **MALLARD ISLAND YACHT CLUB** **NPDES** **S105680070**
1432 E BAY AVE **N/A**
STAFFORD TWP, NJ 08050

NJ PDES:

NJPDES Permit Number:	NJG0113727
Flag:	ACTIVE
Facility PO Box:	Not reported
Facility Telephone:	Not reported
Facility Contact:	CHRIS VERNON
Facility Municipality:	Stafford Twp
Facility Enforcement region:	Not reported
Discharger Classification:	Not reported
Facility Primary SIC code:	Not reported
Facility Ownership:	Private
Facility Discharge Basin code:	Not reported
Facility Discharge Basin name:	Not reported
Facility Lat/Long:	Not reported
Facility Lot number:	Not reported
Facility Block number:	Not reported
Facility Addr 2:	Not reported
Facility Addr 3:	Not reported
Permittee Name:	MARGOS INN INC
Permittee Address:	PO BOX 101
Permittee Street Address2:	Not reported
Permittee Street Address3:	Not reported
Permittee PO Box:	Not reported
Permittee City,St,Zip:	Manahawkin, NJ 08050
Date Permit Application Received:	Not reported

MALLARD ISLAND YACHT CLUB (Continued) **S105680070**

Date Draft Permit Issued:	Not reported
Date Final Permit Issued:	5/18/2007
Date Final Permit Effective:	6/1/2007
Date Final Permit Expires:	5/31/2012
PI Number:	48106
Regional Office:	Central
Major / Minor Facility:	Not reported
Last Action:	Stormwater Discharge General Permit Authorization Renewal
Owner Name:	MALLARD ISLAND YACHT CLUB
Owner Contact:	CHRIS VERNON
Owner Address:	PO BOX 5471
Owner Addr 2:	ATTN: CHRIS VERNON
Owner Addr 3:	Not reported
Owner City,St,Zip:	Trenton, NJ 08638
Mailing Address:	1450 E BAY AVE
Mailing Addr 2:	Not reported
Mailing City,St,Zip:	Manahawkin, NJ 08050
Program:	ST
Permit Discharge Category:	5G2
Permit Category Desc:	STORMWATER BASIC (GP)

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16 **MARGO'S INN INC.ASHTON JO V** **SHWS** **U000367826**
1432 BAY AVE **UST** **N/A**
STAFFORD TWP, NJ 08050

SHWS:

Site ID:	2783
Status:	CLOSED
PI Number:	025638

UST:

Facility ID:	025638
Owner Name:	Not Identified Not Identified
Organization:	Not Identified
Contact Type(UST Reg):	Facility Operator
Contact Address (UST Reg):	Not reported
Contact Address 2 (UST Reg):	Not reported
Conact City,St,Zip (UST Reg):	Not reported
Owner Name:	F FREESE
Organization:	MARGO'S INN, INC
Contact Type(UST Reg):	Tank Owner
Contact Address (UST Reg):	1432 EAST BAY AVE
Contact Address 2 (UST Reg):	Not reported
Conact City,St,Zip (UST Reg):	Manahawkin, NJ 08050
Tank Id:	TANK-1
Tank Number:	E05
Tank Contents:	Unleaded Gasoline
Tank Size:	1000
Install Date:	1/1/1981
Tank Compliance:	No
Tank Status:	**Removed**
Overfill:	Yes
Tank Status Date:	2/5/1993
Compliance Monitoring?:	No
Overfill Protection:	Yes
Spill Containment:	No

MARGO'S INN INC.ASHTON JO V (Continued) **U000367826**

Tank Wellhead Protection: Not reported

TANK MONITOR DATA:
Monitor Tank / Pipe: Pipe
Monitor Type: None
Monitor Tank / Pipe: Tank
Monitor Type: None

TANK DETAIL:
Tankpipe Tank / Pipe: Tank
Tankpipe Construction Type: Fiberglass-reinforced plastic
Tankpipe Tank / Pipe: Pipe
Tankpipe Construction Type: Bare steel

Tank Id: TANK-2
Tank Number: E12
Tank Contents: Unleaded Gasoline
Tank Size: 2000
Install Date: 1/1/1981
Tank Compliance: No
Tank Status: Removed
Overfill: Yes
Tank Status Date: 2/3/1993
Compliance Monitoring?: No
Overfill Protection: Yes
Spill Containment: No
Tank Wellhead Protection: Not reported

TANK MONITOR DATA:
Monitor Tank / Pipe: Pipe
Monitor Type: None
Monitor Tank / Pipe: Tank
Monitor Type: None

TANK DETAIL:
Tankpipe Tank / Pipe: Pipe
Tankpipe Construction Type: Bare steel
Tankpipe Tank / Pipe: Tank
Tankpipe Construction Type: Fiberglass-reinforced plastic

Tank Id: TANK-3
Tank Number: E34
Tank Contents: Unleaded Gasoline
Tank Size: 2000
Install Date: 1/1/1981
Tank Compliance: No
Tank Status: Removed
Overfill: Yes
Tank Status Date: 2/5/1993
Compliance Monitoring?: No
Overfill Protection: Yes
Spill Containment: No
Tank Wellhead Protection: Not reported

TANK MONITOR DATA:
Monitor Tank / Pipe: Tank
Monitor Type: None
Monitor Tank / Pipe: Pipe
Monitor Type: None

MARGO'S INN INC.ASHTON JO V (Continued) **U000367826**

TANK DETAIL:

Tankpipe Tank / Pipe:	Pipe
Tankpipe Construction Type:	Bare steel
Tankpipe Tank / Pipe:	Tank
Tankpipe Construction Type:	Fiberglass-reinforced plastic

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16 **MARGO'S INC** **NJ Release** **S104440630**
1432 E BAY AVE **N/A**
MANAHAWKIN, NJ

NJ Release:

Facility ID:	17078	Case Number:	92-10-21-1052-51
Date Received:	10/21/1992	Nature of Incident:	Facility
Operator:	JOYCE		
Incident Type:	Not reported	Incident Location:	Not reported
Location:	Facility		
Other Location:	Not reported		
Contact Name:	Not reported		
Caller Name:	REDACTED		
Caller Title:	MARGO'S INC		
Caller Address:	Not reported		
Caller City,St,Zip:	Not reported		
Caller Telephone:	Not reported		
Facility Phone:	609-597-8909		
Incident Date:	10/21/1992	Incident Time:	1000
Substance(s):	GASOLINE		
Substance Type:	Liquid	Substance Identity:	Known
CAS Number:	Not reported	A310 Letter:	Yes
TCPA Chemical:	No	Hazrds Material:	Yes
COMU:	1530	Ref. Code:	046
Amnt Released:	UNKNOWN	Contained:	No
Release Type:	Continuous	Release VE:	Not reported
Injuries:	No		
Public Exposure:	No	Facility Evacuation:	No
Police at Scene:	No	Firemen at Scene:	No
Contamination of:	Land	Receiving Water:	Not reported
Status at Spill:	FUTURE REMOVAL OF 1/1,000, 2/2,000 GAL LUSTS. INVESTIGATION WITH CLEANUP TO FOLLOW.		
NJ Spill Date:	Not reported	NJ Spill Time:	Not reported
NJ Spill Name:	Not reported	NJ Spill Title:	Not reported
NJ Spill Phone:	Not reported		
Other Date:	Not reported	Other Time:	Not reported
Other Name:	Not reported	Other Title:	Not reported

Other Telephone:	Not reported
Public Evacuation:	No
Assistance Requested:	No
Wind Direction/Speed:	Not reported
Local Municipality Notified:	Not reported
Local Municipality Name:	STAFFORD TWP
Local Municipality Title:	DISP DE GREGORIO
Local Municipality Telephone:	609-597-8581
Local Municipality Date:	10/21/1992
Local Municipality Time:	1103
Incident Description:	L.U.S.T.
Incident Name:	Not reported
Incident Referred To:	DRPSR
Incident Region:	BAC

MARGO'S INC (Continued) **S104440630**

Incident Telephone:	Faxed,Mailed
Incident Date:	10/21/1992
Incident time:	Not reported
Incident ITM:	B
Comments:	Not reported
Date A310 Letter Printed:	Not reported
Date Local Authority Was Notified:	Not reported
Date Updated:	Not reported
Date Report Faxed to Local Authority:	Not reported
Local Authority Notification Date:	Not reported
Rep Receive Date:	Not reported
Reporter Type:	Not reported
Reporter Name:	Not reported
Reporter Title:	Not reported
Reporter Org:	Not reported
Reporter Address:	Not reported
Reporter City,St,Zip:	Not reported
Reporter County:	Not reported
Incident Status:	Not reported
Incident Category:	Not reported
Incident Source:	Not reported
Incident Address:	Not reported
Incident Address 2:	Not reported
Incident City,St,Zip:	Not reported
Incident County:	Not reported
DEP Requested:	Not reported
Confidential:	Not reported
Notify Type:	Not reported
Road Closed:	Not reported
Direction:	Not reported
Responsible Party:	Known
Responsible Party Name:	MARGO'S INC
Responsible Party Contact:	WILL FREESE
Responsible Party Title:	OWNER
Responsible Party Phone:	609-597-8909
Responsible Party Street:	1432 E BAY AVE
Responsible Party County:	OCEAN
Responsible Party City,St,Zip:	MANAHAWKIN, NJ
Memo. Of Understanding:	Not reported
Drill/trng Exercise:	Not reported
Hazardous:	Not reported

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16 **MARGO'S MARINA** **HIST LUST** **S104389976**
1432 E BAY AVE **N/A**
MANAHAWKIN, NJ

LUST HIST:

Case ID:	92-07-05-1016
Lead Program Assigned:	Bureau of Underground Storage Tanks
Facility Status:	**Assigned to a Program**
UST ID:	0256386
TMS Number:	C92-4551
Remedial Level:	Site has confirmed soil and ground water contamination.
Case Manager:	Donna Plummer
Facility Phone:	(609) 633-6839
No Further Action:	Not reported
RAW Approved:	Not reported
CEA:	Not reported

MARGO'S MARINA (Continued) **S104389976**

Date CEA Lifted: Not reported
Dead Notice: Not reported

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17 **FAMILY BOAT SALES INC** **FINDS** **1010548407**
1450 BAY AVE **N/A**
MANAHAWKIN, NJ 08050

FINDS:
Other Pertinent Environmental Activity Identified at Site

Registry ID: 110032469004

NJ-NJEMS (New Jersey - New Jersey Environmental Management System). The Department of Environmental Protection (NJDEP) manages large databases of environmental information in this integrated system.

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17 **MALLARD ISLAND YACHT CLUB** **FINDS** **1010154134**
1432 BAY AVE **N/A**
MANAHAWKIN, NJ 08050

FINDS:
Other Pertinent Environmental Activity Identified at Site

Registry ID: 110029587980

NJ-NJEMS (New Jersey - New Jersey Environmental Management System). The Department of Environmental Protection (NJDEP) manages large databases of environmental information in this integrated system.

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18 **SAVAGE VINCENT** **FINDS** **1010469146**
1406 RAILROAD AVE **N/A**
MANAHAWKIN, NJ 08050

FINDS:
Other Pertinent Environmental Activity Identified at Site

Registry ID: 110031789063

NJ-NJEMS (New Jersey - New Jersey Environmental Management System). The Department of Environmental Protection (NJDEP) manages large databases of environmental information in this integrated system.

18 **COLVILLE THOMAS** **FINDS** **1010550451**
1400 RAILROAD AVE **N/A**
STAFFORD TWP, NJ 08050

FINDS:
Other Pertinent Environmental Activity Identified at Site

Registry ID: 110032473810

NJ-NJEMS (New Jersey - New Jersey Environmental Management System). The Department of Environmental Protection (NJDEP) manages large databases of environmental information in this integrated system.

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18 **VALINTINI RAUL** **FINDS** **1010543527**
1394 RAILROAD AVE **N/A**
STAFFORD TWP, NJ 08050

FINDS:
Other Pertinent Environmental Activity Identified at Site

Registry ID: 110032463448

NJ-NJEMS (New Jersey - New Jersey Environmental Management System). The Department of Environmental Protection (NJDEP) manages large databases of environmental information in this integrated system.

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18 **ASHTON GEORGE & ANN** **FINDS** **1010550450**
1390 RAILROAD AVE **N/A**
STAFFORD TWP, NJ 08050

FINDS:
Other Pertinent Environmental Activity Identified at Site

Registry ID: 110032473801

NJ-NJEMS (New Jersey - New Jersey Environmental Management System). The Department of Environmental Protection (NJDEP) manages large databases of environmental information in this integrated system.

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18 **OWENS WILBUR & HELEN** **FINDS** **1010550454**
1388 RAILROAD AVE **N/A**
STAFFORD TWP, NJ 08050

FINDS:
Other Pertinent Environmental Activity Identified at Site

Registry ID: 110032473847

NJ-NJEMS (New Jersey - New Jersey Environmental Management System). The Department of Environmental Protection (NJDEP) manages large databases of environmental information in this integrated system.

18 **ANGELOW WILLIAM** **FINDS** **1010550447**
1384 RAILROAD AVE **N/A**
STAFFORD TWP, NJ 08050

FINDS:
Other Pertinent Environmental Activity Identified at Site

Registry ID: 110032473767

NJ-NJEMS (New Jersey - New Jersey Environmental Management System). The Department of Environmental Protection (NJDEP) manages large databases of environmental information in this integrated system.

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18 **OWENS B & SOFKA PO** **FINDS** **1010550455**
1386 RAILROAD AVE **N/A**
STAFFORD TWP, NJ 08050

FINDS:
Other Pertinent Environmental Activity Identified at Site

Registry ID: 110032473856

NJ-NJEMS (New Jersey - New Jersey Environmental Management System). The Department of Environmental Protection (NJDEP) manages large databases of environmental information in this integrated system.

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19 **OJEDA JULIO** **FINDS** **1010462917**
87 MORRIS BLVD **N/A**
STAFFORD TWP, NJ 08050

FINDS:
Other Pertinent Environmental Activity Identified at Site

Registry ID: 110031862321

NJ-NJEMS (New Jersey - New Jersey Environmental Management System). The Department of Environmental Protection (NJDEP) manages large databases of environmental information in this integrated system.

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19 **QUIGLEY SHARON** **FINDS** **1010472384**
96 MORRIS BLVD **N/A**
STAFFORD TWP, NJ 08050

FINDS:
Other Pertinent Environmental Activity Identified at Site

Registry ID: 110031876548

NJ-NJEMS (New Jersey - New Jersey Environmental Management System). The Department of Environmental Protection (NJDEP) manages large databases of environmental information in this integrated system.

20 **GENARO ROBERTA** **FINDS** **1010463047**
15 JEFFREY DR **N/A**
STAFFORD TWP, NJ 08050

FINDS:
Other Pertinent Environmental Activity Identified at Site

Registry ID: 110031838251

NJ-NJEMS (New Jersey - New Jersey Environmental Management System). The Department of Environmental Protection (NJDEP) manages large databases of environmental information in this integrated system.

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21 **SMNIRALDI THOMAS J** **FINDS** **1010542067**
60 MORRIS BLVD **N/A**
STAFFORD TWP, NJ 08050

FINDS:
Other Pertinent Environmental Activity Identified at Site

Registry ID: 110032448849

NJ-NJEMS (New Jersey - New Jersey Environmental Management System). The Department of Environmental Protection (NJDEP) manages large databases of environmental information in this integrated system.

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21 **SHORE CONNECTION** **FINDS** **1010468696**
67 MORRIS BLVD **N/A**
STAFFORD TWP, NJ 08050

FINDS:
Other Pertinent Environmental Activity Identified at Site

Registry ID: 110031788590

NJ-NJEMS (New Jersey - New Jersey Environmental Management System). The Department of Environmental Protection (NJDEP) manages large databases of environmental information in this integrated system.

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22 **NJ Release** **S107571929**
16 STEVEN DR **N/A**
STAFFORD TWP, NJ

NJ Release:

Facility ID:	171790	Case Number:	06-01-04-1008-20
Date Received:	1/4/2006	Nature of Incident:	Not reported
Operator:	Not reported		
Incident Type:	Vessel	Incident Location:	IN THE LAGOON
Location:	Not reported		
Other Location:	Not reported		
Contact Name:	Not reported		
Caller Name:	Not reported		
Caller Title:	Not reported		
Caller Address:	Not reported		

(Continued) **S107571929**

Caller City,St,Zip:	Not reported		
Caller Telephone:	Not reported		
Facility Phone:	Not reported		
Incident Date:	1/3/2006	Incident Time:	Not reported
Substance(s):	Not reported		
Substance Type:	Not reported	Substance Identity:	Not reported
CAS Number:	Not reported	A310 Letter:	Not reported
TCPA Chemical:	Not reported	Hazrds Material:	Not reported
COMU:	Not reported	Ref. Code:	Not reported
Amnt Released:	Not reported	Contained:	Not reported
Release Type:	Not reported	Release VE:	Not reported
Injuries:	No		
Public Exposure:	No	Facility Evacuation:	No
Police at Scene:	No	Firemen at Scene:	No
Contamination of:	Not reported	Receiving Water:	Not reported
Status at Spill:	Not reported		
NJ Spill Date:	Not reported	NJ Spill Time:	Not reported
NJ Spill Name:	Not reported	NJ Spill Title:	Not reported
NJ Spill Phone:	Not reported		
Other Date:	Not reported	Other Time:	Not reported
Other Name:	Not reported	Other Title:	Not reported

Other Telephone:	Not reported
Public Evacuation:	No
Assistance Requested:	Not reported
Wind Direction/Speed:	Not reported
Local Municipality Notified:	Not reported
Local Municipality Name:	Not reported
Local Municipality Title:	Not reported
Local Municipality Telephone:	Not reported
Local Municipality Date:	Not reported
Local Municipality Time:	Not reported
Incident Description:	Not reported
Incident Name:	Not reported
Incident Referred To:	Not reported
Incident Region:	Not reported
Incident Telephone:	Not reported
Incident Date:	Not reported
Incident time:	Not reported
Incident ITM:	Not reported
Comments:	Not reported
Date A310 Letter Printed:	Not reported
Date Local Authority Was Notified:	Not reported
Date Updated:	Not reported
Date Report Faxed to Local Authority:	Not reported
Local Authority Notification Date:	Not reported
Rep Receive Date:	1/4/2006
Reporter Type:	Citizen Complaint
Reporter Name:	REDACTED
Reporter Title:	Not reported
Reporter Org:	Not reported
Reporter Address:	Not reported
Reporter City,St,Zip:	Not reported
Reporter County:	Not reported
Incident Status:	Undetermined
Incident Category:	Other
Incident Source:	WESLEY BELL
Incident Address:	188 RT 72 EAST

(Continued) **S107571929**

Incident Address 2:	Not reported
Incident City,St,Zip:	Stafford Twp, NJ
Incident County:	Ocean
DEP Requested:	No
Confidential:	Not reported
Notify Type:	Not reported
Road Closed:	No
Direction:	Not reported
Responsible Party:	Not reported
Responsible Party Name:	Not reported
Responsible Party Contact:	Not reported
Responsible Party Title:	Not reported
Responsible Party Phone:	Not reported
Responsible Party Street:	Not reported
Responsible Party County:	Not reported
Responsible Party City,St,Zip:	Not reported
Memo. Of Understanding:	Not reported
Drill/trng Exercise:	Not reported
Hazardous:	Not reported

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22 **16 STEVEN DRIVE** **ERNS** **2006784223**
16 STEVEN DRIVE **N/A**
MANAHAWKIN, NJ 08050

Click this hyperlink while viewing on your computer to access additional ERNS detail in the EDR Site Report.

---

22 **NJ Release** **S107912017**
16 STEVEN DRIVE **N/A**
STAFFORD TWP, NJ

NJ Release:

Facility ID:	180801	Case Number:	06-03-28-0734-09
Date Received:	3/28/2006	Nature of Incident:	Not reported
Operator:	Not reported		
Incident Type:	Vessel	Incident Location:	ACROSS FROM
Location:	Not reported		
Other Location:	Not reported		
Contact Name:	Not reported		
Caller Name:	Not reported		
Caller Title:	Not reported		
Caller Address:	Not reported		
Caller City,St,Zip:	Not reported		
Caller Telephone:	Not reported		
Facility Phone:	Not reported		
Incident Date:	3/28/2006	Incident Time:	Not reported
Substance(s):	Not reported		
Substance Type:	Not reported	Substance Identity:	Not reported
CAS Number:	Not reported	A310 Letter:	Not reported
TCPA Chemical:	Not reported	Hazrds Material:	Not reported
COMU:	Not reported	Ref. Code:	Not reported
Amnt Released:	Not reported	Contained:	Not reported
Release Type:	Not reported	Release VE:	Not reported
Injuries:	No		

(Continued) **S107912017**

Public Exposure:	No	Facility Evacuation:	No
Police at Scene:	No	Firemen at Scene:	No
Contamination of:	Not reported	Receiving Water:	Not reported
Status at Spill:	Not reported		
NJ Spill Date:	Not reported	NJ Spill Time:	Not reported
NJ Spill Name:	Not reported	NJ Spill Title:	Not reported
NJ Spill Phone:	Not reported		
Other Date:	Not reported	Other Time:	Not reported
Other Name:	Not reported	Other Title:	Not reported

Other Telephone:	Not reported
Public Evacuation:	No
Assistance Requested:	Not reported
Wind Direction/Speed:	Not reported
Local Municipality Notified:	Not reported
Local Municipality Name:	Not reported
Local Municipality Title:	Not reported
Local Municipality Telephone:	Not reported
Local Municipality Date:	Not reported
Local Municipality Time:	Not reported
Incident Description:	Not reported
Incident Name:	Not reported
Incident Referred To:	Not reported
Incident Region:	Not reported
Incident Telephone:	Not reported
Incident Date:	Not reported
Incident time:	Not reported
Incident ITM:	Not reported
Comments:	Not reported
Date A310 Letter Printed:	Not reported
Date Local Authority Was Notified:	Not reported
Date Updated:	Not reported
Date Report Faxed to Local Authority:	Not reported
Local Authority Notification Date:	Not reported
Rep Receive Date:	3/28/2006
Reporter Type:	Other
Reporter Name:	REDACTED
Reporter Title:	Not reported
Reporter Org:	NRC FAX
Reporter Address:	Not reported
Reporter City,St,Zip:	Not reported
Reporter County:	Not reported
Incident Status:	Terminated
Incident Category:	Other
Incident Source:	UNKNOWN
Incident Address:	Not reported
Incident Address 2:	Not reported
Incident City,St,Zip:	NJ
Incident County:	Not reported
DEP Requested:	No
Confidential:	Not reported
Notify Type:	Not reported
Road Closed:	No
Direction:	Not reported
Responsible Party:	Not reported
Responsible Party Name:	Not reported
Responsible Party Contact:	Not reported
Responsible Party Title:	Not reported

(Continued) **S107912017**

Responsible Party Phone:	Not reported
Responsible Party Street:	Not reported
Responsible Party County:	Not reported
Responsible Party City,St,Zip:	Not reported
Memo. Of Understanding:	Not reported
Drill/trng Exercise:	Not reported
Hazardous:	Not reported

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22 **16 STEVEN DRIVE** **ERNS** **2005633520**
16 STEVEN DRIVE **N/A**
MANAHAWKIN, NJ 08050

Click this hyperlink while viewing on your computer to access additional ERNS detail in the EDR Site Report.

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22 **16 STEVEN DRIVE** **ERNS** **2006792141**
16 STEVEN DRIVE **N/A**
MANAHAWKIN, NJ 08050

Click this hyperlink while viewing on your computer to access additional ERNS detail in the EDR Site Report.

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22 **NJ Release** **S107571892**
16 STEVEN DRIVE **N/A**
STAFFORD TWP, NJ

NJ Release:

Facility ID:	171580	Case Number:	05-12-31-1215-10
Date Received:	12/31/2005	Nature of Incident:	Not reported
Operator:	Not reported		
Incident Type:	Vessel	Incident Location:	FRONT OF THE LAGOON AT
Location:	Not reported		
Other Location:	Not reported		
Contact Name:	WESLEY BELL		
Caller Name:	Not reported		
Caller Title:	Not reported		
Caller Address:	Not reported		
Caller City,St,Zip:	Not reported		
Caller Telephone:	Not reported		
Facility Phone:	Not reported		
Incident Date:	12/31/2005	Incident Time:	Not reported
Substance(s):	Not reported		
Substance Type:	Not reported	Substance Identity:	Not reported
CAS Number:	Not reported	A310 Letter:	Not reported
TCPA Chemical:	Not reported	Hazrds Material:	Not reported
COMU:	Not reported	Ref. Code:	Not reported
Amnt Released:	Not reported	Contained:	Not reported
Release Type:	Not reported	Release VE:	Not reported
Injuries:	No		
Public Exposure:	No	Facility Evacuation:	No

(Continued) **S107571892**

Police at Scene:	Yes	Firemen at Scene:	No
Contamination of:	Not reported	Receiving Water:	Not reported
Status at Spill:	Not reported		
NJ Spill Date:	Not reported	NJ Spill Time:	Not reported
NJ Spill Name:	Not reported	NJ Spill Title:	Not reported
NJ Spill Phone:	Not reported		
Other Date:	Not reported	Other Time:	Not reported
Other Name:	Not reported	Other Title:	Not reported

Other Telephone:	Not reported
Public Evacuation:	No
Assistance Requested:	Not reported
Wind Direction/Speed:	Not reported
Local Municipality Notified:	Not reported
Local Municipality Name:	Not reported
Local Municipality Title:	Not reported
Local Municipality Telephone:	Not reported
Local Municipality Date:	Not reported
Local Municipality Time:	Not reported
Incident Description:	Not reported
Incident Name:	Not reported
Incident Referred To:	Not reported
Incident Region:	Not reported
Incident Telephone:	Not reported
Incident Date:	Not reported
Incident time:	Not reported
Incident ITM:	Not reported
Comments:	Not reported
Date A310 Letter Printed:	Not reported
Date Local Authority Was Notified:	Not reported
Date Updated:	Not reported
Date Report Faxed to Local Authority:	Not reported
Local Authority Notification Date:	Not reported
Rep Receive Date:	12/31/2005
Reporter Type:	Municipal Rep.
Reporter Name:	REDACTED
Reporter Title:	OPERATOR 355
Reporter Org:	STAFFORD TWP PD
Reporter Address:	Not reported
Reporter City,St,Zip:	Not reported
Reporter County:	Not reported
Incident Status:	Continuous
Incident Category:	Other
Incident Source:	WESLEY BELL
Incident Address:	188 RT 72 EAST
Incident Address 2:	Not reported
Incident City,St,Zip:	Stafford Twp, NJ
Incident County:	Ocean
DEP Requested:	Yes
Confidential:	Not reported
Notify Type:	Not reported
Road Closed:	No
Direction:	Not reported
Responsible Party:	Not reported
Responsible Party Name:	Not reported
Responsible Party Contact:	Not reported
Responsible Party Title:	Not reported
Responsible Party Phone:	Not reported

(Continued) **S107571892**

Responsible Party Street:	Not reported
Responsible Party County:	Not reported
Responsible Party City,St,Zip:	Not reported
Memo. Of Understanding:	Not reported
Drill/trng Exercise:	Not reported
Hazardous:	Not reported

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23 **ROADWAY** **SPILLS** **S105312908**
25 JULIA DR **N/A**
HOLGATE, NJ

NJ SPILL:

Facility ID:	1857
Case Number:	93-2-5-1143-35
Notify Type:	Not reported
Date Received:	2/5/1993
Location:	Other
Other Location:	Not reported
Incident Date:	2/5/1993
Incident Time:	UNK
A310 Letter:	Yes
Ref. Code:	101
COMU:	1517
CAS Number:	Not reported
Hazardous:	Not reported
Incident Location:	Not reported
Facility Phone:	Not reported
Substance(s):	OIL HYDRAULIC
Substance Type:	Liquid
Substance Identity:	Known
TCPA Chemical:	No
Hazrds Material:	Yes
Amnt Released:	<5 GAL
Release VE:	Estimate
Contained:	Yes
Release Type:	Terminated
Incident Desc:	Spill
Status at Spill:	RUPTURED HYDRAULIC LINE ON TRUCK. CLEANUP IN PROGRESS.
NJ Spill Date:	Not reported
NJ Spill Time:	Not reported
NJ Spill Name:	Not reported
NJ Spill Title:	Not reported
NJ Spill Phone:	Not reported
Other Date:	Not reported
Other Time:	Not reported
Other Name:	Not reported
Other Title:	Not reported
Other Phone:	Not reported
Injuries:	No
Public Exposure:	No
Road Closed:	Not reported
Facility Evacuation:	No
Receiving Water:	Not reported
Public Evacuation:	No
Police at Scene:	No
Firemen at Scene:	No
Contamination of:	Land
Nature of Incident:	Facility

ROADWAY (Continued) **S105312908**

Wind Direction/Speed:	Not reported
Assistance Requested:	No
Memo. Of Understanding:	Not reported
Drill/trng Exercise:	Not reported
Operator:	JOYCE
Contact Name:	Not reported
Caller Name:	REDACTED
Caller Title:	ATLANTIC ELECTRIC
Caller Address:	Not reported
Caller City,St,Zip:	Not reported
Caller Phone:	Not reported
Responsible Party:	Known
Responsible Party Name:	ATLANTIC ELECTRIC
Responsible Party Contact:	LINDA YARBOROUGH
Responsible Party Title:	DISPATCHER
Responsible Party Telphone:	609-296-2456
Responsible Party Street:	RR#1 BOX #145-B
Responsible Party Municipality:	WEST CREEK
Responsible Party State:	NJ
Responsible Party Zip:	Not reported
Responsible City,St,Zip:	WEST CREEK, NJ
Responsible Party County:	OCEAN
Local Municipality:	Not reported
Local Municipality Name:	LONG BEACH TWP
Local Municipality Title:	DISP CANE
Local Municipality Phone:	609-494-3322
Local Municipality Date:	2/5/1993
Local Municipality Time:	1152
Incident Name:	Not reported
Incident Referred To:	DRPSR
Incident Region:	BFO-SA
Incident Phone:	Faxed,Mailed
Incident Date:	2/5/1993
Comments: Not reported	
Date A310 Letter Printed:	Not reported
Date Local Authority Was Notified:	Not reported
Date Update:	Not reported
Date Report Faxed to Local Authority:	Not reported
Local Authority Notification Date:	Not reported
Reporter Name:	Not reported
Reporter Type:	Not reported
Rep Received Date:	Not reported
Reporter Title:	Not reported
Reporter Orgzn:	Not reported
Reporter Address:	Not reported
Reporter City,St,Zip:	Not reported
Reporter County:	Not reported
Incident Type:	Not reported
Incident Status:	Not reported
Incident Category:	Not reported
Incident Source:	Not reported
Incident Address:	Not reported
Incident Address 2:	Not reported
Incident City,St,Zip:	Not reported
Incident County:	Not reported
DEP Requested:	Not reported
Confidential:	Not reported

23 **FERONE ROBERT** **FINDS** **1010465225**
25 JULIA DR **N/A**
STAFFORD TWP, NJ 08050

FINDS:
Other Pertinent Environmental Activity Identified at Site

Registry ID: 110031766998

NJ-NJEMS (New Jersey - New Jersey Environmental Management System). The Department of Environmental Protection (NJDEP) manages large databases of environmental information in this integrated system.

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23 **SZELC ROBERT & TERESA** **FINDS** **1010545143**
21 JULIA DR **N/A**
STAFFORD TWP, NJ 08050

FINDS:
Other Pertinent Environmental Activity Identified at Site

Registry ID: 110032490971

NJ-NJEMS (New Jersey - New Jersey Environmental Management System). The Department of Environmental Protection (NJDEP) manages large databases of environmental information in this integrated system.

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23 **NJ Release** **S107912036**
9 JULIA DR **N/A**
STAFFORD TWP, NJ

NJ Release:

Facility ID:	180948	Case Number:	06-03-28-1134-47
Date Received:	3/28/2006	Nature of Incident:	Not reported
Operator:	Not reported		
Incident Type:	Improper disposal/Storage	Incident Location:	VACANT LOT AJACENT TO
Location:	Not reported		
Other Location:	Not reported		
Contact Name:	Not reported		
Caller Name:	Not reported		
Caller Title:	Not reported		
Caller Address:	Not reported		
Caller City,St,Zip:	Not reported		
Caller Telephone:	Not reported		
Facility Phone:	Not reported		
Incident Date:	3/28/2006	Incident Time:	Not reported
Substance(s):	Not reported		
Substance Type:	Not reported	Substance Identity:	Not reported
CAS Number:	Not reported	A310 Letter:	Not reported
TCPA Chemical:	Not reported	Hazrds Material:	Not reported
COMU:	Not reported	Ref. Code:	Not reported
Amnt Released:	Not reported	Contained:	Not reported
Release Type:	Not reported	Release VE:	Not reported
Injuries:	No		
Public Exposure:	No	Facility Evacuation:	No
Police at Scene:	Yes	Firemen at Scene:	No
Contamination of:	Not reported	Receiving Water:	Not reported

(Continued) **S107912036**

Status at Spill:	Not reported		
NJ Spill Date:	Not reported	NJ Spill Time:	Not reported
NJ Spill Name:	Not reported	NJ Spill Title:	Not reported
NJ Spill Phone:	Not reported		
Other Date:	Not reported	Other Time:	Not reported
Other Name:	Not reported	Other Title:	Not reported

Other Telephone:	Not reported
Public Evacuation:	No
Assistance Requested:	Not reported
Wind Direction/Speed:	Not reported
Local Municipality Notified:	Not reported
Local Municipality Name:	Not reported
Local Municipality Title:	Not reported
Local Municipality Telephone:	Not reported
Local Municipality Date:	Not reported
Local Municipality Time:	Not reported
Incident Description:	Not reported
Incident Name:	Not reported
Incident Referred To:	Not reported
Incident Region:	Not reported
Incident Telephone:	Not reported
Incident Date:	Not reported
Incident time:	Not reported
Incident ITM:	Not reported
Comments:	Not reported
Date A310 Letter Printed:	Not reported
Date Local Authority Was Notified:	Not reported
Date Updated:	Not reported
Date Report Faxed to Local Authority:	Not reported
Local Authority Notification Date:	Not reported
Rep Receive Date:	3/28/2006
Reporter Type:	Other
Reporter Name:	REDACTED
Reporter Title:	Not reported
Reporter Org:	DEP/ER2
Reporter Address:	Not reported
Reporter City,St,Zip:	Not reported
Reporter County:	Not reported
Incident Status:	Continuous
Incident Category:	Other
Incident Source:	WESLEY BELL
Incident Address:	RT 72 W
Incident Address 2:	Not reported
Incident City,St,Zip:	Stafford Twp, NJ
Incident County:	Ocean
DEP Requested:	No
Confidential:	Not reported
Notify Type:	Not reported
Road Closed:	No
Direction:	Not reported
Responsible Party:	Not reported
Responsible Party Name:	Not reported
Responsible Party Contact:	Not reported
Responsible Party Title:	Not reported
Responsible Party Phone:	Not reported
Responsible Party Street:	Not reported
Responsible Party County:	Not reported

(Continued) **S107912036**

Responsible Party City,St,Zip: Not reported
Memo. Of Understanding: Not reported
Drill/trng Exercise: Not reported
Hazardous: Not reported

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23 **BOYTON ELIZABETH** **FINDS** **1010468200**
4 JULIA DR **N/A**
MANAHAWKIN, NJ 08050

FINDS:
Other Pertinent Environmental Activity Identified at Site

Registry ID: 110031778100

NJ-NJEMS (New Jersey - New Jersey Environmental Management System). The Department of Environmental Protection (NJDEP) manages large databases of environmental information in this integrated system.

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23 **NJ Release** **S108394737**
JULIA DR / STEVEN DR **N/A**
STAFFORD TWP, NJ

NJ Release:

Facility ID:	216448	Case Number:	06-12-21-1635-46
Date Received:	12/21/2006	Nature of Incident:	Not reported
Operator:	Not reported		
Incident Type:	Vessel	Incident Location:	LAGOON AT FOOT OF BEACH HAVEN BLVD AND
Location:	Not reported		
Other Location:	Not reported		
Contact Name:	Not reported		
Caller Name:	Not reported		
Caller Title:	Not reported		
Caller Address:	Not reported		
Caller City,St,Zip:	Not reported		
Caller Telephone:	Not reported		
Facility Phone:	Not reported		
Incident Date:	12/21/2006	Incident Time:	Not reported
Substance(s):	Not reported		
Substance Type:	Not reported	Substance Identity:	Not reported
CAS Number:	Not reported	A310 Letter:	Not reported
TCPA Chemical:	Not reported	Hazrds Material:	Not reported
COMU:	Not reported	Ref. Code:	Not reported
Amnt Released:	Not reported	Contained:	Not reported
Release Type:	Not reported	Release VE:	Not reported
Injuries:	No		
Public Exposure:	No	Facility Evacuation:	No
Police at Scene:	No	Firemen at Scene:	No
Contamination of:	Not reported	Receiving Water:	Not reported
Status at Spill:	Not reported		
NJ Spill Date:	Not reported	NJ Spill Time:	Not reported
NJ Spill Name:	Not reported	NJ Spill Title:	Not reported
NJ Spill Phone:	Not reported		
Other Date:	Not reported	Other Time:	Not reported
Other Name:	Not reported	Other Title:	Not reported
Other Telephone:	Not reported		

(Continued) **S108394737**

Public Evacuation:	No
Assistance Requested:	Not reported
Wind Direction/Speed:	Not reported
Local Municipality Notified:	Not reported
Local Municipality Name:	Not reported
Local Municipality Title:	Not reported
Local Municipality Telephone:	Not reported
Local Municipality Date:	Not reported
Local Municipality Time:	Not reported
Incident Description:	Not reported
Incident Name:	Not reported
Incident Referred To:	Not reported
Incident Region:	Not reported
Incident Telephone:	Not reported
Incident Date:	Not reported
Incident time:	Not reported
Incident ITM:	Not reported
Comments:	Not reported
Date A310 Letter Printed:	Not reported
Date Local Authority Was Notified:	Not reported
Date Updated:	Not reported
Date Report Faxed to Local Authority:	Not reported
Local Authority Notification Date:	Not reported
Rep Receive Date:	12/21/2006
Reporter Type:	Other
Reporter Name:	REDACTED
Reporter Title:	Not reported
Reporter Org:	NJSP OCEAN BARRACKS
Reporter Address:	Not reported
Reporter City,St,Zip:	Not reported
Reporter County:	Not reported
Incident Status:	Continuous
Incident Category:	Other
Incident Source:	WESLEY BELL
Incident Address:	Not reported
Incident Address 2:	Not reported
Incident City,St,Zip:	NJ
Incident County:	Not reported
DEP Requested:	Yes
Confidential:	Not reported
Notify Type:	Not reported
Road Closed:	No
Direction:	Not reported
Responsible Party:	Not reported
Responsible Party Name:	Not reported
Responsible Party Contact:	Not reported
Responsible Party Title:	Not reported
Responsible Party Phone:	Not reported
Responsible Party Street:	Not reported
Responsible Party County:	Not reported
Responsible Party City,St,Zip:	Not reported
Memo. Of Understanding:	Not reported
Drill/trng Exercise:	Not reported
Hazardous:	Not reported

24 **DELANEY THOMAS** **FINDS** **1010176018**
28 JENNIE DR **N/A**
STAFFORD TWP, NJ 08050

FINDS:
Other Pertinent Environmental Activity Identified at Site

Registry ID: 110030008685

NJ-NJEMS (New Jersey - New Jersey Environmental Management System).
The Department of Environmental Protection (NJDEP) manages large
databases of environmental information in this integrated system.

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24 **RESIDENT** **NJ Release** **S105312097**
12 JENNIE DR **N/A**
BEACH HAVEN WEST, NJ

NJ Release:

Facility ID:	20418	Case Number:	91-12-23-0930-02
Date Received:	12/23/1991	Nature of Incident:	Citizen
Operator:	RICH		
Incident Type:	Not reported	Incident Location:	Not reported
Location:	Other		
Other Location:	Not reported		
Contact Name:	Not reported		
Caller Name:	REDACTED		
Caller Title:	CIT		
Caller Address:	Not reported		
Caller City,St,Zip:	Not reported		
Caller Telephone:	Not reported		
Facility Phone:	Not reported		
Incident Date:	12/23/1991	Incident Time:	ON GO
Substance(s):	OIL MOTOR		
Substance Type:	Liquid	Substance Identity:	Known
CAS Number:	Not reported	A310 Letter:	Yes
TCPA Chemical:	No	Hazrds Material:	Yes
COMU:	1530	Ref. Code:	016
Amnt Released:	< 100 GAL	Contained:	No
Release Type:	Continuous	Release VE:	Estimate
Injuries:	No		
Public Exposure:	Yes	Facility Evacuation:	No
Police at Scene:	No	Firemen at Scene:	No
Contamination of:	Land	Receiving Water:	Not reported
Status at Spill:	TOW TRUCK AT LOCATION LEAKING OIL ON ROAD FOR PAST 2 WEEKS,LEAVES DROPS ALL DOWN ROAD TO CORNER, PUDDLE WHERE TRUCK PARKS		
NJ Spill Date:	12/23/1991	NJ Spill Time:	Not reported
NJ Spill Name:	OEM	NJ Spill Title:	Not reported
NJ Spill Phone:	609-882-2000		
Other Date:	Not reported	Other Time:	Not reported
Other Name:	Not reported	Other Title:	Not reported

Other Telephone:	Not reported
Public Evacuation:	No
Assistance Requested:	No
Wind Direction/Speed:	Not reported
Local Municipality Notified:	Not reported
Local Municipality Name:	STAFFORD TWP
Local Municipality Title:	DISP KING
Local Municipality Telephone:	609-597-8581
Local Municipality Date:	12/23/1991

RESIDENT (Continued) **S105312097**

Local Municipality Time:	0935
Incident Description:	SLOPPY HOUSEKEEPING
Incident Name:	Not reported
Incident Referred To:	DRPSR
Incident Region:	Central
Incident Telephone:	Faxed
Incident Date:	12/23/1991
Incident time:	0934
Incident ITM:	B
Comments:	Not reported
Date A310 Letter Printed:	Not reported
Date Local Authority Was Notified:	Not reported
Date Updated:	Not reported
Date Report Faxed to Local Authority:	Not reported
Local Authority Notification Date:	Not reported
Rep Receive Date:	Not reported
Reporter Type:	Not reported
Reporter Name:	Not reported
Reporter Title:	Not reported
Reporter Org:	Not reported
Reporter Address:	Not reported
Reporter City,St,Zip:	Not reported
Reporter County:	Not reported
Incident Status:	Not reported
Incident Category:	Not reported
Incident Source:	Not reported
Incident Address:	Not reported
Incident Address 2:	Not reported
Incident City,St,Zip:	Not reported
Incident County:	Not reported
DEP Requested:	Not reported
Confidential:	Not reported
Notify Type:	Not reported
Road Closed:	Not reported
Direction:	Not reported
Responsible Party:	Known
Responsible Party Name:	RESIDENT
Responsible Party Contact:	Not reported
Responsible Party Title:	Not reported
Responsible Party Phone:	Not reported
Responsible Party Street:	12 JENNIE DR
Responsible Party County:	OCEAN
Responsible Party City,St,Zip:	BEACH HAVEN WEST, NJ
Memo. Of Understanding:	Not reported
Drill/trng Exercise:	Not reported
Hazardous:	Not reported

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25 **HENDERSON FLOYD** **FINDS** **1008946804**
63 JENNIE DR **N/A**
STAFFORD TWP, NJ 08050

FINDS:
Other Pertinent Environmental Activity Identified at Site

Registry ID: 110029900070

NJ-NJEMS (New Jersey - New Jersey Environmental Management System).
The Department of Environmental Protection (NJDEP) manages large

HENDERSON FLOYD (Continued) **1008946804**

databases of environmental information in this integrated system.

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25 **SCHEFFLER WILLIAM R III & LORI A** **FINDS** **1008900656**
59 JENNIE DR **N/A**
STAFFORD TWP, NJ 08050

FINDS:
Other Pertinent Environmental Activity Identified at Site

Registry ID: 110029951078

NJ-NJEMS (New Jersey - New Jersey Environmental Management System). The Department of Environmental Protection (NJDEP) manages large databases of environmental information in this integrated system.

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26 **FIAMINGO FRANK** **FINDS** **1010516680**
36 SELMA DR **N/A**
STAFFORD TWP, NJ 08050

FINDS:
Other Pertinent Environmental Activity Identified at Site

Registry ID: 110032205548

NJ-NJEMS (New Jersey - New Jersey Environmental Management System). The Department of Environmental Protection (NJDEP) manages large databases of environmental information in this integrated system.

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26 **STROBOLAKOS GLORIA** **FINDS** **1011846136**
28 SELMA DR **N/A**
STAFFORD TWP, NJ 08050

FINDS:
Other Pertinent Environmental Activity Identified at Site

Registry ID: 110037048174

NJ-NJEMS (New Jersey - New Jersey Environmental Management System). The Department of Environmental Protection (NJDEP) manages large databases of environmental information in this integrated system.

26 **CHAMAS PETER** **FINDS** **1010448004**
24 SELMA DR **N/A**
STAFFORD TWP, NJ 08050

FINDS:
Other Pertinent Environmental Activity Identified at Site

Registry ID: 110031754108

NJ-NJEMS (New Jersey - New Jersey Environmental Management System). The Department of Environmental Protection (NJDEP) manages large databases of environmental information in this integrated system.

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26 **DONOFRY JOSEPH & MAURA ANNE** **FINDS** **1011912295**
23 SELMA DR **N/A**
STAFFORD TWP, NJ 08050

FINDS:
Other Pertinent Environmental Activity Identified at Site

Registry ID: 110037304770

NJ-NJEMS (New Jersey - New Jersey Environmental Management System). The Department of Environmental Protection (NJDEP) manages large databases of environmental information in this integrated system.

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26 **LONG JOHN S** **FINDS** **1010348552**
12 SELMA DR **N/A**
STAFFORD TWP, NJ 08050

FINDS:
Other Pertinent Environmental Activity Identified at Site

Registry ID: 110030786497

NJ-NJEMS (New Jersey - New Jersey Environmental Management System). The Department of Environmental Protection (NJDEP) manages large databases of environmental information in this integrated system.

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27 **NJ Release** **S108263596**
18 JERI-ANN LANE **N/A**
STAFFORD TWP, NJ 08050

NJ Release:

Facility ID:	206471	Case Number:	06-09-29-1222-14
Date Received:	9/29/2006	Nature of Incident:	Not reported
Operator:	Not reported		
Incident Type:	Illegal Dumping	Incident Location:	RESIDENCE
Location:	Not reported		
Other Location:	Not reported		
Contact Name:	Not reported		
Caller Name:	Not reported		
Caller Title:	Not reported		
Caller Address:	Not reported		

(Continued) **S108263596**

Caller City,St,Zip:	Not reported		
Caller Telephone:	Not reported		
Facility Phone:	Not reported		
Incident Date:	9/29/2006	Incident Time:	Not reported
Substance(s):	Not reported		
Substance Type:	Not reported	Substance Identity:	Not reported
CAS Number:	Not reported	A310 Letter:	Not reported
TCPA Chemical:	Not reported	Hazrds Material:	Not reported
COMU:	Not reported	Ref. Code:	Not reported
Amnt Released:	Not reported	Contained:	Not reported
Release Type:	Not reported	Release VE:	Not reported
Injuries:	No		
Public Exposure:	No	Facility Evacuation:	No
Police at Scene:	No	Firemen at Scene:	No
Contamination of:	Not reported	Receiving Water:	Not reported
Status at Spill:	Not reported		
NJ Spill Date:	Not reported	NJ Spill Time:	Not reported
NJ Spill Name:	Not reported	NJ Spill Title:	Not reported
NJ Spill Phone:	Not reported		
Other Date:	Not reported	Other Time:	Not reported
Other Name:	Not reported	Other Title:	Not reported

Other Telephone:	Not reported
Public Evacuation:	No
Assistance Requested:	Not reported
Wind Direction/Speed:	Not reported
Local Municipality Notified:	Not reported
Local Municipality Name:	Not reported
Local Municipality Title:	Not reported
Local Municipality Telephone:	Not reported
Local Municipality Date:	Not reported
Local Municipality Time:	Not reported
Incident Description:	Not reported
Incident Name:	Not reported
Incident Referred To:	Not reported
Incident Region:	Not reported
Incident Telephone:	Not reported
Incident Date:	Not reported
Incident time:	Not reported
Incident ITM:	Not reported
Comments:	Not reported
Date A310 Letter Printed:	Not reported
Date Local Authority Was Notified:	Not reported
Date Updated:	Not reported
Date Report Faxed to Local Authority:	Not reported
Local Authority Notification Date:	Not reported
Rep Receive Date:	9/29/2006
Reporter Type:	Municipal Rep.
Reporter Name:	REDACTED
Reporter Title:	ZONING OFFICER
Reporter Org:	STAFFORD TWP ZONING DEPT
Reporter Address:	Not reported
Reporter City,St,Zip:	Not reported
Reporter County:	Not reported
Incident Status:	Terminated
Incident Category:	Other
Incident Source:	UNKNOWN
Incident Address:	Not reported

(Continued) **S108263596**

Incident Address 2:	Not reported
Incident City,St,Zip:	NJ
Incident County:	Not reported
DEP Requested:	Yes
Confidential:	Not reported
Notify Type:	Not reported
Road Closed:	No
Direction:	Not reported
Responsible Party:	Not reported
Responsible Party Name:	Not reported
Responsible Party Contact:	Not reported
Responsible Party Title:	Not reported
Responsible Party Phone:	Not reported
Responsible Party Street:	Not reported
Responsible Party County:	Not reported
Responsible Party City,St,Zip:	Not reported
Memo. Of Understanding:	Not reported
Drill/trng Exercise:	Not reported
Hazardous:	Not reported

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28 **CIFONE SALVATORE F** **FINDS** **1010468611**
15 MARK DR **N/A**
STAFFORD TWP, NJ 08050

FINDS:
Other Pertinent Environmental Activity Identified at Site

Registry ID: 110031772160

NJ-NJEMS (New Jersey - New Jersey Environmental Management System). The Department of Environmental Protection (NJDEP) manages large databases of environmental information in this integrated system.

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28 **DECORSO GARY** **FINDS** **1010460223**
1108 JENNIFER LN **N/A**
STAFFORD TWP, NJ 08050

FINDS:
Other Pertinent Environmental Activity Identified at Site

Registry ID: 110031759434

NJ-NJEMS (New Jersey - New Jersey Environmental Management System). The Department of Environmental Protection (NJDEP) manages large databases of environmental information in this integrated system.

28 **BLOCK #171, LOT 98** **NJ Release** **S107105754**
MARK / JENNIFER LANE **N/A**
MANAHAWKIN, NJ

NJ Release:

Facility ID:	6838	Case Number:	88-08-11-0902
Date Received:	8/11/1988	Nature of Incident:	Citizen
Operator:	ROB		
Incident Type:	Not reported	Incident Location:	Not reported
Location:	Other		
Other Location:	Not reported		
Contact Name:	Not reported		
Caller Name:	REDACTED		
Caller Title:	OCEAN COUNTY HEALT		
Caller Address:	Not reported		
Caller City,St,Zip:	Not reported		
Caller Telephone:	Not reported		
Facility Phone:	N/A		
Incident Date:	8/10/1988	Incident Time:	1430
Substance(s):	DIESEL FUEL AND GASOLINE		
Substance Type:	Liquid	Substance Identity:	Suspected
CAS Number:	Not reported	A310 Letter:	Not reported
TCPA Chemical:	No	Hazrds Material:	Yes
COMU:	1530	Ref. Code:	002
Amnt Released:	30 GAL	Contained:	No
Release Type:	Terminated	Release VE:	Estimate
Injuries:	No		
Public Exposure:	Yes	Facility Evacuation:	No
Police at Scene:	No	Firemen at Scene:	No
Contamination of:	Not reported	Receiving Water:	N/A
Status at Spill:	Not reported		
NJ Spill Date:	8/11/1988	NJ Spill Time:	Not reported
NJ Spill Name:	Not reported	NJ Spill Title:	OEM
NJ Spill Phone:	Not reported		
Other Date:	Not reported	Other Time:	Not reported
Other Name:	Not reported	Other Title:	Not reported

Other Telephone:	Not reported
Public Evacuation:	No
Assistance Requested:	Yes
Wind Direction/Speed:	0
Local Municipality Notified:	Not reported
Local Municipality Name:	PAT GERBER
Local Municipality Title:	ER2
Local Municipality Telephone:	609-597-8581
Local Municipality Date:	8/11/1988
Local Municipality Time:	0934
Incident Description:	ILLEGAL DUMPING
Incident Name:	P. PALS
Incident Referred To:	DEQ
Incident Region:	ER2
Incident Telephone:	OFFICE
Incident Date:	8/11/1988
Incident time:	0913
Incident ITM:	Not reported
Incident Name:	Not reported
Incident Referred To:	DEQ
Incident Region:	HQ1
Incident Telephone:	Not reported
Incident Date:	Not reported

BLOCK #171, LOT 98 (Continued) **S107105754**

Incident Time:	Not reported
Incident ITM:	Not reported
Comments:	Not reported
Date A310 Letter Printed:	Not reported
Date Local Authority Was Notified:	Not reported
Date Updated:	Not reported
Date Report Faxed to Local Authority:	Not reported
Local Authority Notification Date:	Not reported
Rep Receive Date:	Not reported
Reporter Type:	Not reported
Reporter Name:	Not reported
Reporter Title:	Not reported
Reporter Org:	Not reported
Reporter Address:	Not reported
Reporter City,St,Zip:	Not reported
Reporter County:	Not reported
Incident Status:	Not reported
Incident Category:	Not reported
Incident Source:	Not reported
Incident Address:	Not reported
Incident Address 2:	Not reported
Incident City,St,Zip:	Not reported
Incident County:	Not reported
DEP Requested:	Not reported
Confidential:	Not reported
Notify Type:	Not reported
Road Closed:	Not reported
Direction:	Not reported
Responsible Party:	Known
Responsible Party Name:	PATRICK KENNY
Responsible Party Contact:	PATRICK KENNY
Responsible Party Title:	RESIDENT
Responsible Party Phone:	Not reported
Responsible Party Street:	1119 JENNIFER LANE
Responsible Party County:	OCEAN
Responsible Party City,St,Zip:	MANAHAWKIN, NJ
Memo. Of Understanding:	Not reported
Drill/trng Exercise:	Not reported
Hazardous:	Not reported

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28 **OROSZ JOHN** **FINDS** **1010465167**
47 MURIEL DR **N/A**
STAFFORD TWP, NJ 08050

FINDS:
Other Pertinent Environmental Activity Identified at Site

Registry ID: 110031835735

NJ-NJEMS (New Jersey - New Jersey Environmental Management System). The Department of Environmental Protection (NJDEP) manages large databases of environmental information in this integrated system.

28 **MALVASIO PETER** **FINDS** **1010533019**
35 MURIEL DR **N/A**
STAFFORD TWP, NJ 08050

FINDS:
Other Pertinent Environmental Activity Identified at Site

Registry ID: 110032363305

NJ-NJEMS (New Jersey - New Jersey Environmental Management System). The Department of Environmental Protection (NJDEP) manages large databases of environmental information in this integrated system.

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28 **SCHWEGLER JOSEPH** **FINDS** **1008973792**
32 MURIEL DR **N/A**
STAFFORD TWP, NJ 08050

FINDS:
Other Pertinent Environmental Activity Identified at Site

Registry ID: 110030675632

NJ-NJEMS (New Jersey - New Jersey Environmental Management System). The Department of Environmental Protection (NJDEP) manages large databases of environmental information in this integrated system.

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28 **NJ Release** **S106208661**
28 MURIEL DR **N/A**
STAFFORD TWP, NJ

NJ Release:

Facility ID:	24414	Case Number:	02-06-18-1350-27
Date Received:	6/18/2002	Nature of Incident:	Not reported
Operator:	Not reported		
Incident Type:	Soil Contamination	Incident Location:	RESIDENCE AT
Location:	Not reported		
Other Location:	Not reported		
Contact Name:	Not reported		
Caller Name:	Not reported		
Caller Title:	Not reported		
Caller Address:	Not reported		
Caller City,St,Zip:	Not reported		
Caller Telephone:	Not reported		
Facility Phone:	Not reported		
Incident Date:	6/18/2002	Incident Time:	Not reported
Substance(s):	Not reported		
Substance Type:	Not reported	Substance Identity:	Not reported
CAS Number:	Not reported	A310 Letter:	Not reported
TCPA Chemical:	Not reported	Hazrds Material:	Not reported
COMU:	Not reported	Ref. Code:	Not reported
Amnt Released:	Not reported	Contained:	Not reported
Release Type:	Not reported	Release VE:	Not reported
Injuries:	No		
Public Exposure:	No	Facility Evacuation:	No
Police at Scene:	No	Firemen at Scene:	No
Contamination of:	Not reported	Receiving Water:	Not reported

(Continued) **S106208661**

Status at Spill:	Not reported		
NJ Spill Date:	Not reported	NJ Spill Time:	Not reported
NJ Spill Name:	Not reported	NJ Spill Title:	Not reported
NJ Spill Phone:	Not reported		
Other Date:	Not reported	Other Time:	Not reported
Other Name:	Not reported	Other Title:	Not reported

Other Telephone:	Not reported
Public Evacuation:	No
Assistance Requested:	Not reported
Wind Direction/Speed:	Not reported
Local Municipality Notified:	Not reported
Local Municipality Name:	Not reported
Local Municipality Title:	Not reported
Local Municipality Telephone:	Not reported
Local Municipality Date:	Not reported
Local Municipality Time:	Not reported
Incident Description:	Not reported
Incident Name:	Not reported
Incident Referred To:	Not reported
Incident Region:	Not reported
Incident Telephone:	Not reported
Incident Date:	Not reported
Incident time:	Not reported
Incident ITM:	Not reported
Comments:	Not reported
Date A310 Letter Printed:	Not reported
Date Local Authority Was Notified:	Not reported
Date Updated:	Not reported
Date Report Faxed to Local Authority:	Not reported
Local Authority Notification Date:	Not reported
Rep Receive Date:	6/18/2002
Reporter Type:	Citizen Complaint
Reporter Name:	REDACTED
Reporter Title:	Not reported
Reporter Org:	Not reported
Reporter Address:	Not reported
Reporter City,St,Zip:	Not reported
Reporter County:	Not reported
Incident Status:	Continuous
Incident Category:	Other
Incident Source:	Not reported
Incident Address:	Not reported
Incident Address 2:	Not reported
Incident City,St,Zip:	Not reported
Incident County:	Not reported
DEP Requested:	Yes
Confidential:	Not reported
Notify Type:	Not reported
Road Closed:	No
Direction:	Not reported
Responsible Party:	Not reported
Responsible Party Name:	Not reported
Responsible Party Contact:	Not reported
Responsible Party Title:	Not reported
Responsible Party Phone:	Not reported
Responsible Party Street:	Not reported
Responsible Party County:	Not reported

(Continued) **S106208661**

Responsible Party City,St,Zip: Not reported
Memo. Of Understanding: Not reported
Drill/trng Exercise: Not reported
Hazardous: Not reported

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28 **MEISSNER HAROLD & MARGLE** **FINDS** **1010460260**
27 MURIEL DR **N/A**
MANAHAWKIN, NJ 08050

FINDS:
Other Pertinent Environmental Activity Identified at Site

Registry ID: 110031759443

NJ-NJEMS (New Jersey - New Jersey Environmental Management System). The Department of Environmental Protection (NJDEP) manages large databases of environmental information in this integrated system.

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29 **WILLIAMS WALTER & ELAINE** **FINDS** **1011456205**
1203 JENNIFER LN **N/A**
STAFFORD TWP, NJ 08050

FINDS:
Other Pertinent Environmental Activity Identified at Site

Registry ID: 110035957818

NJ-NJEMS (New Jersey - New Jersey Environmental Management System). The Department of Environmental Protection (NJDEP) manages large databases of environmental information in this integrated system.

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29 **STAFFORD TWP JENNIFER LANE BEACH** **FINDS** **1008957536**
1198 JENNIFER LN **N/A**
STAFFORD TWP, NJ 08050

FINDS:
Other Pertinent Environmental Activity Identified at Site

Registry ID: 110029997546

NJ-NJEMS (New Jersey - New Jersey Environmental Management System). The Department of Environmental Protection (NJDEP) manages large databases of environmental information in this integrated system.

29 **MANAHAWKIN BAY BEHIND** **SPILLS** **S104692603**
3 SUSAN LANE **N/A**
STAFFORD TWP, NJ

NJ SPILL:

Facility ID:	3875
Case Number:	97-3-31-1032-00
Notify Type:	Not reported
Date Received:	3/31/1997
Location:	Other
Other Location:	Not reported
Incident Date:	3/31/1997
Incident Time:	ONGO
A310 Letter:	Yes
Ref. Code:	002
COMU:	1530
CAS Number:	Not reported
Hazardous:	Not reported
Incident Location:	Not reported
Facility Phone:	Not reported
Substance(s):	OIL SHEEN
Substance Type:	Liquid
Substance Identity:	Known
TCPA Chemical:	No
Hazrds Material:	Yes
Amnt Released:	UNK
Release VE:	Not reported
Contained:	No
Release Type:	Continuous
Incident Desc:	Spill
Status at Spill:	SMALL INBOARD MOTOR BOAT HAS BEEN SINKING FOR ALMOST A YEAR. SHEEN CAN NOW BE SEEN. LOCALS HAVE LOOKED AT SITUATION, NOTHING HAS BEEN DONE.
NJ Spill Date:	3/31/1997
NJ Spill Time:	Not reported
NJ Spill Name:	OEM
NJ Spill Title:	FAXED
NJ Spill Phone:	609-882-2000
Other Date:	Not reported
Other Time:	Not reported
Other Name:	Not reported
Other Title:	Not reported
Other Phone:	Not reported
Injuries:	No
Public Exposure:	No
Road Closed:	Not reported
Facility Evacuation:	No
Receiving Water:	MANAHAWKIN BAY
Public Evacuation:	No
Police at Scene:	No
Firemen at Scene:	No
Contamination of:	Water
Nature of Incident:	Other
Wind Direction/Speed:	Not reported
Assistance Requested:	Yes
Memo. Of Understanding:	Not reported
Drill/trng Exercise:	Not reported
Operator:	JOYCE
Contact Name:	Not reported
Caller Name:	REDACTED

MANAHAWKIN BAY BEHIND (Continued) **S104692603**

Caller Title:	HOME#609-978-9752
Caller Address:	Not reported
Caller City,St,Zip:	Not reported
Caller Phone:	Not reported
Responsible Party:	UnKnown
Responsible Party Name:	Not reported
Responsible Party Contact:	Not reported
Responsible Party Title:	Not reported
Responsible Party Telphone:	Not reported
Responsible Party Street:	Not reported
Responsible Party Municipality:	Not reported
Responsible Party State:	Not reported
Responsible Party Zip:	Not reported
Responsible City,St,Zip:	Not reported
Responsible Party County:	Not reported
Local Municipality:	Not reported
Local Municipality Name:	STAFFORD TWP
Local Municipality Title:	DISP.#327
Local Municipality Phone:	609-597-8581
Local Municipality Date:	3/31/1997
Local Municipality Time:	1037
Incident Name:	BRUCE COMFORT
Incident Referred To:	DRPSR
Incident Region:	ER2
Incident Phone:	Office
Incident Date:	3/31/1997
Incident Name:	Not reported
Incident Referred To:	DFG
Incident Region:	HQ1
Incident Phone:	Not reported
Incident Date:	3/31/1997
Comments: Not reported	
Date A310 Letter Printed:	Not reported
Date Local Authority Was Notified:	Not reported
Date Update:	Not reported
Date Report Faxed to Local Authority:	Not reported
Local Authority Notification Date:	Not reported
Reporter Name:	Not reported
Reporter Type:	Not reported
Rep Received Date:	Not reported
Reporter Title:	Not reported
Reporter Orgzn:	Not reported
Reporter Address:	Not reported
Reporter City,St,Zip:	Not reported
Reporter County:	Not reported
Incident Type:	Not reported
Incident Status:	Not reported
Incident Category:	Not reported
Incident Source:	Not reported
Incident Address:	Not reported
Incident Address 2:	Not reported
Incident City,St,Zip:	Not reported
Incident County:	Not reported
DEP Requested:	Not reported
Confidential:	Not reported

29 **COYNE MICHAEL & JOANNE** **FINDS** **1010551862**
1186 JENNIFER LN **N/A**
STAFFORD TWP, NJ 08050

FINDS:
Other Pertinent Environmental Activity Identified at Site

Registry ID: 110032490953

NJ-NJEMS (New Jersey - New Jersey Environmental Management System). The Department of Environmental Protection (NJDEP) manages large databases of environmental information in this integrated system.

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29 **GUTH WILLIAM G** **FINDS** **1010544641**
1178 JENNIFER LN **N/A**
STAFFORD TWP, NJ 08050

FINDS:
Other Pertinent Environmental Activity Identified at Site

Registry ID: 110032427862

NJ-NJEMS (New Jersey - New Jersey Environmental Management System). The Department of Environmental Protection (NJDEP) manages large databases of environmental information in this integrated system.

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29 **ARMENTI TROY** **FINDS** **1011915752**
1174 JENNIFER LN **N/A**
STAFFORD TWP, NJ 08050

FINDS:
Other Pertinent Environmental Activity Identified at Site

Registry ID: 110037347644

NJ-NJEMS (New Jersey - New Jersey Environmental Management System). The Department of Environmental Protection (NJDEP) manages large databases of environmental information in this integrated system.

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29 **WEILBOLDT DENNIS** **FINDS** **1011915196**
1170 JENNIFER LN **N/A**
STAFFORD TWP, NJ 08050

FINDS:
Other Pertinent Environmental Activity Identified at Site

Registry ID: 110037347617

NJ-NJEMS (New Jersey - New Jersey Environmental Management System). The Department of Environmental Protection (NJDEP) manages large databases of environmental information in this integrated system.

29 **WEIHMANN PETE & JOAN** **FINDS** **1011916644**
1154 JENNIFER LN **N/A**
STAFFORD TWP, NJ 08050

FINDS:
Other Pertinent Environmental Activity Identified at Site

Registry ID: 110037354608

NJ-NJEMS (New Jersey - New Jersey Environmental Management System). The Department of Environmental Protection (NJDEP) manages large databases of environmental information in this integrated system.

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29 **SHICORA GEORGE** **FINDS** **1011845946**
16 ANNE LN **N/A**
STAFFORD TWP, NJ 08050

FINDS:
Other Pertinent Environmental Activity Identified at Site

Registry ID: 110037046274

NJ-NJEMS (New Jersey - New Jersey Environmental Management System). The Department of Environmental Protection (NJDEP) manages large databases of environmental information in this integrated system.

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29 **BOTTA ROBERT** **FINDS** **1008960707**
24 JUDY DR **N/A**
STAFFORD TWP, NJ 08050

FINDS:
Other Pertinent Environmental Activity Identified at Site

Registry ID: 110030667767

NJ-NJEMS (New Jersey - New Jersey Environmental Management System). The Department of Environmental Protection (NJDEP) manages large databases of environmental information in this integrated system.

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30 **ON ROADWAY RT 9 &** **NJ Release** **S104436536**
BAY AVE **N/A**
STAFFORD TWP, NJ

NJ Release:

Facility ID:	32850	Case Number:	02-09-09-0907-16
Date Received:	9/9/2002	Nature of Incident:	Not reported
Operator:	Not reported		
Incident Type:	Illegal Dumping	Incident Location:	ARNOLD'S MARINE SERVICE IN MANAHAWKEN PLAZ
Location:	Not reported		
Other Location:	Not reported		
Contact Name:	Not reported		
Caller Name:	Not reported		
Caller Title:	Not reported		
Caller Address:	Not reported		

ON ROADWAY RT 9 & (Continued) **S104436536**

Caller City,St,Zip:	Not reported		
Caller Telephone:	Not reported		
Facility Phone:	Not reported		
Incident Date:	8/22/2002	Incident Time:	Not reported
Substance(s):	Not reported		
Substance Type:	Not reported	Substance Identity:	Not reported
CAS Number:	Not reported	A310 Letter:	Not reported
TCPA Chemical:	Not reported	Hazrds Material:	Not reported
COMU:	Not reported	Ref. Code:	Not reported
Amnt Released:	Not reported	Contained:	Not reported
Release Type:	Not reported	Release VE:	Not reported
Injuries:	No		
Public Exposure:	No	Facility Evacuation:	No
Police at Scene:	No	Firemen at Scene:	No
Contamination of:	Not reported	Receiving Water:	Not reported
Status at Spill:	Not reported		
NJ Spill Date:	Not reported	NJ Spill Time:	Not reported
NJ Spill Name:	Not reported	NJ Spill Title:	Not reported
NJ Spill Phone:	Not reported		
Other Date:	Not reported	Other Time:	Not reported
Other Name:	Not reported	Other Title:	Not reported

Other Telephone:	Not reported
Public Evacuation:	No
Assistance Requested:	Not reported
Wind Direction/Speed:	Not reported
Local Municipality Notified:	Not reported
Local Municipality Name:	Not reported
Local Municipality Title:	Not reported
Local Municipality Telephone:	Not reported
Local Municipality Date:	Not reported
Local Municipality Time:	Not reported
Incident Description:	Not reported
Incident Name:	Not reported
Incident Referred To:	Not reported
Incident Region:	Not reported
Incident Telephone:	Not reported
Incident Date:	Not reported
Incident time:	Not reported
Incident ITM:	Not reported
Comments:	Not reported
Date A310 Letter Printed:	Not reported
Date Local Authority Was Notified:	Not reported
Date Updated:	Not reported
Date Report Faxed to Local Authority:	Not reported
Local Authority Notification Date:	Not reported
Rep Receive Date:	9/9/2002
Reporter Type:	Citizen Complaint
Reporter Name:	REDACTED
Reporter Title:	Not reported
Reporter Org:	Not reported
Reporter Address:	Not reported
Reporter City,St,Zip:	Not reported
Reporter County:	Not reported
Incident Status:	Terminated
Incident Category:	Other
Incident Source:	ARNOLD'S MARINE SERVICE.
Incident Address:	BAY AVE

ON ROADWAY RT 9 & (Continued) **S104436536**

Incident Address 2:	Not reported
Incident City,St,Zip:	Stafford Twp, NJ
Incident County:	Ocean
DEP Requested:	Yes
Confidential:	Not reported
Notify Type:	Not reported
Road Closed:	No
Direction:	Not reported
Responsible Party:	Not reported
Responsible Party Name:	Not reported
Responsible Party Contact:	Not reported
Responsible Party Title:	Not reported
Responsible Party Phone:	Not reported
Responsible Party Street:	Not reported
Responsible Party County:	Not reported
Responsible Party City,St,Zip:	Not reported
Memo. Of Understanding:	Not reported
Drill/trng Exercise:	Not reported
Hazardous:	Not reported

Facility ID:	9256	Case Number:	92-6-9-1544-05
Date Received:	6/9/1992	Nature of Incident:	Facility
Operator:	PAT		
Incident Type:	Not reported	Incident Location:	Not reported
Location:	Other		
Other Location:	Not reported		
Contact Name:	Not reported		
Caller Name:	REDACTED		
Caller Title:	STAFFORD TWP MUA		
Caller Address:	Not reported		
Caller City,St,Zip:	Not reported		
Caller Telephone:	Not reported		
Facility Phone:	Not reported		
Incident Date:	6/3/1992	Incident Time:	1000
Substance(s):	SOIL CONTAMINATED WITH OIL FUEL		
Substance Type:	Solid	Substance Identity:	Suspected
CAS Number:	Not reported	A310 Letter:	Yes
TCPA Chemical:	No	Hazrds Material:	Yes
COMU:	1530	Ref. Code:	016
Amnt Released:	UNK	Contained:	No
Release Type:	Terminated	Release VE:	Not reported
Injuries:	No		
Public Exposure:	No	Facility Evacuation:	No
Police at Scene:	No	Firemen at Scene:	No
Contamination of:	Land	Receiving Water:	NONE
Status at Spill:	DURING INSTALLATION OF A PIPE DISCOVERED CONTAMINATION. SAMPLES TAKEN. MUA WILL HANDLE.		
NJ Spill Date:	6/9/1992	NJ Spill Time:	Not reported
NJ Spill Name:	OEM	NJ Spill Title:	Not reported
NJ Spill Phone:	609-882-2000		
Other Date:	Not reported	Other Time:	Not reported
Other Name:	Not reported	Other Title:	Not reported

Other Telephone:	Not reported
Public Evacuation:	No
Assistance Requested:	No
Wind Direction/Speed:	Not reported
Local Municipality Notified:	Not reported

ON ROADWAY RT 9 & (Continued) **S104436536**

Local Municipality Name:	STAFFORD TWP
Local Municipality Title:	DISP GRADY
Local Municipality Telephone:	609-597-8581
Local Municipality Date:	6/9/1992
Local Municipality Time:	1607
Incident Description:	SOIL CONTAMINATION
Incident Name:	Not reported
Incident Referred To:	DRPSR
Incident Region:	Central
Incident Telephone:	Faxed,Mailed
Incident Date:	6/9/1992
Incident time:	Not reported
Incident ITM:	B
Comments: Not reported	
Date A310 Letter Printed:	Not reported
Date Local Authority Was Notified:	Not reported
Date Updated:	Not reported
Date Report Faxed to Local Authority:	Not reported
Local Authority Notification Date:	Not reported
Rep Receive Date:	Not reported
Reporter Type:	Not reported
Reporter Name:	Not reported
Reporter Title:	Not reported
Reporter Org:	Not reported
Reporter Address:	Not reported
Reporter City,St,Zip:	Not reported
Reporter County:	Not reported
Incident Status:	Not reported
Incident Category:	Not reported
Incident Source:	Not reported
Incident Address:	Not reported
Incident Address 2:	Not reported
Incident City,St,Zip:	Not reported
Incident County:	Not reported
DEP Requested:	Not reported
Confidential:	Not reported
Notify Type:	Not reported
Road Closed:	Not reported
Direction:	Not reported
Responsible Party:	UnKnown
Responsible Party Name:	Not reported
Responsible Party Contact:	Not reported
Responsible Party Title:	Not reported
Responsible Party Phone:	Not reported
Responsible Party Street:	Not reported
Responsible Party County:	Not reported
Responsible Party City,St,Zip:	Not reported
Memo. Of Understanding:	Not reported
Drill/trng Exercise:	Not reported
Hazardous:	Not reported

30 **IN THE AREA OF**
BAY AVE
STAFFORD TWP, NJ

SPILLS **S104419398**
N/A

NJ SPILL:

Facility ID:	11311
Case Number:	95-7-20-1836-00
Notify Type:	Not reported
Date Received:	7/20/1995
Location:	Other
Other Location:	Not reported
Incident Date:	7/20/1995
Incident Time:	1738
A310 Letter:	Yes
Ref. Code:	101
COMU:	1530
CAS Number:	Not reported
Hazardous:	Not reported
Incident Location:	Not reported
Facility Phone:	Not reported
Substance(s):	OIL TRANSFORMER NON-PCB
Substance Type:	Liquid
Substance Identity:	Known
TCPA Chemical:	No
Hazrds Material:	Yes
Amnt Released:	1/2 GAL
Release VE:	Estimate
Contained:	Yes
Release Type:	Terminated
Incident Desc:	Spill
Status at Spill:	SPILL DUE TO LEAKING POLE MOUNTED TRANSFORMER. CLEANUP IN PROGRESS BY ATLANTIC ELECTRIC.
NJ Spill Date:	Not reported
NJ Spill Time:	Not reported
NJ Spill Name:	Not reported
NJ Spill Title:	Not reported
NJ Spill Phone:	Not reported
Other Date:	Not reported
Other Time:	Not reported
Other Name:	Not reported
Other Title:	Not reported
Other Phone:	Not reported
Injuries:	No
Public Exposure:	No
Road Closed:	Not reported
Facility Evacuation:	No
Receiving Water:	NONE
Public Evacuation:	No
Police at Scene:	Yes
Firemen at Scene:	Yes
Contamination of:	Land
Nature of Incident:	Facility
Wind Direction/Speed:	Not reported
Assistance Requested:	No
Memo. Of Understanding:	Not reported
Drill/trng Exercise:	Not reported
Operator:	ROB
Contact Name:	Not reported
Caller Name:	REDACTED

IN THE AREA OF (Continued) **S104419398**

Caller Title:	ATLANTIC ELECTRIC
Caller Address:	Not reported
Caller City,St,Zip:	Not reported
Caller Phone:	Not reported
Responsible Party:	Known
Responsible Party Name:	ATLANTIC ELECTRIC
Responsible Party Contact:	CHARLES BALDI
Responsible Party Title:	Not reported
Responsible Party Telphone:	609-645-4660
Responsible Party Street:	6801 BLACKHORSE PIKE
Responsible Party Municipality:	PLEASANTVILLE
Responsible Party State:	NJ
Responsible Party Zip:	Not reported
Responsible City,St,Zip:	PLEASANTVILLE, NJ
Responsible Party County:	ATLANTIC
Local Municipality:	Not reported
Local Municipality Name:	STAFFORD TWP
Local Municipality Title:	OPER 308
Local Municipality Phone:	609-597-8581
Local Municipality Date:	7/20/1995
Local Municipality Time:	1906
Incident Name:	Not reported
Incident Referred To:	DRPSR
Incident Region:	BFO-CAS
Incident Phone:	Faxed,Mailed
Incident Date:	7/20/1995
Comments:	Not reported
Date A310 Letter Printed:	7/21/1995
Date Local Authority Was Notified:	Not reported
Date Update:	Not reported
Date Report Faxed to Local Authority:	Not reported
Local Authority Notification Date:	Not reported
Reporter Name:	Not reported
Reporter Type:	Not reported
Rep Received Date:	Not reported
Reporter Title:	Not reported
Reporter Orgzn:	Not reported
Reporter Address:	Not reported
Reporter City,St,Zip:	Not reported
Reporter County:	Not reported
Incident Type:	Not reported
Incident Status:	Not reported
Incident Category:	Not reported
Incident Source:	Not reported
Incident Address:	Not reported
Incident Address 2:	Not reported
Incident City,St,Zip:	Not reported
Incident County:	Not reported
DEP Requested:	Not reported
Confidential:	Not reported

31 **CAUSEWAY BOAT RENTALS**
2200 BAY AVE
MANAHAWKIN, NJ 08050
FINDS **1010167143**
N/A

FINDS:
Other Pertinent Environmental Activity Identified at Site

Registry ID: 110029881661

NJ-NJEMS (New Jersey - New Jersey Environmental Management System). The Department of Environmental Protection (NJDEP) manages large databases of environmental information in this integrated system.

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32 **VERNON CHRISTOPHER**
2390 E BAY AVE
STAFFORD TWP, NJ 08050
FINDS **1011911393**
N/A

FINDS:
Other Pertinent Environmental Activity Identified at Site

Registry ID: 110037291560

NJ-NJEMS (New Jersey - New Jersey Environmental Management System). The Department of Environmental Protection (NJDEP) manages large databases of environmental information in this integrated system.

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33 **CAUSEWAY BOAT RENTALS**
LONG BEACH ISLAND CAUSEWAY
SHIP BOTTOM, NJ 08008
FINDS **1001124529**
RCRA-NonGen **NJN008004608**

FINDS:
Other Pertinent Environmental Activity Identified at Site

Registry ID: 110007967584

RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

ICIS (Integrated Compliance Information System) is the Integrated Compliance Information System and provides a database that, when complete, will contain integrated Enforcement and Compliance information across most of EPA's programs. The vision for ICIS is to replace EPA's independent databases that contain Enforcement data with a single repository for that information. Currently, ICIS contains all Federal Administrative and Judicial enforcement actions. This information is maintained in ICIS by EPA in the Regional offices and its Headquarters. A future release of ICIS will replace the Permit Compliance System (PCS) which supports the NPDES and will integrate that information with Federal actions already in the system. ICIS also has the capability to track other activities occurring in the Region that support Compliance and Enforcement programs. These include; Incident Tracking, Compliance Assistance, and Compliance Monitoring.

CAUSEWAY BOAT RENTALS (Continued) **1001124529**

RCRA-NonGen:

Date form received by agency:	01/01/2007
Facility name:	CAUSEWAY BOAT RENTALS
Facility address:	LONG BEACH ISLAND CAUSEWAY RTE 22 SHIP BOTTOM, NJ 08008
EPA ID:	NJN008004608
Contact:	WALTER CHAPMAN
Contact address:	LONG BEACH ISLAND CAUSEWAY RTE 22 SHIP BOTTOM, NJ 08008
Contact country:	US
Contact telephone:	(609) 494-1371
Contact email:	Not reported
EPA Region:	02
Land type:	Private
Classification:	Non-Generator
Description:	Handler: Non-Generators do not presently generate hazardous waste

Owner/Operator Summary:

Owner/operator name:	NON REGULATED
Owner/operator address:	NOT REQUIRED NOT REQUIRED, NJ 99999
Owner/operator country:	US
Owner/operator telephone:	(609) 555-1212
Legal status:	Private
Owner/Operator Type:	Owner
Owner/Op start date:	Not reported
Owner/Op end date:	Not reported

Owner/operator name:	NON REGULATED
Owner/operator address:	NOT REQUIRED NOT REQUIRED, NJ 99999
Owner/operator country:	US
Owner/operator telephone:	(609) 555-1212
Legal status:	Private
Owner/Operator Type:	Operator
Owner/Op start date:	Not reported
Owner/Op end date:	Not reported

Handler Activities Summary:

U.S. importer of hazardous waste:	Unknown
Mixed waste (haz. and radioactive):	Unknown
Recycler of hazardous waste:	No
Transporter of hazardous waste:	Unknown
Treater, storer or disposer of HW:	No
Underground injection activity:	No
On-site burner exemption:	Unknown
Furnace exemption:	Unknown
Used oil fuel burner:	No
Used oil processor:	No
User oil refiner:	No
Used oil fuel marketer to burner:	No
Used oil Specification marketer:	No
Used oil transfer facility:	No
Used oil transporter:	No
Off-site waste receiver:	Commercial status unknown

CAUSEWAY BOAT RENTALS (Continued) **1001124529**

Historical Generators:
Date form received by agency: 01/01/2006
Facility name: CAUSEWAY BOAT RENTALS
Classification: Not a generator, verified

Date form received by agency: 10/11/1996
Facility name: CAUSEWAY BOAT RENTALS
Classification: Unverified

Violation Status: No violations found

Evaluation Action Summary:
Evaluation date: 09/20/1996
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

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34 **CAUSEWAY BOAT RENTALS** **HIST LUST** **S104388866**
2200 E BAY AVE **NPDES** **N/A**
MANAHAWKIN, NJ

LUST HIST:
Case ID: 90-11-01-0855
Lead Program Assigned: Bureau of Underground Storage Tanks
Facility Status: Assigned to a Program
UST ID: 0151779
TMS Number: C90-0022
Remedial Level: Site has confirmed soil and ground water contamination.
Case Manager: Bill Patterson
Facility Phone: (609) 292-6139
No Further Action: Not reported
RAW Approved: Not reported
CEA: Not reported
Date CEA Lifted: Not reported
Dead Notice: Not reported

NJ PDES:
NJPDES Permit Number: NJG0141429
Flag: ACTIVE
Facility PO Box: Not reported
Facility Telephone: 6094941371
Facility Contact: WALTER CHAPMAN
Facility Municipality: Stafford Twp
Facility Enforcement region: Not reported
Discharger Classification: Not reported
Facility Primary SIC code: 7999
Facility Ownership: Not reported
Facility Discharge Basin code: Not reported
Facility Discharge Basin name: Not reported
Facility Lat/Long: Not reported
Facility Lot number: Not reported
Facility Block number: Not reported
Facility Addr 2: Not reported
Facility Addr 3: Not reported
Permittee Name: CAUSEWAY BOAT RENTALS
Permittee Address: PO BOX 144

CAUSEWAY BOAT RENTALS (Continued) **S104388866**

Permittee Street Address2:	Not reported
Permittee Street Address3:	Not reported
Permittee PO Box:	Not reported
Permittee City,St,Zip:	Ship Bottom, NJ 08050
Date Permit Application Received:	Not reported
Date Draft Permit Issued:	Not reported
Date Final Permit Issued:	5/18/2007
Date Final Permit Effective:	6/1/2007
Date Final Permit Expires:	5/31/2012
PI Number:	160821
Regional Office:	Central
Major / Minor Facility:	Not reported
Last Action:	Stormwater Discharge General Permit Authorization Renewal
Owner Name:	CHAPMAN WALTER
Owner Contact:	WALTER CHAPMAN
Owner Address:	2200 E BAY AVE
Owner Addr 2:	Not reported
Owner Addr 3:	Not reported
Owner City,St,Zip:	Manahawkin, NJ 08050
Mailing Address:	PO BOX 144
Mailing Addr 2:	Not reported
Mailing City,St,Zip:	Ship Bottom, NJ 080080219
Program:	ST
Permit Discharge Category:	5G2
Permit Category Desc:	STORMWATER BASIC (GP)

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34 **CAUSEWAY BOAT RENTALS** **SHWS** **1006993251**
2200 BAY AVE **FINDS** **N/A**
STAFFORD TWP, NJ 08050

SHWS:

Site ID:	2782
Status:	ACTIVE
PI Number:	015177

FINDS:

Other Pertinent Environmental Activity Identified at Site

Registry ID: 110014638856

PCS (Permit Compliance System) is a computerized management information system that contains data on National Pollutant Discharge Elimination System (NPDES) permit holding facilities. PCS tracks the permit, compliance, and enforcement status of NPDES facilities.

34 CAUSWAY BOAT RENTAL — **NJ Release** — **S104694719**
2200 EAST BAY — **N/A**
STAFFORD TWP, NJ

NJ Release:

Facility ID:	14884	Case Number:	90-11-01-0855
Date Received:	11/1/1990	Nature of Incident:	Other
Operator:	PHIL		
Incident Type:	Not reported	Incident Location:	Not reported
Location:	Facility		
Other Location:	Not reported		
Contact Name:	Not reported		
Caller Name:	REDACTED		
Caller Title:	OCEAN CO. BUILDING		
Caller Address:	Not reported		
Caller City,St,Zip:	Not reported		
Caller Telephone:	Not reported		
Facility Phone:	609-494-1371		
Incident Date:	10/31/1990	Incident Time:	1530
Substance(s):	DIESEL FUEL, GASOLINE		
Substance Type:	Liquid	Substance Identity:	Known
CAS Number:	Not reported	A310 Letter:	Yes
TCPA Chemical:	No	Hazrds Material:	Yes
COMU:	1530	Ref. Code:	099
Amnt Released:	UNK	Contained:	Yes
Release Type:	Terminated	Release VE:	Not reported
Injuries:	No		
Public Exposure:	No	Facility Evacuation:	No
Police at Scene:	No	Firemen at Scene:	No
Contamination of:	Not reported	Receiving Water:	Not reported
Status at Spill:	TANK REMOVAL		
NJ Spill Date:	11/1/1990	NJ Spill Time:	Not reported
NJ Spill Name:	Not reported	NJ Spill Title:	OEM
NJ Spill Phone:	Not reported		
Other Date:	Not reported	Other Time:	Not reported
Other Name:	Not reported	Other Title:	Not reported

Other Telephone:	Not reported
Public Evacuation:	No
Assistance Requested:	No
Wind Direction/Speed:	Not reported
Local Municipality Notified:	Not reported
Local Municipality Name:	OPERATOR 305
Local Municipality Title:	STAFFORD TWP PD
Local Municipality Telephone:	609-597-8581
Local Municipality Date:	11/1/1990
Local Municipality Time:	0922
Incident Description:	LUST
Incident Name:	Not reported
Incident Referred To:	DEQ
Incident Region:	HQ1
Incident Telephone:	Not reported
Incident Date:	11/1/1990
Incident time:	Not reported
Incident ITM:	M
Comments:	Not reported
Date A310 Letter Printed:	Not reported
Date Local Authority Was Notified:	Not reported
Date Updated:	Not reported
Date Report Faxed to Local Authority:	Not reported

CAUSWAY BOAT RENTAL (Continued) **S104694719**

Local Authority Notification Date:	Not reported
Rep Receive Date:	Not reported
Reporter Type:	Not reported
Reporter Name:	Not reported
Reporter Title:	Not reported
Reporter Org:	Not reported
Reporter Address:	Not reported
Reporter City,St,Zip:	Not reported
Reporter County:	Not reported
Incident Status:	Not reported
Incident Category:	Not reported
Incident Source:	Not reported
Incident Address:	Not reported
Incident Address 2:	Not reported
Incident City,St,Zip:	Not reported
Incident County:	Not reported
DEP Requested:	Not reported
Confidential:	Not reported
Notify Type:	Not reported
Road Closed:	Not reported
Direction:	Not reported
Responsible Party:	Known
Responsible Party Name:	CAUSWAY BOAT RENTAL
Responsible Party Contact:	WALTER CHAPMAN
Responsible Party Title:	OWNER
Responsible Party Phone:	609-494-1371
Responsible Party Street:	2200 EAST BAY
Responsible Party County:	OCEAN
Responsible Party City,St,Zip:	STAFFORD TWP, NJ
Memo. Of Understanding:	Not reported
Drill/trng Exercise:	Not reported
Hazardous:	Not reported

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34 **CAUSEWAY BOAT RENTALS** **LUST** **U000364070**
2200 BAY AVE E **UST** **N/A**
STAFFORD TWP, NJ 08008 **HIST HWS**

LUST:

Case ID:	15177
Bureau:	BUST

UST:

Facility ID:	015177
Owner Name:	WALTER H CHAPMAN
Organization:	WALTER H CHAPMAN
Contact Type(UST Reg):	Tank Owner
Contact Address (UST Reg):	PO BOX 144
Contact Address 2 (UST Reg):	Not reported
Conact City,St,Zip (UST Reg):	Ship Bottom, NJ 08008
Owner Name:	Not Identified Not Identified
Organization:	Not Identified
Contact Type(UST Reg):	Facility Operator
Contact Address (UST Reg):	Not reported
Contact Address 2 (UST Reg):	Not reported
Conact City,St,Zip (UST Reg):	Not reported
Tank Id:	TANK-1

CAUSEWAY BOAT RENTALS (Continued) **U000364070**

Tank Number:	A4
Tank Contents:	Leaded Gasoline
Tank Size:	1000
Install Date:	1/1/1972
Tank Compliance:	No
Tank Status:	**Removed**
Overfill:	No
Tank Status Date:	9/1/1990
Compliance Monitoring?:	No
Overfill Protection:	No
Spill Containment:	No
Tank Wellhead Protection:	Not reported

TANK MONITOR DATA:

Monitor Tank / Pipe:	Pipe
Monitor Type:	None
Monitor Tank / Pipe:	Tank
Monitor Type:	None

TANK DETAIL:

Tankpipe Tank / Pipe:	Tank
Tankpipe Construction Type:	Bare steel
Tankpipe Tank / Pipe:	Pipe
Tankpipe Construction Type:	Other

Tank Id:	TANK-2
Tank Number:	A5
Tank Contents:	Leaded Gasoline
Tank Size:	1000
Install Date:	1/1/1972
Tank Compliance:	No
Tank Status:	**Removed**
Overfill:	No
Tank Status Date:	9/1/1990
Compliance Monitoring?:	No
Overfill Protection:	No
Spill Containment:	No
Tank Wellhead Protection:	Not reported

TANK MONITOR DATA:

Monitor Tank / Pipe:	Pipe
Monitor Type:	None
Monitor Tank / Pipe:	Tank
Monitor Type:	None

TANK DETAIL:

Tankpipe Tank / Pipe:	Tank
Tankpipe Construction Type:	Bare steel
Tankpipe Tank / Pipe:	Pipe
Tankpipe Construction Type:	Other

Tank Id:	TANK-3
Tank Number:	E1
Tank Contents:	Leaded Gasoline
Tank Size:	2000
Install Date:	1/1/1982
Tank Compliance:	No
Tank Status:	**Removed**
Overfill:	No

CAUSEWAY BOAT RENTALS (Continued) **U000364070**

Tank Status Date:	9/1/1990
Compliance Monitoring?:	No
Overfill Protection:	No
Spill Containment:	No
Tank Wellhead Protection:	Not reported

TANK MONITOR DATA:

Monitor Tank / Pipe:	Tank
Monitor Type:	None
Monitor Tank / Pipe:	Pipe
Monitor Type:	None

TANK DETAIL:

Tankpipe Tank / Pipe:	Tank
Tankpipe Construction Type:	Bare steel
Tankpipe Tank / Pipe:	Pipe
Tankpipe Construction Type:	Other

Tank Id:	TANK-4
Tank Number:	E3
Tank Contents:	Leaded Gasoline
Tank Size:	1000
Install Date:	1/1/1982
Tank Compliance:	No
Tank Status:	**Removed**
Overfill:	No
Tank Status Date:	9/1/1990
Compliance Monitoring?:	No
Overfill Protection:	No
Spill Containment:	No
Tank Wellhead Protection:	Not reported

TANK MONITOR DATA:

Monitor Tank / Pipe:	Pipe
Monitor Type:	None
Monitor Tank / Pipe:	Tank
Monitor Type:	None

TANK DETAIL:

Tankpipe Tank / Pipe:	Tank
Tankpipe Construction Type:	Bare steel
Tankpipe Tank / Pipe:	Pipe
Tankpipe Construction Type:	Other

Tank Id:	TANK-5
Tank Number:	E7
Tank Contents:	Leaded Gasoline
Tank Size:	2000
Install Date:	1/1/1982
Tank Compliance:	No
Tank Status:	**Removed**
Overfill:	No
Tank Status Date:	9/1/1990
Compliance Monitoring?:	No
Overfill Protection:	No
Spill Containment:	No
Tank Wellhead Protection:	Not reported

TANK MONITOR DATA:

Monitor Tank / Pipe:	Pipe

CAUSEWAY BOAT RENTALS (Continued) **U000364070**

Monitor Type: None
Monitor Tank / Pipe: Tank
Monitor Type: None

TANK DETAIL:
Tankpipe Tank / Pipe: Tank
Tankpipe Construction Type: Bare steel
Tankpipe Tank / Pipe: Pipe
Tankpipe Construction Type: Other

HIST SHWS:
Case Status: Active
Status Date: 12/8/1997
Case ID: 015177
Contact: BSCM
Sub Section Label: A: Sites with On-Site Sources of Contamination
Site Municipality: 1530
Remedial Level Code: C2
Classification exception area dt: None
Classification exception area dt: Not reported
Deed Notice Status: None
Deed Notice Date: Not reported
Engineering Control Status: None
Engineering Control Date: Not reported
National Priorities List Status: Not reported
National Priorities List Date: Not reported
X Coordinate: 577402
Y Coordinate: 301526
Coordinate System: NJ State Plane (NAD83) - USFEET

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34 **CEDAR BONNET ISLAND PUMP STATION** **UST** **U002157569**
RAILROAD AVE **HIST LUST** **N/A**
STAFFORD TWP, NJ 08050

UST:
Facility ID: 026545
Owner Name: ROBERT SHEPPARD
Organization: STAFFORD MUA
Contact Type(UST Reg): Tank Owner
Contact Address (UST Reg): 25 PINE ST
Contact Address 2 (UST Reg): Not reported
Conact City,St,Zip (UST Reg): Manahawkin, NJ 08050
Owner Name: Not Identified Not Identified
Organization: Not Identified
Contact Type(UST Reg): Facility Operator
Contact Address (UST Reg): Not reported
Contact Address 2 (UST Reg): Not reported
Conact City,St,Zip (UST Reg): Not reported

Tank Id: TANK-1
Tank Number: 0001
Tank Contents: Medium Diesel Fuel (No. 2-D)
Tank Size: 275
Install Date: 1/1/1981
Tank Compliance: No
Tank Status: Removed
Overfill: No
Tank Status Date: 5/7/1996

CEDAR BONNET ISLAND PUMP STATION (Continued) **U002157569**

Compliance Monitoring?: No
Overfill Protection: No
Spill Containment: No
Tank Wellhead Protection: Not reported

TANK MONITOR DATA:
Monitor Tank / Pipe: Tank
Monitor Type: None
Monitor Tank / Pipe: Pipe
Monitor Type: None

TANK DETAIL:
Tankpipe Tank / Pipe: Tank
Tankpipe Construction Type: Bare steel
Tankpipe Tank / Pipe: Pipe
Tankpipe Construction Type: Bare steel

LUST HIST:
Case ID: Not reported
Lead Program Assigned: Bureau of Field Operations - Initial Notice Section
Facility Status: Site Issued Letter of No Further Action for Area(s) Of Concern
UST ID: 0265458
TMS Number: C93-6452
Remedial Level: Site has 1 area of concern with 1 media of concern.
Case Manager: Not reported
Facility Phone: Not reported
No Further Action: 8/7/1996 0:00:00
RAW Approved: Not reported
CEA: Not reported
Date CEA Lifted: Not reported
Dead Notice: Not reported

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34 **NJ Release** **S109368584**
2552 2ND AVE **N/A**
STAFFORD TWP, NJ

NJ Release:

Facility ID:	288553	Case Number:	08-09-11-1148-34
Date Received:	9/11/2008	Nature of Incident:	Not reported
Operator:	Not reported		
Incident Type:	Improper disposal/Storage	Incident Location:	RENTAL PROPERTY ON CEDAR BONNET ISLAND
Location:	Not reported		
Other Location:	Not reported		
Contact Name:	Not reported		
Caller Name:	Not reported		
Caller Title:	Not reported		
Caller Address:	Not reported		
Caller City,St,Zip:	Not reported		
Caller Telephone:	Not reported		
Facility Phone:	Not reported		
Incident Date:	9/11/2008	Incident Time:	Not reported
Substance(s):	Not reported		
Substance Type:	Not reported	Substance Identity:	Not reported
CAS Number:	Not reported	A310 Letter:	Not reported
TCPA Chemical:	Not reported	Hazrds Material:	Not reported
COMU:	Not reported	Ref. Code:	Not reported
Amnt Released:	Not reported	Contained:	Not reported
Release Type:	Not reported	Release VE:	Not reported

(Continued) **S109368584**

Injuries:	No		
Public Exposure:	No	Facility Evacuation:	No
Police at Scene:	No	Firemen at Scene:	No
Contamination of:	Not reported	Receiving Water:	Not reported
Status at Spill:	Not reported		
NJ Spill Date:	Not reported	NJ Spill Time:	Not reported
NJ Spill Name:	Not reported	NJ Spill Title:	Not reported
NJ Spill Phone:	Not reported		
Other Date:	Not reported	Other Time:	Not reported
Other Name:	Not reported	Other Title:	Not reported

Other Telephone:	Not reported
Public Evacuation:	No
Assistance Requested:	Not reported
Wind Direction/Speed:	Not reported
Local Municipality Notified:	Not reported
Local Municipality Name:	Not reported
Local Municipality Title:	Not reported
Local Municipality Telephone:	Not reported
Local Municipality Date:	Not reported
Local Municipality Time:	Not reported
Incident Description:	Not reported
Incident Name:	Not reported
Incident Referred To:	Not reported
Incident Region:	Not reported
Incident Telephone:	Not reported
Incident Date:	Not reported
Incident time:	Not reported
Incident ITM:	Not reported
Comments:	Not reported
Date A310 Letter Printed:	Not reported
Date Local Authority Was Notified:	Not reported
Date Updated:	Not reported
Date Report Faxed to Local Authority:	Not reported
Local Authority Notification Date:	Not reported
Rep Receive Date:	9/11/2008
Reporter Type:	Citizen Complaint
Reporter Name:	REDACTED
Reporter Title:	Not reported
Reporter Org:	CIT
Reporter Address:	Not reported
Reporter City,St,Zip:	Not reported
Reporter County:	Not reported
Incident Status:	Intermittent
Incident Category:	Other
Incident Source:	MILDRED RUNYON
Incident Address:	2552 2ND AVE
Incident Address 2:	Not reported
Incident City,St,Zip:	Stafford Twp, NJ
Incident County:	Ocean
DEP Requested:	Yes
Confidential:	Not reported
Notify Type:	Not reported
Road Closed:	No
Direction:	Not reported
Responsible Party:	Not reported
Responsible Party Name:	Not reported
Responsible Party Contact:	Not reported

(Continued) **S109368584**

Responsible Party Title:	Not reported
Responsible Party Phone:	Not reported
Responsible Party Street:	Not reported
Responsible Party County:	Not reported
Responsible Party City,St,Zip:	Not reported
Memo. Of Understanding:	Not reported
Drill/trng Exercise:	Not reported
Hazardous:	Not reported

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34 **WILSON GYM** **FINDS** **1010525814**
45 RAILROAD AVE **N/A**
STAFFORD TWP, NJ 08050

FINDS:
Other Pertinent Environmental Activity Identified at Site

Registry ID: 110032318711

NJ-NJEMS (New Jersey - New Jersey Environmental Management System). The Department of Environmental Protection (NJDEP) manages large databases of environmental information in this integrated system.

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34 **KLIPPER URI & MONICA** **FINDS** **1011911632**
41 RAILROAD AVE **N/A**
STAFFORD TWP, NJ 08050

FINDS:
Other Pertinent Environmental Activity Identified at Site

Registry ID: 110037294326

NJ-NJEMS (New Jersey - New Jersey Environmental Management System). The Department of Environmental Protection (NJDEP) manages large databases of environmental information in this integrated system.

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34 **EGAN BRUCE** **FINDS** **1010471860**
30 MANNING DR **N/A**
STAFFORD TWP, NJ 08050

FINDS:
Other Pertinent Environmental Activity Identified at Site

Registry ID: 110031797330

NJ-NJEMS (New Jersey - New Jersey Environmental Management System). The Department of Environmental Protection (NJDEP) manages large databases of environmental information in this integrated system.

35 **NJ Release** **S107070416**
N/A

12 1 ST ST
STAFFORD TWP, NJ

NJ Release:

Facility ID:	27001	Case Number:	02-07-13-1107-56
Date Received:	7/13/2002	Nature of Incident:	Not reported
Operator:	Not reported		
Incident Type:	Wetlands/Stream Encroach	Incident Location:	ACCROSS FROM
Location:	Not reported		
Other Location:	Not reported		
Contact Name:	Not reported		
Caller Name:	Not reported		
Caller Title:	Not reported		
Caller Address:	Not reported		
Caller City,St,Zip:	Not reported		
Caller Telephone:	Not reported		
Facility Phone:	Not reported		
Incident Date:	7/13/2002	Incident Time:	Not reported
Substance(s):	Not reported		
Substance Type:	Not reported	Substance Identity:	Not reported
CAS Number:	Not reported	A310 Letter:	Not reported
TCPA Chemical:	Not reported	Hazrds Material:	Not reported
COMU:	Not reported	Ref. Code:	Not reported
Amnt Released:	Not reported	Contained:	Not reported
Release Type:	Not reported	Release VE:	Not reported
Injuries:	No		
Public Exposure:	No	Facility Evacuation:	No
Police at Scene:	No	Firemen at Scene:	No
Contamination of:	Not reported	Receiving Water:	Not reported
Status at Spill:	Not reported		
NJ Spill Date:	Not reported	NJ Spill Time:	Not reported
NJ Spill Name:	Not reported	NJ Spill Title:	Not reported
NJ Spill Phone:	Not reported		
Other Date:	Not reported	Other Time:	Not reported
Other Name:	Not reported	Other Title:	Not reported

Other Telephone:	Not reported
Public Evacuation:	No
Assistance Requested:	Not reported
Wind Direction/Speed:	Not reported
Local Municipality Notified:	Not reported
Local Municipality Name:	Not reported
Local Municipality Title:	Not reported
Local Municipality Telephone:	Not reported
Local Municipality Date:	Not reported
Local Municipality Time:	Not reported
Incident Description:	Not reported
Incident Name:	Not reported
Incident Referred To:	Not reported
Incident Region:	Not reported
Incident Telephone:	Not reported
Incident Date:	Not reported
Incident time:	Not reported
Incident ITM:	Not reported
Comments:	Not reported
Date A310 Letter Printed:	Not reported
Date Local Authority Was Notified:	Not reported
Date Updated:	Not reported
Date Report Faxed to Local Authority:	Not reported

(Continued) **S107070416**

Local Authority Notification Date:	Not reported
Rep Receive Date:	7/13/2002
Reporter Type:	Citizen Complaint
Reporter Name:	REDACTED
Reporter Title:	Not reported
Reporter Org:	Not reported
Reporter Address:	Not reported
Reporter City,St,Zip:	Not reported
Reporter County:	Not reported
Incident Status:	Intermittent
Incident Category:	Other
Incident Source:	WAVE RUNNER
Incident Address:	Not reported
Incident Address 2:	Not reported
Incident City,St,Zip:	Stafford Twp, NJ
Incident County:	Ocean
DEP Requested:	Yes
Confidential:	Not reported
Notify Type:	Not reported
Road Closed:	No
Direction:	Not reported
Responsible Party:	Not reported
Responsible Party Name:	Not reported
Responsible Party Contact:	Not reported
Responsible Party Title:	Not reported
Responsible Party Phone:	Not reported
Responsible Party Street:	Not reported
Responsible Party County:	Not reported
Responsible Party City,St,Zip:	Not reported
Memo. Of Understanding:	Not reported
Drill/trng Exercise:	Not reported
Hazardous:	Not reported

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35 **ON ROADWAY** **SPILLS** **S102207731**
EAST BAY / RT 72 **N/A**
STAFFORD TWP, NJ

NJ SPILL:

Facility ID:	14317
Case Number:	94-8-9-1412-24
Notify Type:	Not reported
Date Received:	8/9/1994
Location:	Other
Other Location:	Not reported
Incident Date:	8/9/1994
Incident Time:	1400
A310 Letter:	No
Ref. Code:	101
COMU:	1530
CAS Number:	107211
Hazardous:	Not reported
Incident Location:	Not reported
Facility Phone:	Not reported
Substance(s):	ANTIFREEZE
Substance Type:	Liquid
Substance Identity:	Known
TCPA Chemical:	No
Hazrds Material:	Yes

ON ROADWAY (Continued) **S102207731**

Amnt Released: 2-4 GALS
Release VE: Estimate
Contained: Yes
Release Type: Terminated
Incident Desc: Spill,MVA
Status at Spill: MVA CAUSE OF SPILL. MATERIAL IS CONTAINED & BEING CLEANED UP.
NJ Spill Date: Not reported
NJ Spill Time: Not reported
NJ Spill Name: Not reported
NJ Spill Title: Not reported
NJ Spill Phone: Not reported
Other Date: Not reported
Other Time: Not reported
Other Name: Not reported
Other Title: Not reported
Other Phone: Not reported
Injuries: No
Public Exposure: No
Road Closed: Not reported
Facility Evacuation: No
Receiving Water: Not reported
Public Evacuation: No
Police at Scene: Yes
Firemen at Scene: No
Contamination of: Land
Nature of Incident: Municipal
Wind Direction/Speed: Not reported
Assistance Requested: No
Memo. Of Understanding: Not reported
Drill/trng Exercise: Not reported
Operator: ROGER
Contact Name: Not reported
Caller Name: REDACTED
Caller Title: STAFFORD TWP PD
Caller Address: Not reported
Caller City,St,Zip: Not reported
Caller Phone: Not reported
Responsible Party: UnKnown
Responsible Party Name: Not reported
Responsible Party Contact: Not reported
Responsible Party Title: Not reported
Responsible Party Telphone: Not reported
Responsible Party Street: Not reported
Responsible Party Municipality: Not reported
Responsible Party State: Not reported
Responsible Party Zip: Not reported
Responsible City,St,Zip: Not reported
Responsible Party County: Not reported
Local Municipality: Not reported
Local Municipality Name: Not reported
Local Municipality Title: Not reported
Local Municipality Phone: Not reported
Local Municipality Date: Not reported
Local Municipality Time: Not reported
Incident Name: Not reported
Incident Referred To: DRPSR
Incident Region: BFO-CAS

ON ROADWAY (Continued) **S102207731**

Incident Phone:	Faxed,Mailed
Incident Date:	8/9/1994
Comments:	Not reported
Date A310 Letter Printed:	Not reported
Date Local Authority Was Notified:	Not reported
Date Update:	Not reported
Date Report Faxed to Local Authority:	Not reported
Local Authority Notification Date:	Not reported
Reporter Name:	Not reported
Reporter Type:	Not reported
Rep Received Date:	Not reported
Reporter Title:	Not reported
Reporter Orgzn:	Not reported
Reporter Address:	Not reported
Reporter City,St,Zip:	Not reported
Reporter County:	Not reported
Incident Type:	Not reported
Incident Status:	Not reported
Incident Category:	Not reported
Incident Source:	Not reported
Incident Address:	Not reported
Incident Address 2:	Not reported
Incident City,St,Zip:	Not reported
Incident County:	Not reported
DEP Requested:	Not reported
Confidential:	Not reported

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36 **DANLEY ROBERT C** **FINDS** **1010554454**
517 SHORE AVE **N/A**
SHIP BOTTOM, NJ 08008

FINDS:
Other Pertinent Environmental Activity Identified at Site

Registry ID: 110032585101

NJ-NJEMS (New Jersey - New Jersey Environmental Management System).
The Department of Environmental Protection (NJDEP) manages large databases of environmental information in this integrated system.

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37 **ROSE HOGSON FORMER OWNER** **NJ Release** **S107120169**
332 WEST 4TH ST **N/A**
SHIP BOTTOM, NJ

NJ Release:

Facility ID:	15822	Case Number:	93-9-16-1143-43
Date Received:	9/16/1993	Nature of Incident:	Municipal
Operator:	JIMS		
Incident Type:	Not reported	Incident Location:	Not reported
Location:	Other		
Other Location:	Not reported		
Contact Name:	Not reported		
Caller Name:	REDACTED		
Caller Title:	SHIP BOTTOM CODE		
Caller Address:	Not reported		

ROSE HOGSON FORMER OWNER (Continued) **S107120169**

Caller City,St,Zip:	Not reported		
Caller Telephone:	Not reported		
Facility Phone:	Not reported		
Incident Date:	9/15/1993	Incident Time:	Not reported
Substance(s):	TREE STUMPS, SOLID WASTE, CONSTRUCTION DEBRIS/TREE PARTS		
Substance Type:	Solid	Substance Identity:	Known
CAS Number:	N/A	A310 Letter:	No
TCPA Chemical:	No	Hazrds Material:	No
COMU:	1528	Ref. Code:	018
Amnt Released:	UNKNOWN	Contained:	No
Release Type:	Continuous	Release VE:	Not reported
Injuries:	No		
Public Exposure:	No	Facility Evacuation:	No
Police at Scene:	No	Firemen at Scene:	No
Contamination of:	Land	Receiving Water:	Not reported
Status at Spill:	ILLEGAL DUMPING OF 12 TRUCK LOADS OF TREE STUMPS AT ABOVE LOCATION		
NJ Spill Date:	Not reported	NJ Spill Time:	Not reported
NJ Spill Name:	Not reported	NJ Spill Title:	Not reported
NJ Spill Phone:	Not reported		
Other Date:	Not reported	Other Time:	Not reported
Other Name:	Not reported	Other Title:	Not reported

Other Telephone:	Not reported
Public Evacuation:	No
Assistance Requested:	Yes
Wind Direction/Speed:	Not reported
Local Municipality Notified:	Not reported
Local Municipality Name:	Not reported
Local Municipality Title:	Not reported
Local Municipality Telephone:	Not reported
Local Municipality Date:	Not reported
Local Municipality Time:	Not reported
Incident Description:	Illegal Dumping
Incident Name:	Not reported
Incident Referred To:	DSWM
Incident Region:	HQ1
Incident Telephone:	Faxed,Mailed
Incident Date:	9/16/1993
Incident time:	Not reported
Incident ITM:	B
Incident Name:	Not reported
Incident Referred To:	DCR
Incident Region:	HQ1
Incident Telephone:	Mailed
Incident Date:	9/16/1993
Incident Time:	Not reported
Incident ITM:	M
Comments:	Not reported
Date A310 Letter Printed:	Not reported
Date Local Authority Was Notified:	Not reported
Date Updated:	Not reported
Date Report Faxed to Local Authority:	Not reported
Local Authority Notification Date:	Not reported
Rep Receive Date:	Not reported
Reporter Type:	Not reported
Reporter Name:	Not reported
Reporter Title:	Not reported
Reporter Org:	Not reported

ROSE HOGSON FORMER OWNER (Continued) **S107120169**

Reporter Address:	Not reported
Reporter City,St,Zip:	Not reported
Reporter County:	Not reported
Incident Status:	Not reported
Incident Category:	Not reported
Incident Source:	Not reported
Incident Address:	Not reported
Incident Address 2:	Not reported
Incident City,St,Zip:	Not reported
Incident County:	Not reported
DEP Requested:	Not reported
Confidential:	Not reported
Notify Type:	Not reported
Road Closed:	Not reported
Direction:	Not reported
Responsible Party:	Known
Responsible Party Name:	FRANCIS HODGSON
Responsible Party Contact:	FRANCIS HODGSON
Responsible Party Title:	OWNER
Responsible Party Phone:	Not reported
Responsible Party Street:	432 NORTH 4TH ST
Responsible Party County:	OCEAN
Responsible Party City,St,Zip:	SURF CITY, NJ
Memo. Of Understanding:	Not reported
Drill/trng Exercise:	Not reported
Hazardous:	Not reported

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38 **NJ Release** **S106208348**
N/A

16 4TH ST
STAFFORD TWP, NJ

NJ Release:

Facility ID:	22127	Case Number:	02-05-28-1503-13
Date Received:	5/28/2002	Nature of Incident:	Not reported
Operator:	Not reported		
Incident Type:	Soil Contamination	Incident Location:	CEDAR BONNETT ISLAND NEXT TO
Location:	Not reported		
Other Location:	Not reported		
Contact Name:	Not reported		
Caller Name:	Not reported		
Caller Title:	Not reported		
Caller Address:	Not reported		
Caller City,St,Zip:	Not reported		
Caller Telephone:	Not reported		
Facility Phone:	Not reported		
Incident Date:	5/28/2002	Incident Time:	Not reported
Substance(s):	Not reported		
Substance Type:	Not reported	Substance Identity:	Not reported
CAS Number:	Not reported	A310 Letter:	Not reported
TCPA Chemical:	Not reported	Hazrds Material:	Not reported
COMU:	Not reported	Ref. Code:	Not reported
Amnt Released:	Not reported	Contained:	Not reported
Release Type:	Not reported	Release VE:	Not reported
Injuries:	No		
Public Exposure:	No	Facility Evacuation:	No
Police at Scene:	No	Firemen at Scene:	No
Contamination of:	Not reported	Receiving Water:	Not reported
Status at Spill:	Not reported		

(Continued) **S106208348**

NJ Spill Date:	Not reported	NJ Spill Time:	Not reported
NJ Spill Name:	Not reported	NJ Spill Title:	Not reported
NJ Spill Phone:	Not reported		
Other Date:	Not reported	Other Time:	Not reported
Other Name:	Not reported	Other Title:	Not reported

Other Telephone:	Not reported
Public Evacuation:	No
Assistance Requested:	Not reported
Wind Direction/Speed:	Not reported
Local Municipality Notified:	Not reported
Local Municipality Name:	Not reported
Local Municipality Title:	Not reported
Local Municipality Telephone:	Not reported
Local Municipality Date:	Not reported
Local Municipality Time:	Not reported
Incident Description:	Not reported
Incident Name:	Not reported
Incident Referred To:	Not reported
Incident Region:	Not reported
Incident Telephone:	Not reported
Incident Date:	Not reported
Incident time:	Not reported
Incident ITM:	Not reported
Comments:	Not reported
Date A310 Letter Printed:	Not reported
Date Local Authority Was Notified:	Not reported
Date Updated:	Not reported
Date Report Faxed to Local Authority:	Not reported
Local Authority Notification Date:	Not reported
Rep Receive Date:	5/28/2002
Reporter Type:	Citizen Complaint
Reporter Name:	REDACTED
Reporter Title:	Not reported
Reporter Org:	Not reported
Reporter Address:	Not reported
Reporter City,St,Zip:	Not reported
Reporter County:	Not reported
Incident Status:	Terminated
Incident Category:	Commercial Applicator
Incident Source:	Not reported
Incident Address:	Not reported
Incident Address 2:	Not reported
Incident City,St,Zip:	Not reported
Incident County:	Not reported
DEP Requested:	Yes
Confidential:	Not reported
Notify Type:	Not reported
Road Closed:	No
Direction:	Not reported
Responsible Party:	Not reported
Responsible Party Name:	Not reported
Responsible Party Contact:	Not reported
Responsible Party Title:	Not reported
Responsible Party Phone:	Not reported
Responsible Party Street:	Not reported
Responsible Party County:	Not reported
Responsible Party City,St,Zip:	Not reported

(Continued) **S106208348**

Memo. Of Understanding: Not reported
Drill/trng Exercise: Not reported
Hazardous: Not reported

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38 **NJ Release** **S106208384**
16 4TH ST **N/A**
STAFFORD TWP, NJ 08050

NJ Release:

Facility ID:	22339	Case Number:	02-05-30-1001-07
Date Received:	5/30/2002	Nature of Incident:	Not reported
Operator:	Not reported		
Incident Type:	Illegal Dumping	Incident Location:	VACANT LOT NEAR
Location:	Not reported		
Other Location:	Not reported		
Contact Name:	Not reported		
Caller Name:	Not reported		
Caller Title:	Not reported		
Caller Address:	Not reported		
Caller City,St,Zip:	Not reported		
Caller Telephone:	Not reported		
Facility Phone:	Not reported		
Incident Date:	5/28/2002	Incident Time:	Not reported
Substance(s):	Not reported		
Substance Type:	Not reported	Substance Identity:	Not reported
CAS Number:	Not reported	A310 Letter:	Not reported
TCPA Chemical:	Not reported	Hazrds Material:	Not reported
COMU:	Not reported	Ref. Code:	Not reported
Amnt Released:	Not reported	Contained:	Not reported
Release Type:	Not reported	Release VE:	Not reported
Injuries:	No		
Public Exposure:	No	Facility Evacuation:	No
Police at Scene:	No	Firemen at Scene:	No
Contamination of:	Not reported	Receiving Water:	Not reported
Status at Spill:	Not reported		
NJ Spill Date:	Not reported	NJ Spill Time:	Not reported
NJ Spill Name:	Not reported	NJ Spill Title:	Not reported
NJ Spill Phone:	Not reported		
Other Date:	Not reported	Other Time:	Not reported
Other Name:	Not reported	Other Title:	Not reported

Other Telephone:	Not reported
Public Evacuation:	No
Assistance Requested:	Not reported
Wind Direction/Speed:	Not reported
Local Municipality Notified:	Not reported
Local Municipality Name:	Not reported
Local Municipality Title:	Not reported
Local Municipality Telephone:	Not reported
Local Municipality Date:	Not reported
Local Municipality Time:	Not reported
Incident Description:	Not reported
Incident Name:	Not reported
Incident Referred To:	Not reported
Incident Region:	Not reported
Incident Telephone:	Not reported
Incident Date:	Not reported
Incident time:	Not reported
Incident ITM:	Not reported

(Continued) **S106208384**

Comments:	Not reported
Date A310 Letter Printed:	Not reported
Date Local Authority Was Notified:	Not reported
Date Updated:	Not reported
Date Report Faxed to Local Authority:	Not reported
Local Authority Notification Date:	Not reported
Rep Receive Date:	5/30/2002
Reporter Type:	Municipal Rep.
Reporter Name:	REDACTED
Reporter Title:	CODE ENFORCEMENT OFC
Reporter Org:	STAFFORD TWP
Reporter Address:	Not reported
Reporter City,St,Zip:	Not reported
Reporter County:	Not reported
Incident Status:	Terminated
Incident Category:	Other
Incident Source:	UNKNOWN
Incident Address:	Not reported
Incident Address 2:	Not reported
Incident City,St,Zip:	Not reported
Incident County:	Not reported
DEP Requested:	No
Confidential:	Not reported
Notify Type:	Not reported
Road Closed:	No
Direction:	Not reported
Responsible Party:	Not reported
Responsible Party Name:	Not reported
Responsible Party Contact:	Not reported
Responsible Party Title:	Not reported
Responsible Party Phone:	Not reported
Responsible Party Street:	Not reported
Responsible Party County:	Not reported
Responsible Party City,St,Zip:	Not reported
Memo. Of Understanding:	Not reported
Drill/trng Exercise:	Not reported
Hazardous:	Not reported

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38 **MELLOR RESIDENCE** **SPILLS** **S102222406**
7 THIRD ST **N/A**
STAFFORD TWP, NJ

NJ SPILL:

Facility ID:	20094
Case Number:	95-12-22-2007-37
Notify Type:	Not reported
Date Received:	12/22/1995
Location:	Other
Other Location:	Not reported
Incident Date:	12/22/1995
Incident Time:	1400
A310 Letter:	Yes
Ref. Code:	101
COMU:	1530
CAS Number:	Not reported
Hazardous:	Not reported
Incident Location:	Not reported
Facility Phone:	Not reported

MELLOR RESIDENCE (Continued) **S102222406**

Substance(s):	OIL HEATING #2
Substance Type:	Liquid
Substance Identity:	Known
TCPA Chemical:	No
Hazrds Material:	Yes
Amnt Released:	290 GALS
Release VE:	Estimate
Contained:	Yes
Release Type:	Terminated
Incident Desc:	Spill
Status at Spill:	290 ABOVE GROUND TANK UNDER HOUSE RUPTURED CLEANUP HAS BEEN STARTED
NJ Spill Date:	Not reported
NJ Spill Time:	Not reported
NJ Spill Name:	Not reported
NJ Spill Title:	Not reported
NJ Spill Phone:	Not reported
Other Date:	Not reported
Other Time:	Not reported
Other Name:	Not reported
Other Title:	Not reported
Other Phone:	Not reported
Injuries:	No
Public Exposure:	No
Road Closed:	Not reported
Facility Evacuation:	No
Receiving Water:	Not reported
Public Evacuation:	No
Police at Scene:	No
Firemen at Scene:	No
Contamination of:	Land
Nature of Incident:	Other
Wind Direction/Speed:	Not reported
Assistance Requested:	No
Memo. Of Understanding:	Not reported
Drill/trng Exercise:	Not reported
Operator:	JIMS
Contact Name:	Not reported
Caller Name:	REDACTED
Caller Title:	HYDRO SCIENCE INC
Caller Address:	Not reported
Caller City,St,Zip:	Not reported
Caller Phone:	Not reported
Responsible Party:	Known
Responsible Party Name:	MELLOR RESIDENCE
Responsible Party Contact:	MELLOR
Responsible Party Title:	HOME OWNER
Responsible Party Telphone:	Not reported
Responsible Party Street:	CEDAR BONNETT ISLAND
Responsible Party Municipality:	MANAHAWKIN
Responsible Party State:	NJ
Responsible Party Zip:	Not reported
Responsible City,St,Zip:	MANAHAWKIN, NJ
Responsible Party County:	OCEAN
Local Municipality:	Not reported
Local Municipality Name:	STAFFORD TWP
Local Municipality Title:	OPER 413
Local Municipality Phone:	609-597-8581

MELLOR RESIDENCE (Continued) **S102222406**

Local Municipality Date:	12/22/1995
Local Municipality Time:	2019
Incident Name:	Not reported
Incident Referred To:	DRPSR
Incident Region:	BFO-CAS
Incident Phone:	Faxed,Mailed
Incident Date:	12/22/1995
Comments:	Not reported
Date A310 Letter Printed:	Not reported
Date Local Authority Was Notified:	Not reported
Date Update:	Not reported
Date Report Faxed to Local Authority:	Not reported
Local Authority Notification Date:	Not reported
Reporter Name:	Not reported
Reporter Type:	Not reported
Rep Received Date:	Not reported
Reporter Title:	Not reported
Reporter Orgzn:	Not reported
Reporter Address:	Not reported
Reporter City,St,Zip:	Not reported
Reporter County:	Not reported
Incident Type:	Not reported
Incident Status:	Not reported
Incident Category:	Not reported
Incident Source:	Not reported
Incident Address:	Not reported
Incident Address 2:	Not reported
Incident City,St,Zip:	Not reported
Incident County:	Not reported
DEP Requested:	Not reported
Confidential:	Not reported

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39 **TJ BAY PROPERTIES** **FINDS** **1008923523**
613 SHORE AVE **N/A**
SHIP BOTTOM, NJ 08008

FINDS:
Other Pertinent Environmental Activity Identified at Site

Registry ID: 110030649145

NJ-NJEMS (New Jersey - New Jersey Environmental Management System). The Department of Environmental Protection (NJDEP) manages large databases of environmental information in this integrated system.

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39 **HANKS JOHN & CONDON FRANCES** **FINDS** **1010545118**
601 SHORE AVE **N/A**
SHIP BOTTOM BORO, NJ 08008

FINDS:
Other Pertinent Environmental Activity Identified at Site

Registry ID: 110032482837

NJ-NJEMS (New Jersey - New Jersey Environmental Management System).

HANKS JOHN & CONDON FRANCES (Continued) **1010545118**

The Department of Environmental Protection (NJDEP) manages large databases of environmental information in this integrated system.

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40 **MELLOR LORI** **FINDS** **1010181772**
2 3RD ST **N/A**
MANAHAWKIN, NJ 08050

FINDS:
Other Pertinent Environmental Activity Identified at Site

Registry ID: 110028903202

NJ-NJEMS (New Jersey - New Jersey Environmental Management System).
The Department of Environmental Protection (NJDEP) manages large databases of environmental information in this integrated system.

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40 **MELLOR LORI RESIDENCE** **FINDS** **1007041685**
7 3RD ST **N/A**
STAFFORD TWP, NJ 08050

FINDS:
Other Pertinent Environmental Activity Identified at Site

Registry ID: 110015160877

NJ-NJEMS (New Jersey - New Jersey Environmental Management System).
The Department of Environmental Protection (NJDEP) manages large databases of environmental information in this integrated system.

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40 **7 3RD STREET** **SHWS** **S109311702**
7 3RD ST **N/A**
STAFFORD TWP, NJ

SHWS:
Site ID: 82714
Status: CLOSED
PI Number: G000027852

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41 **RAINBOW BEVERAGE** **NJ Release** **S104418114**
705 SO SHORE RD **N/A**
FORKED RIVER, NJ

NJ Release:

Facility ID:	18299	Case Number:	93-10-29-1036-39
Date Received:	10/29/1993	Nature of Incident:	Citizen
Operator:	PAT		
Incident Type:	Not reported	Incident Location:	Not reported
Location:	Facility		
Other Location:	Not reported		
Contact Name:	Not reported		

RAINBOW BEVERAGE (Continued) **S104418114**

Caller Name:	REDACTED		
Caller Title:	CITIZEN		
Caller Address:	Not reported		
Caller City,St,Zip:	Not reported		
Caller Telephone:	Not reported		
Facility Phone:	Not reported		
Incident Date:	10/29/1993	Incident Time:	Not reported
Substance(s):	OIL WASTE		
Substance Type:	Liquid	Substance Identity:	Known
CAS Number:	Not reported	A310 Letter:	Yes
TCPA Chemical:	No	Hazrds Material:	Yes
COMU:	1512	Ref. Code:	101
Amnt Released:	UNK	Contained:	No
Release Type:	Intermittent	Release VE:	Not reported
Injuries:	No		
Public Exposure:	No	Facility Evacuation:	No
Police at Scene:	No	Firemen at Scene:	No
Contamination of:	Land	Receiving Water:	Not reported
Status at Spill:	R.P. TRUCKS AND FORK LIFTS LEAKING WASTE OIL. NO ACTION BEING TAKEN.		
NJ Spill Date:	Not reported	NJ Spill Time:	Not reported
NJ Spill Name:	Not reported	NJ Spill Title:	Not reported
NJ Spill Phone:	Not reported		
Other Date:	Not reported	Other Time:	Not reported
Other Name:	Not reported	Other Title:	Not reported

Other Telephone:	Not reported
Public Evacuation:	No
Assistance Requested:	Yes
Wind Direction/Speed:	Not reported
Local Municipality Notified:	Not reported
Local Municipality Name:	LACEY TWP
Local Municipality Title:	DISP RUSSO
Local Municipality Telephone:	609-693-6636
Local Municipality Date:	10/29/1993
Local Municipality Time:	1038
Incident Description:	Sloppy Housekeeping
Incident Name:	Not reported
Incident Referred To:	DRPSR
Incident Region:	BFO-SA
Incident Telephone:	Faxed,Mailed
Incident Date:	10/29/1993
Incident time:	Not reported
Incident ITM:	B
Comments:	Not reported
Date A310 Letter Printed:	Not reported
Date Local Authority Was Notified:	Not reported
Date Updated:	Not reported
Date Report Faxed to Local Authority:	Not reported
Local Authority Notification Date:	Not reported
Rep Receive Date:	Not reported
Reporter Type:	Not reported
Reporter Name:	Not reported
Reporter Title:	Not reported
Reporter Org:	Not reported
Reporter Address:	Not reported
Reporter City,St,Zip:	Not reported
Reporter County:	Not reported
Incident Status:	Not reported

RAINBOW BEVERAGE (Continued) **S104418114**

Incident Category:	Not reported
Incident Source:	Not reported
Incident Address:	Not reported
Incident Address 2:	Not reported
Incident City,St,Zip:	Not reported
Incident County:	Not reported
DEP Requested:	Not reported
Confidential:	Not reported
Notify Type:	Not reported
Road Closed:	Not reported
Direction:	Not reported
Responsible Party:	Known
Responsible Party Name:	RAINBOW BEVERAGE
Responsible Party Contact:	Not reported
Responsible Party Title:	Not reported
Responsible Party Phone:	Not reported
Responsible Party Street:	705 SO SHORE RD
Responsible Party County:	OCEAN
Responsible Party City,St,Zip:	FORKED RIVER, NJ
Memo. Of Understanding:	Not reported
Drill/trng Exercise:	Not reported
Hazardous:	Not reported

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42 **SPILLS** **S106221170**

9TH ST / SHORE AVE **N/A**
SHIP BOTTOM BORO, NJ

NJ SPILL:

Facility ID:	48584
Case Number:	03-02-25-1646-16
Notify Type:	Not reported
Date Received:	2/25/2003
Location:	Not reported
Other Location:	Not reported
Incident Date:	2/25/2003
Incident Time:	Not reported
A310 Letter:	Not reported
Ref. Code:	Not reported
COMU:	Not reported
CAS Number:	Not reported
Hazardous:	Not reported
Incident Location:	RUSSO GAS STATION
Facility Phone:	Not reported
Substance(s):	Not reported
Substance Type:	Not reported
Substance Identity	Not reported
TCPA Chemical:	Not reported
Hazrds Material:	Not reported
Amnt Released:	Not reported
Release VE:	Not reported
Contained:	Not reported
Release Type:	Not reported
Incident Desc:	Not reported
Status at Spill:	Not reported
NJ Spill Date:	Not reported
NJ Spill Time:	Not reported
NJ Spill Name:	Not reported
NJ Spill Title:	Not reported

(Continued) **S106221170**

NJ Spill Phone:	Not reported
Other Date:	Not reported
Other Time:	Not reported
Other Name:	Not reported
Other Title:	Not reported
Other Phone:	Not reported
Injuries:	No
Public Exposure:	No
Road Closed:	No
Facility Evacuation:	No
Receiving Water:	Not reported
Public Evacuation:	No
Police at Scene:	No
Firemen at Scene:	No
Contamination of:	Not reported
Nature of Incident:	Not reported
Wind Direction/Speed:	Not reported
Assistance Requested:	Not reported
Memo. Of Understanding:	Not reported
Drill/trng Exercise:	Not reported
Operator:	Not reported
Contact Name:	Not reported
Caller Name:	Not reported
Caller Title:	Not reported
Caller Address:	Not reported
Caller City,St,Zip:	Not reported
Caller Phone:	Not reported
Responsible Party:	Not reported
Responsible Party Name:	Not reported
Responsible Party Contact:	Not reported
Responsible Party Title:	Not reported
Responsible Party Telphone:	Not reported
Responsible Party Street:	Not reported
Responsible Party Municipality:	Not reported
Responsible Party State:	Not reported
Responsible Party Zip:	Not reported
Responsible City,St,Zip:	Not reported
Responsible Party County:	Not reported
Local Municipality:	Not reported
Local Municipality Name:	Not reported
Local Municipality Title:	Not reported
Local Municipality Phone:	Not reported
Local Municipality Date:	Not reported
Local Municipality Time:	Not reported
Incident Name:	Not reported
Incident Referred To:	Not reported
Incident Region:	Not reported
Incident Phone:	Not reported
Incident Date:	Not reported
Comments:	Not reported
Date A310 Letter Printed:	Not reported
Date Local Authority Was Notified:	Not reported
Date Update:	Not reported
Date Report Faxed to Local Authority:	Not reported
Local Authority Notification Date:	Not reported
Reporter Name:	REDACTED
Reporter Type:	Municipal Rep.

(Continued) **S106221170**

Rep Received Date:	2/25/2003
Reporter Title:	Not reported
Reporter Orgzn:	OCEAN COUNTY FIRE DISPATCH
Reporter Address:	Not reported
Reporter City,St,Zip:	Not reported
Reporter County:	Not reported
Incident Type:	Spill
Incident Status:	Continuous
Incident Category:	Facility
Incident Source:	RUSSO GAS STATION
Incident Address:	9TH ST / SHORE AVE
Incident Address 2:	Not reported
Incident City,St,Zip:	Ship Bottom Boro, NJ
Incident County:	Ocean
DEP Requested:	Yes
Confidential:	Not reported

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42 **LONG BEACH MARINE** **NJ Release** **S102202038**
8TH ST+9TH ST **N/A**
SHIP BOTTOM, NJ

NJ Release:

Facility ID:	2608	Case Number:	94-2-18-1548-30
Date Received:	2/18/1994	Nature of Incident:	Citizen
Operator:	JOYCE		
Incident Type:	Not reported	Incident Location:	Not reported
Location:	Facility		
Other Location:	Not reported		
Contact Name:	Not reported		
Caller Name:	REDACTED		
Caller Title:	CITIZEN		
Caller Address:	Not reported		
Caller City,St,Zip:	Not reported		
Caller Telephone:	Not reported		
Facility Phone:	Not reported		
Incident Date:	2/18/1994	Incident Time:	ONGO
Substance(s):	GASOLINE, OIL, OTHER		
Substance Type:	Liquid	Substance Identity:	Known
CAS Number:	Not reported	A310 Letter:	Yes
TCPA Chemical:	No	Hazrds Material:	Yes
COMU:	1528	Ref. Code:	101
Amnt Released:	UNK	Contained:	No
Release Type:	Intermittent	Release VE:	Not reported
Injuries:	No		
Public Exposure:	Yes	Facility Evacuation:	No
Police at Scene:	No	Firemen at Scene:	No
Contamination of:	Land	Receiving Water:	Not reported
Status at Spill:	MARINA HAS DUMPED MOTOR OIL AND GASOLINE ON THE GROUND FOR MANY YEARS.		
NJ Spill Date:	Not reported	NJ Spill Time:	Not reported
NJ Spill Name:	Not reported	NJ Spill Title:	Not reported
NJ Spill Phone:	Not reported		
Other Date:	Not reported	Other Time:	Not reported
Other Name:	Not reported	Other Title:	Not reported
Other Telephone:	Not reported		
Public Evacuation:	No		
Assistance Requested:	Yes		
Wind Direction/Speed:	Not reported		
Local Municipality Notified:	Not reported		

LONG BEACH MARINE (Continued) **S102202038**

Local Municipality Name:	SHIP BOTTOM BORO
Local Municipality Title:	PTL. MURY
Local Municipality Telephone:	609-494-1518
Local Municipality Date:	2/18/1994
Local Municipality Time:	1555
Incident Description:	Illegal Dumping
Incident Name:	Not reported
Incident Referred To:	DRPSR
Incident Region:	BFO-CAS
Incident Telephone:	Faxed,Mailed
Incident Date:	2/18/1994
Incident time:	Not reported
Incident ITM:	B
Comments: Not reported	
Date A310 Letter Printed:	Not reported
Date Local Authority Was Notified:	Not reported
Date Updated:	Not reported
Date Report Faxed to Local Authority:	Not reported
Local Authority Notification Date:	Not reported
Rep Receive Date:	Not reported
Reporter Type:	Not reported
Reporter Name:	Not reported
Reporter Title:	Not reported
Reporter Org:	Not reported
Reporter Address:	Not reported
Reporter City,St,Zip:	Not reported
Reporter County:	Not reported
Incident Status:	Not reported
Incident Category:	Not reported
Incident Source:	Not reported
Incident Address:	Not reported
Incident Address 2:	Not reported
Incident City,St,Zip:	Not reported
Incident County:	Not reported
DEP Requested:	Not reported
Confidential:	Not reported
Notify Type:	Not reported
Road Closed:	Not reported
Direction:	Not reported
Responsible Party:	Known
Responsible Party Name:	LONG BEACH MARINE
Responsible Party Contact:	Not reported
Responsible Party Title:	Not reported
Responsible Party Phone:	Not reported
Responsible Party Street:	8TH ST+9TH ST
Responsible Party County:	OCEAN
Responsible Party City,St,Zip:	SHIP BOTTOM, NJ
Memo. Of Understanding:	Not reported
Drill/trng Exercise:	Not reported
Hazardous:	Not reported

42 HOCHSTRASSERS MARINA INC
401 W 8TH ST
SHIP BOTTOM, NJ 08008

FINDS **1001124544**
HIST LUST **NJN008004756**
NPDES
RCRA-NonGen

FINDS:
Other Pertinent Environmental Activity Identified at Site

Registry ID: 110004246272

NJ-NJEMS (New Jersey - New Jersey Environmental Management System). The Department of Environmental Protection (NJDEP) manages large databases of environmental information in this integrated system.

RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

PCS (Permit Compliance System) is a computerized management information system that contains data on National Pollutant Discharge Elimination System (NPDES) permit holding facilities. PCS tracks the permit, compliance, and enforcement status of NPDES facilities.

LUST HIST:

Case ID:	Not reported
Lead Program Assigned:	Bureau of Field Operations - Initial Notice Section
Facility Status:	**Assigned to a Program**
UST ID:	0000451
TMS Number:	N99-0765
Remedial Level:	Site has 1 area of concern with 1 media of concern.
Case Manager:	Maria Brimat
Facility Phone:	(609) 633-8110
No Further Action:	Not reported
RAW Approved:	Not reported
CEA:	Not reported
Date CEA Lifted:	Not reported
Dead Notice:	Not reported

NJ PDES:

NJPDES Permit Number:	NJG0114049
Flag:	ACTIVE
Facility PO Box:	Not reported
Facility Telephone:	6094945340
Facility Contact:	LOU HOCHSTRASSER
Facility Municipality:	Ship Bottom Boro
Facility Enforcement region:	Not reported
Discharger Classification:	Not reported
Facility Primary SIC code:	Not reported
Facility Ownership:	Private
Facility Discharge Basin code:	Not reported
Facility Discharge Basin name:	Not reported
Facility Lat/Long:	Not reported
Facility Lot number:	Not reported
Facility Block number:	Not reported

HOCHSTRASSERS MARINA INC (Continued) **1001124544**

Facility Addr 2:	Not reported
Facility Addr 3:	Not reported
Permittee Name:	HOCHSTRASSER ESTER
Permittee Address:	401 W 8TH ST
Permittee Street Address2:	Not reported
Permittee Street Address3:	Not reported
Permittee PO Box:	Not reported
Permittee City,St,Zip:	Ship Bottom, NJ 080084693
Date Permit Application Received:	Not reported
Date Draft Permit Issued:	Not reported
Date Final Permit Issued:	5/17/2007
Date Final Permit Effective:	6/1/2007
Date Final Permit Expires:	5/31/2012
PI Number:	48133
Regional Office:	Central
Major / Minor Facility:	Not reported
Last Action:	Stormwater Discharge General Permit Authorization Renewal
Owner Name:	HOCHSTRASSER ESTER
Owner Contact:	LOU HOCHSTRASSER
Owner Address:	401 W 8TH ST
Owner Addr 2:	Not reported
Owner Addr 3:	Not reported
Owner City,St,Zip:	Ship Bottom, NJ 080084693
Mailing Address:	401 W EIGHTH ST & BAYSHORE AVE
Mailing Addr 2:	Not reported
Mailing City,St,Zip:	Beach Haven, NJ 080084693
Program:	ST
Permit Discharge Category:	5G2
Permit Category Desc:	STORMWATER BASIC (GP)

NJPDES Permit Number:	NJ0114049
Flag:	PERMINFO
Facility PO Box:	Not reported
Facility Telephone:	6094945340
Facility Contact:	LOU HOCHSTRASSER
Facility Municipality:	SHIP BOTTOM BORO
Facility Enforcement region:	CENTRAL
Discharger Classification:	Not reported
Facility Primary SIC code:	Not reported
Facility Ownership:	PRIVATE
Facility Discharge Basin code:	Not reported
Facility Discharge Basin name:	Not reported
Facility Lat/Long:	0 0
Facility Lot number:	Not reported
Facility Block number:	Not reported
Facility Addr 2:	Not reported
Facility Addr 3:	Not reported
Permittee Name:	ESTER HOCHSTRASSER
Permittee Address:	401 WEST EIGHTH ST
Permittee Street Address2:	Not reported
Permittee Street Address3:	Not reported
Permittee PO Box:	Not reported
Permittee City,St,Zip:	SHIP BOTTOM, NJ 08008 4693
Date Permit Application Received:	7/1/1993
Date Draft Permit Issued:	7/28/1993
Date Final Permit Issued:	8/1/1993
Date Final Permit Effective:	9/1/1993

HOCHSTRASSERS MARINA INC (Continued) **1001124544**

Date Final Permit Expires:	1/31/2002
PI Number:	Not reported
Regional Office:	Not reported
Major / Minor Facility:	Not reported
Last Action:	Not reported
Owner Name:	Not reported
Owner Contact:	Not reported
Owner Address:	Not reported
Owner Addr 2:	Not reported
Owner Addr 3:	Not reported
Owner City,St,Zip:	Not reported
Mailing Address:	Not reported
Mailing Addr 2:	Not reported
Mailing City,St,Zip:	Not reported
Program:	Not reported
Permit Discharge Category:	5G2
Permit Category Desc:	STORMWATER BASIC (GP)

RCRA-NonGen:

Date form received by agency:	01/01/2007
Facility name:	HOCHSTRASSERS MARINA INC
Facility address:	401 W 8TH ST SHIP BOTTOM, NJ 08008
EPA ID:	NJN008004756
Mailing address:	W 8TH ST SHIP BOTTOM, NJ 08008
Contact:	LEN HOCHSTRASSER
Contact address:	W 8TH ST SHIP BOTTOM, NJ 08008
Contact country:	US
Contact telephone:	(609) 494-5340
Contact email:	Not reported
EPA Region:	02
Land type:	Private
Classification:	Non-Generator
Description:	Handler: Non-Generators do not presently generate hazardous waste

Owner/Operator Summary:

Owner/operator name:	NON REGULATED
Owner/operator address:	NOT REQUIRED NOT REQUIRED, NJ 99999
Owner/operator country:	US
Owner/operator telephone:	(609) 555-1212
Legal status:	Private
Owner/Operator Type:	Owner
Owner/Op start date:	Not reported
Owner/Op end date:	Not reported

Owner/operator name:	NON REGULATED
Owner/operator address:	NOT REQUIRED NOT REQUIRED, NJ 99999
Owner/operator country:	US
Owner/operator telephone:	(609) 555-1212
Legal status:	Private
Owner/Operator Type:	Operator
Owner/Op start date:	Not reported

HOCHSTRASSERS MARINA INC (Continued) **1001124544**

Owner/Op end date: Not reported

Handler Activities Summary:
U.S. importer of hazardous waste: Unknown
Mixed waste (haz. and radioactive): Unknown
Recycler of hazardous waste: No
Transporter of hazardous waste: Unknown
Treater, storer or disposer of HW: No
Underground injection activity: No
On-site burner exemption: Unknown
Furnace exemption: Unknown
Used oil fuel burner: No
Used oil processor: No
User oil refiner: No
Used oil fuel marketer to burner: No
Used oil Specification marketer: No
Used oil transfer facility: No
Used oil transporter: No
Off-site waste receiver: Commercial status unknown

Historical Generators:
Date form received by agency: 01/01/2006
Facility name: HOCHSTRASSERS MARINA INC
Classification: Not a generator, verified

Date form received by agency: 10/11/1996
Facility name: HOCHSTRASSERS MARINA INC
Classification: Unverified

Violation Status: No violations found

Evaluation Action Summary:
Evaluation date: 09/18/1996
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

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43 SHIP BOTTOM GARAGE **LUST** **U000354650**
6TH & BARNEGATE STS **UST** **N/A**
SHIP BOTTOM BORO, NJ 08005 **HIST HWS**

LUST:
Case ID: 3042
Bureau: BUST

UST:
Facility ID: 003042
Owner Name: Not Identified Not Identified
Organization: Not Identified
Contact Type(UST Reg): Facility Operator
Contact Address (UST Reg): Not reported
Contact Address 2 (UST Reg): Not reported
Conact City,St,Zip (UST Reg): Not reported
Owner Name: ERNEST J KUHLWEIN J
Organization: BOARD OF CHOSEN FREEHOLDERS
Contact Type(UST Reg): Tank Owner

SHIP BOTTOM GARAGE (Continued) **U000354650**

Contact Address (UST Reg): 129 HOOPER AVE PO BOX 2191
Contact Address 2 (UST Reg): ATTN: E.KUHLWEIN/DEPT SOLID WASTE
Conact City,St,Zip (UST Reg): Toms River, NJ 08754

Tank Id: TANK-1
Tank Number: C30
Tank Contents: Leaded Gasoline
Tank Size: 2000
Install Date: 1/1/1987
Tank Compliance: No
Tank Status: Removed
Overfill: No
Tank Status Date: 10/8/1997
Compliance Monitoring?: No
Overfill Protection: No
Spill Containment: No
Tank Wellhead Protection: Not reported

TANK MONITOR DATA:
Monitor Tank / Pipe: Tank
Monitor Type: None
Monitor Tank / Pipe: Pipe
Monitor Type: None

TANK DETAIL:
Tankpipe Tank / Pipe: Pipe
Tankpipe Construction Type: Other
Tankpipe Tank / Pipe: Tank
Tankpipe Construction Type: Other

Tank Id: TANK-2
Tank Number: E31
Tank Contents: Medium Diesel Fuel (No. 2-D)
Tank Size: 1000
Install Date: 1/1/1987
Tank Compliance: No
Tank Status: Removed
Overfill: No
Tank Status Date: 1/1/1982
Compliance Monitoring?: No
Overfill Protection: No
Spill Containment: No
Tank Wellhead Protection: Not reported

TANK MONITOR DATA:
Monitor Tank / Pipe: Tank
Monitor Type: None
Monitor Tank / Pipe: Pipe
Monitor Type: None

TANK DETAIL:
Tankpipe Tank / Pipe: Tank
Tankpipe Construction Type: Other
Tankpipe Tank / Pipe: Pipe
Tankpipe Construction Type: Other

Tank Id: TANK-3
Tank Number: E79
Tank Contents: Leaded Gasoline

SHIP BOTTOM GARAGE (Continued) **U000354650**

Tank Size:	0
Install Date:	1/1/1987
Tank Compliance:	No
Tank Status:	**Removed**
Overfill:	No
Tank Status Date:	1/1/1982
Compliance Monitoring?:	No
Overfill Protection:	No
Spill Containment:	No
Tank Wellhead Protection:	Not reported

TANK MONITOR DATA:

Monitor Tank / Pipe:	Pipe
Monitor Type:	None
Monitor Tank / Pipe:	Tank
Monitor Type:	None

TANK DETAIL:

Tankpipe Tank / Pipe:	Tank
Tankpipe Construction Type:	Other
Tankpipe Tank / Pipe:	Pipe
Tankpipe Construction Type:	Other

Tank Id:	TANK-4
Tank Number:	E80
Tank Contents:	Medium Diesel Fuel (No. 2-D)
Tank Size:	1000
Install Date:	1/1/1987
Tank Compliance:	No
Tank Status:	**Abandoned in Place**
Overfill:	No
Tank Status Date:	1/1/1982
Compliance Monitoring?:	No
Overfill Protection:	No
Spill Containment:	No
Tank Wellhead Protection:	Not reported

TANK MONITOR DATA:

Monitor Tank / Pipe:	Pipe
Monitor Type:	None
Monitor Tank / Pipe:	Tank
Monitor Type:	None

TANK DETAIL:

Tankpipe Tank / Pipe:	Pipe
Tankpipe Construction Type:	Other
Tankpipe Tank / Pipe:	Tank
Tankpipe Construction Type:	Other

HIST SHWS:

Case Status:	**Active**
Status Date:	7/16/1999
Case ID:	003042
Contact:	BSCM
Sub Section Label:	A: Sites with On-Site Sources of Contamination
Site Municipality:	1528
Remedial Level Code:	C2
Classification exception area dt:	None
Classification exception area dt:	Not reported

SHIP BOTTOM GARAGE (Continued) **U000354650**

Deed Notice Status:	None
Deed Notice Date:	Not reported
Engineering Control Status:	None
Engineering Control Date:	Not reported
National Priorities List Status:	Not reported
National Priorities List Date:	Not reported
X Coordinate:	582560
Y Coordinate:	298706
Coordinate System:	NJ State Plane (NAD83) - USFEET

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43 **PUBLIC WORKS DEPT** **UST** **U000353559**
W 6TH ST **N/A**
SHIP BOTTOM BORO, NJ 08008

UST:

Facility ID:	001584
Owner Name:	Not Identified Not Identified
Organization:	Not Identified
Contact Type(UST Reg):	Facility Operator
Contact Address (UST Reg):	Not reported
Contact Address 2 (UST Reg):	Not reported
Conact City,St,Zip (UST Reg):	Not reported
Owner Name:	DAN TORTORIELLO
Organization:	BOROUGH OF SHIP BOTTOM
Contact Type(UST Reg):	Tank Owner
Contact Address (UST Reg):	17TH ST AND BLVD
Contact Address 2 (UST Reg):	Not reported
Conact City,St,Zip (UST Reg):	Ship Bottom, NJ 08008
Tank Id:	TANK-1
Tank Number:	R1
Tank Contents:	Leaded Gasoline
Tank Size:	0
Install Date:	1/1/1977
Tank Compliance:	No
Tank Status:	**Removed**
Overfill:	No
Tank Status Date:	5/15/1990
Compliance Monitoring?:	No
Overfill Protection:	No
Spill Containment:	No
Tank Wellhead Protection:	Not reported

TANK MONITOR DATA:

Monitor Tank / Pipe:	Pipe
Monitor Type:	None
Monitor Tank / Pipe:	Tank
Monitor Type:	None

TANK DETAIL:

Tankpipe Tank / Pipe:	Pipe
Tankpipe Construction Type:	Bare steel
Tankpipe Tank / Pipe:	Tank
Tankpipe Construction Type:	Bare steel
Tank Id:	TANK-2
Tank Number:	UN1
Tank Contents:	Unleaded Gasoline
Tank Size:	0

PUBLIC WORKS DEPT (Continued) **U000353559**

Install Date:	1/1/1977
Tank Compliance:	No
Tank Status:	**Removed**
Overfill:	No
Tank Status Date:	5/15/1990
Compliance Monitoring?:	No
Overfill Protection:	No
Spill Containment:	No
Tank Wellhead Protection:	Not reported

TANK MONITOR DATA:

Monitor Tank / Pipe:	Pipe
Monitor Type:	None
Monitor Tank / Pipe:	Tank
Monitor Type:	None

TANK DETAIL:

Tankpipe Tank / Pipe:	Pipe
Tankpipe Construction Type:	Bare steel
Tankpipe Tank / Pipe:	Tank
Tankpipe Construction Type:	Bare steel

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43 **STREAM IN BACKYARD** **SPILLS** **S104709376**
292A WEST 6TH ST **N/A**
HOWELL, NJ

NJ SPILL:

Facility ID:	12561
Case Number:	90-09-16-1507
Notify Type:	Not reported
Date Received:	9/16/1990
Location:	Other
Other Location:	Not reported
Incident Date:	9/16/1990
Incident Time:	1500
A310 Letter:	Yes
Ref. Code:	002
COMU:	1319
CAS Number:	Not reported
Hazardous:	Not reported
Incident Location:	Not reported
Facility Phone:	201-370-2749
Substance(s):	OIL, OTHER
Substance Type:	Liquid
Substance Identity:	Known
TCPA Chemical:	No
Hazrds Material:	Yes
Amnt Released:	UNK
Release VE:	Not reported
Contained:	No
Release Type:	Continuous
Incident Desc:	SPILL
Status at Spill:	Not reported
NJ Spill Date:	9/16/1990
NJ Spill Time:	N/A
NJ Spill Name:	N/A
NJ Spill Title:	OEM
NJ Spill Phone:	OFFICE
Other Date:	Not reported

STREAM IN BACKYARD (Continued) **S104709376**

Other Time: Not reported
Other Name: Not reported
Other Title: Not reported
Other Phone: Not reported
Injuries: No
Public Exposure: No
Road Closed: Not reported
Facility Evacuation: No
Receiving Water: STREAM
Public Evacuation: No
Police at Scene: No
Firemen at Scene: No
Contamination of: Not reported
Nature of Incident: Citizen
Wind Direction/Speed: N/A
Assistance Requested: Yes
Memo. Of Understanding: Not reported
Drill/trng Exercise: Not reported
Operator: SANDI
Contact Name: Not reported
Caller Name: REDACTED
Caller Title: CITIZEN
Caller Address: Not reported
Caller City,St,Zip: Not reported
Caller Phone: Not reported
Responsible Party: UnKnown
Responsible Party Name: UNKNOWN
Responsible Party Contact: Not reported
Responsible Party Title: Not reported
Responsible Party Telphone: Not reported
Responsible Party Street: Not reported
Responsible Party Municipality: Not reported
Responsible Party State: Not reported
Responsible Party Zip: Not reported
Responsible City,St,Zip: Not reported
Responsible Party County: Not reported
Local Municipality: Not reported
Local Municipality Name: DISP 401
Local Municipality Title: HOWELL
Local Municipality Phone: 201-938-4111
Local Municipality Date: 9/16/1990
Local Municipality Time: 1524
Incident Name: CHRIS HAGERMAN
Incident Referred To: DEQ
Incident Region: ER2
Incident Phone: HOME
Incident Date: 9/16/1990
Incident Name: Not reported
Incident Referred To: DEQ
Incident Region: HQ1
Incident Phone: Not reported
Incident Date: Not reported
Comments: Not reported
Date A310 Letter Printed: Not reported
Date Local Authority Was Notified: Not reported
Date Update: Not reported
Date Report Faxed to Local Authority: Not reported

STREAM IN BACKYARD (Continued) **S104709376**

Local Authority Notification Date:	Not reported
Reporter Name:	Not reported
Reporter Type:	Not reported
Rep Received Date:	Not reported
Reporter Title:	Not reported
Reporter Orgzn:	Not reported
Reporter Address:	Not reported
Reporter City,St,Zip:	Not reported
Reporter County:	Not reported
Incident Type:	Not reported
Incident Status:	Not reported
Incident Category:	Not reported
Incident Source:	Not reported
Incident Address:	Not reported
Incident Address 2:	Not reported
Incident City,St,Zip:	Not reported
Incident County:	Not reported
DEP Requested:	Not reported
Confidential:	Not reported

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43 **SHIP BOTTOM GARAGE** **SHWS** **S109303483**
6TH ST / BARNEGAT AVE **N/A**
SHIP BOTTOM BORO, NJ

SHWS:

Site ID:	45586
Status:	ACTIVE
PI Number:	003042

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43 **REMS SERVICES INC** **FINDS** **1010163816**
310 W 6TH ST **N/A**
SHIP BOTTOM, NJ 08008

FINDS:
Other Pertinent Environmental Activity Identified at Site

Registry ID: 110030521861

NJ-NJEMS (New Jersey - New Jersey Environmental Management System). The Department of Environmental Protection (NJDEP) manages large databases of environmental information in this integrated system.

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44 **HOCHSTRASSER'S MARINA INC** **UST** **U000352402**
8TH & BAYSHORE AVE **N/A**
SHIP BOTTOM BORO, NJ 08008

UST:

Facility ID:	000045
Owner Name:	Not Identified Not Identified
Organization:	Not Identified
Contact Type(UST Reg):	Facility Operator
Contact Address (UST Reg):	Not reported
Contact Address 2 (UST Reg):	Not reported
Conact City,St,Zip (UST Reg):	Not reported

HOCHSTRASSER'S MARINA INC (Continued) **U000352402**

Owner Name:	LOUIS R HOCHSTRASSER
Organization:	HOCHSTRASSER'S MARINA INC
Contact Type(UST Reg):	Tank Owner
Contact Address (UST Reg):	401 W 8TH ST
Contact Address 2 (UST Reg):	Not reported
Conact City,St,Zip (UST Reg):	Ship Bottom, NJ 08008

Tank Id:	TANK-1
Tank Number:	00E1
Tank Contents:	Unleaded Gasoline
Tank Size:	1000
Install Date:	1/1/1983
Tank Compliance:	No
Tank Status:	**Removed**
Overfill:	No
Tank Status Date:	2/16/2000
Compliance Monitoring?:	No
Overfill Protection:	No
Spill Containment:	No
Tank Wellhead Protection:	Not reported

TANK MONITOR DATA:

Monitor Tank / Pipe:	Pipe
Monitor Type:	None
Monitor Tank / Pipe:	Tank
Monitor Type:	None

TANK DETAIL:

Tankpipe Tank / Pipe:	Pipe
Tankpipe Construction Type:	Bare steel
Tankpipe Tank / Pipe:	Tank
Tankpipe Construction Type:	Bare steel

Tank Id:	TANK-2
Tank Number:	00E2
Tank Contents:	Unleaded Gasoline
Tank Size:	4000
Install Date:	1/1/1983
Tank Compliance:	No
Tank Status:	**Removed**
Overfill:	No
Tank Status Date:	2/16/2000
Compliance Monitoring?:	No
Overfill Protection:	No
Spill Containment:	No
Tank Wellhead Protection:	Not reported

TANK MONITOR DATA:

Monitor Tank / Pipe:	Pipe
Monitor Type:	None
Monitor Tank / Pipe:	Tank
Monitor Type:	None

TANK DETAIL:

Tankpipe Tank / Pipe:	Pipe
Tankpipe Construction Type:	Bare steel
Tankpipe Tank / Pipe:	Tank
Tankpipe Construction Type:	Cathodically protected steel - Sacrificial anode

45 FANTASY ISLAND AMUSEMENT PARK **NJ Release** **S102486422**
320 W 7TH ST **N/A**
BEACH HAVEN, NJ

NJ Release:

Facility ID:	14464	Case Number:	96-9-10-1143-16
Date Received:	9/10/1996	Nature of Incident:	Facility
Operator:	MICHAEL		
Incident Type:	Not reported	Incident Location:	Not reported
Location:	Facility		
Other Location:	Not reported		
Contact Name:	Not reported		
Caller Name:	REDACTED		
Caller Title:	FANTASY ISLAND		
Caller Address:	Not reported		
Caller City,St,Zip:	Not reported		
Caller Telephone:	Not reported		
Facility Phone:	609-492-4000		
Incident Date:	9/10/1996	Incident Time:	1130
Substance(s):	OIL HYDRAULIC		
Substance Type:	Liquid	Substance Identity:	Known
CAS Number:	Not reported	A310 Letter:	Yes
TCPA Chemical:	No	Hazrds Material:	Yes
COMU:	1503	Ref. Code:	101
Amnt Released:	30 GALS	Contained:	Yes
Release Type:	Intermittent	Release VE:	Estimate
Injuries:	No		
Public Exposure:	No	Facility Evacuation:	No
Police at Scene:	No	Firemen at Scene:	No
Contamination of:	Land	Receiving Water:	Not reported
Status at Spill:	SPILL DUE TO AMUSEMENT PARK RIDES LEAKING. NO CLEANUP BEING DONE.		
NJ Spill Date:	Not reported	NJ Spill Time:	Not reported
NJ Spill Name:	Not reported	NJ Spill Title:	Not reported
NJ Spill Phone:	Not reported		
Other Date:	Not reported	Other Time:	Not reported
Other Name:	Not reported	Other Title:	Not reported

Other Telephone:	Not reported
Public Evacuation:	No
Assistance Requested:	Yes
Wind Direction/Speed:	Not reported
Local Municipality Notified:	Not reported
Local Municipality Name:	BEACH HAVEN BORO
Local Municipality Title:	OFC. GREENWOOD
Local Municipality Telephone:	609-492-0505
Local Municipality Date:	9/10/1996
Local Municipality Time:	1213
Incident Description:	Sloppy Housekeeping
Incident Name:	Not reported
Incident Referred To:	DRPSR
Incident Region:	BFO-CAS
Incident Telephone:	Not reported
Incident Date:	9/10/1996
Incident time:	Not reported
Incident ITM:	B
Comments:	Not reported
Date A310 Letter Printed:	9/10/1996
Date Local Authority Was Notified:	Not reported
Date Updated:	Not reported
Date Report Faxed to Local Authority:	9/10/1996

FANTASY ISLAND AMUSEMENT PARK (Continued) **S102486422**

Local Authority Notification Date:	Not reported
Rep Receive Date:	Not reported
Reporter Type:	Not reported
Reporter Name:	Not reported
Reporter Title:	Not reported
Reporter Org:	Not reported
Reporter Address:	Not reported
Reporter City,St,Zip:	Not reported
Reporter County:	Not reported
Incident Status:	Not reported
Incident Category:	Not reported
Incident Source:	Not reported
Incident Address:	Not reported
Incident Address 2:	Not reported
Incident City,St,Zip:	Not reported
Incident County:	Not reported
DEP Requested:	Not reported
Confidential:	Not reported
Notify Type:	Not reported
Road Closed:	Not reported
Direction:	Not reported
Responsible Party:	Known
Responsible Party Name:	FANTASY ISLAND AMUSE
Responsible Party Contact:	GREG SMITH
Responsible Party Title:	PARK MANG
Responsible Party Phone:	609-492-4000
Responsible Party Street:	320 W 7TH ST
Responsible Party County:	OCEAN
Responsible Party City,St,Zip:	BEACH HAVEN, NJ
Memo. Of Understanding:	Not reported
Drill/trng Exercise:	Not reported
Hazardous:	Not reported

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46 **ENVIRONMENTAL EVAL** **NJ Release** **S104479529**
342 WEST NINTH ST **N/A**
SHIP BOTTOM, NJ 08008

NJ Release:

Facility ID:	57316	Case Number:	00-02-18-1506-02
Date Received:	2/18/2000	Nature of Incident:	Not reported
Operator:	CRAIG		
Incident Type:	Not reported	Incident Location:	Not reported
Location:	Other		
Other Location:	Not reported		
Contact Name:	Not reported		
Caller Name:	REDACTED		
Caller Title:	ENVIRONMENTAL EVAL		
Caller Address:	Not reported		
Caller City,St,Zip:	Not reported		
Caller Telephone:	Not reported		
Facility Phone:	732-506-0101		
Incident Date:	2/16/2000	Incident Time:	1100
Substance(s):	Not reported		
Substance Type:	Not reported	Substance Identity:	Not reported
CAS Number:	Not reported	A310 Letter:	False
TCPA Chemical:	Not reported	Hazrds Material:	Not reported
COMU:	1528	Ref. Code:	101
Amnt Released:	Not reported	Contained:	Not reported

ENVIRONMENTAL EVAL (Continued) **S104479529**

Release Type:	Not reported	Release VE:	Not reported
Injuries:	No		
Public Exposure:	No	Facility Evacuation:	No
Police at Scene:	No	Firemen at Scene:	No
Contamination of:	None	Receiving Water:	Not reported
Status at Spill:	Information REDACTED due to data corrutpion causing status reporting errors		
NJ Spill Date:	Not reported	NJ Spill Time:	Not reported
NJ Spill Name:	Not reported	NJ Spill Title:	Not reported
NJ Spill Phone:	Not reported		
Other Date:	Not reported	Other Time:	Not reported
Other Name:	Not reported	Other Title:	Not reported

Other Telephone:	Not reported
Public Evacuation:	No
Assistance Requested:	No
Wind Direction/Speed:	0
Local Municipality Notified:	No
Local Municipality Name:	Not reported
Local Municipality Title:	Not reported
Local Municipality Telephone:	Not reported
Local Municipality Date:	Not reported
Local Municipality Time:	Not reported
Incident Description:	Not reported
Incident Name:	Not reported
Incident Referred To:	Not reported
Incident Region:	Not reported
Incident Telephone:	Not reported
Incident Date:	Not reported
Incident time:	Not reported
Incident ITM:	Not reported
Comments:	Not reported
Date A310 Letter Printed:	Not reported
Date Local Authority Was Notified:	Not reported
Date Updated:	Not reported
Date Report Faxed to Local Authority:	Not reported
Local Authority Notification Date:	Not reported
Rep Receive Date:	Not reported
Reporter Type:	Not reported
Reporter Name:	Not reported
Reporter Title:	Not reported
Reporter Org:	Not reported
Reporter Address:	Not reported
Reporter City,St,Zip:	Not reported
Reporter County:	Not reported
Incident Status:	Not reported
Incident Category:	Not reported
Incident Source:	Not reported
Incident Address:	Not reported
Incident Address 2:	Not reported
Incident City,St,Zip:	Not reported
Incident County:	Not reported
DEP Requested:	Not reported
Confidential:	Not reported
Notify Type:	Other
Road Closed:	No
Direction:	Not reported
Responsible Party:	Known

ENVIRONMENTAL EVAL (Continued) **S104479529**

Responsible Party Name:	ENVIRONMENTAL EVAL
Responsible Party Contact:	ANDRE SIMONSON
Responsible Party Title:	GEOLOGIST
Responsible Party Phone:	732-506-0101
Responsible Party Street:	342 WEST NINTH ST
Responsible Party County:	OCEAN
Responsible Party City,St,Zip:	SHIP BOTTOM, NJ
Memo. Of Understanding:	No
Drill/trng Exercise:	No
Hazardous:	No

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46 **SHIP BOTTOM GULF SERVICE STATION** **FINDS** **1007028813**
301 W 8TH ST **N/A**
SHIP BOTTOM, NJ 08008

FINDS:
Other Pertinent Environmental Activity Identified at Site

Registry ID: 110014985034

NJ-NJEMS (New Jersey - New Jersey Environmental Management System). The Department of Environmental Protection (NJDEP) manages large databases of environmental information in this integrated system.

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46 **WOOLLEY PROPERTY** **HIST LUST** **S104387214**
342 WEST 9TH ST **N/A**
SHIP BOTTOM, NJ

LUST HIST:

Case ID:	00-02-18-1506-02
Lead Program Assigned:	Bureau of Field Operations - Initial Notice Section
Facility Status:	**Case Awaiting Assignment**
UST ID:	0330798
TMS Number:	N2000-10
Remedial Level:	Not reported
Case Manager:	Not reported
Facility Phone:	Not reported
No Further Action:	Not reported
RAW Approved:	Not reported
CEA:	Not reported
Date CEA Lifted:	Not reported
Dead Notice:	Not reported

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46 **WOOLLEY PROPERTY** **UST** **U003404659**
301 W NINTH ST **HIST LUST** **N/A**
SHIP BOTTOM BORO, NJ 08008

UST:

Facility ID:	032894
Owner Name:	Not Identified Not Identified
Organization:	JOHN WOOLLEY
Contact Type(UST Reg):	Facility Operator
Contact Address (UST Reg):	351 W NINTH ST
Contact Address 2 (UST Reg):	Not reported

WOOLLEY PROPERTY (Continued) **U003404659**

Conact City,St,Zip (UST Reg):	Ship Bottom, NJ 08008
Owner Name:	JOHN WOOLLEY
Organization:	MR & MRS JOHN WOOLLEY
Contact Type(UST Reg):	Tank Owner
Contact Address (UST Reg):	351 W NINTH ST
Contact Address 2 (UST Reg):	Not reported
Conact City,St,Zip (UST Reg):	Ship Bottom, NJ 08008

Tank Id:	TANK-1
Tank Number:	1
Tank Contents:	Leaded Gasoline
Tank Size:	2000
Install Date:	1/1/1944
Tank Compliance:	No
Tank Status:	**Removed**
Overfill:	No
Tank Status Date:	12/18/1998
Compliance Monitoring?:	No
Overfill Protection:	No
Spill Containment:	No
Tank Wellhead Protection:	Not reported

TANK MONITOR DATA:

Monitor Tank / Pipe:	Tank
Monitor Type:	None
Monitor Tank / Pipe:	Pipe
Monitor Type:	None

TANK DETAIL:

Tankpipe Tank / Pipe:	Tank
Tankpipe Construction Type:	Bare steel
Tankpipe Tank / Pipe:	Pipe
Tankpipe Construction Type:	Bare steel

LUST HIST:

Case ID:	98-12-18-1008-08
Lead Program Assigned:	Bureau of Field Operations - Initial Notice Section
Facility Status:	**Site Issued Letter of No Further Action for Area(s) Of Concern**
UST ID:	0328944
TMS Number:	N98-2677; C98-2754
Remedial Level:	Site has 1 area of concern with 1 media of concern.
Case Manager:	Stuart Friedman
Facility Phone:	(609) 292-9208
No Further Action:	4/12/1999 0:00:00
RAW Approved:	Not reported
CEA:	Not reported
Date CEA Lifted:	Not reported
Dead Notice:	Not reported

46 **SUNOCO SERVICE STATION #0010-0230** **INST CONTROL** **S102876263**
305 8TH ST **N/A**
SHIP BOTTOM BORO, NJ 08008

NJ INSTITUTIONAL CONTROL:

Facility ID:	2817
Date Established (SI):	5/30/2008
Pi Number:	16467
CEA Description (SI):	Benzene
Pi Name:	GETTY #56316
CEA Case Track #:	18556
Date Closed/lifted (SI):	Not reported
Intermediate Durations:	No
CEA Duration:	4.00

Facility ID:	2817
Date Established (SI):	5/30/2008
Pi Number:	16467
CEA Description (SI):	Synthetic Organic Chemicals - Non Carcinogen [Individual]
Pi Name:	GETTY #56316
CEA Case Track #:	18556
Date Closed/lifted (SI):	Not reported
Intermediate Durations:	No
CEA Duration:	4.00

Facility ID:	2817
Date Established (SI):	5/30/2008
Pi Number:	16467
CEA Description (SI):	Synthetic Organic Chemicals - Non Carcinogen [Total]
Pi Name:	GETTY #56316
CEA Case Track #:	18556
Date Closed/lifted (SI):	Not reported
Intermediate Durations:	No
CEA Duration:	4.00

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46 **LBI STONE SPREADER & DECK CO** **FINDS** **1010549595**
319 W 8TH ST **N/A**
SHIP BOTTOM, NJ 08008

FINDS:
Other Pertinent Environmental Activity Identified at Site

Registry ID: 110032487271

NJ-NJEMS (New Jersey - New Jersey Environmental Management System). The Department of Environmental Protection (NJDEP) manages large databases of environmental information in this integrated system.

46 **WOOLLEY PROPERTY** **UST** **U003404802**
342 W NINTH ST **N/A**
SHIP BOTTOM BORO, NJ 08008

UST:

Facility ID:	033079
Owner Name:	Not Identified Not Identified
Organization:	JOHN WOOLLEY
Contact Type(UST Reg):	Facility Operator
Contact Address (UST Reg):	351 W NINTH ST
Contact Address 2 (UST Reg):	Not reported
Conact City,St,Zip (UST Reg):	Ship Bottom, NJ 08008
Owner Name:	JOHN WOOLLEY
Organization:	MR & MRS JOHN WOOLLEY
Contact Type(UST Reg):	Tank Owner
Contact Address (UST Reg):	351 W NINTH ST
Contact Address 2 (UST Reg):	Not reported
Conact City,St,Zip (UST Reg):	Ship Bottom, NJ 08008
Tank Id:	TANK-1
Tank Number:	1
Tank Contents:	Leaded Gasoline
Tank Size:	2000
Install Date:	1/1/1944
Tank Compliance:	No
Tank Status:	**Removed**
Overfill:	No
Tank Status Date:	2/6/2000
Compliance Monitoring?:	No
Overfill Protection:	No
Spill Containment:	No
Tank Wellhead Protection:	No

TANK MONITOR DATA:

Monitor Tank / Pipe:	Pipe
Monitor Type:	None
Monitor Tank / Pipe:	Tank
Monitor Type:	None

TANK DETAIL:

Tankpipe Tank / Pipe:	Tank
Tankpipe Construction Type:	Bare steel
Tankpipe Tank / Pipe:	Pipe
Tankpipe Construction Type:	Bare steel

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46 **SUNOCO S/S #0010-0230** **HIST LUST** **S104389923**
305 E 8TH ST **N/A**
SHIP BOTTOM, NJ

LUST HIST:

Case ID:	92-06-05-1703
Lead Program Assigned:	Bureau of Underground Storage Tanks
Facility Status:	**Assigned to a Program**
UST ID:	0164676
TMS Number:	Not reported
Remedial Level:	Site has confirmed soil and ground water contamination.
Case Manager:	Nick Eisenhauer
Facility Phone:	(609) 984-1733
No Further Action:	Not reported
RAW Approved:	Y
CEA:	Y

SUNOCO S/S #0010-0230 (Continued) **S104389923**

Date CEA Lifted: Not reported
Dead Notice: Not reported

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46 **BARNEGAT LIGHT PLUMBING INC** **FINDS** **1010473098**
347 W 8TH ST **N/A**
BEACH HAVEN, NJ 08008

FINDS:
Other Pertinent Environmental Activity Identified at Site

Registry ID: 110031775960

NJ-NJEMS (New Jersey - New Jersey Environmental Management System). The Department of Environmental Protection (NJDEP) manages large databases of environmental information in this integrated system.

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46 **RUSSO BP SHIP BOTTOM** **FINDS** **1005522515**
379 W8TH ST. **N/A**
SHIP BOTTOM, NJ 08008

FINDS:
Other Pertinent Environmental Activity Identified at Site

Registry ID: 110007142172

AFS (Aerometric Information Retrieval System (AIRS) Facility Subsystem) replaces the former Compliance Data System (CDS), the National Emission Data System (NEDS), and the Storage and Retrieval of Aerometric Data (SAROAD). AIRS is the national repository for information concerning airborne pollution in the United States. AFS is used to track emissions and compliance data from industrial plants. AFS data are utilized by states to prepare State Implementation Plans to comply with regulatory programs and by EPA as an input for the estimation of total national emissions. AFS is undergoing a major redesign to support facility operating permits required under Title V of the Clean Air Act.

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46 **MR BIG RUSSO** **SHWS** **S109294001**
379 W 8TH ST **N/A**
SHIP BOTTOM BORO, NJ

SHWS:
Site ID: 13454
Status: ACTIVE
PI Number: 022627

46 MR BIG RUSSO — **LUST** — **U000367126**
379 WEST 8TH ST — **UST** — **N/A**
SHIP BOTTOM BORO, NJ 08050 — **HIST HWS**

LUST:

Case ID:	22627
Bureau:	BUST

UST:

Facility ID:	022627
Owner Name:	ROBERT RUSSO
Organization:	MR BIG RUSSO
Contact Type(UST Reg):	Facility Operator
Contact Address (UST Reg):	82 E BAY AVE
Contact Address 2 (UST Reg):	Not reported
Conact City,St,Zip (UST Reg):	Manahawkin, NJ 08050
Owner Name:	ROBERT RUSSO
Organization:	RUSSO FUEL INC
Contact Type(UST Reg):	Tank Owner
Contact Address (UST Reg):	82 E BAY AVE
Contact Address 2 (UST Reg):	Not reported
Conact City,St,Zip (UST Reg):	Manahawkin, NJ 08050
Tank Id:	TANK-1
Tank Number:	0001
Tank Contents:	Unleaded Gasoline
Tank Size:	10000
Install Date:	1/1/1979
Tank Compliance:	Yes
Tank Status:	**Removed**
Overfill:	Yes
Tank Status Date:	4/20/2005
Compliance Monitoring?:	Yes
Overfill Protection:	Yes
Spill Containment:	Yes
Tank Wellhead Protection:	Not reported

TANK MONITOR DATA:

Monitor Tank / Pipe:	Pipe
Monitor Type:	Automatic line leak detector
Monitor Tank / Pipe:	Tank
Monitor Type:	Statistical Inventory Reconciliation
Monitor Tank / Pipe:	Tank
Monitor Type:	Manual Tank Gauging
Monitor Tank / Pipe:	Pipe
Monitor Type:	Statistical Inventory Reconciliation

TANK DETAIL:

Tankpipe Tank / Pipe:	Tank
Tankpipe Construction Type:	Cathodically protected steel - Sacrificial anode
Tankpipe Tank / Pipe:	Pipe
Tankpipe Construction Type:	Cathodically protected steel - Sacrificial anode
Tank Id:	TANK-2
Tank Number:	0002
Tank Contents:	Unleaded Gasoline
Tank Size:	6000
Install Date:	1/1/1975
Tank Compliance:	Yes
Tank Status:	**Removed**

MR BIG RUSSO (Continued) **U000367126**

Overfill:	Yes
Tank Status Date:	4/20/2005
Compliance Monitoring?:	Yes
Overfill Protection:	Yes
Spill Containment:	Yes
Tank Wellhead Protection:	Not reported

TANK MONITOR DATA:

Monitor Tank / Pipe:	Tank
Monitor Type:	Manual Tank Gauging
Monitor Tank / Pipe:	Pipe
Monitor Type:	Statistical Inventory Reconciliation
Monitor Tank / Pipe:	Pipe
Monitor Type:	Automatic line leak detector
Monitor Tank / Pipe:	Tank
Monitor Type:	Statistical Inventory Reconciliation

TANK DETAIL:

Tankpipe Tank / Pipe:	Pipe
Tankpipe Construction Type:	Cathodically protected steel - Sacrificial anode
Tankpipe Tank / Pipe:	Tank
Tankpipe Construction Type:	Internally lined

Tank Id:	TANK-3
Tank Number:	0003
Tank Contents:	Unleaded Gasoline
Tank Size:	6000
Install Date:	1/1/1975
Tank Compliance:	Yes
Tank Status:	**Removed**
Overfill:	Yes
Tank Status Date:	4/20/2005
Compliance Monitoring?:	Yes
Overfill Protection:	Yes
Spill Containment:	Yes
Tank Wellhead Protection:	Not reported

TANK MONITOR DATA:

Monitor Tank / Pipe:	Pipe
Monitor Type:	Automatic line leak detector
Monitor Tank / Pipe:	Pipe
Monitor Type:	Statistical Inventory Reconciliation
Monitor Tank / Pipe:	Tank
Monitor Type:	Manual Tank Gauging
Monitor Tank / Pipe:	Tank
Monitor Type:	Statistical Inventory Reconciliation

TANK DETAIL:

Tankpipe Tank / Pipe:	Pipe
Tankpipe Construction Type:	Cathodically protected steel - Sacrificial anode
Tankpipe Tank / Pipe:	Tank
Tankpipe Construction Type:	Internally lined

Tank Id:	TANK-4
Tank Number:	0004
Tank Contents:	Medium Diesel Fuel (No. 2-D)
Tank Size:	3000
Install Date:	1/1/1975
Tank Compliance:	Yes

MR BIG RUSSO (Continued) **U000367126**

Tank Status:	**Removed**
Overfill:	Yes
Tank Status Date:	4/20/2005
Compliance Monitoring?:	Yes
Overfill Protection:	Yes
Spill Containment:	Yes
Tank Wellhead Protection:	Not reported

TANK MONITOR DATA:

Monitor Tank / Pipe:	Tank
Monitor Type:	Manual Tank Gauging
Monitor Tank / Pipe:	Tank
Monitor Type:	Statistical Inventory Reconciliation
Monitor Tank / Pipe:	Pipe
Monitor Type:	Automatic line leak detector
Monitor Tank / Pipe:	Pipe
Monitor Type:	Statistical Inventory Reconciliation

TANK DETAIL:

Tankpipe Tank / Pipe:	Tank
Tankpipe Construction Type:	Internally lined
Tankpipe Tank / Pipe:	Pipe
Tankpipe Construction Type:	Cathodically protected steel - Sacrificial anode

Tank Id:	TANK-5
Tank Number:	0005
Tank Contents:	Other
Tank Size:	2000
Install Date:	1/1/1964
Tank Compliance:	No
Tank Status:	**Removed**
Overfill:	No
Tank Status Date:	4/20/2005
Compliance Monitoring?:	No
Overfill Protection:	No
Spill Containment:	No
Tank Wellhead Protection:	Not reported

TANK MONITOR DATA:

Monitor Tank / Pipe:	Pipe
Monitor Type:	None
Monitor Tank / Pipe:	Tank
Monitor Type:	None

TANK DETAIL:

Tankpipe Tank / Pipe:	Pipe
Tankpipe Construction Type:	Other
Tankpipe Tank / Pipe:	Tank
Tankpipe Construction Type:	Cathodically protected steel

Tank Id:	TANK-6
Tank Number:	0006
Tank Contents:	Light Diesel Fuel (No. 1-D)
Tank Size:	0
Install Date:	1/1/1944
Tank Compliance:	No
Tank Status:	**Removed**
Overfill:	Not reported
Tank Status Date:	4/20/2005

MR BIG RUSSO (Continued) **U000367126**

Compliance Monitoring?:	No
Overfill Protection:	Not reported
Spill Containment:	Not reported
Tank Wellhead Protection:	Not reported

TANK MONITOR DATA:

Monitor Tank / Pipe:	Pipe
Monitor Type:	None
Monitor Tank / Pipe:	Tank
Monitor Type:	None

TANK DETAIL:

Tankpipe Tank / Pipe:	Pipe
Tankpipe Construction Type:	Bare steel
Tankpipe Tank / Pipe:	Tank
Tankpipe Construction Type:	Bare steel

Tank Id:	TANK-7
Tank Number:	0007
Tank Contents:	Light Diesel Fuel (No. 1-D)
Tank Size:	0
Install Date:	1/1/1944
Tank Compliance:	No
Tank Status:	**Removed**
Overfill:	Not reported
Tank Status Date:	4/20/2005
Compliance Monitoring?:	No
Overfill Protection:	Not reported
Spill Containment:	Not reported
Tank Wellhead Protection:	Not reported

TANK MONITOR DATA:

Monitor Tank / Pipe:	Pipe
Monitor Type:	None
Monitor Tank / Pipe:	Tank
Monitor Type:	None

TANK DETAIL:

Tankpipe Tank / Pipe:	Tank
Tankpipe Construction Type:	Bare steel
Tankpipe Tank / Pipe:	Pipe
Tankpipe Construction Type:	Bare steel

HIST SHWS:

Case Status:	**Active**
Status Date:	5/4/2005
Case ID:	022627
Contact:	BSCM
Sub Section Label:	A: Sites with On-Site Sources of Contamination
Site Municipality:	1528
Remedial Level Code:	C2
Classification exception area dt:	None
Classification exception area dt:	Not reported
Deed Notice Status:	None
Deed Notice Date:	Not reported
Engineering Control Status:	None
Engineering Control Date:	Not reported
National Priorities List Status:	Not reported
National Priorities List Date:	Not reported

MR BIG RUSSO (Continued) **U000367126**

X Coordinate: 581640
Y Coordinate: 298747
Coordinate System: NJ State Plane (NAD83) - USFEET

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46 RUSSO FUEL OIL **SPILLS** **S104429416**
379 W. 8TH ST **N/A**
SHIP BOTTOM, NJ

NJ SPILL:

Facility ID:	16387
Case Number:	91-10-18-1417-25
Notify Type:	Not reported
Date Received:	10/18/1991
Location:	Other
Other Location:	Not reported
Incident Date:	10/18/1991
Incident Time:	1400
A310 Letter:	Yes
Ref. Code:	016
COMU:	1528
CAS Number:	Not reported
Hazardous:	Not reported
Incident Location:	Not reported
Facility Phone:	609-494-8418
Substance(s):	DIESEL FUEL
Substance Type:	Liquid
Substance Identity:	Known
TCPA Chemical:	No
Hazrds Material:	Yes
Amnt Released:	10 GAL
Release VE:	Estimate
Contained:	Yes
Release Type:	Terminated
Incident Desc:	Spill
Status at Spill:	WHILE GETTING DELIVERY, TRUCK OVERFILLED TANK ON BUSINESS PREMISES. CLEANUP DONE BY RP.
NJ Spill Date:	10/18/1991
NJ Spill Time:	Not reported
NJ Spill Name:	OEM
NJ Spill Title:	Not reported
NJ Spill Phone:	609-882-2000
Other Date:	Not reported
Other Time:	Not reported
Other Name:	Not reported
Other Title:	Not reported
Other Phone:	Not reported
Injuries:	No
Public Exposure:	No
Road Closed:	Not reported
Facility Evacuation:	No
Receiving Water:	Not reported
Public Evacuation:	No
Police at Scene:	No
Firemen at Scene:	No
Contamination of:	Land
Nature of Incident:	Facility
Wind Direction/Speed:	Not reported
Assistance Requested:	No

RUSSO FUEL OIL (Continued) **S104429416**

Memo. Of Understanding:	Not reported
Drill/trng Exercise:	Not reported
Operator:	DAVE
Contact Name:	Not reported
Caller Name:	REDACTED
Caller Title:	RUSSO FUEL OIL
Caller Address:	Not reported
Caller City,St,Zip:	Not reported
Caller Phone:	Not reported
Responsible Party:	Known
Responsible Party Name:	RUSSO FUEL OIL
Responsible Party Contact:	BOB RUSSO
Responsible Party Title:	OWNER
Responsible Party Telphone:	609-494-8418
Responsible Party Street:	379 W. 8TH ST
Responsible Party Municipality:	SHIP BOTTOM
Responsible Party State:	NJ
Responsible Party Zip:	Not reported
Responsible City,St,Zip:	SHIP BOTTOM, NJ
Responsible Party County:	OCEAN
Local Municipality:	Not reported
Local Municipality Name:	SHIP BOTTOM BORO
Local Municipality Title:	OPER 262
Local Municipality Phone:	609-494-1518
Local Municipality Date:	10/18/1991
Local Municipality Time:	1422
Incident Name:	Not reported
Incident Referred To:	DRPSR
Incident Region:	Central
Incident Phone:	Not reported
Incident Date:	10/18/1991
Comments: Not reported	
Date A310 Letter Printed:	Not reported
Date Local Authority Was Notified:	Not reported
Date Update:	Not reported
Date Report Faxed to Local Authority:	Not reported
Local Authority Notification Date:	Not reported
Reporter Name:	Not reported
Reporter Type:	Not reported
Rep Received Date:	Not reported
Reporter Title:	Not reported
Reporter Orgzn:	Not reported
Reporter Address:	Not reported
Reporter City,St,Zip:	Not reported
Reporter County:	Not reported
Incident Type:	Not reported
Incident Status:	Not reported
Incident Category:	Not reported
Incident Source:	Not reported
Incident Address:	Not reported
Incident Address 2:	Not reported
Incident City,St,Zip:	Not reported
Incident County:	Not reported
DEP Requested:	Not reported
Confidential:	Not reported

46 **NJ Release** **S106212494**
N/A

379 WEST 8TH ST
SHIP BOTTOM BORO, NJ

NJ Release:

Facility ID:	51176	Case Number:	03-03-24-1404-46
Date Received:	3/24/2003	Nature of Incident:	Not reported
Operator:	Not reported		
Incident Type:	Underground Storage Tank	Incident Location:	RUSSO FUEL INC
Location:	Not reported		
Other Location:	Not reported		
Contact Name:	Not reported		
Caller Name:	Not reported		
Caller Title:	Not reported		
Caller Address:	Not reported		
Caller City,St,Zip:	Not reported		
Caller Telephone:	Not reported		
Facility Phone:	Not reported		
Incident Date:	3/24/2003	Incident Time:	Not reported
Substance(s):	Not reported		
Substance Type:	Not reported	Substance Identity:	Not reported
CAS Number:	Not reported	A310 Letter:	Not reported
TCPA Chemical:	Not reported	Hazrds Material:	Not reported
COMU:	Not reported	Ref. Code:	Not reported
Amnt Released:	Not reported	Contained:	Not reported
Release Type:	Not reported	Release VE:	Not reported
Injuries:	No		
Public Exposure:	No	Facility Evacuation:	No
Police at Scene:	No	Firemen at Scene:	No
Contamination of:	Not reported	Receiving Water:	Not reported
Status at Spill:	Not reported		
NJ Spill Date:	Not reported	NJ Spill Time:	Not reported
NJ Spill Name:	Not reported	NJ Spill Title:	Not reported
NJ Spill Phone:	Not reported		
Other Date:	Not reported	Other Time:	Not reported
Other Name:	Not reported	Other Title:	Not reported

Other Telephone:	Not reported
Public Evacuation:	No
Assistance Requested:	Not reported
Wind Direction/Speed:	Not reported
Local Municipality Notified:	Not reported
Local Municipality Name:	Not reported
Local Municipality Title:	Not reported
Local Municipality Telephone:	Not reported
Local Municipality Date:	Not reported
Local Municipality Time:	Not reported
Incident Description:	Not reported
Incident Name:	Not reported
Incident Referred To:	Not reported
Incident Region:	Not reported
Incident Telephone:	Not reported
Incident Date:	Not reported
Incident time:	Not reported
Incident ITM:	Not reported
Comments:	Not reported
Date A310 Letter Printed:	Not reported
Date Local Authority Was Notified:	Not reported
Date Updated:	Not reported
Date Report Faxed to Local Authority:	Not reported

(Continued) **S106212494**

Local Authority Notification Date:	Not reported
Rep Receive Date:	3/24/2003
Reporter Type:	Other
Reporter Name:	REDACTED
Reporter Title:	Not reported
Reporter Org:	NJDEP BUST
Reporter Address:	Not reported
Reporter City,St,Zip:	Not reported
Reporter County:	Not reported
Incident Status:	Terminated
Incident Category:	Other
Incident Source:	RUSSO FUEL INC ROBERT RUSSO
Incident Address:	82 EAST BAY AV
Incident Address 2:	Not reported
Incident City,St,Zip:	Stafford Twp, NJ 8050
Incident County:	Ocean
DEP Requested:	No
Confidential:	Not reported
Notify Type:	Not reported
Road Closed:	No
Direction:	Not reported
Responsible Party:	Not reported
Responsible Party Name:	Not reported
Responsible Party Contact:	Not reported
Responsible Party Title:	Not reported
Responsible Party Phone:	Not reported
Responsible Party Street:	Not reported
Responsible Party County:	Not reported
Responsible Party City,St,Zip:	Not reported
Memo. Of Understanding:	Not reported
Drill/trng Exercise:	Not reported
Hazardous:	Not reported

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46 **MR BIG TEXACO SERVICE STATION** **FINDS** **1010534121**
379 W 8TH ST **N/A**
SHIP BOTTOM, NJ 08008

FINDS:
Other Pertinent Environmental Activity Identified at Site

Registry ID: 110032327015

NJ-NJEMS (New Jersey - New Jersey Environmental Management System). The Department of Environmental Protection (NJDEP) manages large databases of environmental information in this integrated system.

46 RUSSO FUEL **SPILLS** **S105311492**
379 WEST 8TH **N/A**
SHIP BOTTOM, NJ

NJ SPILL:

Facility ID:	4377
Case Number:	91-4-5-1544-43
Notify Type:	Not reported
Date Received:	4/5/1991
Location:	Facility
Other Location:	Not reported
Incident Date:	4/5/1991
Incident Time:	1450
A310 Letter:	Yes
Ref. Code:	016
COMU:	1528
CAS Number:	Not reported
Hazardous:	Not reported
Incident Location:	Not reported
Facility Phone:	Not reported
Substance(s):	DIESEL FUEL
Substance Type:	Liquid
Substance Identity:	Known
TCPA Chemical:	No
Hazrds Material:	Yes
Amnt Released:	1 PT.
Release VE:	Estimate
Contained:	Yes
Release Type:	Terminated
Incident Desc:	Spill
Status at Spill:	LEAK FROM COUPPLING CAUSED SPILL. COMPANY DOING CLEANUP.
NJ Spill Date:	4/5/1991
NJ Spill Time:	Not reported
NJ Spill Name:	OEM
NJ Spill Title:	Not reported
NJ Spill Phone:	609-882-2000
Other Date:	Not reported
Other Time:	Not reported
Other Name:	Not reported
Other Title:	Not reported
Other Phone:	Not reported
Injuries:	No
Public Exposure:	No
Road Closed:	Not reported
Facility Evacuation:	No
Receiving Water:	Not reported
Public Evacuation:	No
Police at Scene:	No
Firemen at Scene:	No
Contamination of:	Land
Nature of Incident:	Facility
Wind Direction/Speed:	Not reported
Assistance Requested:	No
Memo. Of Understanding:	Not reported
Drill/trng Exercise:	Not reported
Operator:	JIMH
Contact Name:	Not reported
Caller Name:	REDACTED
Caller Title:	RUSSO FUEL INC

RUSSO FUEL (Continued) **S105311492**

Caller Address:	Not reported
Caller City,St,Zip:	Not reported
Caller Phone:	Not reported
Responsible Party:	Known
Responsible Party Name:	RUSSO FUEL
Responsible Party Contact:	MR. HALKA
Responsible Party Title:	MGR
Responsible Party Telphone:	Not reported
Responsible Party Street:	379 WEST 8TH
Responsible Party Municipality:	SHIP BOTTOM
Responsible Party State:	NJ
Responsible Party Zip:	Not reported
Responsible City,St,Zip:	SHIP BOTTOM, NJ
Responsible Party County:	OCEAN
Local Municipality:	Not reported
Local Municipality Name:	SHIP BOTTOM BORO
Local Municipality Title:	PLT.OLER
Local Municipality Phone:	609-494-1518
Local Municipality Date:	4/5/1991
Local Municipality Time:	1548
Incident Name:	Not reported
Incident Referred To:	DHWM
Incident Region:	Central
Incident Phone:	Faxed
Incident Date:	4/5/1991
Comments:	Not reported
Date A310 Letter Printed:	4/5/1991
Date Local Authority Was Notified:	Not reported
Date Update:	Not reported
Date Report Faxed to Local Authority:	4/5/1991
Local Authority Notification Date:	Not reported
Reporter Name:	Not reported
Reporter Type:	Not reported
Rep Received Date:	Not reported
Reporter Title:	Not reported
Reporter Orgzn:	Not reported
Reporter Address:	Not reported
Reporter City,St,Zip:	Not reported
Reporter County:	Not reported
Incident Type:	Not reported
Incident Status:	Not reported
Incident Category:	Not reported
Incident Source:	Not reported
Incident Address:	Not reported
Incident Address 2:	Not reported
Incident City,St,Zip:	Not reported
Incident County:	Not reported
DEP Requested:	Not reported
Confidential:	Not reported

47 **NJ Release** **S107911719**
N/A

245 WEST 6TH ST
SHIP BOTTOM BORO, NJ 08008

NJ Release:

Facility ID:	179964	Case Number:	06-03-20-1012-37
Date Received:	3/20/2006	Nature of Incident:	Not reported
Operator:	Not reported		
Incident Type:	Underground Storage Tank	Incident Location:	SHIP BOTTOM BORO GARAGE
Location:	Not reported		
Other Location:	Not reported		
Contact Name:	RICH BETHEA		
Caller Name:	Not reported		
Caller Title:	Not reported		
Caller Address:	Not reported		
Caller City,St,Zip:	Not reported		
Caller Telephone:	Not reported		
Facility Phone:	Not reported		
Incident Date:	3/20/2006	Incident Time:	Not reported
Substance(s):	Not reported		
Substance Type:	Not reported	Substance Identity:	Not reported
CAS Number:	Not reported	A310 Letter:	Not reported
TCPA Chemical:	Not reported	Hazrds Material:	Not reported
COMU:	Not reported	Ref. Code:	Not reported
Amnt Released:	Not reported	Contained:	Not reported
Release Type:	Not reported	Release VE:	Not reported
Injuries:	No		
Public Exposure:	No	Facility Evacuation:	No
Police at Scene:	No	Firemen at Scene:	No
Contamination of:	Not reported	Receiving Water:	Not reported
Status at Spill:	Not reported		
NJ Spill Date:	Not reported	NJ Spill Time:	Not reported
NJ Spill Name:	Not reported	NJ Spill Title:	Not reported
NJ Spill Phone:	Not reported		
Other Date:	Not reported	Other Time:	Not reported
Other Name:	Not reported	Other Title:	Not reported

Other Telephone:	Not reported
Public Evacuation:	No
Assistance Requested:	Not reported
Wind Direction/Speed:	Not reported
Local Municipality Notified:	Not reported
Local Municipality Name:	Not reported
Local Municipality Title:	Not reported
Local Municipality Telephone:	Not reported
Local Municipality Date:	Not reported
Local Municipality Time:	Not reported
Incident Description:	Not reported
Incident Name:	Not reported
Incident Referred To:	Not reported
Incident Region:	Not reported
Incident Telephone:	Not reported
Incident Date:	Not reported
Incident time:	Not reported
Incident ITM:	Not reported
Comments:	Not reported
Date A310 Letter Printed:	Not reported
Date Local Authority Was Notified:	Not reported
Date Updated:	Not reported
Date Report Faxed to Local Authority:	Not reported

(Continued) **S107911719**

Local Authority Notification Date:	Not reported
Rep Receive Date:	3/20/2006
Reporter Type:	Other
Reporter Name:	REDACTED
Reporter Title:	Not reported
Reporter Org:	DEMAIO'S
Reporter Address:	Not reported
Reporter City,St,Zip:	Not reported
Reporter County:	Not reported
Incident Status:	Terminated
Incident Category:	Other
Incident Source:	BORO OF SHIP BOTTOM
Incident Address:	1621 LONG BEACH BLVD
Incident Address 2:	Not reported
Incident City,St,Zip:	Ship Bottom Boro, NJ 8008
Incident County:	Ocean
DEP Requested:	No
Confidential:	Not reported
Notify Type:	Not reported
Road Closed:	No
Direction:	Not reported
Responsible Party:	Not reported
Responsible Party Name:	Not reported
Responsible Party Contact:	Not reported
Responsible Party Title:	Not reported
Responsible Party Phone:	Not reported
Responsible Party Street:	Not reported
Responsible Party County:	Not reported
Responsible Party City,St,Zip:	Not reported
Memo. Of Understanding:	Not reported
Drill/trng Exercise:	Not reported
Hazardous:	Not reported

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48 **CONECTIV POWER SHIP BOTTOM RON JON** **FINDS** **1008956162**
236 W 8TH ST **N/A**
SHIP BOTTOM, NJ 08008

FINDS:
Other Pertinent Environmental Activity Identified at Site

Registry ID: 110023959803

AFS (Aerometric Information Retrieval System (AIRS) Facility Subsystem) replaces the former Compliance Data System (CDS), the National Emission Data System (NEDS), and the Storage and Retrieval of Aerometric Data (SAROAD). AIRS is the national repository for information concerning airborne pollution in the United States. AFS is used to track emissions and compliance data from industrial plants. AFS data are utilized by states to prepare State Implementation Plans to comply with regulatory programs and by EPA as an input for the estimation of total national emissions. AFS is undergoing a major redesign to support facility operating permits required under Title V of the Clean Air Act.

RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA

CONECTIV POWER SHIP BOTTOM RON JON (Continued) **1008956162**

program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

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48 **BRENNANS GAS & GO SERVICE STATION #56307** **FINDS** **1006991713**
237 W 8TH ST **INST CONTROL** **N/A**
SHIP BOTTOM, NJ 08008

FINDS:
Other Pertinent Environmental Activity Identified at Site

Registry ID: 110014622667

NJ-NJEMS (New Jersey - New Jersey Environmental Management System). The Department of Environmental Protection (NJDEP) manages large databases of environmental information in this integrated system.

NJ INSTITUTIONAL CONTROL:

Facility ID: 2816
Date Established (SI): 4/30/1998
Pi Number: 10506
CEA Description (SI): Benzene
Pi Name: GETTY 56307
CEA Case Track #: 12776
Date Closed/lifted (SI): Not reported
Intermediate Durations: No
CEA Duration: 28.00

Facility ID: 2816
Date Established (SI): 4/30/1998
Pi Number: 10506
CEA Description (SI): Benzene
Pi Name: GETTY 56307
CEA Case Track #: 12777
Date Closed/lifted (SI): Not reported
Intermediate Durations: No
CEA Duration: 28.00

Facility ID: 2816
Date Established (SI): 4/30/1998
Pi Number: 10506
CEA Description (SI): Methyl tert-butyl ether
Pi Name: GETTY 56307
CEA Case Track #: 12776
Date Closed/lifted (SI): Not reported
Intermediate Durations: No
CEA Duration: 28.00

Facility ID: 2816
Date Established (SI): 4/30/1998
Pi Number: 10506
CEA Description (SI): Methyl tert-butyl ether
Pi Name: GETTY 56307
CEA Case Track #: 12777
Date Closed/lifted (SI): Not reported
Intermediate Durations: No

BRENNANS GAS & GO SERVICE STATION #56307 (Continued) **1006991713**

CEA Duration: 28.00

Facility ID: 2816
Date Established (SI): 4/30/1998
Pi Number: 10506
CEA Description (SI): Tert-butyl alcohol
Pi Name: GETTY 56307
CEA Case Track #: 12776
Date Closed/lifted (SI): Not reported
Intermediate Durations: No
CEA Duration: 28.00

Facility ID: 2816
Date Established (SI): 4/30/1998
Pi Number: 10506
CEA Description (SI): Tert-butyl alcohol
Pi Name: GETTY 56307
CEA Case Track #: 12777
Date Closed/lifted (SI): Not reported
Intermediate Durations: No
CEA Duration: 28.00

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48 **ATLANTIC CITY ELECTRIC CO** **MANIFEST** **1009217999**
236 W 8TH ST **RCRA-NonGen** **NJR000056093**
SHIP BOTTOM, NJ 08008 **MANIFEST**

NJ MANIFEST:
Manifest Code: NYH0685737
EPA ID: NJR000056093
Date Shipped: 20060315
TSDF EPA ID: NYD049836679
Transporter EPA ID: NJD071629976
Transporter 2 EPA ID: Not reported
Date Trans1 Transported Waste: 060315
Date Trans2 Transported Waste: 000000
Date TSDF Received Waste: 060316
Tranporter 1 Decal: Not reported
Tranporter 2 Decal: Not reported
Data Entry Number: 05180621
Reference Manifest Number: Not reported
Was Load Rejected (Y/N): No
Reason Load Was Rejected: Not reported
Waste Code: Not reported
Manifest Year: Not reported
Quantity: Not reported
Unit: Not reported
Hand Code: Not reported

RCRA-NonGen:
Date form received by agency: 01/01/2007
Facility name: ATLANTIC CITY ELECTRIC CO
Facility address: 236 W 8TH ST
SHIP BOTTOM, NJ 08008
EPA ID: NJR000056093
Mailing address: PO BOX 9239

ATLANTIC CITY ELECTRIC CO (Continued) **1009217999**

NEWARK, DE 19714
Contact: ANDREW VAHEY
Contact address: PO BOX 9239
NEWARK, DE 19714
Contact country: US
Contact telephone: (302) 454-4900
Contact email: Not reported
EPA Region: 02
Classification: Non-Generator
Description: Handler: Non-Generators do not presently generate hazardous waste

Owner/Operator Summary:
Owner/operator name: NO NAME FOUND
Owner/operator address: Not reported
Not reported
Owner/operator country: US
Owner/operator telephone: Not reported
Legal status: Private
Owner/Operator Type: Operator
Owner/Op start date: 01/30/2006
Owner/Op end date: Not reported

Owner/operator name: ATLANTIC CITY ELECTRIC CO
Owner/operator address: KINGS ST
WILMINGTON, DE 19899
Owner/operator country: US
Owner/operator telephone: Not reported
Legal status: Private
Owner/Operator Type: Owner
Owner/Op start date: 01/30/2006
Owner/Op end date: Not reported

Handler Activities Summary:
U.S. importer of hazardous waste: No
Mixed waste (haz. and radioactive): No
Recycler of hazardous waste: No
Transporter of hazardous waste: Unknown
Treater, storer or disposer of HW: No
Underground injection activity: No
On-site burner exemption: No
Furnace exemption: No
Used oil fuel burner: No
Used oil processor: No
User oil refiner: No
Used oil fuel marketer to burner: No
Used oil Specification marketer: No
Used oil transfer facility: No
Used oil transporter: No
Off-site waste receiver: Commercial status unknown

Historical Generators:
Date form received by agency: 02/03/2006
Facility name: ATLANTIC CITY ELECTRIC CO
Classification: Large Quantity Generator

Date form received by agency: 02/02/2006

ATLANTIC CITY ELECTRIC CO (Continued) **1009217999**

Facility name: ATLANTIC CITY ELECTRIC CO
Classification: Large Quantity Generator

Violation Status: No violations found

NY MANIFEST:
EPA ID: NJR000056093
Facility Name: ATLANTIC ELECTRIC
Facility Address: 236 W 8TH ST
Facility City: SHIP BOTTOM
Facility Address 2: Not reported
Country: USA
Mailing Name: ATLANTIC ELECTRIC
Mailing Contact: ANDREW VAHEY
Mailing Address: PO BOX 9239
Mailing Address 2: Not reported
Mailing City: NEWARK
Mailing State: DE
Mailing Zip: 19714
Mailing Zip4: 9239
Mailing Country: USA
Mailing Phone: 302-454-4900

Document ID: NYH0685737
Manifest Status: Not reported
Trans1 State ID: NJD071629976
Trans2 State ID: Not reported
Generator Ship Date: 03/15/2006
Trans1 Recv Date: 03/15/2006
Trans2 Recv Date: Not reported
TSD Site Recv Date: 03/16/2006
Part A Recv Date: Not reported
Part B Recv Date: Not reported
Generator EPA ID: NJR000056093
Trans1 EPA ID: T25988NJ
Trans2 EPA ID: Not reported
TSDF ID: NYD049836679
Waste Code: D008 - LEAD 5.0 MG/L TCLP
Quantity: 05900
Units: P - Pounds
Number of Containers: 001
Container Type: DM - Metal drums, barrels
Handling Method: L Landfill.
Specific Gravity: 01.00
Year: 06
Manifest Tracking Num: Not reported
Import Ind: Not reported
Export Ind: Not reported
Discr Quantity Ind: Not reported
Discr Type Ind: Not reported
Discr Residue Ind: Not reported
Discr Partial Reject Ind: Not reported
Discr Full Reject Ind: Not reported
Manifest Ref Num: Not reported
Alt Fac RCRA Id: Not reported
Alt Fac Sign Date: Not reported
Mgmt Method Type Code: Not reported

ATLANTIC CITY ELECTRIC CO (Continued) **1009217999**

Document ID:	NYH0685737
Manifest Status:	Not reported
Trans1 State ID:	NJD071629976
Trans2 State ID:	Not reported
Generator Ship Date:	03/15/2006
Trans1 Recv Date:	03/15/2006
Trans2 Recv Date:	Not reported
TSD Site Recv Date:	03/16/2006
Part A Recv Date:	Not reported
Part B Recv Date:	Not reported
Generator EPA ID:	NJR000056093
Trans1 EPA ID:	T25988NJ
Trans2 EPA ID:	Not reported
TSDF ID:	NYD049836679
Waste Code:	D008 - LEAD 5.0 MG/L TCLP
Quantity:	05900
Units:	P - Pounds
Number of Containers:	001
Container Type:	DM - Metal drums, barrels
Handling Method:	L Landfill.
Specific Gravity:	01.00
Year:	06
Manifest Tracking Num:	Not reported
Import Ind:	Not reported
Export Ind:	Not reported
Discr Quantity Ind:	Not reported
Discr Type Ind:	Not reported
Discr Residue Ind:	Not reported
Discr Partial Reject Ind:	Not reported
Discr Full Reject Ind:	Not reported
Manifest Ref Num:	Not reported
Alt Fac RCRA Id:	Not reported
Alt Fac Sign Date:	Not reported
Mgmt Method Type Code:	Not reported

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48 **GETTY 56307** **SHWS** **S109300828**
237 W 8TH ST **N/A**
SHIP BOTTOM BORO, NJ

SHWS:

Site ID:	2816
Status:	ACTIVE
PI Number:	010506

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48 **GOSLINE-NISSEN FIRE PROTECTION** **NJ Release** **S105321455**
236 W. 8TH ST **N/A**
SHIP BOTTOM, NJ

NJ Release:

Facility ID:	15078	Case Number:	97-10-28-1608-52
Date Received:	10/28/1997	Nature of Incident:	Citizen
Operator:	KIM		
Incident Type:	Not reported	Incident Location:	Not reported
Location:	Other		
Other Location:	Not reported		
Contact Name:	Not reported		

GOSLINE-NISSEN FIRE PROTECTION (Continued) **S105321455**

Caller Name:	REDACTED		
Caller Title:	CITIZEN		
Caller Address:	Not reported		
Caller City,St,Zip:	Not reported		
Caller Telephone:	Not reported		
Facility Phone:	Not reported		
Incident Date:	10/28/1997	Incident Time:	ONGO
Substance(s):	OIL OTHER		
Substance Type:	Liquid	Substance Identity:	Known
CAS Number:	Not reported	A310 Letter:	Yes
TCPA Chemical:	No	Hazrds Material:	Yes
COMU:	1528	Ref. Code:	101
Amnt Released:	Not reported	Contained:	Yes
Release Type:	Continuous	Release VE:	Not reported
Injuries:	No		
Public Exposure:	No	Facility Evacuation:	No
Police at Scene:	No	Firemen at Scene:	No
Contamination of:	Land	Receiving Water:	Not reported
Status at Spill:	RP ALLOWING OIL TO DRIP ONTO DIRT FLOOR ONGOING PROBLEM FOR TEN YEARS.		
NJ Spill Date:	Not reported	NJ Spill Time:	Not reported
NJ Spill Name:	Not reported	NJ Spill Title:	Not reported
NJ Spill Phone:	Not reported		
Other Date:	Not reported	Other Time:	Not reported
Other Name:	Not reported	Other Title:	Not reported

Other Telephone:	Not reported
Public Evacuation:	No
Assistance Requested:	No
Wind Direction/Speed:	Not reported
Local Municipality Notified:	Not reported
Local Municipality Name:	SHIP BOTTOM BORO
Local Municipality Title:	OPR #266
Local Municipality Telephone:	609-494-1518
Local Municipality Date:	10/28/1997
Local Municipality Time:	1627
Incident Description:	Sloppy Housekeeping
Incident Name:	Not reported
Incident Referred To:	DRPSR
Incident Region:	BFO-CAS
Incident Telephone:	Not reported
Incident Date:	10/28/1997
Incident time:	Not reported
Incident ITM:	B
Comments:	Not reported
Date A310 Letter Printed:	Not reported
Date Local Authority Was Notified:	Not reported
Date Updated:	Not reported
Date Report Faxed to Local Authority:	Not reported
Local Authority Notification Date:	Not reported
Rep Receive Date:	Not reported
Reporter Type:	Not reported
Reporter Name:	Not reported
Reporter Title:	Not reported
Reporter Org:	Not reported
Reporter Address:	Not reported
Reporter City,St,Zip:	Not reported
Reporter County:	Not reported
Incident Status:	Not reported

GOSLINE-NISSEN FIRE PROTECTION (Continued) **S105321455**

Incident Category:	Not reported
Incident Source:	Not reported
Incident Address:	Not reported
Incident Address 2:	Not reported
Incident City,St,Zip:	Not reported
Incident County:	Not reported
DEP Requested:	Not reported
Confidential:	Not reported
Notify Type:	Not reported
Road Closed:	Not reported
Direction:	Not reported
Responsible Party:	Known
Responsible Party Name:	GOSLINE-NISSEN FIRE
Responsible Party Contact:	Not reported
Responsible Party Title:	Not reported
Responsible Party Phone:	Not reported
Responsible Party Street:	236 W. 8TH ST
Responsible Party County:	OCEAN
Responsible Party City,St,Zip:	SHIP BOTTOM, NJ
Memo. Of Understanding:	Not reported
Drill/trng Exercise:	Not reported
Hazardous:	Not reported

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48 **LONG BEACH MARINE** **NJ Release** **S105320540**
236 W 8TH ST **VCP** **N/A**
SHIP BOTTOM, NJ 08008

NJ Release:

Facility ID:	13005	Case Number:	97-9-18-1443-49
Date Received:	9/18/1997	Nature of Incident:	Citizen
Operator:	JOEG		
Incident Type:	Not reported	Incident Location:	Not reported
Location:	Facility		
Other Location:	Not reported		
Contact Name:	Not reported		
Caller Name:	REDACTED		
Caller Title:	Not reported		
Caller Address:	Not reported		
Caller City,St,Zip:	Not reported		
Caller Telephone:	Not reported		
Facility Phone:	Not reported		
Incident Date:	9/18/1997	Incident Time:	ONGOI
Substance(s):	ANTIFREEZE, OIL MOTOR		
Substance Type:	Liquid	Substance Identity:	Known
CAS Number:	Not reported	A310 Letter:	No
TCPA Chemical:	No	Hazrds Material:	Yes
COMU:	1528	Ref. Code:	101
Amnt Released:	UNK	Contained:	Yes
Release Type:	Intermittent	Release VE:	Not reported
Injuries:	No		
Public Exposure:	No	Facility Evacuation:	No
Police at Scene:	No	Firemen at Scene:	No
Contamination of:	Land,Water	Receiving Water:	UNK
Status at Spill:	CALLER STATED THAT HE HAS A DETAILED MAP OF WERE MATERIAL HAS BEEN DUMP OVER THE YEARS.CALLER STATED OWNER OF THIS PROPERTY IS THE MAYOR.		
NJ Spill Date:	9/18/1997	NJ Spill Time:	Not reported
NJ Spill Name:	OEM	NJ Spill Title:	FAXED
NJ Spill Phone:	Not reported		

LONG BEACH MARINE (Continued) **S105320540**

Other Date:	Not reported	Other Time:	Not reported
Other Name:	Not reported	Other Title:	Not reported

Other Telephone:	Not reported
Public Evacuation:	No
Assistance Requested:	Yes
Wind Direction/Speed:	Not reported
Local Municipality Notified:	Not reported
Local Municipality Name:	SHIP BOTTOM BORO
Local Municipality Title:	OPER #
Local Municipality Telephone:	609-494-1518
Local Municipality Date:	9/18/1997
Local Municipality Time:	1451
Incident Description:	Illegal Dumping
Incident Name:	Not reported
Incident Referred To:	DRPSR
Incident Region:	BFO-CAS
Incident Telephone:	Not reported
Incident Date:	9/18/1997
Incident time:	Not reported
Incident ITM:	B
Incident Name:	Not reported
Incident Referred To:	DFG
Incident Region:	Not reported
Incident Telephone:	Not reported
Incident Date:	9/18/1997
Incident Time:	Not reported
Incident ITM:	T
Comments:	Not reported
Date A310 Letter Printed:	Not reported
Date Local Authority Was Notified:	Not reported
Date Updated:	Not reported
Date Report Faxed to Local Authority:	Not reported
Local Authority Notification Date:	Not reported
Rep Receive Date:	Not reported
Reporter Type:	Not reported
Reporter Name:	Not reported
Reporter Title:	Not reported
Reporter Org:	Not reported
Reporter Address:	Not reported
Reporter City,St,Zip:	Not reported
Reporter County:	Not reported
Incident Status:	Not reported
Incident Category:	Not reported
Incident Source:	Not reported
Incident Address:	Not reported
Incident Address 2:	Not reported
Incident City,St,Zip:	Not reported
Incident County:	Not reported
DEP Requested:	Not reported
Confidential:	Not reported
Notify Type:	Not reported
Road Closed:	Not reported
Direction:	Not reported
Responsible Party:	Known
Responsible Party Name:	LONG BEACH MARINE
Responsible Party Contact:	Not reported
Responsible Party Title:	Not reported

LONG BEACH MARINE (Continued) **S105320540**

Responsible Party Phone:	Not reported
Responsible Party Street:	236 W 8TH ST
Responsible Party County:	OCEAN
Responsible Party City,St,Zip:	SHIP BOTTOM, NJ
Memo. Of Understanding:	Not reported
Drill/trng Exercise:	Not reported
Hazardous:	Not reported

VCP:

Incident Number:	97-10-24-1202-33
MOA Execution Date:	2/19/1998
Type Of Vcp File:	HISTORICAL
Pi Number:	Not reported
Case Type(Case Type):	Not reported
Case Contact: Department	Not reported
Case Contact Name:	Not reported
Case Contact: Organization	Robert W Nissen
Case Contact: Address: Line1	Not reported
Case Contact: Address: Line2	Not reported
Case Contact: Address: Line3	Not reported
Case Contact City,St,Zip:	Not reported

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48 **CONECTIV POWER DELIVERY SHIP BOTTOM RON JON SITE** **FINDS** **1010548031**
236 W 8TH ST **N/A**
SHIP BOTTOM, NJ 08008

FINDS:
Other Pertinent Environmental Activity Identified at Site

Registry ID: 110032502922

NJ-NJEMS (New Jersey - New Jersey Environmental Management System). The Department of Environmental Protection (NJDEP) manages large databases of environmental information in this integrated system.

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48 **LONG BEACH MARINE** **NJ Release** **S105321370**
236 W. 8TH ST **N/A**
SHIP BOTTOM, NJ

NJ Release:

Facility ID:	15036	Case Number:	97-10-28-1043-28
Date Received:	10/28/1997	Nature of Incident:	Facility
Operator:	PAT		
Incident Type:	Not reported	Incident Location:	Not reported
Location:	Other		
Other Location:	Not reported		
Contact Name:	Not reported		
Caller Name:	REDACTED		
Caller Title:	LONG BEACH MARINE		
Caller Address:	Not reported		
Caller City,St,Zip:	Not reported		
Caller Telephone:	Not reported		
Facility Phone:	Not reported		
Incident Date:	10/28/1997	Incident Time:	Not reported
Substance(s):	GASOLINE		

LONG BEACH MARINE (Continued) **S105321370**

Substance Type:	Liquid	Substance Identity:	Known
CAS Number:	Not reported	A310 Letter:	Yes
TCPA Chemical:	No	Hazrds Material:	Yes
COMU:	1528	Ref. Code:	101
Amnt Released:	UNKNOWN	Contained:	Yes
Release Type:	Terminated	Release VE:	Not reported
Injuries:	No		
Public Exposure:	No	Facility Evacuation:	No
Police at Scene:	No	Firemen at Scene:	No
Contamination of:	Land	Receiving Water:	Not reported
Status at Spill:	UNK SIZE ABOVE GROUND STORAGE TANK WAS REMOVED. COUTY HD PERFORMED SOIL SAMPLING. CONTAMINATION FOUND.		
NJ Spill Date:	Not reported	NJ Spill Time:	Not reported
NJ Spill Name:	Not reported	NJ Spill Title:	Not reported
NJ Spill Phone:	Not reported		
Other Date:	Not reported	Other Time:	Not reported
Other Name:	Not reported	Other Title:	Not reported

Other Telephone:	Not reported
Public Evacuation:	No
Assistance Requested:	No
Wind Direction/Speed:	Not reported
Local Municipality Notified:	Not reported
Local Municipality Name:	SHIP BOTTOM BORO
Local Municipality Title:	OPR #266
Local Municipality Telephone:	609-494-1518
Local Municipality Date:	10/28/1997
Local Municipality Time:	1048
Incident Description:	Soil Contamination
Incident Name:	Not reported
Incident Referred To:	DRPSR
Incident Region:	BFO-CAS
Incident Telephone:	Not reported
Incident Date:	10/28/1997
Incident time:	Not reported
Incident ITM:	B
Comments:	Not reported
Date A310 Letter Printed:	Not reported
Date Local Authority Was Notified:	Not reported
Date Updated:	Not reported
Date Report Faxed to Local Authority:	Not reported
Local Authority Notification Date:	Not reported
Rep Receive Date:	Not reported
Reporter Type:	Not reported
Reporter Name:	Not reported
Reporter Title:	Not reported
Reporter Org:	Not reported
Reporter Address:	Not reported
Reporter City,St,Zip:	Not reported
Reporter County:	Not reported
Incident Status:	Not reported
Incident Category:	Not reported
Incident Source:	Not reported
Incident Address:	Not reported
Incident Address 2:	Not reported
Incident City,St,Zip:	Not reported
Incident County:	Not reported
DEP Requested:	Not reported

LONG BEACH MARINE (Continued) **S105321370**

Confidential:	Not reported
Notify Type:	Not reported
Road Closed:	Not reported
Direction:	Not reported
Responsible Party:	Known
Responsible Party Name:	LONG BEACH MARINE
Responsible Party Contact:	ROBERT NISSEN
Responsible Party Title:	OWNER
Responsible Party Phone:	609-494-9811
Responsible Party Street:	236 W. 8TH ST
Responsible Party County:	OCEAN
Responsible Party City,St,Zip:	SHIP BOTTOM, NJ
Memo. Of Understanding:	Not reported
Drill/trng Exercise:	Not reported
Hazardous:	Not reported

Facility ID:	14883	Case Number:	97-10-24-1202-33
Date Received:	10/25/1997	Nature of Incident:	Facility
Operator:	JIMH		
Incident Type:	Not reported	Incident Location:	Not reported
Location:	Facility		
Other Location:	Not reported		
Contact Name:	Not reported		
Caller Name:	REDACTED		
Caller Title:	LONG BEACH MARINE		
Caller Address:	Not reported		
Caller City,St,Zip:	Not reported		
Caller Telephone:	Not reported		
Facility Phone:	609-494-9811		
Incident Date:	10/23/1997	Incident Time:	Not reported
Substance(s):	GASOLINE		
Substance Type:	Liquid	Substance Identity:	Known
CAS Number:	Not reported	A310 Letter:	Yes
TCPA Chemical:	No	Hazrds Material:	Yes
COMU:	1528	Ref. Code:	101
Amnt Released:	Not reported	Contained:	Yes
Release Type:	Terminated	Release VE:	Not reported
Injuries:	No		
Public Exposure:	No	Facility Evacuation:	No
Police at Scene:	No	Firemen at Scene:	No
Contamination of:	Land	Receiving Water:	Not reported
Status at Spill:	1-275 GALLON ABOVE GROUND TANK REMOVED ALONG WITH MINOR CONTAMINATION.		
NJ Spill Date:	Not reported	NJ Spill Time:	Not reported
NJ Spill Name:	Not reported	NJ Spill Title:	Not reported
NJ Spill Phone:	Not reported		
Other Date:	Not reported	Other Time:	Not reported
Other Name:	Not reported	Other Title:	Not reported

Other Telephone:	Not reported
Public Evacuation:	No
Assistance Requested:	No
Wind Direction/Speed:	Not reported
Local Municipality Notified:	Not reported
Local Municipality Name:	SHIP BOTTOM BORO
Local Municipality Title:	OPER MCNULTY
Local Municipality Telephone:	609-494-1518
Local Municipality Date:	10/24/1997
Local Municipality Time:	1208

LONG BEACH MARINE (Continued) **S105321370**

Incident Description:	Soil Contamination
Incident Name:	Not reported
Incident Referred To:	DRPSR
Incident Region:	BFO-CAS
Incident Telephone:	Not reported
Incident Date:	10/24/1997
Incident time:	Not reported
Incident ITM:	B
Comments:	Not reported
Date A310 Letter Printed:	Not reported
Date Local Authority Was Notified:	Not reported
Date Updated:	Not reported
Date Report Faxed to Local Authority:	Not reported
Local Authority Notification Date:	Not reported
Rep Receive Date:	Not reported
Reporter Type:	Not reported
Reporter Name:	Not reported
Reporter Title:	Not reported
Reporter Org:	Not reported
Reporter Address:	Not reported
Reporter City,St,Zip:	Not reported
Reporter County:	Not reported
Incident Status:	Not reported
Incident Category:	Not reported
Incident Source:	Not reported
Incident Address:	Not reported
Incident Address 2:	Not reported
Incident City,St,Zip:	Not reported
Incident County:	Not reported
DEP Requested:	Not reported
Confidential:	Not reported
Notify Type:	Not reported
Road Closed:	Not reported
Direction:	Not reported
Responsible Party:	Known
Responsible Party Name:	LONG BEACH MARINE
Responsible Party Contact:	BOB NISSEN
Responsible Party Title:	OWNER
Responsible Party Phone:	609-494-9811
Responsible Party Street:	236 W. 8TH ST
Responsible Party County:	OCEAN
Responsible Party City,St,Zip:	SHIP BOTTOM, NJ
Memo. Of Understanding:	Not reported
Drill/trng Exercise:	Not reported
Hazardous:	Not reported

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48 **CONECTIV POWER DELIVERY SHIP BOTTOM SUBSTATION** **FINDS** **1010548046**
242 W 8TH ST **N/A**
SHIP BOTTOM, NJ 08008

FINDS:
Other Pertinent Environmental Activity Identified at Site

Registry ID: 110032503137

NJ-NJEMS (New Jersey - New Jersey Environmental Management System).
The Department of Environmental Protection (NJDEP) manages large databases of environmental information in this integrated system.

48 BRENNENS CITGO | **NJ Release** | **S102200278**
W.8TH ST | **N/A**
SHIP BOTTOM, NJ

NJ Release:

Facility ID:	20844	Case Number:	93-12-10-1039-07
Date Received:	12/10/1993	Nature of Incident:	Citizen
Operator:	JOYCE		
Incident Type:	Not reported	Incident Location:	Not reported
Location:	Facility		
Other Location:	Not reported		
Contact Name:	Not reported		
Caller Name:	REDACTED		
Caller Title:	CITIZEN		
Caller Address:	Not reported		
Caller City,St,Zip:	Not reported		
Caller Telephone:	Not reported		
Facility Phone:	Not reported		
Incident Date:	12/10/1993	Incident Time:	ONGO
Substance(s):	SOIL CONTAMINATED		
Substance Type:	Solid	Substance Identity:	Known
CAS Number:	Not reported	A310 Letter:	Yes
TCPA Chemical:	No	Hazrds Material:	Yes
COMU:	1528	Ref. Code:	101
Amnt Released:	UNK	Contained:	No
Release Type:	Intermittent	Release VE:	Not reported
Injuries:	No		
Public Exposure:	No	Facility Evacuation:	No
Police at Scene:	No	Firemen at Scene:	No
Contamination of:	Land	Receiving Water:	Not reported
Status at Spill:	OWNER TRANSPORTING DRUMS OF CONTAMINATED SOIL FROM OTHER STATIONS AND STORING IT ON THIS PROPERTY. SOIL ALSO STOCKPILED ON THIS SITE.		
NJ Spill Date:	Not reported	NJ Spill Time:	Not reported
NJ Spill Name:	Not reported	NJ Spill Title:	Not reported
NJ Spill Phone:	Not reported		
Other Date:	Not reported	Other Time:	Not reported
Other Name:	Not reported	Other Title:	Not reported

Other Telephone:	Not reported
Public Evacuation:	No
Assistance Requested:	No
Wind Direction/Speed:	Not reported
Local Municipality Notified:	Not reported
Local Municipality Name:	SHIP BOTTOM BORO
Local Municipality Title:	LINDA CROCE
Local Municipality Telephone:	609-494-1518
Local Municipality Date:	12/10/1993
Local Municipality Time:	1039
Incident Description:	Illegal Dumping
Incident Name:	Not reported
Incident Referred To:	DRPSR
Incident Region:	BFO-SA
Incident Telephone:	Faxed,Mailed
Incident Date:	12/10/1993
Incident time:	Not reported
Incident ITM:	B
Incident Name:	BILL ZAVACKY
Incident Referred To:	OEP
Incident Region:	TOU
Incident Telephone:	Office,Faxed

BRENNENS CITGO (Continued) **S102200278**

Incident Date:	12/10/1993
Incident Time:	1043
Incident ITM:	B
Comments:	Not reported
Date A310 Letter Printed:	Not reported
Date Local Authority Was Notified:	Not reported
Date Updated:	Not reported
Date Report Faxed to Local Authority:	Not reported
Local Authority Notification Date:	Not reported
Rep Receive Date:	Not reported
Reporter Type:	Not reported
Reporter Name:	Not reported
Reporter Title:	Not reported
Reporter Org:	Not reported
Reporter Address:	Not reported
Reporter City,St,Zip:	Not reported
Reporter County:	Not reported
Incident Status:	Not reported
Incident Category:	Not reported
Incident Source:	Not reported
Incident Address:	Not reported
Incident Address 2:	Not reported
Incident City,St,Zip:	Not reported
Incident County:	Not reported
DEP Requested:	Not reported
Confidential:	Not reported
Notify Type:	Not reported
Road Closed:	Not reported
Direction:	Not reported
Responsible Party:	Known
Responsible Party Name:	BRENNENS CITGO
Responsible Party Contact:	Not reported
Responsible Party Title:	Not reported
Responsible Party Phone:	Not reported
Responsible Party Street:	W.8TH ST
Responsible Party County:	OCEAN
Responsible Party City,St,Zip:	SHIP BOTTOM, NJ
Memo. Of Understanding:	Not reported
Drill/trng Exercise:	Not reported
Hazardous:	Not reported

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48 **SPILLS** **S106467472**
N/A

256 WEST 8TH ST
SHIP BOTTOM BORO, NJ 08008

NJ SPILL:

Facility ID:	100049
Case Number:	04-06-04-1627-26
Notify Type:	Not reported
Date Received:	6/4/2004
Location:	Not reported
Other Location:	Not reported
Incident Date:	6/4/2004
Incident Time:	Not reported
A310 Letter:	Not reported
Ref. Code:	Not reported
COMU:	Not reported
CAS Number:	Not reported

(Continued) **S106467472**

Hazardous:	Not reported
Incident Location:	NEXT DOOR AT ATLANTIC ELECTRIC SUB-STATION
Facility Phone:	Not reported
Substance(s):	Not reported
Substance Type:	Not reported
Substance Identity:	Not reported
TCPA Chemical:	Not reported
Hazrds Material:	Not reported
Amnt Released:	Not reported
Release VE:	Not reported
Contained:	Not reported
Release Type:	Not reported
Incident Desc:	Not reported
Status at Spill:	Not reported
NJ Spill Date:	Not reported
NJ Spill Time:	Not reported
NJ Spill Name:	Not reported
NJ Spill Title:	Not reported
NJ Spill Phone:	Not reported
Other Date:	Not reported
Other Time:	Not reported
Other Name:	Not reported
Other Title:	Not reported
Other Phone:	Not reported
Injuries:	No
Public Exposure:	No
Road Closed:	No
Facility Evacuation:	No
Receiving Water:	Not reported
Public Evacuation:	No
Police at Scene:	No
Firemen at Scene:	No
Contamination of:	Not reported
Nature of Incident:	Not reported
Wind Direction/Speed:	Not reported
Assistance Requested:	Not reported
Memo. Of Understanding:	Not reported
Drill/trng Exercise:	Not reported
Operator:	Not reported
Contact Name:	Not reported
Caller Name:	Not reported
Caller Title:	Not reported
Caller Address:	Not reported
Caller City,St,Zip:	Not reported
Caller Phone:	Not reported
Responsible Party:	Not reported
Responsible Party Name:	Not reported
Responsible Party Contact:	Not reported
Responsible Party Title:	Not reported
Responsible Party Telphone:	Not reported
Responsible Party Street:	Not reported
Responsible Party Municipality:	Not reported
Responsible Party State:	Not reported
Responsible Party Zip:	Not reported
Responsible City,St,Zip:	Not reported
Responsible Party County:	Not reported
Local Municipality:	Not reported

(Continued) **S106467472**

Local Municipality Name:	Not reported
Local Municipality Title:	Not reported
Local Municipality Phone:	Not reported
Local Municipality Date:	Not reported
Local Municipality Time:	Not reported
Incident Name:	Not reported
Incident Referred To:	Not reported
Incident Region:	Not reported
Incident Phone:	Not reported
Incident Date:	Not reported
Comments:	Not reported
Date A310 Letter Printed:	Not reported
Date Local Authority Was Notified:	Not reported
Date Update:	Not reported
Date Report Faxed to Local Authority:	Not reported
Local Authority Notification Date:	Not reported
Reporter Name:	REDACTED
Reporter Type:	Citizen Complaint
Rep Received Date:	6/4/2004
Reporter Title:	Not reported
Reporter Orgzn:	Not reported
Reporter Address:	Not reported
Reporter City,St,Zip:	Not reported
Reporter County:	Not reported
Incident Type:	Spill
Incident Status:	Terminated
Incident Category:	Other
Incident Source:	ATLANTIC CITY ELECTRIC
Incident Address:	5100 HARDING HIGHWAY
Incident Address 2:	Not reported
Incident City,St,Zip:	Hamilton Twp, NJ 8330
Incident County:	Atlantic
DEP Requested:	Yes
Confidential:	Not reported

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48 **AREA OF GATEWAY INN** **SPILLS** **S104420615**
227 WEST 8TH ST **N/A**
SHIP BOTTOM, NJ

NJ SPILL:

Facility ID:	43860
Case Number:	99-05-28-1117-37
Notify Type:	Municipality
Date Received:	5/28/1999
Location:	Transportation
Other Location:	Not reported
Incident Date:	5/28/1999
Incident Time:	1018
A310 Letter:	False
Ref. Code:	002
COMU:	1528
CAS Number:	Not reported
Hazardous:	No
Incident Location:	Not reported
Facility Phone:	Not reported
Substance(s):	Not reported
Substance Type:	Not reported
Substance Identity	Not reported

AREA OF GATEWAY INN (Continued) **S104420615**

TCPA Chemical:	Not reported
Hazrds Material:	Not reported
Amnt Released:	Not reported
Release VE:	Not reported
Contained:	Not reported
Release Type:	Not reported
Incident Desc:	Not reported
Status at Spill:	LEAK FROM HOSE ON TRUCK.CLEANUP UNDERWAY
NJ Spill Date:	Not reported
NJ Spill Time:	Not reported
NJ Spill Name:	Not reported
NJ Spill Title:	Not reported
NJ Spill Phone:	Not reported
Other Date:	Not reported
Other Time:	Not reported
Other Name:	Not reported
Other Title:	Not reported
Other Phone:	Not reported
Injuries:	No
Public Exposure:	No
Road Closed:	No
Facility Evacuation:	No
Receiving Water:	Not reported
Public Evacuation:	No
Police at Scene:	Yes
Firemen at Scene:	No
Contamination of:	Land
Nature of Incident:	Not reported
Wind Direction/Speed:	0
Assistance Requested:	Yes
Memo. Of Understanding:	No
Drill/trng Exercise:	No
Operator:	JIMH
Contact Name:	Not reported
Caller Name:	REDACTED
Caller Title:	SHIP BOTTOM PD
Caller Address:	Not reported
Caller City,St,Zip:	Not reported
Caller Phone:	Not reported
Responsible Party:	Known
Responsible Party Name:	WASTE MGT CO.
Responsible Party Contact:	Not reported
Responsible Party Title:	Not reported
Responsible Party Telphone:	Not reported
Responsible Party Street:	Not reported
Responsible Party Municipality:	Not reported
Responsible Party State:	Not reported
Responsible Party Zip:	Not reported
Responsible City,St,Zip:	Not reported
Responsible Party County:	Not reported
Local Municipality:	No
Local Municipality Name:	Not reported
Local Municipality Title:	Not reported
Local Municipality Phone:	Not reported
Local Municipality Date:	Not reported
Local Municipality Time:	Not reported
Incident Name:	Not reported

AREA OF GATEWAY INN (Continued) **S104420615**

Incident Referred To:	Not reported
Incident Region:	Not reported
Incident Phone:	Not reported
Incident Date:	Not reported
Comments:	Not reported
Date A310 Letter Printed:	Not reported
Date Local Authority Was Notified:	Not reported
Date Update:	Not reported
Date Report Faxed to Local Authority:	Not reported
Local Authority Notification Date:	Not reported
Reporter Name:	Not reported
Reporter Type:	Not reported
Rep Received Date:	Not reported
Reporter Title:	Not reported
Reporter Orgzn:	Not reported
Reporter Address:	Not reported
Reporter City,St,Zip:	Not reported
Reporter County:	Not reported
Incident Type:	Not reported
Incident Status:	Not reported
Incident Category:	Not reported
Incident Source:	Not reported
Incident Address:	Not reported
Incident Address 2:	Not reported
Incident City,St,Zip:	Not reported
Incident County:	Not reported
DEP Requested:	Not reported
Confidential:	Not reported

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48 **BRENNANS CITGO** **HIST LUST** **S104389810**
237 W 8TH ST **N/A**
SHIP BOTTOM, NJ

LUST HIST:

Case ID:	92-04-10-1511
Lead Program Assigned:	Bureau of Underground Storage Tanks
Facility Status:	**Assigned to a Program**
UST ID:	0105068
TMS Number:	C92-3140
Remedial Level:	Site has confirmed soil and ground water contamination.
Case Manager:	David Nickerson
Facility Phone:	(609) 633-1445
No Further Action:	Not reported
RAW Approved:	Y
CEA:	Y
Date CEA Lifted:	Not reported
Dead Notice:	N

48 BRENNAN GAS & GO | **NJ Release** | **S104434718**
237 WEST 8 TH ST | **N/A**
SHIP BOTTOM, NJ

NJ Release:

Facility ID:	5819	Case Number:	92-4-10-1511-48
Date Received:	4/10/1992	Nature of Incident:	Facility
Operator:	JIMH		
Incident Type:	Not reported	Incident Location:	Not reported
Location:	Facility		
Other Location:	Not reported		
Contact Name:	Not reported		
Caller Name:	REDACTED		
Caller Title:	BRENNAN GAS & GO		
Caller Address:	Not reported		
Caller City,St,Zip:	Not reported		
Caller Telephone:	Not reported		
Facility Phone:	Not reported		
Incident Date:	4/10/1992	Incident Time:	Not reported
Substance(s):	GASOLINE		
Substance Type:	Liquid	Substance Identity:	Known
CAS Number:	Not reported	A310 Letter:	Yes
TCPA Chemical:	No	Hazrds Material:	Yes
COMU:	1528	Ref. Code:	013
Amnt Released:	UNK	Contained:	Yes
Release Type:	Terminated	Release VE:	Not reported
Injuries:	No		
Public Exposure:	No	Facility Evacuation:	No
Police at Scene:	No	Firemen at Scene:	No
Contamination of:	Land	Receiving Water:	Not reported
Status at Spill:	3-2,000 GALLON TANKS TO BE REMOVED.		
NJ Spill Date:	4/10/1992	NJ Spill Time:	Not reported
NJ Spill Name:	OEM	NJ Spill Title:	Not reported
NJ Spill Phone:	609-882-2000		
Other Date:	Not reported	Other Time:	Not reported
Other Name:	Not reported	Other Title:	Not reported

Other Telephone:	Not reported
Public Evacuation:	No
Assistance Requested:	No
Wind Direction/Speed:	Not reported
Local Municipality Notified:	Not reported
Local Municipality Name:	SHIP BOTTOM BORO
Local Municipality Title:	LINDA CROCE
Local Municipality Telephone:	609-494-1518
Local Municipality Date:	4/10/1992
Local Municipality Time:	1515
Incident Description:	L.U.S.T.
Incident Name:	Not reported
Incident Referred To:	DRPSR
Incident Region:	BUST
Incident Telephone:	Mailed,Faxed
Incident Date:	4/10/1992
Incident time:	Not reported
Incident ITM:	B
Comments:	Not reported
Date A310 Letter Printed:	Not reported
Date Local Authority Was Notified:	Not reported
Date Updated:	Not reported
Date Report Faxed to Local Authority:	Not reported

BRENNAN GAS & GO (Continued) **S104434718**

Local Authority Notification Date:	Not reported
Rep Receive Date:	Not reported
Reporter Type:	Not reported
Reporter Name:	Not reported
Reporter Title:	Not reported
Reporter Org:	Not reported
Reporter Address:	Not reported
Reporter City,St,Zip:	Not reported
Reporter County:	Not reported
Incident Status:	Not reported
Incident Category:	Not reported
Incident Source:	Not reported
Incident Address:	Not reported
Incident Address 2:	Not reported
Incident City,St,Zip:	Not reported
Incident County:	Not reported
DEP Requested:	Not reported
Confidential:	Not reported
Notify Type:	Not reported
Road Closed:	Not reported
Direction:	Not reported
Responsible Party:	Known
Responsible Party Name:	BRENNAN GAS & GO
Responsible Party Contact:	MR. BRENNAN
Responsible Party Title:	PRES.
Responsible Party Phone:	Not reported
Responsible Party Street:	237 WEST 8 TH ST
Responsible Party County:	OCEAN
Responsible Party City,St,Zip:	SHIP BOTTOM, NJ
Memo. Of Understanding:	Not reported
Drill/trng Exercise:	Not reported
Hazardous:	Not reported

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49 **VACANT LOT AT**
301 WEST 9TH ST
SHIP BOTTOM, NJ

SPILLS **S105331265**
N/A

NJ SPILL:

Facility ID:	36301
Case Number:	98-12-18-1008-08
Notify Type:	Other
Date Received:	12/18/1998
Location:	Facility
Other Location:	Not reported
Incident Date:	12/18/1998
Incident Time:	1000
A310 Letter:	True
Ref. Code:	101
COMU:	1528
CAS Number:	Not reported
Hazardous:	No
Incident Location:	Not reported
Facility Phone:	Not reported
Substance(s):	Not reported
Substance Type:	Not reported
Substance Identity	Not reported
TCPA Chemical:	Not reported
Hazrds Material:	Not reported

VACANT LOT AT (Continued) **S105331265**

Amnt Released:	Not reported
Release VE:	Not reported
Contained:	Not reported
Release Type:	Not reported
Incident Desc:	Not reported
Status at Spill:	1/2000 GAL UST BEING REMOVED.SOIL CONT FOUND.CLEAN UP TO BE DONE. UST 0328944
NJ Spill Date:	Not reported
NJ Spill Time:	Not reported
NJ Spill Name:	Not reported
NJ Spill Title:	Not reported
NJ Spill Phone:	Not reported
Other Date:	Not reported
Other Time:	Not reported
Other Name:	Not reported
Other Title:	Not reported
Other Phone:	Not reported
Injuries:	No
Public Exposure:	No
Road Closed:	No
Facility Evacuation:	No
Receiving Water:	Not reported
Public Evacuation:	No
Police at Scene:	No
Firemen at Scene:	No
Contamination of:	Land
Nature of Incident:	Not reported
Wind Direction/Speed:	0
Assistance Requested:	No
Memo. Of Understanding:	No
Drill/trng Exercise:	No
Operator:	JULIE
Contact Name:	Not reported
Caller Name:	REDACTED
Caller Title:	ENVIRO EVALUATION
Caller Address:	Not reported
Caller City,St,Zip:	Not reported
Caller Phone:	Not reported
Responsible Party:	Known
Responsible Party Name:	CITIZEN
Responsible Party Contact:	JOHN WOOLLEY
Responsible Party Title:	OWNER
Responsible Party Telphone:	Not reported
Responsible Party Street:	351 WEST 9TH ST
Responsible Party Municipality:	SHIP BOTTOM
Responsible Party State:	NJ
Responsible Party Zip:	08008
Responsible City,St,Zip:	SHIP BOTTOM, NJ
Responsible Party County:	OCEAN
Local Municipality:	No
Local Municipality Name:	Not reported
Local Municipality Title:	Not reported
Local Municipality Phone:	Not reported
Local Municipality Date:	Not reported
Local Municipality Time:	Not reported
Incident Name:	Not reported
Incident Referred To:	Not reported

VACANT LOT AT (Continued) **S105331265**

Incident Region: Not reported
Incident Phone: Not reported
Incident Date: Not reported
Comments: Not reported
Date A310 Letter Printed: Not reported
Date Local Authority Was Notified: Not reported
Date Update: Not reported
Date Report Faxed to Local Authority: Not reported
Local Authority Notification Date: Not reported
Reporter Name: Not reported
Reporter Type: Not reported
Rep Received Date: Not reported
Reporter Title: Not reported
Reporter Orgzn: Not reported
Reporter Address: Not reported
Reporter City,St,Zip: Not reported
Reporter County: Not reported
Incident Type: Not reported
Incident Status: Not reported
Incident Category: Not reported
Incident Source: Not reported
Incident Address: Not reported
Incident Address 2: Not reported
Incident City,St,Zip: Not reported
Incident County: Not reported
DEP Requested: Not reported
Confidential: Not reported

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50 **MAZUR RONNIE & MICHAEL** **FINDS** **1010465182**
359 W 12TH ST **N/A**
SHIP BOTTOM, NJ 08008

FINDS:
Other Pertinent Environmental Activity Identified at Site

Registry ID: 110031842353

NJ-NJEMS (New Jersey - New Jersey Environmental Management System). The Department of Environmental Protection (NJDEP) manages large databases of environmental information in this integrated system.

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50 **IN MANAHAWKIN BAY** **NJ Release** **S104866330**
352 WEST 11TH STREET **N/A**
SURF CITY, NJ 08008

NJ Release:

Facility ID:	71627	Case Number:	00-12-04-1647-51
Date Received:	12/4/2000	Nature of Incident:	Not reported
Operator:	KIM		
Incident Type:	Not reported	Incident Location:	Not reported
Location:	Other		
Other Location:	Not reported		
Contact Name:	Not reported		
Caller Name:	REDACTED		
Caller Title:	CITIZEN		

IN MANAHAWKIN BAY (Continued) **S104866330**

Caller Address:	Not reported		
Caller City,St,Zip:	Not reported		
Caller Telephone:	Not reported		
Facility Phone:	609-361-7010		
Incident Date:	12/4/2000	Incident Time:	Not reported
Substance(s):	Not reported		
Substance Type:	Not reported	Substance Identity:	Not reported
CAS Number:	Not reported	A310 Letter:	True
TCPA Chemical:	Not reported	Hazrds Material:	Not reported
COMU:	1531	Ref. Code:	002
Amnt Released:	Not reported	Contained:	Not reported
Release Type:	Not reported	Release VE:	Not reported
Injuries:	No		
Public Exposure:	No	Facility Evacuation:	No
Police at Scene:	No	Firemen at Scene:	No
Contamination of:	Water	Receiving Water:	MANAHAWKIN BAY
Status at Spill:	Information REDACTED due to data corrutpion causing status reporting errors		
NJ Spill Date:	Not reported	NJ Spill Time:	Not reported
NJ Spill Name:	Not reported	NJ Spill Title:	Not reported
NJ Spill Phone:	Not reported		
Other Date:	Not reported	Other Time:	Not reported
Other Name:	Not reported	Other Title:	Not reported

Other Telephone:	Not reported
Public Evacuation:	No
Assistance Requested:	Yes
Wind Direction/Speed:	0
Local Municipality Notified:	No
Local Municipality Name:	Not reported
Local Municipality Title:	Not reported
Local Municipality Telephone:	Not reported
Local Municipality Date:	Not reported
Local Municipality Time:	Not reported
Incident Description:	Not reported
Incident Name:	Not reported
Incident Referred To:	Not reported
Incident Region:	Not reported
Incident Telephone:	Not reported
Incident Date:	Not reported
Incident time:	Not reported
Incident ITM:	Not reported
Comments:	Not reported
Date A310 Letter Printed:	Not reported
Date Local Authority Was Notified:	Not reported
Date Updated:	Not reported
Date Report Faxed to Local Authority:	Not reported
Local Authority Notification Date:	Not reported
Rep Receive Date:	Not reported
Reporter Type:	Not reported
Reporter Name:	Not reported
Reporter Title:	Not reported
Reporter Org:	Not reported
Reporter Address:	Not reported
Reporter City,St,Zip:	Not reported
Reporter County:	Not reported
Incident Status:	Not reported
Incident Category:	Not reported

IN MANAHAWKIN BAY (Continued) **S104866330**

Incident Source:	Not reported
Incident Address:	Not reported
Incident Address 2:	Not reported
Incident City,St,Zip:	Not reported
Incident County:	Not reported
DEP Requested:	Not reported
Confidential:	Not reported
Notify Type:	Citizen
Road Closed:	No
Direction:	Not reported
Responsible Party:	Unknown
Responsible Party Name:	Not reported
Responsible Party Contact:	Not reported
Responsible Party Title:	Not reported
Responsible Party Phone:	Not reported
Responsible Party Street:	Not reported
Responsible Party County:	Not reported
Responsible Party City,St,Zip:	Not reported
Memo. Of Understanding:	No
Drill/trng Exercise:	No
Hazardous:	No

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51 **AREA NEAR** **NJ Release** **S104656566**
275 WEST 9TH ST **N/A**
SHIP BOTTOM, NJ

NJ Release:

Facility ID:	62723	Case Number:	00-06-10-1709-31
Date Received:	6/10/2000	Nature of Incident:	Not reported
Operator:	CHRIS		
Incident Type:	Not reported	Incident Location:	Not reported
Location:	Other		
Other Location:	Not reported		
Contact Name:	Not reported		
Caller Name:	REDACTED		
Caller Title:	SHIP BOTTOM PD		
Caller Address:	Not reported		
Caller City,St,Zip:	Not reported		
Caller Telephone:	Not reported		
Facility Phone:	Not reported		
Incident Date:	6/10/2000	Incident Time:	1651
Substance(s):	Not reported		
Substance Type:	Not reported	Substance Identity:	Not reported
CAS Number:	Not reported	A310 Letter:	False
TCPA Chemical:	Not reported	Hazrds Material:	Not reported
COMU:	1528	Ref. Code:	002
Amnt Released:	Not reported	Contained:	Not reported
Release Type:	Not reported	Release VE:	Not reported
Injuries:	Yes		
Public Exposure:	Yes	Facility Evacuation:	No
Police at Scene:	Yes	Firemen at Scene:	No
Contamination of:	Air	Receiving Water:	Not reported
Status at Spill:	Information REDACTED due to data corrutpion causing status reporting errors		
NJ Spill Date:	Not reported	NJ Spill Time:	Not reported
NJ Spill Name:	Not reported	NJ Spill Title:	Not reported
NJ Spill Phone:	Not reported		
Other Date:	Not reported	Other Time:	Not reported

AREA NEAR (Continued) **S104656566**

Other Name: Not reported
Other Title: Not reported
Other Telephone: Not reported
Public Evacuation: No
Assistance Requested: Yes
Wind Direction/Speed: 0
Local Municipality Notified: No
Local Municipality Name: Not reported
Local Municipality Title: Not reported
Local Municipality Telephone: Not reported
Local Municipality Date: Not reported
Local Municipality Time: Not reported
Incident Description: Not reported
Incident Name: Not reported
Incident Referred To: Not reported
Incident Region: Not reported
Incident Telephone: Not reported
Incident Date: Not reported
Incident time: Not reported
Incident ITM: Not reported
Comments: Not reported
Date A310 Letter Printed: Not reported
Date Local Authority Was Notified: Not reported
Date Updated: Not reported
Date Report Faxed to Local Authority: Not reported
Local Authority Notification Date: Not reported
Rep Receive Date: Not reported
Reporter Type: Not reported
Reporter Name: Not reported
Reporter Title: Not reported
Reporter Org: Not reported
Reporter Address: Not reported
Reporter City,St,Zip: Not reported
Reporter County: Not reported
Incident Status: Not reported
Incident Category: Not reported
Incident Source: Not reported
Incident Address: Not reported
Incident Address 2: Not reported
Incident City,St,Zip: Not reported
Incident County: Not reported
DEP Requested: Not reported
Confidential: Not reported
Notify Type: Municipality
Road Closed: No
Direction: Not reported
Responsible Party: Unknown
Responsible Party Name: Not reported
Responsible Party Contact: Not reported
Responsible Party Title: Not reported
Responsible Party Phone: Not reported
Responsible Party Street: Not reported
Responsible Party County: Not reported
Responsible Party City,St,Zip: Not reported
Memo. Of Understanding: No
Drill/trng Exercise: No
Hazardous: Unknown

52 **POLE #P5409** **SPILLS** **S102201785**
233 WEST 9TH ST **N/A**
SURF CITY, NJ

NJ SPILL:

Facility ID:	2082
Case Number:	94-2-7-1758-39
Notify Type:	Not reported
Date Received:	2/7/1994
Location:	Other
Other Location:	Not reported
Incident Date:	2/7/1994
Incident Time:	1738
A310 Letter:	Yes
Ref. Code:	101
COMU:	1531
CAS Number:	Not reported
Hazardous:	Not reported
Incident Location:	Not reported
Facility Phone:	Not reported
Substance(s):	OIL TRANSFORMER UNK PCB
Substance Type:	Liquid
Substance Identity:	Known
TCPA Chemical:	No
Hazrds Material:	Yes
Amnt Released:	<1 GAL
Release VE:	Estimate
Contained:	Yes
Release Type:	Terminated
Incident Desc:	Spill,Equip Upset
Status at Spill:	SPILL DUE TO LEAKING POLE TRANSFORMER. CLEANUP IN PROGRESS.
NJ Spill Date:	Not reported
NJ Spill Time:	Not reported
NJ Spill Name:	Not reported
NJ Spill Title:	Not reported
NJ Spill Phone:	Not reported
Other Date:	Not reported
Other Time:	Not reported
Other Name:	Not reported
Other Title:	Not reported
Other Phone:	Not reported
Injuries:	No
Public Exposure:	Yes
Road Closed:	Not reported
Facility Evacuation:	No
Receiving Water:	Not reported
Public Evacuation:	No
Police at Scene:	No
Firemen at Scene:	No
Contamination of:	Land
Nature of Incident:	Facility
Wind Direction/Speed:	Not reported
Assistance Requested:	No
Memo. Of Understanding:	Not reported
Drill/trng Exercise:	Not reported
Operator:	JOYCE
Contact Name:	Not reported
Caller Name:	REDACTED
Caller Title:	ATLANTIC ELECTRIC

POLE #P5409 (Continued) **S102201785**

Caller Address:	Not reported
Caller City,St,Zip:	Not reported
Caller Phone:	Not reported
Responsible Party:	Known
Responsible Party Name:	ATLANTIC ELECTRIC
Responsible Party Contact:	BOB TOLBERT
Responsible Party Title:	BUILDING ATT
Responsible Party Telphone:	609-296-2456
Responsible Party Street:	RT#9+COX AVE
Responsible Party Municipality:	WEST CREEK
Responsible Party State:	NJ
Responsible Party Zip:	Not reported
Responsible City,St,Zip:	WEST CREEK, NJ
Responsible Party County:	OCEAN
Local Municipality:	Not reported
Local Municipality Name:	SURF CITY BORO
Local Municipality Title:	DISP.OLSEN
Local Municipality Phone:	609-494-8121
Local Municipality Date:	2/7/1994
Local Municipality Time:	1800
Incident Name:	Not reported
Incident Referred To:	DRPSR
Incident Region:	BFO-CAS
Incident Phone:	Faxed,Mailed
Incident Date:	2/7/1994
Comments:	Not reported
Date A310 Letter Printed:	Not reported
Date Local Authority Was Notified:	Not reported
Date Update:	Not reported
Date Report Faxed to Local Authority:	Not reported
Local Authority Notification Date:	Not reported
Reporter Name:	Not reported
Reporter Type:	Not reported
Rep Received Date:	Not reported
Reporter Title:	Not reported
Reporter Orgzn:	Not reported
Reporter Address:	Not reported
Reporter City,St,Zip:	Not reported
Reporter County:	Not reported
Incident Type:	Not reported
Incident Status:	Not reported
Incident Category:	Not reported
Incident Source:	Not reported
Incident Address:	Not reported
Incident Address 2:	Not reported
Incident City,St,Zip:	Not reported
Incident County:	Not reported
DEP Requested:	Not reported
Confidential:	Not reported

52 **ATLANTIC CITY ELECTRIC CO** **FINDS** **1010223179**
233 W 9TH ST **N/A**
SURF CITY, NJ 08008

FINDS:
Other Pertinent Environmental Activity Identified at Site

Registry ID: 110029374549

NJ-NJEMS (New Jersey - New Jersey Environmental Management System). The Department of Environmental Protection (NJDEP) manages large databases of environmental information in this integrated system.

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53 **AT RESIDENCE AT** **SPILLS** **S104418480**
309 E 13TH ST **N/A**
LAKEWOOD TWP, NJ

NJ SPILL:

Facility ID:	7167
Case Number:	94-4-28-1048-42
Notify Type:	Not reported
Date Received:	4/28/1994
Location:	Other
Other Location:	Not reported
Incident Date:	4/26/1994
Incident Time:	UNK
A310 Letter:	No
Ref. Code:	002
COMU:	1514
CAS Number:	Not reported
Hazardous:	Not reported
Incident Location:	Not reported
Facility Phone:	Not reported
Substance(s):	OIL MOTOR
Substance Type:	Liquid
Substance Identity:	Known
TCPA Chemical:	No
Hazrds Material:	Yes
Amnt Released:	UNKNOWN
Release VE:	Not reported
Contained:	No
Release Type:	Terminated
Incident Desc:	Spill
Status at Spill:	MATERIAL SPILLED ONTO GROUNG RUNNING ONTO NEIGHBORS PROPERTY.OEM/ENVIRO OFFICER ON SCENE REQUESTING ASSIST.NO CLEAN UP
NJ Spill Date:	Not reported
NJ Spill Time:	Not reported
NJ Spill Name:	Not reported
NJ Spill Title:	Not reported
NJ Spill Phone:	Not reported
Other Date:	Not reported
Other Time:	Not reported
Other Name:	Not reported
Other Title:	Not reported
Other Phone:	Not reported
Injuries:	No
Public Exposure:	Yes
Road Closed:	Not reported
Facility Evacuation:	No

AT RESIDENCE AT (Continued) **S104418480**

Receiving Water: NONE
Public Evacuation:No
Police at Scene: Yes
Firemen at Scene:No
Contamination of: Land
Nature of Incident:Municipal

Wind Direction/Speed:	Not reported
Assistance Requested:	Yes
Memo. Of Understanding:	Not reported
Drill/trng Exercise:	Not reported
Operator:	JULIE1
Contact Name:	Not reported
Caller Name:	REDACTED
Caller Title:	LAKEWOOD POLICE
Caller Address:	Not reported
Caller City,St,Zip:	Not reported
Caller Phone:	Not reported
Responsible Party:	Known
Responsible Party Name:	CITIZEN
Responsible Party Contact:	UNK
Responsible Party Title:	Not reported
Responsible Party Telphone:	Not reported
Responsible Party Street:	309 E 13TH ST
Responsible Party Municipality:	LAKEWOOD
Responsible Party State:	NJ
Responsible Party Zip:	Not reported
Responsible City,St,Zip:	LAKEWOOD, NJ
Responsible Party County:	OCEAN
Local Municipality:	Not reported
Local Municipality Name:	Not reported
Local Municipality Title:	Not reported
Local Municipality Phone:	Not reported
Local Municipality Date:	Not reported
Local Municipality Time:	Not reported
Incident Name:	BOB WINTERBURN
Incident Referred To:	DRPSR
Incident Region:	ER2
Incident Phone:	Office,Faxed
Incident Date:	4/28/1994

Comments: Not reported

Date A310 Letter Printed:	Not reported
Date Local Authority Was Notified:	Not reported
Date Update:	Not reported
Date Report Faxed to Local Authority:	Not reported
Local Authority Notification Date:	Not reported
Reporter Name:	Not reported
Reporter Type:	Not reported
Rep Received Date:	Not reported
Reporter Title:	Not reported
Reporter Orgzn:	Not reported
Reporter Address:	Not reported
Reporter City,St,Zip:	Not reported
Reporter County:	Not reported
Incident Type:	Not reported
Incident Status:	Not reported
Incident Category:	Not reported
Incident Source:	Not reported

AT RESIDENCE AT (Continued) **S104418480**

Incident Address:	Not reported
Incident Address 2:	Not reported
Incident City,St,Zip:	Not reported
Incident County:	Not reported
DEP Requested:	Not reported
Confidential:	Not reported

ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
BARNEGAT TWP	U000370017	COYLE VORTAC	RT 72	08008	UST
BARNEGAT TWP	S108258759		1001 WEST BAY AVE	08008	NJ Release
BEACH HAVEN	S107100943	SHELTER BAY MARINA	11TH STREET AT BAY		NJ Release
BEACH HAVEN	S105487917	GETTY 56310	5TH / 415 NORTH BAY AVE		HIST LUST
BEACH HAVEN	1007264794	NJSDOT - STRUCTURE #1513-152	RTE 72 OVER LITTLE EGG HARBOR	08008	RCRA-NonGen
BEACH HAVEN	S107111777	BEACH AREA	BAY AVE AT CENTER ST		NJ Release
BEACH HAVEN	S105317034	MARLIN BAR	BAY AVE		NJ Release
BEACH HAVEN	S107131040	IN OCEAN	BETWEEN 12TH-11TH ST		NJ Release
BEACH HAVEN	S107577223	SALTAWAY CAR WASH	7TH / BUY		SPILLS, NJ Release
BEACH HAVEN	S104717537	BLACK WHALE MARINA	CENTER + BAY		NJ Release
BEACH HAVEN	S108064957	CRANMER LUMBER YARD (FORMER)	310 CENTRE ST / LONG BEACH BLVD	08008	VCP
BEACH HAVEN	S107111426	ATLANTIC OCEAN	FIVE MILES OFF SHORE		NJ Release
BEACH HAVEN	S104436582	SHELTER HARBOR MARINA	9TH+BAY FRONT		NJ Release
BEACH HAVEN	S104441267	ON THE BEACH	EAST HOLYOKE AVE		NJ Release
BEACH HAVEN	S104429309	COTOV'S MARINA-NO SIDE OF	IROQUOIS AV NEAR BAY		NJ Release
BEACH HAVEN	S104705452	BEACH	8TH ST		NJ Release
BEACH HAVEN	S107110157	IN LAGOON NEAR	3RD ST		NJ Release
BEACH HAVEN BORO	S106207860		BAY AVE + 3RD AVE	08008	NJ Release
BEACH HAVEN BORO	S108769957		601 BAY AVE. / 6TH ST.	08008	NJ Release
BEACH HAVEN BORO	S106466004		CENTRE ST / LONG BEACH BLVD	08008	NJ Release
BEACH HAVEN BORO	S108771844		126 2ND ST / BAY AVE	08008	NJ Release
BEACH HAVEN BORO	S107914136		8TH STREET / THE BAY	08008	NJ Release
BEACH HAVEN WEST	S104366847	LAGOON	MORRIS BL	08050	NJ Release
BENSALEM	S102485567	IN CREEK	603 HORNET LANE	08050	SPILLS, NJ Release
BRANT BEACH	S102212458	ISLAND MARINE	31110 LONG BEACH BLV	08008	NJ Release
BRICK TWP	S106850676	MIKE'S MECHANICS	1662 RTE 88 W	08050	VCP
CEDAR BONNET	S102226358	RESIDENCE ON	3RD ST	08050	NJ Release
HARVEY CEDARS	S105344642	SOUTH OF MARSHELDER ISLAND	BARNEGAT BAY	08008	NJ Release
HARVEY CEDARS	S105355645	FLOWING INTO ICW FROM	BARNEGAT BAY	08008	NJ Release
HARVEY CEDARS BORO	U000354413	SO JERSEY POOLS	RT 9	08008	UST
HARVEY CEDARS BORO	S107080346		LONG BEACH BLVD	08008	NJ Release
LONG BEACH	S104372014	AREA OF	EAST 65TH STREET	08008	NJ Release
LONG BEACH	S105317621	JIM WILSON RESIDENCE	1036 E LONG BEACH BL	08008	NJ Release
LONG BEACH	S106761346	1023A LONG BEACH BOULEVARD	1023A LONG BEACH BLVD	08008	VCP
LONG BEACH ISLAND	1000324731	SICO CO	15TH N LONG BEACH BLVD	08008	FINDS, RCRA-NonGen
LONG BEACH TWP	S107912811		206 EAST 58 ST	08008	NJ Release
LONG BEACH TWP	S107093280		LONG BEACH BLVD	08008	NJ Release
LONG BEACH TWP	S107493259	102 F LONG BEACH BOULEVARD	102 F LONG BEACH BLVD	08008	HIST HWS
LONG BEACH TWP	S108265778		LONG BEACH BLVD	08008	NJ Release
LONG BEACH TWP	S108776114		4300 J LONG BEACH BLVD	08008	NJ Release
LONG BEACH TWP	U000360314	GARDEN TEXACO	13601 LONG BEACH BLVD	08008	UST
LONG BEACH TWP	S107916224	WAWA STORE 977	13115 LONG BEACH BLVD	08008	SHWS, HIST HWS
LOVELADIES	S103899834	ROUTE OF LOVELADIES NORTH	FM HOLLY DR TO SANDY COVE	08008	NJ Release

City	EDR ID	Site Name	Site Address	Zip	Database(s)
LOVELADIES	S104429822	S.P.S.#11	LADYBUG / L.BEACH	08008	NJ Release
LOVELADIES	S105350608	AREA OF	LONG BEACH BLVD	08008	NJ Release
LOVELADIES	S107119927	IN AREA OF	54A LONG BEACH BLVD	08008	NJ Release
LOVELADIES	S107129142	ON BEACH BEHIND	338C LONG BEACH BLVD	08008	NJ Release
MANAHAWKIN	S107101732	SURF PRINTING	RT. (9)	08050	NJ Release
MANAHAWKIN	S102218763	NJDOT	RT 72 E. MP 23.1	08050	NJ Release
MANAHAWKIN	1011911426	GARDEN STATE INTERVENTIONAL PAIN MANAGEMENT @ PLAZA 72 WEST	1364 RT 72 W	08050	FINDS
MANAHAWKIN	1008948959	STAFFORD MEDICAL PA @ PLAZA 72 WEST	1364 RT 72	08050	FINDS
MANAHAWKIN	1005905576	CUMBERLAND FARMS INC #2955	524 RTE 72 W & JUG HANDLE	08050	RCRA-NonGen
MANAHAWKIN	1006993064	TEXACO SERVICE STATION #100272	138 RT 72	08050	SHWS, FINDS, BROWNFIELDS, INST CONTROL
MANAHAWKIN	S102207450	CUMBERLAND FARMS GULF SRVC STN	RT 72 AT JUG HANDLE	08050	NJ Release
MANAHAWKIN	S102486921	GULF SERVICE STATION	RT 72 / JUDGE HANDLE	08050	NJ Release
MANAHAWKIN	S104418087	WAL MART	RT 72	08050	NJ Release
MANAHAWKIN	S104437196	MANAHAWAKIN MAINT FACILITY	RT 72	08050	NJ Release
MANAHAWKIN	S104481636	MANAHAWKIN BAY	RT 72	08050	NJ Release
MANAHAWKIN	S104710975	SHELL SERVICE STATION	RTE 72 / MILL CREE	08050	NJ Release
MANAHAWKIN	S105296794	SHELL SERV STA-MANAHAWKIN	609 ROUTE 72	08050	NPDES
MANAHAWKIN	S105317312	FLEET BANK	534 RT 72	08050	NJ Release
MANAHAWKIN	S105319643	PINE CREST TRAILER PARK	RT 72	08050	SPILLS, NJ Release
MANAHAWKIN	S106900179	OCEAN BEACH MARINE CENTERS	551 RT 72 EAST	08050	NPDES
MANAHAWKIN	S107106781	LAKE MANAHANKEN	RT 72 / RT 9	08050	NJ Release
MANAHAWKIN	S107107418	MIDAS MUFFLER	RT 72	08050	NJ Release
MANAHAWKIN	S107114482	CAUSWAY FORD LINCOLN MERC	RT 72	08050	NJ Release
MANAHAWKIN	S107120026	KAUBS SUNOCO STATION	270 RT 72 WEST	08050	NJ Release
MANAHAWKIN	S108793751	MANAHAWKIN DOT YARD	ROUTE 72 EB MP 23.2	08050	MANIFEST
MANAHAWKIN	S102209178	SBR TIRE EXCHANGE	RT 9	08050	NJ Release
MANAHAWKIN	S102220516	SOUTHERN REGIONAL H.S.	RT 9	08050	NJ Release
MANAHAWKIN	S105311867	MANAHAWKIN AUTO	747 RT 9	08050	NJ Release
MANAHAWKIN	S107124913	IN AREA OF	RT 9+BEACHVIEW	08050	NJ Release
MANAHAWKIN	S107113544	ADELTHA COMMUNICATIONS	RT 9, NO OF RT 72	08050	NJ Release
MANAHAWKIN	S104718171	AREA OF	RT.72 AT NEPTUNE DR	08050	NJ Release
MANAHAWKIN	1011596204	MEDICAL ARTS BUILDING SOCH	1100 WEST BAY AVENUE	08050	ICIS
MANAHAWKIN	S102200276	BRENNENS MOBIL GAS & GO	EAST BAY AVE	08050	NJ Release
MANAHAWKIN	S104349119	MARGO'S MARINA	BAY AVE	08050	NJ Release
MANAHAWKIN	S104438059	MARGOS MARINA /THE BAY &	EAST BAY AVE	08050	NJ Release
MANAHAWKIN	S107117030	IN AREA OF	EAST BAY AVE	08050	NJ Release
MANAHAWKIN	S104436231	SAINT MARYS CEMETARY	BEACH VIEW AVE	08050	NJ Release
MANAHAWKIN	1004560471	CLAYTON BLOCK CO INC	BEACHVIEW AVENUE	08050	FINDS, NPDES
MANAHAWKIN	S104439357	BAY TRANSMISSION CO	EAST DAY AVE	08050	NJ Release
MANAHAWKIN	S104422366	LOT	7TH / DOCK	08050	NJ Release
MANAHAWKIN	S102224272	MANAHAWKIN POST OFFICE	EAY BAY AVE	08050	NJ Release
MANAHAWKIN	S102206113	FAMILY BOAT SALES	END OF BAY AVE	08050	NJ Release
MANAHAWKIN	S107103863	LAGOON BEHIND	109 GREG DR.BEACH HA	08050	NJ Release
MANAHAWKIN	S107577384	VILLAGE HARBOR CONSTRUCTION CO	JANE DRIVE	08050	SPILLS, NJ Release
MANAHAWKIN	S107131656	AREA OF	315 S. LAKE SHORE	08050	NJ Release

City	EDR ID	Site Name	Site Address	Zip	Database(s)
MANAHAWKIN	S107123629	CONSTRUCTION ON MALLARD ISLAND	EAST MALLARD DR	08050	NJ Release
MANAHAWKIN	S104796637	BEACH HAVEN WEST LAGOON NEAR	MARK DR/JERI ANN DR	08050	NJ Release
MANAHAWKIN	S105355957	AREA OF	MARSHA BLVD BRIDGE	08050	NJ Release
MANAHAWKIN	S105211228	L&G PLANT	MARYBELL RD/RT 9	08050	NJ Release
MANAHAWKIN	S107125822	LAGOON	OFF MORRIS BLVD	08050	NJ Release
MANAHAWKIN	S102200038	CAUSEWAY FORD	RT#72	08050	NJ Release
MANAHAWKIN	S104435313	TEXACO STATION	RT#72/UNION ST	08050	NJ Release
MANAHAWKIN	S104693049	AMPCO CO.	911 RT.9	08050	NJ Release
MANAHAWKIN	S105487974	PERKS ELECTRIC	NJ STATE HWY ROUTE 72	08050	HIST LUST
NORTH BEACH HAVEN	S105317543	RESIDENCE AT	1023A LONG BEACH BLV	08008	NJ Release
SHIP BOTTOM	1000786378	OCEAN COUNTY SOLID WASTE MANAGEMENT	6TH ST - SHIP BOTTOM GARAGE	08008	FINDS, RCRA-NonGen
SHIP BOTTOM	S104425457	AREA OF OCEAN FRONT &	11TH ST	08008	NJ Release
SHIP BOTTOM	S104696083	AREA OF SURF LINE	11TH ST	08008	NJ Release
SHIP BOTTOM	S104425456	OCEAN FRONT &	12TH ST.	08008	NJ Release
SHIP BOTTOM	S104724219	CHINESE RESTAURANT	13TH / BLVD	08008	NJ Release
SHIP BOTTOM	S104707649	ON BEACH	17TH / THE BEACH	08008	NJ Release
SHIP BOTTOM	S104705841	BEACH	EAST 27 TH ST.	08008	NJ Release
SHIP BOTTOM	S105319145	QUARTER DECK INN	RT 72 E	08008	NJ Release
SHIP BOTTOM	S105312165	SUNOCO STATION	305 E 8TH ST	08008	NJ Release
SHIP BOTTOM	S104962600	AREA OF	7TH+CENTRAL AVES	08008	NJ Release
SHIP BOTTOM	S105320996	SHIP BOTTOM DPW GARAGE	BARNEGAT AVE	08008	NJ Release
SHIP BOTTOM	1011564780	CAUSEWAY BOAT RENTALS	LONG BEACH ISLAND CAUSEWAY	08008	ICIS
SHIP BOTTOM	S104718346	6000 FT OUTFALL	5TH ST	08008	NJ Release
SHIP BOTTOM	S105342243	ATLANTIC OCEAN	5TH ST	08008	NJ Release
SHIP BOTTOM	S104696089	BEACH	8TH STREET	08008	NJ Release
SHIP BOTTOM BORO	U000370016	SHIP BOTTM RCAG	RTE 10	08008	UST
SHIP BOTTOM BORO	S106213777		14TH / 12TH STREET	08008	NJ Release
SHIP BOTTOM BORO	S109297753	ADMIRAL MOTEL	102 110 16TH ST	08008	SHWS
SHIP BOTTOM BORO	S107086697		21ST / THE BAY	08008	NJ Release
SHIP BOTTOM BORO	S107097319		RT 72	08008	NJ Release
SHIP BOTTOM BORO	S107097270		301 WEST 8TH ST / BARNEGAT AVE	08008	NJ Release
SHIP BOTTOM BORO	S109304881	BOB & RAY HOLDING CORP	1127 NW CENTRAL AVE	08008	SHWS
SHIP BOTTOM BORO	S108087702	A&H PRINTING INCORPORATED	1919 LONG BEACH BVD	08008	ISRA
SHIP BOTTOM BORO	1010539054	HOUSE OF STRAW	1920 LONG BEACH BLVD	08008	SHWS, FINDS
SHIP BOTTOM BORO	S109312312	253 EIGHTEENTH ST W	253 18TH ST	08008	SHWS
SHIP BOTTOM BORO	S107081604		5TH STREET	08008	NJ Release
SOUTHAMPTON TWP	U003404349	PRATLEY'S AUTOMOTIVE SERVICE CENTER	205 RT 72	08008	SHWS, UST
STAFFORD TOWNSHIP	1011560242	CAUSEWAY FORD INC	RT 72 E	08050	ICIS
STAFFORD TOWNSHIP	S108028894	WAWA PLAZA GROUND WATER CONTAMINATIO	HILLIARD BLVD / RTE 9	08050	HWS RE-EVAL
STAFFORD TWP	S107090116		RT 539 SOUTH MM 7	08050	NJ Release
STAFFORD TWP	S108261060		RT 539	08050	NJ Release
STAFFORD TWP	S108771989		RTE 539 / RTE 72	08050	NJ Release
STAFFORD TWP	S109301227	NJ DOT RTE 72 AND EAST ROAD	RT 72 / EAST RD	08050	SHWS
STAFFORD TWP	S107133515	NJDOT MANAHAWKIN MAINT. YD	RT 72 S MP 23.2	08050	NJ Release
STAFFORD TWP	1011263244	NJDOT BUREAU OF BRIDGE MAINTENANCE	RT 72 E	08050	FINDS
STAFFORD TWP	1010540806	ROUTE 72 WEST ASSOC	RT 72 N	08050	FINDS
STAFFORD TWP	1010497020	STAFFORD TWP DPW ROUTE 72 & MILL CREEK ROAD INTERSECTION IMP	RT 72 & MILL CREEK RD	08050	FINDS

City	EDR ID	Site Name	Site Address	Zip	Database(s)
STAFFORD TWP	1008973187	NJDOT	RT 72	08050	FINDS
STAFFORD TWP	1006990740	2347 ROUTE 72	2347 RT 72	08050	FINDS
STAFFORD TWP	1006979796	DENOIA CLEANERS @ PLAZA 72 WEST	1364 RT 72	08050	FINDS
STAFFORD TWP	1004752271	NJDOT - MANAHAWKIN	RTE 72 MP 23.2 OFF RAMP	08050	FINDS, RCRA-NonGen
STAFFORD TWP	1010521140	AVIRON AVIATION CRASH	RT 72 W	08050	SHWS, FINDS
STAFFORD TWP	S106482333	DENOIA CLEANERS	1364 RT 72 W	08050	DRYCLEANERS
STAFFORD TWP	S107085804		156 RT 72 EAST	08050	NJ Release
STAFFORD TWP	S107089082		551 RT 72 EAST	08050	NJ Release
STAFFORD TWP	S107090241		RT 72	08050	NJ Release
STAFFORD TWP	S107090577		ROUTE 72	08050	NJ Release
STAFFORD TWP	S107096582		RT 72 EAST	08050	NJ Release
STAFFORD TWP	S107108899	MIDAS MUFFLER	RT 72	08050	NJ Release
STAFFORD TWP	S107109970	METERING STATION	RT 72 / RT 9	08050	NJ Release
STAFFORD TWP	S107573171		RT 72	08050	NJ Release
STAFFORD TWP	S108257798		RT 72	08050	NJ Release
STAFFORD TWP	S108395312		RT 72	08050	NJ Release
STAFFORD TWP	S108769808		RT 72 / EAST RD	08050	NJ Release
STAFFORD TWP	S108972346	SHELL SERVICE STATION 138412	RT 72 / JENNINGS RD	08050	SHWS, BROWNFIELDS
STAFFORD TWP	S109224757		RT 72 EAST	08050	NJ Release
STAFFORD TWP	S109293997	EXXON R/S 38989	RT 72 E / EAST AVE	08050	SHWS
STAFFORD TWP	S109294000	SUNOCO 0011-8174	244 RT 72	08050	SHWS
STAFFORD TWP	S109300802	CUMBERLAND FARMS 2955	524 RT 72	08050	SHWS
STAFFORD TWP	S109300815	SHELL SERVICE STATION 138411	700 RT 72	08050	SHWS
STAFFORD TWP	S109300878	MIDAS MUFFLER	689 RT 72	08050	SHWS
STAFFORD TWP	S109303425	BENJ J MCCLELLAN & SON INC	RT 72 / MILL CREEK RD	08050	SHWS
STAFFORD TWP	S109311312	G ANDERSON AGENCY	295 RT 72	08050	SHWS
STAFFORD TWP	S109362325	STAFFORD CLEANERS	297 RT 72	08050	VCP
STAFFORD TWP	S109370137		1301 RT 72 SUITE 110	08050	NJ Release
STAFFORD TWP	U004123438	WAWA FOOD MARKETS #994	320 RT 72 E	08050	UST
STAFFORD TWP	S107094329		RT 72/LONG BEACH BLVD	08050	NJ Release
STAFFORD TWP	S107072892		RT 72/NEPTUNE RD	08050	NJ Release
STAFFORD TWP	S107078808		RT 9	08050	NJ Release
STAFFORD TWP	S107089377		RT 9	08050	NJ Release
STAFFORD TWP	S107095589		RT 9	08050	NJ Release
STAFFORD TWP	S107108085	WETLAND AREA|	RT 9 / CEDAR RUN	08050	NJ Release
STAFFORD TWP	S107110102	IN AREA OF	RT 9 / RT 72	08050	NJ Release
STAFFORD TWP	S107110403	ROADSIDE	RT 9 / RT 72	08050	NJ Release
STAFFORD TWP	S107129205	KALSCHS PIT/NEAR MANAHAWKIN	RT 9	08050	NJ Release
STAFFORD TWP	S107439330		RT 9	08050	NJ Release
STAFFORD TWP	S107572786		RT 9	08050	NJ Release
STAFFORD TWP	S108396053		261 RT 9 SOUTH OF RT 72	08050	NJ Release
STAFFORD TWP	S109306147	WAWA PLAZA GROUND WATER CONTAMINATION	RT 9 / HILLIARD BLVD	08050	SHWS
STAFFORD TWP	S107096106		RT 9/CEDAR RD	08050	NJ Release
STAFFORD TWP	S108260555		RT 9/SILO RD	08050	NJ Release
STAFFORD TWP	S107076107		AVENUE A	08050	NJ Release
STAFFORD TWP	S108972255	MANAHAWKIN COIN LAUNDRY	63 BAY AVE	08050	SHWS, BROWNFIELDS
STAFFORD TWP	S108657148	PLANET PLAYGROUND	BUCCANEER LN	08050	SHWS, VCP

City	EDR ID	Site Name	Site Address	Zip	Database(s)
STAFFORD TWP	S108950104	985 BUCCANEER LANE	985 BUCCAUEEN LN	08050	SHWS, VCP
STAFFORD TWP	S107912685		CEDAR BRIDGE RD	08050	NJ Release
STAFFORD TWP	S107088409		JULIA DRIVE	08050	NJ Release
STAFFORD TWP	S108253225	WESLEY BELL OIL SPILL	LAGOON @ STEVEN DRIVE	08050	LIENS
STAFFORD TWP	1010540145	JAMES RUBRIGHT PROPERTY	583 S MAIN ST	08050	SHWS, FINDS
STAFFORD TWP	S107079361		E MALLARD DR/BAY AVE	08050	NJ Release
STAFFORD TWP	S109220927		MARI BELL RD/RT 9 SOUTH	08050	NJ Release
STAFFORD TWP	1008963673	NJDOT	MARSHA BLVD	08050	FINDS
STAFFORD TWP	S108772056		MARY BELL RD	08050	NJ Release
STAFFORD TWP	S107913558		MARYBELL ROAD / RT. 9	08050	NJ Release
STAFFORD TWP	S107569254		NEWELL/RT 9	08050	NJ Release
STAFFORD TWP	S107100510	FAWN LAKES DEVELOPMENT	OFF OF RT. 72 SICKAM	08050	NJ Release
STAFFORD TWP	S107493574	STAFFORD TOWNSHIP LANDFILL	RECOVERY RD	08050	SHWS, HIST HWS
STAFFORD TWP	S109298211	STAFFOR BUSINESS PARK WEST	RECOVERY RD / HAY RD	08050	SHWS
STAFFORD TWP	S109314615	STAFFORD BUSINESS PARK	RECOVERY RD / HAY RD	08050	SHWS
STAFFORD TWP	U000775872	OLD PUBLIC WORKS BUILDING	RECOVERY RD	08050	SHWS, UST, HIST HWS
STAFFORD TWP	S107072848		700 S. RTE 9	08050	NJ Release
STAFFORD TWP	S107070909		SELMA DR	08050	NJ Release
STAFFORD TWP	S108395728		N. SIDE RECOVERY RD 1/4 MILE FROM RT 72	08050	NJ Release
STAFFORD TWP	S108395773		STEVENS / JULIA LANE	08050	NJ Release
SURF CITY	1000870831	OCEAN COUNTY OF SOLID WASTE MGMT	9TH ST - SURF CITY MUNICIPAL	08008	FINDS, RCRA-NonGen
SURF CITY	S104865973	IN BAY AREA OF	11TH ST	08008	NJ Release
SURF CITY	S105353268	OCEAN CNTY UA	SO. 5TH ST	08008	NJ Release
SURF CITY	S104423526	ON ROADWAY:	6TH / 7TH STREET	08008	NJ Release
SURF CITY	1000911533	SURF CITY MARINA	3231 1ST ST	08008	FINDS, RCRA-NonGen
SURF CITY	S104706492	2ND ST BEACH	2ND ST	08008	NJ Release
SURF CITY	S105070365	AREA OF ATLANTIC OCEAN	9TH ST	08008	NJ Release
SURF CITY BORO	S107070829		8TH ST / 9 TH ST	08008	NJ Release
SURF CITY BORO	S107079655		SOUTH 2ND ST/DIVISION ST	08008	NJ Release
SURF CITY BORO	S107567895		SOUTH 3RD ST	08008	NJ Release
SURF CITY BORO	U002156100	PERK'S ELECTRIC	RT 72 RT	08050	UST
SURF CITY BORO	S109303005	MANAHAWKIN BAPTIST CHURCH	400 BEACH AVE	08008	SHWS
SURF CITY BORO	S108260393		BULK HEAD ON 13TH STREET	08008	NJ Release
SURF CITY BORO	S107075656		616 LON BEACH BLVD	08008	NJ Release
SURF CITY BORO	S109296626	SURF CITY HOTEL	800 LONG BEACH BLVD	08008	SHWS

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Number of Days to Update: Provides confirmation that EDR is reporting records that have been updated within 90 days from the date the government agency made the information available to the public.

FEDERAL RECORDS

NPL: National Priority List

National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 02/02/2009
Date Data Arrived at EDR: 02/12/2009
Date Made Active in Reports: 03/30/2009
Number of Days to Update: 46

Source: EPA
Telephone: N/A
Last EDR Contact: 04/20/2009
Next Scheduled EDR Contact: 07/27/2009
Data Release Frequency: Quarterly

NPL Site Boundaries

Sources:

EPA's Environmental Photographic Interpretation Center (EPIC)
Telephone: 202-564-7333

EPA Region 1
Telephone 617-918-1143

EPA Region 6
Telephone: 214-655-6659

EPA Region 3
Telephone 215-814-5418

EPA Region 7
Telephone: 913-551-7247

EPA Region 4
Telephone 404-562-8033

EPA Region 8
Telephone: 303-312-6774

EPA Region 5
Telephone 312-886-6686

EPA Region 9
Telephone: 415-947-4246

EPA Region 10
Telephone 206-553-8665

Proposed NPL: Proposed National Priority List Sites

A site that has been proposed for listing on the National Priorities List through the issuance of a proposed rule in the Federal Register. EPA then accepts public comments on the site, responds to the comments, and places on the NPL those sites that continue to meet the requirements for listing.

Date of Government Version: 02/02/2009
Date Data Arrived at EDR: 02/12/2009
Date Made Active in Reports: 03/30/2009
Number of Days to Update: 46

Source: EPA
Telephone: N/A
Last EDR Contact: 04/20/2009
Next Scheduled EDR Contact: 07/27/2009
Data Release Frequency: Quarterly

DELISTED NPL: National Priority List Deletions

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 02/02/2009
Date Data Arrived at EDR: 02/12/2009
Date Made Active in Reports: 03/30/2009
Number of Days to Update: 46

Source: EPA
Telephone: N/A
Last EDR Contact: 04/20/2009
Next Scheduled EDR Contact: 07/27/2009
Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

NPL LIENS: Federal Superfund Liens

Federal Superfund Liens. Under the authority granted the USEPA by CERCLA of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner received notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

Date of Government Version: 10/15/1991
Date Data Arrived at EDR: 02/02/1994
Date Made Active in Reports: 03/30/1994
Number of Days to Update: 56

Source: EPA
Telephone: 202-564-4267
Last EDR Contact: 02/16/2009
Next Scheduled EDR Contact: 05/18/2009
Data Release Frequency: No Update Planned

CERCLIS: Comprehensive Environmental Response, Compensation, and Liability Information System

CERCLIS contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). CERCLIS contains sites which are either proposed to or on the National Priorities List (NPL) and sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 01/09/2009
Date Data Arrived at EDR: 01/30/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 101

Source: EPA
Telephone: 703-412-9810
Last EDR Contact: 05/15/2009
Next Scheduled EDR Contact: 07/13/2009
Data Release Frequency: Quarterly

CERCLIS-NFRAP: CERCLIS No Further Remedial Action Planned

Archived sites are sites that have been removed and archived from the inventory of CERCLIS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list this site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. This decision does not necessarily mean that there is no hazard associated with a given site; it only means that, based upon available information, the location is not judged to be a potential NPL site.

Date of Government Version: 12/03/2007
Date Data Arrived at EDR: 12/06/2007
Date Made Active in Reports: 02/20/2008
Number of Days to Update: 76

Source: EPA
Telephone: 703-412-9810
Last EDR Contact: 03/16/2009
Next Scheduled EDR Contact: 06/15/2009
Data Release Frequency: Quarterly

LIENS 2: CERCLA Lien Information

A Federal CERCLA ('Superfund') lien can exist by operation of law at any site or property at which EPA has spent Superfund monies. These monies are spent to investigate and address releases and threatened releases of contamination. CERCLIS provides information as to the identity of these sites and properties.

Date of Government Version: 02/06/2009
Date Data Arrived at EDR: 03/20/2009
Date Made Active in Reports: 05/05/2009
Number of Days to Update: 46

Source: Environmental Protection Agency
Telephone: 202-564-6023
Last EDR Contact: 03/03/2009
Next Scheduled EDR Contact: 05/18/2009
Data Release Frequency: Varies

CORRACTS: Corrective Action Report

CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 03/25/2009
Date Data Arrived at EDR: 04/02/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 39

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 03/03/2009
Next Scheduled EDR Contact: 06/01/2009
Data Release Frequency: Quarterly

RCRA-TSDF: RCRA - Transporters, Storage and Disposal

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Transporters are individuals or entities that move hazardous waste from the generator offsite to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

Date of Government Version: 11/12/2008
Date Data Arrived at EDR: 11/18/2008
Date Made Active in Reports: 03/16/2009
Number of Days to Update: 118

Source: Environmental Protection Agency
Telephone: (212) 637-3660
Last EDR Contact: 04/23/2009
Next Scheduled EDR Contact: 07/20/2009
Data Release Frequency: Quarterly

RCRA-LQG: RCRA - Large Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month.

Date of Government Version: 11/12/2008
Date Data Arrived at EDR: 11/18/2008
Date Made Active in Reports: 03/16/2009
Number of Days to Update: 118

Source: Environmental Protection Agency
Telephone: (212) 637-3660
Last EDR Contact: 04/23/2009
Next Scheduled EDR Contact: 07/20/2009
Data Release Frequency: Quarterly

RCRA-SQG: RCRA - Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

Date of Government Version: 11/12/2008
Date Data Arrived at EDR: 11/18/2008
Date Made Active in Reports: 03/16/2009
Number of Days to Update: 118

Source: Environmental Protection Agency
Telephone: (212) 637-3660
Last EDR Contact: 04/23/2009
Next Scheduled EDR Contact: 07/20/2009
Data Release Frequency: Quarterly

RCRA-CESQG: RCRA - Conditionally Exempt Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Conditionally exempt small quantity generators (CESQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month.

Date of Government Version: 11/12/2008
Date Data Arrived at EDR: 11/18/2008
Date Made Active in Reports: 03/16/2009
Number of Days to Update: 118

Source: Environmental Protection Agency
Telephone: (212) 637-3660
Last EDR Contact: 04/23/2009
Next Scheduled EDR Contact: 07/20/2009
Data Release Frequency: Varies

RCRA-NonGen: RCRA - Non Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

Date of Government Version: 11/12/2008
Date Data Arrived at EDR: 11/18/2008
Date Made Active in Reports: 03/16/2009
Number of Days to Update: 118

Source: Environmental Protection Agency
Telephone: (212) 637-3660
Last EDR Contact: 04/23/2009
Next Scheduled EDR Contact: 07/20/2009
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

US ENG CONTROLS: Engineering Controls Sites List

A listing of sites with engineering controls in place. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.

Date of Government Version: 03/31/2009
Date Data Arrived at EDR: 04/22/2009
Date Made Active in Reports: 05/05/2009
Number of Days to Update: 13

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 03/30/2009
Next Scheduled EDR Contact: 06/29/2009
Data Release Frequency: Varies

US INST CONTROL: Sites with Institutional Controls

A listing of sites with institutional controls in place. Institutional controls include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls.

Date of Government Version: 03/31/2009
Date Data Arrived at EDR: 04/22/2009
Date Made Active in Reports: 05/05/2009
Number of Days to Update: 13

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 03/30/2009
Next Scheduled EDR Contact: 06/29/2009
Data Release Frequency: Varies

ERNS: Emergency Response Notification System

Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 12/31/2007
Date Data Arrived at EDR: 01/23/2008
Date Made Active in Reports: 03/17/2008
Number of Days to Update: 54

Source: National Response Center, United States Coast Guard
Telephone: 202-267-2180
Last EDR Contact: 05/12/2009
Next Scheduled EDR Contact: 07/20/2009
Data Release Frequency: Annually

HMIRS: Hazardous Materials Information Reporting System

Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 12/31/2008
Date Data Arrived at EDR: 01/30/2009
Date Made Active in Reports: 05/05/2009
Number of Days to Update: 95

Source: U.S. Department of Transportation
Telephone: 202-366-4555
Last EDR Contact: 04/16/2009
Next Scheduled EDR Contact: 07/13/2009
Data Release Frequency: Annually

DOT OPS: Incident and Accident Data

Department of Transporation, Office of Pipeline Safety Incident and Accident data.

Date of Government Version: 05/14/2008
Date Data Arrived at EDR: 05/28/2008
Date Made Active in Reports: 08/08/2008
Number of Days to Update: 72

Source: Department of Transporation, Office of Pipeline Safety
Telephone: 202-366-4595
Last EDR Contact: 02/24/2009
Next Scheduled EDR Contact: 05/25/2009
Data Release Frequency: Varies

CDL: Clandestine Drug Labs

A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 07/01/2008
Date Data Arrived at EDR: 10/31/2008
Date Made Active in Reports: 12/23/2008
Number of Days to Update: 53

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 03/26/2009
Next Scheduled EDR Contact: 06/22/2009
Data Release Frequency: Quarterly

US BROWNFIELDS: A Listing of Brownfields Sites

Included in the listing are brownfields properties addresses by Cooperative Agreement Recipients and brownfields properties addressed by Targeted Brownfields Assessments. Targeted Brownfields Assessments-EPA's Targeted Brownfields Assessments (TBA) program is designed to help states, tribes, and municipalities--especially those without EPA Brownfields Assessment Demonstration Pilots--minimize the uncertainties of contamination often associated with brownfields. Under the TBA program, EPA provides funding and/or technical assistance for environmental assessments at brownfields sites throughout the country. Targeted Brownfields Assessments supplement and work with other efforts under EPA's Brownfields Initiative to promote cleanup and redevelopment of brownfields. Cooperative Agreement Recipients-States, political subdivisions, territories, and Indian tribes become Brownfields Cleanup Revolving Loan Fund (BCRLF) cooperative agreement recipients when they enter into BCRLF cooperative agreements with the U.S. EPA. EPA selects BCRLF cooperative agreement recipients based on a proposal and application process. BCRLF cooperative agreement recipients must use EPA funds provided through BCRLF cooperative agreement for specified brownfields-related cleanup activities.

Date of Government Version: 10/01/2008
Date Data Arrived at EDR: 11/14/2008
Date Made Active in Reports: 12/23/2008
Number of Days to Update: 39

Source: Environmental Protection Agency
Telephone: 202-566-2777
Last EDR Contact: 05/15/2009
Next Scheduled EDR Contact: 07/13/2009
Data Release Frequency: Semi-Annually

DOD: Department of Defense Sites

This data set consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 11/10/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 62

Source: USGS
Telephone: 703-692-8801
Last EDR Contact: 05/08/2009
Next Scheduled EDR Contact: 08/03/2009
Data Release Frequency: Semi-Annually

FUDS: Formerly Used Defense Sites

The listing includes locations of Formerly Used Defense Sites properties where the US Army Corps of Engineers is actively working or will take necessary cleanup actions.

Date of Government Version: 12/31/2007
Date Data Arrived at EDR: 09/05/2008
Date Made Active in Reports: 09/23/2008
Number of Days to Update: 18

Source: U.S. Army Corps of Engineers
Telephone: 202-528-4285
Last EDR Contact: 03/30/2009
Next Scheduled EDR Contact: 06/29/2009
Data Release Frequency: Varies

LUCIS: Land Use Control Information System

LUCIS contains records of land use control information pertaining to the former Navy Base Realignment and Closure properties.

Date of Government Version: 12/09/2005
Date Data Arrived at EDR: 12/11/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 31

Source: Department of the Navy
Telephone: 843-820-7326
Last EDR Contact: 03/09/2009
Next Scheduled EDR Contact: 06/08/2009
Data Release Frequency: Varies

CONSENT: Superfund (CERCLA) Consent Decrees

Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: 01/27/2009
Date Data Arrived at EDR: 04/23/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 18

Source: Department of Justice, Consent Decree Library
Telephone: Varies
Last EDR Contact: 04/21/2009
Next Scheduled EDR Contact: 07/20/2009
Data Release Frequency: Varies

ROD: Records Of Decision

Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 01/27/2009
Date Data Arrived at EDR: 02/04/2009
Date Made Active in Reports: 05/05/2009
Number of Days to Update: 90

Source: EPA
Telephone: 703-416-0223
Last EDR Contact: 03/30/2009
Next Scheduled EDR Contact: 06/29/2009
Data Release Frequency: Annually

UMTRA: Uranium Mill Tailings Sites

Uranium ore was mined by private companies for federal government use in national defense programs. When the mills shut down, large piles of the sand-like material (mill tailings) remain after uranium has been extracted from the ore. Levels of human exposure to radioactive materials from the piles are low; however, in some cases tailings were used as construction materials before the potential health hazards of the tailings were recognized.

Date of Government Version: 01/05/2009
Date Data Arrived at EDR: 05/07/2009
Date Made Active in Reports: 05/08/2009
Number of Days to Update: 1

Source: Department of Energy
Telephone: 505-845-0011
Last EDR Contact: 03/16/2009
Next Scheduled EDR Contact: 06/15/2009
Data Release Frequency: Varies

ODI: Open Dump Inventory

An open dump is defined as a disposal facility that does not comply with one or more of the Part 257 or Part 258 Subtitle D Criteria.

Date of Government Version: 06/30/1985
Date Data Arrived at EDR: 08/09/2004
Date Made Active in Reports: 09/17/2004
Number of Days to Update: 39

Source: Environmental Protection Agency
Telephone: 800-424-9346
Last EDR Contact: 06/09/2004
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

DEBRIS REGION 9: Torres Martinez Reservation Illegal Dump Site Locations

A listing of illegal dump sites location on the Torres Martinez Indian Reservation located in eastern Riverside County and northern Imperial County, California.

Date of Government Version: 03/25/2008
Date Data Arrived at EDR: 04/17/2008
Date Made Active in Reports: 05/15/2008
Number of Days to Update: 28

Source: EPA, Region 9
Telephone: 415-972-3336
Last EDR Contact: 04/07/2009
Next Scheduled EDR Contact: 06/22/2009
Data Release Frequency: Varies

MINES: Mines Master Index File

Contains all mine identification numbers issued for mines active or opened since 1971. The data also includes violation information.

Date of Government Version: 02/19/2009
Date Data Arrived at EDR: 03/24/2009
Date Made Active in Reports: 05/05/2009
Number of Days to Update: 42

Source: Department of Labor, Mine Safety and Health Administration
Telephone: 303-231-5959
Last EDR Contact: 03/24/2009
Next Scheduled EDR Contact: 06/22/2009
Data Release Frequency: Semi-Annually

TRIS: Toxic Chemical Release Inventory System

Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

Date of Government Version: 12/31/2006
Date Data Arrived at EDR: 02/29/2008
Date Made Active in Reports: 04/18/2008
Number of Days to Update: 49

Source: EPA
Telephone: 202-566-0250
Last EDR Contact: 04/09/2009
Next Scheduled EDR Contact: 06/15/2009
Data Release Frequency: Annually

TSCA: Toxic Substances Control Act

Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/2002
Date Data Arrived at EDR: 04/14/2006
Date Made Active in Reports: 05/30/2006
Number of Days to Update: 46

Source: EPA
Telephone: 202-260-5521
Last EDR Contact: 04/14/2009
Next Scheduled EDR Contact: 07/13/2009
Data Release Frequency: Every 4 Years

FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25

Source: EPA/Office of Prevention, Pesticides and Toxic Substances
Telephone: 202-566-1667
Last EDR Contact: 03/16/2009
Next Scheduled EDR Contact: 06/15/2009
Data Release Frequency: Quarterly

FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

A listing of FIFRA/TSCA Tracking System (FTTS) inspections and enforcements.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25

Source: EPA
Telephone: 202-566-1667
Last EDR Contact: 03/16/2009
Next Scheduled EDR Contact: 06/15/2009
Data Release Frequency: Quarterly

HIST FTTS: FIFRA/TSCA Tracking System Administrative Case Listing

A complete administrative case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2007
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

HIST FTTS INSP: FIFRA/TSCA Tracking System Inspection & Enforcement Case Listing

A complete inspection and enforcement case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2008
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

SSTS: Section 7 Tracking Systems

Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

Date of Government Version: 12/31/2006
Date Data Arrived at EDR: 03/14/2008
Date Made Active in Reports: 04/18/2008
Number of Days to Update: 35

Source: EPA
Telephone: 202-564-4203
Last EDR Contact: 12/04/2008
Next Scheduled EDR Contact: 07/13/2009
Data Release Frequency: Annually

ICIS: Integrated Compliance Information System

The Integrated Compliance Information System (ICIS) supports the information needs of the national enforcement and compliance program as well as the unique needs of the National Pollutant Discharge Elimination System (NPDES) program.

Date of Government Version: 03/20/2009
Date Data Arrived at EDR: 03/20/2009
Date Made Active in Reports: 05/05/2009
Number of Days to Update: 46

Source: Environmental Protection Agency
Telephone: 202-564-5088
Last EDR Contact: 04/13/2009
Next Scheduled EDR Contact: 07/13/2009
Data Release Frequency: Quarterly

PADS: PCB Activity Database System

PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

Date of Government Version: 12/04/2007
Date Data Arrived at EDR: 02/07/2008
Date Made Active in Reports: 03/17/2008
Number of Days to Update: 39

Source: EPA
Telephone: 202-566-0500
Last EDR Contact: 05/04/2009
Next Scheduled EDR Contact: 08/03/2009
Data Release Frequency: Annually

MLTS: Material Licensing Tracking System

MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 01/07/2009
Date Data Arrived at EDR: 01/15/2009
Date Made Active in Reports: 03/30/2009
Number of Days to Update: 74

Source: Nuclear Regulatory Commission
Telephone: 301-415-7169
Last EDR Contact: 03/30/2009
Next Scheduled EDR Contact: 06/29/2009
Data Release Frequency: Quarterly

RADINFO: Radiation Information Database

The Radiation Information Database (RADINFO) contains information about facilities that are regulated by U.S. Environmental Protection Agency (EPA) regulations for radiation and radioactivity.

Date of Government Version: 04/28/2009
Date Data Arrived at EDR: 04/29/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 12

Source: Environmental Protection Agency
Telephone: 202-343-9775
Last EDR Contact: 04/29/2009
Next Scheduled EDR Contact: 07/27/2009
Data Release Frequency: Quarterly

FINDS: Facility Index System/Facility Registry System

Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 01/20/2009
Date Data Arrived at EDR: 01/23/2009
Date Made Active in Reports: 05/05/2009
Number of Days to Update: 102

Source: EPA
Telephone: (212) 637-3000
Last EDR Contact: 03/30/2009
Next Scheduled EDR Contact: 06/29/2009
Data Release Frequency: Quarterly

RAATS: RCRA Administrative Action Tracking System

RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/1995
Date Data Arrived at EDR: 07/03/1995
Date Made Active in Reports: 08/07/1995
Number of Days to Update: 35

Source: EPA
Telephone: 202-564-4104
Last EDR Contact: 06/02/2008
Next Scheduled EDR Contact: 09/01/2008
Data Release Frequency: No Update Planned

BRS: Biennial Reporting System

The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 03/06/2007
Date Made Active in Reports: 04/13/2007
Number of Days to Update: 38

Source: EPA/NTIS
Telephone: 800-424-9346
Last EDR Contact: 02/19/2009
Next Scheduled EDR Contact: 06/08/2009
Data Release Frequency: Biennially

SCRD DRYCLEANERS: State Coalition for Remediation of Drycleaners Listing

The State Coalition for Remediation of Drycleaners was established in 1998, with support from the U.S. EPA Office of Superfund Remediation and Technology Innovation. It is comprised of representatives of states with established drycleaner remediation programs. Currently the member states are Alabama, Connecticut, Florida, Illinois, Kansas, Minnesota, Missouri, North Carolina, Oregon, South Carolina, Tennessee, Texas, and Wisconsin.

Date of Government Version: 12/08/2008
Date Data Arrived at EDR: 12/09/2008
Date Made Active in Reports: 03/16/2009
Number of Days to Update: 97

Source: Environmental Protection Agency
Telephone: 615-532-8599
Last EDR Contact: 05/11/2009
Next Scheduled EDR Contact: 08/10/2009
Data Release Frequency: Varies

STATE AND LOCAL RECORDS

SHWS: Known Contaminated Sites in New Jersey

The Known Contaminated Sites in New Jersey includes sites under the purview of the Site Remediation Program which have contamination present at levels greater than the applicable cleanup criteria for soil and/or groundwater standards. The sites appearing in Known Contaminated Sites in New Jersey are classified as either active, where the site is assigned to a specific remedial program area, or pending, where the site is awaiting assignment to a specific remedial program area. Sites where no further action (NFA) designation has been given are not included in this report unless there are other areas of identified contamination which have not been remediated. This report includes sites being remediated under all of the various regulatory programs administered by the Site Remediation Program such as: Federal Superfund Program, Federal Resource Conservation and Recovery Act (RCRA), New Jersey's Industrial Site Recovery Act (ISRA), New Jersey's Underground Storage of Hazardous Substances Act, New Jersey's Spill Compensation and Control Act, New Jersey's Solid Waste Management Act, New Jersey's Water Pollution Control Act.

Date of Government Version: 05/09/2008
Date Data Arrived at EDR: 11/13/2008
Date Made Active in Reports: 11/26/2008
Number of Days to Update: 13

Source: New Jersey Department of Environmental Protection
Telephone: 609-292-8761
Last EDR Contact: 04/15/2009
Next Scheduled EDR Contact: 06/15/2009
Data Release Frequency: Varies

HIST HWS: Known Contaminated Sites Listing

The Known Contaminated Sites in New Jersey report is a municipal listing of sites where contamination of soil and/or ground water is confirmed at levels greater than the applicable cleanup criteria or standards. Remedial activities are underway or required at the sites with an on-site source(s) of contamination and at locations where the source(s) of contamination is unknown. Sites with completed remedial work that require engineering and/or institutional controls have reporting measures in place to ensure the effectiveness of past actions, and some include maintenance and/or monitoring

Date of Government Version: 05/09/2008
Date Data Arrived at EDR: 11/14/2008
Date Made Active in Reports: 11/26/2008
Number of Days to Update: 12

Source: Department of Environmental Protection
Telephone: 209-292-2943
Last EDR Contact: 03/16/2009
Next Scheduled EDR Contact: 06/15/2009
Data Release Frequency: No Update Planned

PF: Publicly Funded Cleanups Site Status Report

The report focuses on publicly funded cleanups and features progress achieved and underway at all sites that are being addressed by the NJDEP with public funds.

Date of Government Version: 12/31/2003
Date Data Arrived at EDR: 04/25/2005
Date Made Active in Reports: 05/06/2005
Number of Days to Update: 11

Source: Department of Environmental Protection
Telephone: 609-292-9418
Last EDR Contact: 02/20/2009
Next Scheduled EDR Contact: 05/18/2009
Data Release Frequency: Annually

CHROME: Chromate Chemical Production Waste Sites

Known chromate chemical production waste sites.

Date of Government Version: 12/01/2007
Date Data Arrived at EDR: 12/21/2007
Date Made Active in Reports: 12/31/2007
Number of Days to Update: 10

Source: Department of Environmental Protection
Telephone: 609-984-4071
Last EDR Contact: 03/06/2009
Next Scheduled EDR Contact: 03/02/2009
Data Release Frequency: Varies

SWF/LF: Solid Waste Facility Directory

Solid Waste Facilities/Landfill Sites. SWF/LF type records typically contain an inventory of solid waste disposal facilities or landfills in a particular state. Depending on the state, these may be active or inactive facilities or open dumps that failed to meet RCRA Subtitle D Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 11/01/2008
Date Data Arrived at EDR: 12/16/2008
Date Made Active in Reports: 02/24/2009
Number of Days to Update: 70

Source: Department of Environmental Protection
Telephone: 609-984-6741
Last EDR Contact: 05/04/2009
Next Scheduled EDR Contact: 05/25/2009
Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

NON OP LF: Non-Operating Landfills

The landfills described in this document are non-operating and historic landfills identified by, or reported to, the Department. Working with local and regional environmental agencies, community representatives, and through review of historic materials the Site Remediation Program is developing this inventory to prevent injury to human and ecological resources.

Date of Government Version: 07/12/2007
Date Data Arrived at EDR: 10/18/2007
Date Made Active in Reports: 12/03/2007
Number of Days to Update: 46

Source: Department of Environmental Protection
Telephone: 609-984-6650
Last EDR Contact: 04/17/2009
Next Scheduled EDR Contact: 07/13/2009
Data Release Frequency: Varies

HIST LF: Solid Waste Facility Directory

Old or non-permitted solid waste facilities/landfills that are not included in the current solid waste facilities/landfills database.

Date of Government Version: 06/10/2003
Date Data Arrived at EDR: 02/19/2004
Date Made Active in Reports: 03/09/2004
Number of Days to Update: 19

Source: Department of Environmental Protection
Telephone: 609-984-6880
Last EDR Contact: 02/19/2004
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

SWRCY: Approved Class B Recycling Facilities

"Class B recyclable material" means a source separated recyclable material which is subject to Department approval prior to receipt, storage, processing or transfer at a recycling center in accordance with N.J.S.A. 13:1E-99.34b.

Date of Government Version: 09/01/2008
Date Data Arrived at EDR: 11/26/2008
Date Made Active in Reports: 02/09/2009
Number of Days to Update: 75

Source: Department of Environmental Protection
Telephone: 609-984-6650
Last EDR Contact: 02/27/2009
Next Scheduled EDR Contact: 05/25/2009
Data Release Frequency: Varies

LUST: UST Active Remediation Sites Listing

A listing of regulated Underground Storage Tanks that have a cleanup underway.

Date of Government Version: 03/17/2009
Date Data Arrived at EDR: 03/17/2009
Date Made Active in Reports: 03/26/2009
Number of Days to Update: 9

Source: New Jersey Department of Environmental Protection
Telephone: 609-292-8761
Last EDR Contact: 03/17/2009
Next Scheduled EDR Contact: 06/15/2009
Data Release Frequency: Varies

HIST LUST: Historical Leaking USTs

This listing is no longer updated or maintained by the DEP.

Date of Government Version: 09/17/2002
Date Data Arrived at EDR: 01/27/2006
Date Made Active in Reports: 02/08/2006
Number of Days to Update: 12

Source: Department of Environment Protection
Telephone: 609-292-8761
Last EDR Contact: 12/17/2007
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

UST: Underground Storage Tank Data

Registered Underground Storage Tanks. UST's are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA) and must be registered with the state department responsible for administering the UST program. Available information varies by state program.

Date of Government Version: 01/23/2009
Date Data Arrived at EDR: 02/27/2009
Date Made Active in Reports: 03/19/2009
Number of Days to Update: 20

Source: Department of Environmental Protection
Telephone: 609-341-3121
Last EDR Contact: 03/03/2009
Next Scheduled EDR Contact: 06/01/2009
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

LIENS: Environmental LIENS

A listing of properties with environmental liens. The listing includes sites from the Site Remediation & Waste Management Program Sites where the Department has placed either a 1st Priority or Regular Spill Fund Lien against. 1st Priority Type Lien - a lien placed against the property where the discharged occurred providing that the owners of the property have some responsibility towards the discharge. First Priority Lien is superior to other types of liens. Non-Priority (Regular) Type Lien - a lien placed against the Responsible Party & their revenues and all real and personal property, other than the real property comprising the location of the discharge.

Date of Government Version: 01/12/2009
Date Data Arrived at EDR: 02/13/2009
Date Made Active in Reports: 02/24/2009
Number of Days to Update: 11

Source: Department of Environmental Protection
Telephone: 609-341-3121
Last EDR Contact: 03/09/2009
Next Scheduled EDR Contact: 06/08/2009
Data Release Frequency: Varies

MAJOR FACILITIES: List of Major Facilities

Major facilities means all facilities, located on one or more contiguous or adjacent properties owned or operated by the same person, having total combined storage capacity of 20,000 gallons or more for hazardous substances other than petroleum or petroleum products, or 200,000 gallons or more for hazardous substances of all kinds.

Date of Government Version: 02/25/2009
Date Data Arrived at EDR: 02/27/2009
Date Made Active in Reports: 03/11/2009
Number of Days to Update: 12

Source: Department of Environmental Protection
Telephone: 609-292-1690
Last EDR Contact: 05/04/2009
Next Scheduled EDR Contact: 08/03/2009
Data Release Frequency: Varies

HIST MAJOR FACILITIES: List of Major Facilities

Major facilities means all facilities, located on one or more contiguous or adjacent properties owned or operated by the same person, having total combined storage capacity of 20,000 gallons or more for hazardous substances other than petroleum or petroleum products, or 200,000 gallons or more for hazardous substances of all kinds. This file contains detail information that is no longer available by the Department of Environmental Protection due to security concerns.

Date of Government Version: 01/02/2002
Date Data Arrived at EDR: 01/11/2006
Date Made Active in Reports: 01/11/2006
Number of Days to Update: 0

Source: Department of Environmental Protection
Telephone: 609-633-7476
Last EDR Contact: 02/02/2009
Next Scheduled EDR Contact: 05/04/2009
Data Release Frequency: No Update Planned

NJ MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 09/30/2007
Date Data Arrived at EDR: 12/04/2007
Date Made Active in Reports: 12/31/2007
Number of Days to Update: 27

Source: Department of Environmental Protection
Telephone: N/A
Last EDR Contact: 05/05/2009
Next Scheduled EDR Contact: 08/03/2009
Data Release Frequency: Annually

NJ Spills: Spills

Initial notification information of hazardous material incidents, where there is land contamination, reported to the Department of Environmental Protection's Environmental Action Line. The DEP has not conducted any investigation to determine its validity or accuracy.

Date of Government Version: 02/10/2009
Date Data Arrived at EDR: 03/17/2009
Date Made Active in Reports: 03/26/2009
Number of Days to Update: 9

Source: Department of Environmental Protection
Telephone: 609-341-3121
Last EDR Contact: 03/30/2009
Next Scheduled EDR Contact: 06/29/2009
Data Release Frequency: Annually

NJ Release: Hazardous Material Incident Database

Hazardous material release. Initial notification information reported to the Department of Environmental Protection's Environmental Action Line and the office has not conducted any investigations to determine its validity or accuracy.

Date of Government Version: 02/10/2009
Date Data Arrived at EDR: 03/17/2009
Date Made Active in Reports: 03/26/2009
Number of Days to Update: 9

Source: Department of Environmental Protection
Telephone: 609-341-3121
Last EDR Contact: 03/30/2009
Next Scheduled EDR Contact: 06/29/2009
Data Release Frequency: Semi-Annually

ENG CONTROLS: Declaration Environmental Restriction/Deed Notice Sites
Legal Document that restricts the use of contaminated property; holds owner(s) to the regulatory/statutory requirements for cleanup.

Date of Government Version: 01/12/2009
Date Data Arrived at EDR: 02/13/2009
Date Made Active in Reports: 02/24/2009
Number of Days to Update: 11

Source: Department of Environmental Protection
Telephone: 609-341-3121
Last EDR Contact: 03/16/2009
Next Scheduled EDR Contact: 06/15/2009
Data Release Frequency: Varies

INST CONTROL: Classification Exception Area Sites
A Classification Exception Area is an institutional control providing notice that ground water contamination exists in a particular location above State standards.

Date of Government Version: 01/12/2009
Date Data Arrived at EDR: 02/13/2009
Date Made Active in Reports: 02/24/2009
Number of Days to Update: 11

Source: Department of Environmental Protection
Telephone: 609-341-3121
Last EDR Contact: 03/16/2009
Next Scheduled EDR Contact: 06/15/2009
Data Release Frequency: Varies

VCP: Voluntary Cleanup Program Sites
Through the VCP, responsible parties, developers, local officials, or individuals may work with the department to remediate non-priority contaminated sites that pose no immediate threat to human health or the environment.

Date of Government Version: 12/18/2008
Date Data Arrived at EDR: 01/16/2009
Date Made Active in Reports: 02/24/2009
Number of Days to Update: 39

Source: Department of Environmental Protection
Telephone: 609-341-3121
Last EDR Contact: 04/27/2009
Next Scheduled EDR Contact: 07/27/2009
Data Release Frequency: Varies

DRYCLEANERS: Drycleaner List
A listing of registered drycleaners.

Date of Government Version: 03/10/2009
Date Data Arrived at EDR: 03/12/2009
Date Made Active in Reports: 03/20/2009
Number of Days to Update: 8

Source: Department of Environmental Protection
Telephone: 609-292-2795
Last EDR Contact: 03/03/2009
Next Scheduled EDR Contact: 06/01/2009
Data Release Frequency: Varies

BROWNFIELDS: Brownfields Database
Brownfields are identified as former or current commercial or industrial use sites that are presently vacant or underutilized, on which there is suspected to have been a discharge of a contamination to the soil or groundwater at concentrations greater than applicable cleanup criteria.

Date of Government Version: 01/14/2009
Date Data Arrived at EDR: 01/16/2009
Date Made Active in Reports: 02/09/2009
Number of Days to Update: 24

Source: Department of Environmental Protection
Telephone: 609-292-1251
Last EDR Contact: 05/04/2009
Next Scheduled EDR Contact: 07/06/2009
Data Release Frequency: Annually

ISRA: ISRA Database
The ISRA process begins with determining if the Act applies to your type of business and transaction. The provisions of ISRA only apply to industrial establishments. What is an industrial establishment? The term "industrial establishment" refers to the type of business operations and transactions that would subject a facility to review under ISRA.
An industrial establishment must meet each of the following three criteria: The place of business or real property at which such business is conducted, having a North American Industry Classification System (NAICS) code listed in N.J.A.C. 7:26 B - Appendix C subject to the specified exceptions and limitations. The place of business must have been engaged in operations on or after December 31, 1983; and The place of business must involve the generation, manufacture, refining, transportation, treatment, storage, handling, or disposal of hazardous substances or hazardous wastes.

Date of Government Version: 01/23/2009
Date Data Arrived at EDR: 02/27/2009
Date Made Active in Reports: 03/11/2009
Number of Days to Update: 12

Source: Department of Environmental Protection
Telephone: 609-984-3081
Last EDR Contact: 04/13/2009
Next Scheduled EDR Contact: 07/13/2009
Data Release Frequency: Quarterly

NJPDES: New Jersey Pollutant Discharge Elimination System Dischargers

The NJPDES contains the names, addresses and other information of all permitted New Jersey Pollutant Discharge Elimination Sytem dischargers.

Date of Government Version: 01/18/2008
Date Data Arrived at EDR: 03/12/2008
Date Made Active in Reports: 03/25/2008
Number of Days to Update: 13

Source: Department of Environmental Protection
Telephone: 609-242-4543
Last EDR Contact: 03/13/2009
Next Scheduled EDR Contact: 06/08/2009
Data Release Frequency: Varies

HWS RE-EVAL: Site Re-Evaluation Report

The locations were removed from the Known Contaminated Sites list for a variety of reasons. Some of the sites were taken off the list because they were inactive, some were not assigned a case worker and some were no longer contaminated. Inspectors from the DEP are now undertaking a full re-evaluation of each of the locations statewide. That includes visual and environmental tests to see whether contamination still exists.

Date of Government Version: 09/20/2007
Date Data Arrived at EDR: 10/12/2007
Date Made Active in Reports: 12/03/2007
Number of Days to Update: 52

Source: Department of Environmental Protection
Telephone: 609-984-3081
Last EDR Contact: 03/20/2009
Next Scheduled EDR Contact: 06/15/2009
Data Release Frequency: Varies

TRIBAL RECORDS

INDIAN RESERV: Indian Reservations

This map layer portrays Indian administered lands of the United States that have any area equal to or greater than 640 acres.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 12/08/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 34

Source: USGS
Telephone: 202-208-3710
Last EDR Contact: 05/08/2009
Next Scheduled EDR Contact: 08/03/2009
Data Release Frequency: Semi-Annually

INDIAN ODI: Report on the Status of Open Dumps on Indian Lands

Location of open dumps on Indian land.

Date of Government Version: 12/31/1998
Date Data Arrived at EDR: 12/03/2007
Date Made Active in Reports: 01/24/2008
Number of Days to Update: 52

Source: Environmental Protection Agency
Telephone: 703-308-8245
Last EDR Contact: 02/23/2009
Next Scheduled EDR Contact: 05/25/2009
Data Release Frequency: Varies

INDIAN LUST R1: Leaking Underground Storage Tanks on Indian Land

A listing of leaking underground storage tank locations on Indian Land.

Date of Government Version: 02/19/2009
Date Data Arrived at EDR: 02/19/2009
Date Made Active in Reports: 03/16/2009
Number of Days to Update: 25

Source: EPA Region 1
Telephone: 617-918-1313
Last EDR Contact: 02/16/2009
Next Scheduled EDR Contact: 05/18/2009
Data Release Frequency: Varies

INDIAN LUST R4: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in Florida, Mississippi and North Carolina.

Date of Government Version: 02/24/2009
Date Data Arrived at EDR: 03/03/2009
Date Made Active in Reports: 05/05/2009
Number of Days to Update: 63

Source: EPA Region 4
Telephone: 404-562-8677
Last EDR Contact: 02/16/2009
Next Scheduled EDR Contact: 05/18/2009
Data Release Frequency: Semi-Annually

INDIAN LUST R6: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in New Mexico and Oklahoma.

Date of Government Version: 02/15/2009
Date Data Arrived at EDR: 02/27/2009
Date Made Active in Reports: 03/16/2009
Number of Days to Update: 17

Source: EPA Region 6
Telephone: 214-665-6597
Last EDR Contact: 02/16/2009
Next Scheduled EDR Contact: 05/18/2009
Data Release Frequency: Varies

INDIAN LUST R7: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Iowa, Kansas, and Nebraska

Date of Government Version: 04/01/2008
Date Data Arrived at EDR: 12/03/2008
Date Made Active in Reports: 12/23/2008
Number of Days to Update: 20

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 02/20/2009
Next Scheduled EDR Contact: 05/18/2009
Data Release Frequency: Varies

INDIAN LUST R8: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Colorado, Montana, North Dakota, South Dakota, Utah and Wyoming.

Date of Government Version: 03/13/2009
Date Data Arrived at EDR: 03/17/2009
Date Made Active in Reports: 03/30/2009
Number of Days to Update: 13

Source: EPA Region 8
Telephone: 303-312-6271
Last EDR Contact: 02/16/2009
Next Scheduled EDR Contact: 05/18/2009
Data Release Frequency: Quarterly

INDIAN LUST R10: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Alaska, Idaho, Oregon and Washington.

Date of Government Version: 03/03/2009
Date Data Arrived at EDR: 03/04/2009
Date Made Active in Reports: 03/30/2009
Number of Days to Update: 26

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 02/16/2009
Next Scheduled EDR Contact: 05/18/2009
Data Release Frequency: Quarterly

INDIAN LUST R9: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Arizona, California, New Mexico and Nevada

Date of Government Version: 12/15/2008
Date Data Arrived at EDR: 12/16/2008
Date Made Active in Reports: 03/16/2009
Number of Days to Update: 90

Source: Environmental Protection Agency
Telephone: 415-972-3372
Last EDR Contact: 04/17/2009
Next Scheduled EDR Contact: 05/18/2009
Data Release Frequency: Quarterly

INDIAN UST R8: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 8 (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming and 27 Tribal Nations).

Date of Government Version: 03/13/2009
Date Data Arrived at EDR: 03/17/2009
Date Made Active in Reports: 03/30/2009
Number of Days to Update: 13

Source: EPA Region 8
Telephone: 303-312-6137
Last EDR Contact: 02/16/2009
Next Scheduled EDR Contact: 05/18/2009
Data Release Frequency: Quarterly

INDIAN UST R9: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 9 (Arizona, California, Hawaii, Nevada, the Pacific Islands, and Tribal Nations).

Date of Government Version: 12/15/2008
Date Data Arrived at EDR: 12/16/2008
Date Made Active in Reports: 03/16/2009
Number of Days to Update: 90

Source: EPA Region 9
Telephone: 415-972-3368
Last EDR Contact: 04/17/2009
Next Scheduled EDR Contact: 05/18/2009
Data Release Frequency: Quarterly

INDIAN UST R10: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 10 (Alaska, Idaho, Oregon, Washington, and Tribal Nations).

Date of Government Version: 03/03/2009
Date Data Arrived at EDR: 03/04/2009
Date Made Active in Reports: 03/30/2009
Number of Days to Update: 26

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 02/16/2009
Next Scheduled EDR Contact: 05/18/2009
Data Release Frequency: Quarterly

INDIAN UST R6: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 6 (Louisiana, Arkansas, Oklahoma, New Mexico, Texas and 65 Tribes).

Date of Government Version: 04/06/2009
Date Data Arrived at EDR: 04/07/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 34

Source: EPA Region 6
Telephone: 214-665-7591
Last EDR Contact: 02/16/2009
Next Scheduled EDR Contact: 05/18/2009
Data Release Frequency: Semi-Annually

INDIAN UST R4: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 4 (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee and Tribal Nations)

Date of Government Version: 02/24/2009
Date Data Arrived at EDR: 03/03/2009
Date Made Active in Reports: 05/05/2009
Number of Days to Update: 63

Source: EPA Region 4
Telephone: 404-562-9424
Last EDR Contact: 02/16/2009
Next Scheduled EDR Contact: 05/18/2009
Data Release Frequency: Semi-Annually

INDIAN UST R1: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 1 (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont and ten Tribal Nations).

Date of Government Version: 02/19/2009
Date Data Arrived at EDR: 02/19/2009
Date Made Active in Reports: 03/16/2009
Number of Days to Update: 25

Source: EPA, Region 1
Telephone: 617-918-1313
Last EDR Contact: 02/16/2009
Next Scheduled EDR Contact: 05/18/2009
Data Release Frequency: Varies

INDIAN UST R7: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 7 (Iowa, Kansas, Missouri, Nebraska, and 9 Tribal Nations).

Date of Government Version: 04/01/2008
Date Data Arrived at EDR: 12/30/2008
Date Made Active in Reports: 03/16/2009
Number of Days to Update: 76

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 02/20/2009
Next Scheduled EDR Contact: 05/18/2009
Data Release Frequency: Varies

INDIAN UST R5: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 5 (Michigan, Minnesota and Wisconsin and Tribal Nations).

Date of Government Version: 09/08/2008
Date Data Arrived at EDR: 09/19/2008
Date Made Active in Reports: 10/16/2008
Number of Days to Update: 27

Source: EPA Region 5
Telephone: 312-886-6136
Last EDR Contact: 02/16/2009
Next Scheduled EDR Contact: 05/18/2009
Data Release Frequency: Varies

INDIAN VCP R1: Voluntary Cleanup Priority Listing

A listing of voluntary cleanup priority sites located on Indian Land located in Region 1.

Date of Government Version: 04/02/2008
Date Data Arrived at EDR: 04/22/2008
Date Made Active in Reports: 05/19/2008
Number of Days to Update: 27

Source: EPA, Region 1
Telephone: 617-918-1102
Last EDR Contact: 04/20/2009
Next Scheduled EDR Contact: 07/20/2009
Data Release Frequency: Varies

INDIAN VCP R7: Voluntary Cleanup Priority Lisitng

A listing of voluntary cleanup priority sites located on Indian Land located in Region 7.

Date of Government Version: 03/20/2008
Date Data Arrived at EDR: 04/22/2008
Date Made Active in Reports: 05/19/2008
Number of Days to Update: 27

Source: EPA, Region 7
Telephone: 913-551-7365
Last EDR Contact: 04/20/2009
Next Scheduled EDR Contact: 07/20/2009
Data Release Frequency: Varies

EDR PROPRIETARY RECORDS

Manufactured Gas Plants: EDR Proprietary Manufactured Gas Plants

The EDR Proprietary Manufactured Gas Plant Database includes records of coal gas plants (manufactured gas plants) compiled by EDR's researchers. Manufactured gas sites were used in the United States from the 1800's to 1950's to produce a gas that could be distributed and used as fuel. These plants used whale oil, rosin, coal, or a mixture of coal, oil, and water that also produced a significant amount of waste. Many of the byproducts of the gas production, such as coal tar (oily waste containing volatile and non-volatile chemicals), sludges, oils and other compounds are potentially hazardous to human health and the environment. The byproduct from this process was frequently disposed of directly at the plant site and can remain or spread slowly, serving as a continuous source of soil and groundwater contamination.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

CT MANIFEST: Hazardous Waste Manifest Data

Facility and manifest data. Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a tsd facility.

Date of Government Version: 12/31/2006
Date Data Arrived at EDR: 12/11/2008
Date Made Active in Reports: 03/19/2009
Number of Days to Update: 98

Source: Department of Environmental Protection
Telephone: 860-424-3375
Last EDR Contact: 03/13/2009
Next Scheduled EDR Contact: 06/08/2009
Data Release Frequency: Annually

NY MANIFEST: Facility and Manifest Data
Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a TSD facility.

Date of Government Version: 01/27/2009
Date Data Arrived at EDR: 02/25/2009
Date Made Active in Reports: 03/12/2009
Number of Days to Update: 15

Source: Department of Environmental Conservation
Telephone: 518-402-8651
Last EDR Contact: 02/25/2009
Next Scheduled EDR Contact: 05/25/2009
Data Release Frequency: Annually

PA MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 12/31/2007
Date Data Arrived at EDR: 09/11/2008
Date Made Active in Reports: 10/02/2008
Number of Days to Update: 21

Source: Department of Environmental Protection
Telephone: N/A
Last EDR Contact: 03/09/2009
Next Scheduled EDR Contact: 06/08/2009
Data Release Frequency: Annually

RI MANIFEST: Manifest information
Hazardous waste manifest information

Date of Government Version: 12/31/2008
Date Data Arrived at EDR: 02/12/2009
Date Made Active in Reports: 03/11/2009
Number of Days to Update: 27

Source: Department of Environmental Management
Telephone: 401-222-2797
Last EDR Contact: 03/16/2009
Next Scheduled EDR Contact: 06/15/2009
Data Release Frequency: Annually

VT MANIFEST: Hazardous Waste Manifest Data
Hazardous waste manifest information.

Date of Government Version: 03/17/2008
Date Data Arrived at EDR: 03/26/2008
Date Made Active in Reports: 04/09/2008
Number of Days to Update: 14

Source: Department of Environmental Conservation
Telephone: 802-241-3443
Last EDR Contact: 05/11/2009
Next Scheduled EDR Contact: 08/10/2009
Data Release Frequency: Annually

WI MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 12/31/2007
Date Data Arrived at EDR: 08/22/2008
Date Made Active in Reports: 09/08/2008
Number of Days to Update: 17

Source: Department of Natural Resources
Telephone: N/A
Last EDR Contact: 04/07/2009
Next Scheduled EDR Contact: 07/06/2009
Data Release Frequency: Annually

Oil/Gas Pipelines: This data was obtained by EDR from the USGS in 1994. It is referred to by USGS as GeoData Digital Line Graphs from 1:100,000-Scale Maps. It was extracted from the transportation category including some oil, but primarily gas pipelines.

Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

AHA Hospitals:
Source: American Hospital Association, Inc.
Telephone: 312-280-5991
The database includes a listing of hospitals based on the American Hospital Association's annual survey of hospitals.

Medical Centers: Provider of Services Listing
Source: Centers for Medicare & Medicaid Services
Telephone: 410-786-3000
A listing of hospitals with Medicare provider number, produced by Centers of Medicare & Medicaid Services, a federal agency within the U.S. Department of Health and Human Services.

Nursing Homes
Source: National Institutes of Health
Telephone: 301-594-6248
Information on Medicare and Medicaid certified nursing homes in the United States.
Public Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on elementary and secondary public education in the United States. It is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts, which contains data that are comparable across all states.
Private Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on private school locations in the United States.
Daycare Centers: Child Care Center Listings
Source: Department of Human Services
Telephone: 609-292-1018

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 1999 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002 and 2005 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetlands Inventory
Source: Department of Environmental Protection
Telephone: 609-984-2243

STREET AND ADDRESS INFORMATION

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APPENDIX E

REQUEST FOR INFORMATION TO NJEDP, STAFFORD TOWNSHIP, SHIP BOTTOM BOROUGH AND OCEAN COUNTY

NJDOT ROUTE 72
MANAHAWKIN BAY BRIDGES

REQUEST FOR INFORMATION TO
NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION

State of New Jersey
Department of Environmental Protection
GOVERNMENT RECORDS REQUEST FORM

IMPORTANT NOTICE

Please read this entire form carefully as it contains important information concerning the response to your record request, accessing records, disputing denials, and your rights concerning government records. For further information, access WWW.NJ.GOV/DEP/OPRA.

Requestor Information

First Name: XERXES	MI	Last Name ANTIA			
Company: PRESTIGE ENVIRONMENTAL, INC.					
Mailing Address: 27 PROGRESS STREET					
City: Edison	State: NJ	Zip: 08820	Email:	archana.dave@prestige-environmental.com	
Business Telephone: (908) 757-9700				Extension	
Facsimile Telephone: (908) 757-5050					

State Use Only

Tracking #	88063 - Margos 1 hr
Received Date	12/23/2009 — PA
Access Method	On-site access, visit, copy

All matters relating to the response and access of any records identified for this request should be directed to:

NJDEP – Office of Record Access
401 East State Street
PO Box 442
Trenton, New Jersey 08625-0442
Tele #: (609) 341-3121
Fax #: (609) 292-1177

Record Request Details:

Property Desc: Commerical/Industrial We would like to receive information from readily available records for the property regarding the known or potential environmental and/or public health hazards due to hazardous materials spills, waste water discharges, air emissions, illegal dumping and chemical/petroleum storage. If such records exist for the property, we would like to obtain: Information regarding how the site is being investigated or remediated; Notification of the lead regulatory agency; Public health records; Location of septic systems, supply wells, and/or monitoring wells at the site; Notification of any legal action by NJDEP involving the site; Information regarding site investigation/inspection reports, monitoring data or other documents that examine the pollution problems at the site including soil, groundwater and air sampling laboratory data; and Copies of construction/building permits for the installation and/or closure of aboveground and underground storage tanks (ASTs and USTs).

Disposition Notes

Based on the record request, responsive records have been identified. Note the processing of this requestincurred Extra-Ordinary Time Service charges (See 3rd Page # 2). Requester should contact the Office at 609-341-3121 to obtain further information.

Record Request Response

In Progress	-	Open	
Filled	-	Closed	X
Denied	-	Closed	
Partial	-	Closed	

Addendum Disposition Notes: NONE

Matthew J. Cafra 12/30/2009

Custodian Signature **Date**

Access to Government Records Under the New Jersey Open Public Records Act (N.J.S.A. 47:1A-1 et seq.)

Information Regarding the Requested Records		
If your request is in reference to a single facility, please provide the name of the facility, and the name of the operator name of the facility:	Facility Name: Margos Inn, Inc. Operator Name:	
Please provide the owner name the facility or parcel of land:	Owner Name:	
If your request is in reference to a specific parcel of land, please provide the street address, block, lot and property owner of the parcel of land: (Note: if the property in question is over multiple blocks and lots, please list all in the description field below)	Street Address 1: 1432 E Bay Avenue Street Address 2: Block: Lot:	
If your request is in reference to a facility, site or parcel of land, please provide the Municipality and County where the facility, site or parcel of land is located:	County: Ocean Municipality: Stafford Twp	
If the request is in reference to a particular permit issued by NJDEP, please provide the type of permit and any identifying numbers such as permit, incident or case numbers. (i.e. Fishing, Hunting, Hazardous Waste, Solid Waste, Land Use, NJPDES, Pesticides, Stream Encroachment, TWA, UST, Water Allocation)	List Permit Type:	List ID Numbers: 92-09-14-1542-0092-07-05-1016
If your request is in reference to an individual, please provide the individual's name and type, and if the individual is a DEP employee, your relationship with the individual:	Individual's name: Type of Individual: Relationship:	
If the an individual was specified above, the individual was DEP Licensed, please specify the license type the individual holds:	License Type:	

The New Jersey Department of Environmental Protection has responded to your submitted Open Public Records Act (OPRA) record request. The following information will help you understand the response and your next available actions.

Tracking #: This is the Department's assigned Tracking # to your OPRA record request, which should be used in all corresponding matters.

Record Request Response:

- **In Progress** – Based on the nature of the request, the records sought, and/or the manner to which the records may exists, the Department requires additional time to investigate and respond to the request.
- **Filled** – Based on the information provided in your request, the Department was able to investigate and respond to your record request.
- **Denied** – Based on the nature of the request and/or the records sought, the Department has denied your request pursuant to a specific exemption(s) cited in N.J.S.A. 47:1A-1 seq.
- **Partial** – The Department has identified both responsive government records and records being denied based on the nature of the request and/or the records sought, that do not meet the definition of a government record pursuant to a specific exemption(s) cited in N.J.S.A. 47:1A-1 seq.

Disposition Notes: Provides detailed information concerning the Department's response to your request.

Accessing Records: Dependent on the volume of records and your interest, there are four (4) methods available to access the responsive government records:

- **File Review** – Schedule a file review with the Department to directly access the records and take notes or tag records of interest for copying. Copying can be performed by either the onsite Department of Treasury's DEP Copying Unit at State duplication fee costs or by the requester employing a Copy Vendor Service. If there are records stored in archives, a five-day processing period will be included prior to scheduling a review.
- **Copy Request** – All records of interest will be copied by the onsite Department of Treasury's DEP Copying Unit at State duplication fee costs unless a Copy Vendor Service is employed.
- **Fax Request** – Based on the number of pages, the Department faxes the responsive records.
- **Web Access** – The responsive records can be access directly through the Department's web site. Web address will be provided.

Access to Government Records Under the New Jersey Open Public Records Act (N.J.S.A. 47:1A-1 et seq.)

1. The fees for duplication of a government record are specified below. We will notify you of any special charges, special service charges or other additional charges authorized by State law or regulation before processing your request. Payment shall be made by cash, check or money order payable to the State of New Jersey and mailed to the address specified below.

Hard Copies: Pages 1 through 10 = $0.75 per page
Pages 11 through 20 = $0.50 per page
Pages 21 on = $0.25 per page

Electronic Records: Compact Discs (CDs) = $9.77 per CD
Diskettes = $ 0.55 per diskette

Over-sized Maps: = $5.00 per map

2. Pursuant to OPRA (C.47:1A-5C), whenever the nature, format, manner of collation, or volume of a government record embodied in the form of printed matter to be inspected, examined, or copied pursuant to this section is such that the record cannot be reproduced by ordinary document copying equipment in ordinary business size or involves an extraordinary expenditure of time and effort to accommodate the request, the public agency may charge, in addition to the actual cost of duplicating the record, a special service charge that shall be reasonable and shall be based upon the actual direct cost of providing the copy or copies.

   The Department charges $48/Hr Fee for Extra-Ordinary Time (EOT) Service Charges. If a request is applicable for an EOT charge, the Requester will be notified of such and payment of the charge must be received prior to access of the subject records. Please note, based on the nature of a request and the records being sought, if the record request processing time is over the Department's normal request processing time, the Department may assess an EOT charge. Being that there is no manner for the Department to ascertain the charge prior to the time being incurred, the Department will notify the Requester in its response to a record request and payment must occur prior to accessing records.

3. By law, the Department must notify you that it grants or denies a request for access to government records within seven business days after the custodian of the record requested receives the request, provided that the record is currently available and not in storage. If the record requested is not currently available or is in storage, the custodian will advise you within seven business days when the record can be made available and the estimated cost. You may agree with the custodian to extend the time for making records available, or granting or denying your request.

4. You may be denied access to a government record if your request would substantially disrupt agency operations and the custodian is unable to reach a reasonable solution with you.

5. If the Department was unable to comply with your request for access to a government record, the custodian will indicate the reasons for denial on the request form.

6. Except as otherwise provided by law or by agreement with the requester, if the custodian of the record requested fails to respond to you within seven business days of receiving a request form, the failure to respond will be considered a denial of your request.

7. **Resolution of Disputed Findings:**

   In the event that a requester does not agree with the Department's record response, the requester should:

   No Records - Reexamined the request details to evaluate if all of the information was provided that could aid the Department in locating records. The Department's ability to identify records of interest is in direct correlation to matching the Department information with the information provided on the request. Such important identifiers are Facility/Site Name, Address, Case #, Permit #, Block/Lot.

   Denial - If your request for access to a government record has been denied or unfilled within the time permitted by law, you have a right to challenge the decision by the Department to deny access. The Department denies access to records only when those records do not meet the definition of a government record and/or public access is not allowed pursuant to the law. At your option, you may either:

   a. Contact the Office of Record Access to re-visit the matter or provide further explanation.

   b. Institute a proceeding in the Superior Court of New Jersey

   c. File a complaint in writing with the Government Records Council (GRC). You may contact the GRC by toll-free telephone at 866-850-0511, by mail at PO Box 819, Trenton, NJ, 08625, by e-mail at *grc@dca.state.nj.us*, or at their web site at *www.state.nj.us/grc*. The Council can also respond to other questions about the law.

8. Information provided on this form may be subject to disclosure under the Open Public Records Act.

Revised Addendum Disposition Notes: NONE

State of New Jersey
Department of Environmental Protection
GOVERNMENT RECORDS REQUEST FORM

IMPORTANT NOTICE

Please read this entire form carefully as it contains important information concerning the response to your record request, accessing records, disputing denials, and your rights concerning government records. For further information, access WWW.NJ.GOV/DEP/OPRA.

Requestor Information

First Name:	XERXES	MI	Last Name	ANTIA	
Company:	PRESTIGE ENVIRONMENTAL, INC.				
Mailing Address:	27 PROGRESS STREET				
City: Edison	State: NJ	Zip: 08820	Email:	archana.dave@prestige-environmental.com	
Business Telephone:	(908) 757-9700			Extension	
Facsimile Telephone:	(908) 757-5050				

State Use Only

Tracking #	88064 - Causeway B. Rehled
Received Date	12/23/2009
Access Method	On-site access, visit, copy

All matters relating to the response and access of any records identified for this request should be directed to:

NJDEP – Office of Record Access
401 East State Street
PO Box 442
Trenton, New Jersey 08625-0442
Tele #: (609) 341-3121
Fax #: (609) 292-1177

Record Request Details:

Property Desc: Commerical/Industrial We would like to receive information from readily available records for the property regarding the known or potential environmental and/or public health hazards due to hazardous materials spills, waste water discharges, air emissions, illegal dumping and chemical/petroleum storage. If such records exist for the property, we would like to obtain: Information regarding how the site is being investigated or remediated; Notification of the lead regulatory agency; Public health records; Location of septic systems, supply wells, and/or monitoring wells at the site; Notification of any legal action by NJDEP involving the site; Information regarding site investigation/inspection reports, monitoring data or other documents that examine the pollution problems at the site including soil, groundwater and air sampling laboratory data; and Copies of construction/building permits for the installation and/or closure of aboveground and underground storage tanks (ASTs and USTs).

Disposition Notes

Based on this record request,responsive records have been identified and available for access. Requester should contact the Office of Record Access at 609-341-3121 to schedule a file review, copies, or to obtain further information.

Addendum Disposition Notes: NONE

Record Request Response

In Progress	-	Open	
Filled	-	Closed	X
Denied	-	Closed	
Partial	-	Closed	

Michael J. Clyde — 12/30/2009

Custodian Signature — Date

Access to Government Records Under the New Jersey Open Public Records Act (N.J.S.A. 47:1A-1 et seq.)

Information Regarding the Requested Records		
If your request is in reference to a single facility, please provide the name of the facility, and the name of the operator name of the facility:	Facility Name: Causeway Boat Rentals Operator Name:	
Please provide the owner name the facility or parcel of land:	Owner Name:	
If your request is in reference to a specific parcel of land, please provide the street address, block, lot and property owner of the parcel of land: (Note: if the property in question is over multiple blocks and lots, please list all in the description field below)	Street Address 1: 2200 E Bay Avenue Street Address 2: Block: Lot:	
If your request is in reference to a facility, site or parcel of land, please provide the Municipality and County where the facility, site or parcel of land is located:	County: Ocean Municipality: Stafford Twp	
If the request is in reference to a particular permit issued by NJDEP, please provide the type of permit and any identifying numbers such as permit, incident or case numbers. (i.e. Fishing, Hunting, Hazardous Waste, Solid Waste, Land Use, NJPDES, Pesticides, Stream Encroachment, TWA, UST, Water Allocation)	List Permit Type:	List ID Numbers: LUST:90-11-01-0855
If your request is in reference to an individual, please provide the individual's name and type, and if the individual is a DEP employee, your relationship with the individual:	Individual's name: Type of Individual: Relationship:	
If the an individual was specified above, the individual was DEP Licensed, please specify the license type the individual holds:	License Type:	

The New Jersey Department of Environmental Protection has responded to your submitted Open Public Records Act (OPRA) record request. The following information will help you understand the response and your next available actions.

Tracking #: This is the Department's assigned Tracking # to your OPRA record request, which should be used in all corresponding matters.

Record Request Response:

- **In Progress** – Based on the nature of the request, the records sought, and/or the manner to which the records may exists, the Department requires additional time to investigate and respond to the request.
- **Filled** – Based on the information provided in your request, the Department was able to investigate and respond to your record request.
- **Denied** – Based on the nature of the request and/or the records sought, the Department has denied your request pursuant to a specific exemption(s) cited in N.J.S.A. 47:1A-1 seq.
- **Partial** – The Department has identified both responsive government records and records being denied based on the nature of the request and/or the records sought, that do not meet the definition of a government record pursuant to a specific exemption(s) cited in N.J.S.A. 47:1A-1 seq.

Disposition Notes: Provides detailed information concerning the Department's response to your request.

Accessing Records: Dependent on the volume of records and your interest, there are four (4) methods available to access the responsive government records:

- **File Review** – Schedule a file review with the Department to directly access the records and take notes or tag records of interest for copying. Copying can be performed by either the onsite Department of Treasury's DEP Copying Unit at State duplication fee costs or by the requester employing a Copy Vendor Service. If there are records stored in archives, a five-day processing period will be included prior to scheduling a review.
- **Copy Request** – All records of interest will be copied by the onsite Department of Treasury's DEP Copying Unit at State duplication fee costs unless a Copy Vendor Service is employed.
- **Fax Request** – Based on the number of pages, the Department faxes the responsive records.
- **Web Access** – The responsive records can be access directly through the Department's web site. Web address will be provided.

Access to Government Records Under the New Jersey Open Public Records Act (N.J.S.A. 47:1A-1 et seq.)

1. The fees for duplication of a government record are specified below. We will notify you of any special charges, special service charges or other additional charges authorized by State law or regulation before processing your request. Payment shall be made by cash, check or money order payable to the State of New Jersey and mailed to the address specified below.

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Pages 21 on = $0.25 per page

Electronic Records: Compact Discs (CDs) = $9.77 per CD
Diskettes = $ 0.55 per diskette

Over-sized Maps: = $5.00 per map

2. Pursuant to OPRA (C.47:1A-5C), whenever the nature, format, manner of collation, or volume of a government record embodied in the form of printed matter to be inspected, examined, or copied pursuant to this section is such that the record cannot be reproduced by ordinary document copying equipment in ordinary business size or involves an extraordinary expenditure of time and effort to accommodate the request, the public agency may charge, in addition to the actual cost of duplicating the record, a special service charge that shall be reasonable and shall be based upon the actual direct cost of providing the copy or copies.

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3. By law, the Department must notify you that it grants or denies a request for access to government records within seven business days after the custodian of the record requested receives the request, provided that the record is currently available and not in storage. If the record requested is not currently available or is in storage, the custodian will advise you within seven business days when the record can be made available and the estimated cost. You may agree with the custodian to extend the time for making records available, or granting or denying your request.

4. You may be denied access to a government record if your request would substantially disrupt agency operations and the custodian is unable to reach a reasonable solution with you.

5. If the Department was unable to comply with your request for access to a government record, the custodian will indicate the reasons for denial on the request form.

6. Except as otherwise provided by law or by agreement with the requester, if the custodian of the record requested fails to respond to you within seven business days of receiving a request form, the failure to respond will be considered a denial of your request.

7. **Resolution of Disputed Findings:**

   In the event that a requester does not agree with the Department's record response, the requester should:

   No Records - Reexamined the request details to evaluate if all of the information was provided that could aid the Department in locating records. The Department's ability to identify records of interest is in direct correlation to matching the Department information with the information provided on the request. Such important identifiers are Facility/Site Name, Address, Case #, Permit #, Block/Lot.

   Denial - If your request for access to a government record has been denied or unfilled within the time permitted by law, you have a right to challenge the decision by the Department to deny access. The Department denies access to records only when those records do not meet the definition of a government record and/or public access is not allowed pursuant to the law. At your option, you may either:

   a. Contact the Office of Record Access to re-visit the matter or provide further explanation.

   b. Institute a proceeding in the Superior Court of New Jersey

   c. File a complaint in writing with the Government Records Council (GRC). You may contact the GRC by toll-free telephone at 866-850-0511, by mail at PO Box 819, Trenton, NJ, 08625, by e-mail at *grc@dca.state.nj.us*, or at their web site at *www.state.nj.us/grc*. The Council can also respond to other questions about the law.

8. Information provided on this form may be subject to disclosure under the Open Public Records Act.

Revised Addendum Disposition Notes: NONE

State of New Jersey
Department of Environmental Protection
GOVERNMENT RECORDS REQUEST FORM

IMPORTANT NOTICE

Please read this entire form carefully as it contains important information concerning the response to your record request, accessing records, disputing denials, and your rights concerning government records. For further information, access WWW.NJ.GOV/DEP/OPRA.

Requestor Information

First Name: XERXES MI Last Name ANTIA	
Company: PRESTIGE ENVIRONMENTAL, INC.	
Mailing Address: 27 PROGRESS STREET	
City: Edison State: NJ Zip: 08820 Email:	archana.dave@prestige-environmental.com
Business Telephone: (908) 757-9700	Extension
Facsimile Telephone: (908) 757-5050	

State Use Only

Tracking #	88065 - 9th St. Shore Ave.
Received Date	12/23/2009
Access Method	On-site access, visit, copy

All matters relating to the response and access of any records identified for this request should be directed to:

NJDEP – Office of Record Access
401 East State Street
PO Box 442
Trenton, New Jersey 08625-0442
Tele #: (609) 341-3121
Fax #: (609) 292-1177

Record Request Details:

Property Desc: Commerical/Industrial We would like to receive information from readily available records for the property regarding the known or potential environmental and/or public health hazards due to hazardous materials spills, waste water discharges, air emissions, illegal dumping and chemical/petroleum storage. If such records exist for the property, we would like to obtain: Information regarding how the site is being investigated or remediated; Notification of the lead regulatory agency; Public health records; Location of septic systems, supply wells, and/or monitoring wells at the site; Notification of any legal action by NJDEP involving the site; Information regarding site investigation/inspection reports, monitoring data or other documents that examine the pollution problems at the site including soil, groundwater and air sampling laboratory data; and Copies of construction/building permits for the installation and/or closure of aboveground and underground storage tanks (ASTs and USTs).

Disposition Notes

Based on this record request,responsive records have been identified and available for access. Requester should contact the Office of Record Access at 609-341-3121 to schedule a file review, copies, or to obtain further information.

Addendum Disposition Notes: NONE

Record Request Response

In Progress	- Open	
Filled	- Closed	X
Denied	- Closed	
Partial	- Closed	

Matthew J Cafer 12/30/2009

Custodian Signature **Date**

Access to Government Records Under the New Jersey Open Public Records Act (N.J.S.A. 47:1A-1 et seq.)

Information Regarding the Requested Records		
If your request is in reference to a single facility, please provide the name of the facility, and the name of the operator name of the facility:	Facility Name: Operator Name:	
Please provide the owner name the facility or parcel of land:	Owner Name:	
If your request is in reference to a specific parcel of land, please provide the street address, block, lot and property owner of the parcel of land: (Note: if the property in question is over multiple blocks and lots, please list all in the description field below)	Street Address 1: 9th Street_ Shore Ave Street Address 2: Block: Lot:	
If your request is in reference to a facility, site or parcel of land, please provide the Municipality and County where the facility, site or parcel of land is located:	County: Ocean Municipality: Ship Bottom Boro	
If the request is in reference to a particular permit issued by NJDEP, please provide the type of permit and any identifying numbers such as permit, incident or case numbers. (i.e. Fishing, Hunting, Hazardous Waste, Solid Waste, Land Use, NJPDES, Pesticides, Stream Encroachment, TWA, UST, Water Allocation)	List Permit Type: UST - Underground Storage Tank	List ID Numbers: 03-02-25-1646-16
If your request is in reference to an individual, please provide the individual's name and type, and if the individual is a DEP employee, your relationship with the individual:	Individual's name: Type of Individual: Relationship:	
If the an individual was specified above, the individual was DEP Licensed, please specify the license type the individual holds:	License Type:	

The New Jersey Department of Environmental Protection has responded to your submitted Open Public Records Act (OPRA) record request. The following information will help you understand the response and your next available actions.

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5. If the Department was unable to comply with your request for access to a government record, the custodian will indicate the reasons for denial on the request form.

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7. **Resolution of Disputed Findings:**

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   a. Contact the Office of Record Access to re-visit the matter or provide further explanation.

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   c. File a complaint in writing with the Government Records Council (GRC). You may contact the GRC by toll-free telephone at 866-850-0511, by mail at PO Box 819, Trenton, NJ, 08625, by e-mail at *grc@dca.state.nj.us*, or at their web site at *www.state.nj.us/grc*. The Council can also respond to other questions about the law.

8. Information provided on this form may be subject to disclosure under the Open Public Records Act.

Revised Addendum Disposition Notes: NONE

State of New Jersey
Department of Environmental Protection
GOVERNMENT RECORDS REQUEST FORM

IMPORTANT NOTICE

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Requestor Information

First Name: XERXES	MI	Last Name ANTIA	
Company: PRESTIGE ENVIRONMENTAL, INC.			
Mailing Address: 27 PROGRESS STREET			
City: Edison	State: NJ	Zip: 08820	Email: archana.dave@prestige-environmental.com
Business Telephone: (908) 757-9700			Extension
Facsimile Telephone: (908) 757-5050			

State Use Only

Tracking #	88066 - Long Beach Isle
Received Date	12/23/2009
Access Method	On-site access, visit, copy

All matters relating to the response and access of any records identified for this request should be directed to:

NJDEP – Office of Record Access
401 East State Street
PO Box 442
Trenton, New Jersey 08625-0442
Tele #: (609) 341-3121
Fax #: (609) 292-1177

Record Request Details:

Property Desc: Commerical/Industrial We would like to receive information from readily available records for the property regarding the known or potential environmental and/or public health hazards due to hazardous materials spills, waste water discharges, air emissions, illegal dumping and chemical/petroleum storage. If such records exist for the property, we would like to obtain: Information regarding how the site is being investigated or remediated; Notification of the lead regulatory agency; Public health records; Location of septic systems, supply wells, and/or monitoring wells at the site; Notification of any legal action by NJDEP involving the site; Information regarding site investigation/inspection reports, monitoring data or other documents that examine the pollution problems at the site including soil, groundwater and air sampling laboratory data; and Copies of construction/building permits for the installation and/or closure of aboveground and underground storage tanks (ASTs and USTs).

Disposition Notes

Based on this record request, responsive records have been identified and will be faxed when received from the program, to your attention.Requestor may contact the Office of Record Access at 609-341-3121 to obtain further information.

Addendum Disposition Notes: NONE

Record Request Response

In Progress	-	Open	
Filled	-	Closed	X
Denied	-	Closed	
Partial	-	Closed	

Matthew J. Cooper — 12/31/2009

Custodian Signature — Date

Access to Government Records Under the New Jersey Open Public Records Act (N.J.S.A. 47:1A-1 et seq.)

Information Regarding the Requested Records		
If your request is in reference to a single facility, please provide the name of the facility, and the name of the operator name of the facility:	Facility Name: Long Beach Marine Operator Name:	
Please provide the owner name the facility or parcel of land:	Owner Name:	
If your request is in reference to a specific parcel of land, please provide the street address, block, lot and property owner of the parcel of land: (Note: if the property in question is over multiple blocks and lots, please list all in the description field below)	Street Address 1: 8th St._9th Street Street Address 2: Block: Lot:	
If your request is in reference to a facility, site or parcel of land, please provide the Municipality and County where the facility, site or parcel of land is located:	County: Ocean Municipality: Ship Bottom Boro	
If the request is in reference to a particular permit issued by NJDEP, please provide the type of permit and any identifying numbers such as permit, incident or case numbers. (i.e. Fishing, Hunting, Hazardous Waste, Solid Waste, Land Use, NJPDES, Pesticides, Stream Encroachment, TWA, UST, Water Allocation)	List Permit Type: UST - Underground Storage Tank	List ID Numbers: 94-2-18-1548-30
If your request is in reference to an individual, please provide the individual's name and type, and if the individual is a DEP employee, your relationship with the individual:	Individual's name: Type of Individual: Relationship:	
If the an individual was specified above, the individual was DEP Licensed, please specify the license type the individual holds:	License Type:	

The New Jersey Department of Environmental Protection has responded to your submitted Open Public Records Act (OPRA) record request. The following information will help you understand the response and your next available actions.

Tracking #: This is the Department's assigned Tracking # to your OPRA record request, which should be used in all corresponding matters.

Record Request Response:

- **In Progress** – Based on the nature of the request, the records sought, and/or the manner to which the records may exists, the Department requires additional time to investigate and respond to the request.
- **Filled** – Based on the information provided in your request, the Department was able to investigate and respond to your record request.
- **Denied** – Based on the nature of the request and/or the records sought, the Department has denied your request pursuant to a specific exemption(s) cited in N.J.S.A. 47:1A-1 seq.
- **Partial** – The Department has identified both responsive government records and records being denied based on the nature of the request and/or the records sought, that do not meet the definition of a government record pursuant to a specific exemption(s) cited in N.J.S.A. 47:1A-1 seq.

Disposition Notes: Provides detailed information concerning the Department's response to your request.

Accessing Records: Dependent on the volume of records and your interest, there are four (4) methods available to access the responsive government records:

- **File Review** – Schedule a file review with the Department to directly access the records and take notes or tag records of interest for copying. Copying can be performed by either the onsite Department of Treasury's DEP Copying Unit at State duplication fee costs or by the requester employing a Copy Vendor Service. If there are records stored in archives, a five-day processing period will be included prior to scheduling a review.
- **Copy Request** – All records of interest will be copied by the onsite Department of Treasury's DEP Copying Unit at State duplication fee costs unless a Copy Vendor Service is employed.
- **Fax Request** – Based on the number of pages, the Department faxes the responsive records.
- **Web Access** – The responsive records can be access directly through the Department's web site. Web address will be provided.

Access to Government Records Under the New Jersey Open Public Records Act (N.J.S.A. 47:1A-1 et seq.)

1. The fees for duplication of a government record are specified below. We will notify you of any special charges, special service charges or other additional charges authorized by State law or regulation before processing your request. Payment shall be made by cash, check or money order payable to the State of New Jersey and mailed to the address specified below.

Hard Copies:	Pages 1 through 10 = $0.75 per page	**Electronic Records:**	Compact Discs (CDs) = $9.77 per CD
	Pages 11 through 20 = $0.50 per page		Diskettes = $ 0.55 per diskette
	Pages 21 on = $0.25 per page	**Over-sized Maps:**	= $5.00 per map

2. Pursuant to OPRA (C.47:1A-5C), whenever the nature, format, manner of collation, or volume of a government record embodied in the form of printed matter to be inspected, examined, or copied pursuant to this section is such that the record cannot be reproduced by ordinary document copying equipment in ordinary business size or involves an extraordinary expenditure of time and effort to accommodate the request, the public agency may charge, in addition to the actual cost of duplicating the record, a special service charge that shall be reasonable and shall be based upon the actual direct cost of providing the copy or copies.

   The Department charges $48/Hr Fee for Extra-Ordinary Time (EOT) Service Charges. If a request is applicable for an EOT charge, the Requester will be notified of such and payment of the charge must be received prior to access of the subject records. Please note, based on the nature of a request and the records being sought, if the record request processing time is over the Department's normal request processing time, the Department may assess an EOT charge. Being that there is no manner for the Department to ascertain the charge prior to the time being incurred, the Department will notify the Requester in its response to a record request and payment must occur prior to accessing records.

3. By law, the Department must notify you that it grants or denies a request for access to government records within seven business days after the custodian of the record requested receives the request, provided that the record is currently available and not in storage. If the record requested is not currently available or is in storage, the custodian will advise you within seven business days when the record can be made available and the estimated cost. You may agree with the custodian to extend the time for making records available, or granting or denying your request.

4. You may be denied access to a government record if your request would substantially disrupt agency operations and the custodian is unable to reach a reasonable solution with you.

5. If the Department was unable to comply with your request for access to a government record, the custodian will indicate the reasons for denial on the request form.

6. Except as otherwise provided by law or by agreement with the requester, if the custodian of the record requested fails to respond to you within seven business days of receiving a request form, the failure to respond will be considered a denial of your request.

7. **Resolution of Disputed Findings:**

   In the event that a requester does not agree with the Department's record response, the requester should:

   No Records - Reexamined the request details to evaluate if all of the information was provided that could aid the Department in locating records. The Department's ability to identify records of interest is in direct correlation to matching the Department information with the information provided on the request. Such important identifiers are Facility/Site Name, Address, Case #, Permit #, Block/Lot.

   Denial - If your request for access to a government record has been denied or unfilled within the time permitted by law, you have a right to challenge the decision by the Department to deny access. The Department denies access to records only when those records do not meet the definition of a government record and/or public access is not allowed pursuant to the law. At your option, you may either:

   a. Contact the Office of Record Access to re-visit the matter or provide further explanation.

   b. Institute a proceeding in the Superior Court of New Jersey

   c. File a complaint in writing with the Government Records Council (GRC). You may contact the GRC by toll-free telephone at 866-850-0511, by mail at PO Box 819, Trenton, NJ, 08625, by e-mail at *grc@dca.state.nj.us*, or at their web site at *www.state.nj.us/grc*. The Council can also respond to other questions about the law.

8. Information provided on this form may be subject to disclosure under the Open Public Records Act.

Revised Addendum Disposition Notes: NONE

State of New Jersey
Department of Environmental Protection
GOVERNMENT RECORDS REQUEST FORM

IMPORTANT NOTICE

Please read this entire form carefully as it contains important information concerning the response to your record request, accessing records, disputing denials, and your rights concerning government records. For further information, access WWW.NJ.GOV/DEP/OPRA.

Requestor Information

First Name: XERXES MI Last Name ANTIA	
Company: PRESTIGE ENVIRONMENTAL, INC.	
Mailing Address: 27 PROGRESS STREET	
City: Edison State: NJ Zip: 08820 Email:	archana.dave@prestige-environmental.com
Business Telephone: (908) 757-9700	Extension
Facsimile Telephone: (908) 757-5050	

State Use Only

Tracking #	88068 - Big Russo
Received Date	12/23/2009
Access Method	On-site access, visit, copy

All matters relating to the response and access of any records identified for this request should be directed to:

NJDEP – Office of Record Access
401 East State Street
PO Box 442
Trenton, New Jersey 08625-0442
Tele #: (609) 341-3121
Fax #: (609) 292-1177

Record Request Details:

Property Desc: Commerical/Industrial We would like to receive information from readily available records for the property regarding the known or potential environmental and/or public health hazards due to hazardous materials spills, waste water discharges, air emissions, illegal dumping and chemical/petroleum storage. If such records exist for the property, we would like to obtain: Information regarding how the site is being investigated or remediated; Notification of the lead regulatory agency; Public health records; Location of septic systems, supply wells, and/or monitoring wells at the site; Notification of any legal action by NJDEP involving the site; Information regarding site investigation/inspection reports, monitoring data or other documents that examine the pollution problems at the site including soil, groundwater and air sampling laboratory data; and Copies of construction/building permits for the installation and/or closure of aboveground and underground storage tanks (ASTs and USTs).

Disposition Notes

Based on this record request,responsive records have been identified and available for access. Requester should contact the Office of Record Access at 609-341-3121 to schedule a file review, copies, or to obtain further information.

Addendum Disposition Notes: NONE

Record Request Response

In Progress	-	Open	
Filled	-	Closed	X
Denied	-	Closed	
Partial	-	Closed	

Matthew J. Cook 12/30/2009

Custodian Signature Date

Access to Government Records Under the New Jersey Open Public Records Act (N.J.S.A. 47:1A-1 et seq.)

Information Regarding the Requested Records		
If your request is in reference to a single facility, please provide the name of the facility, and the name of the operator name of the facility:	Facility Name: Mr. Big Russo Operator Name:	
Please provide the owner name the facility or parcel of land:	Owner Name:	
If your request is in reference to a specific parcel of land, please provide the street address, block, lot and property owner of the parcel of land: (Note: if the property in question is over multiple blocks and lots, please list all in the description field below)	Street Address 1: 379 West 8th Street Street Address 2: Block: Lot:	
If your request is in reference to a facility, site or parcel of land, please provide the Municipality and County where the facility, site or parcel of land is located:	County: Ocean Municipality: Ship Bottom Boro	
If the request is in reference to a particular permit issued by NJDEP, please provide the type of permit and any identifying numbers such as permit, incident or case numbers. (i.e. Fishing, Hunting, Hazardous Waste, Solid Waste, Land Use, NJPDES, Pesticides, Stream Encroachment, TWA, UST, Water Allocation)	List Permit Type: UST - Underground Storage Tank	List ID Numbers: 91-10-18-1417-2591-4-5-1544-43
If your request is in reference to an individual, please provide the individual's name and type, and if the individual is a DEP employee, your relationship with the individual:	Individual's name: Type of Individual: Relationship:	
If the an individual was specified above, the individual was DEP Licensed, please specify the license type the individual holds:	License Type:	

The New Jersey Department of Environmental Protection has responded to your submitted Open Public Records Act (OPRA) record request. The following information will help you understand the response and your next available actions.

Tracking #: This is the Department's assigned Tracking # to your OPRA record request, which should be used in all corresponding matters.

Record Request Response:

- **In Progress** – Based on the nature of the request, the records sought, and/or the manner to which the records may exists, the Department requires additional time to investigate and respond to the request.
- **Filled** – Based on the information provided in your request, the Department was able to investigate and respond to your record request.
- **Denied** – Based on the nature of the request and/or the records sought, the Department has denied your request pursuant to a specific exemption(s) cited in N.J.S.A. 47:1A-1 seq.
- **Partial** – The Department has identified both responsive government records and records being denied based on the nature of the request and/or the records sought, that do not meet the definition of a government record pursuant to a specific exemption(s) cited in N.J.S.A. 47:1A-1 seq.

Disposition Notes: Provides detailed information concerning the Department's response to your request.

Accessing Records: Dependent on the volume of records and your interest, there are four (4) methods available to access the responsive government records:

- **File Review** – Schedule a file review with the Department to directly access the records and take notes or tag records of interest for copying. Copying can be performed by either the onsite Department of Treasury's DEP Copying Unit at State duplication fee costs or by the requester employing a Copy Vendor Service. If there are records stored in archives, a five-day processing period will be included prior to scheduling a review.
- **Copy Request** – All records of interest will be copied by the onsite Department of Treasury's DEP Copying Unit at State duplication fee costs unless a Copy Vendor Service is employed.
- **Fax Request** – Based on the number of pages, the Department faxes the responsive records.
- **Web Access** – The responsive records can be access directly through the Department's web site. Web address will be provided.

Access to Government Records Under the New Jersey Open Public Records Act (N.J.S.A. 47:1A-1 et seq.)

1. The fees for duplication of a government record are specified below. We will notify you of any special charges, special service charges or other additional charges authorized by State law or regulation before processing your request. Payment shall be made by cash, check or money order payable to the State of New Jersey and mailed to the address specified below.

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3. By law, the Department must notify you that it grants or denies a request for access to government records within seven business days after the custodian of the record requested receives the request, provided that the record is currently available and not in storage. If the record requested is not currently available or is in storage, the custodian will advise you within seven business days when the record can be made available and the estimated cost. You may agree with the custodian to extend the time for making records available, or granting or denying your request.

4. You may be denied access to a government record if your request would substantially disrupt agency operations and the custodian is unable to reach a reasonable solution with you.

5. If the Department was unable to comply with your request for access to a government record, the custodian will indicate the reasons for denial on the request form.

6. Except as otherwise provided by law or by agreement with the requester, if the custodian of the record requested fails to respond to you within seven business days of receiving a request form, the failure to respond will be considered a denial of your request.

7. **Resolution of Disputed Findings:**

   In the event that a requester does not agree with the Department's record response, the requester should:

   No Records - Reexamined the request details to evaluate if all of the information was provided that could aid the Department in locating records. The Department's ability to identify records of interest is in direct correlation to matching the Department information with the information provided on the request. Such important identifiers are Facility/Site Name, Address, Case #, Permit #, Block/Lot.

   Denial - If your request for access to a government record has been denied or unfilled within the time permitted by law, you have a right to challenge the decision by the Department to deny access. The Department denies access to records only when those records do not meet the definition of a government record and/or public access is not allowed pursuant to the law. At your option, you may either:

   a. Contact the Office of Record Access to re-visit the matter or provide further explanation.

   b. Institute a proceeding in the Superior Court of New Jersey

   c. File a complaint in writing with the Government Records Council (GRC). You may contact the GRC by toll-free telephone at 866-850-0511, by mail at PO Box 819, Trenton, NJ, 08625, by e-mail at *grc@dca.state.nj.us*, or at their web site at *www.state.nj.us/grc*. The Council can also respond to other questions about the law.

8. Information provided on this form may be subject to disclosure under the Open Public Records Act.

Revised Addendum Disposition Notes: NONE

State of New Jersey
Department of Environmental Protection
GOVERNMENT RECORDS REQUEST FORM

IMPORTANT NOTICE

Please read this entire form carefully as it contains important information concerning the response to your record request, accessing records, disputing denials, and your rights concerning government records. For further information, access WWW.NJ.GOV/DEP/OPRA.

Requestor Information

First Name: XERXES	MI / Last Name ANTIA
Company: PRESTIGE ENVIRONMENTAL, INC.	
Mailing Address: 27 PROGRESS STREET	
City: Edison	State: NJ / Zip: 08820 / Email: archana.dave@prestige-environmental.com
Business Telephone: (908) 757-9700	Extension
Facsimile Telephone: (908) 757-5050	

State Use Only

Tracking #	88067 - Hudson
Received Date	12/23/2009
Access Method	On-site access, visit, copy

All matters relating to the response and access of any records identified for this request should be directed to:

NJDEP – Office of Record Access
401 East State Street
PO Box 442
Trenton, New Jersey 08625-0442
Tele #: (609) 341-3121
Fax #: (609) 292-1177

Record Request Details:

Property Desc: Commerical/Industrial We would like to receive information from readily available records for the property regarding the known or potential environmental and/or public health hazards due to hazardous materials spills, waste water discharges, air emissions, illegal dumping and chemical/petroleum storage. If such records exist for the property, we would like to obtain: Information regarding how the site is being investigated or remediated; Notification of the lead regulatory agency; Public health records; Location of septic systems, supply wells, and/or monitoring wells at the site; Notification of any legal action by NJDEP involving the site; Information regarding site investigation/inspection reports, monitoring data or other documents that examine the pollution problems at the site including soil, groundwater and air sampling laboratory data; and Copies of construction/building permits for the installation and/or closure of aboveground and underground storage tanks (ASTs and USTs).

① Need one figure showing tank location

Disposition Notes

Based on the record request, responsive records have been identified. Note the processing of this requestincurred Extra-Ordinary Time Service charges (See 3rd Page # 2). Requester should contact the Office at 609-341-3121 to obtain further information.

Addendum Disposition Notes: Based on the record request, responsive records have been identified. However an extraordinary time service charge was incurred due to the amount of time expended on the request that has to be paid prior to record access. An invoice has been mailed.1.1hr = 52.80

Record Request Response

In Progress	-	Open	
Filled	-	Closed	X
Denied	-	Closed	
Partial	-	Closed	

Matthew J. Cafferty — 12/31/2009

Custodian Signature — Date

Access to Government Records Under the New Jersey Open Public Records Act (N.J.S.A. 47:1A-1 et seq.)

Information Regarding the Requested Records		
If your request is in reference to a single facility, please provide the name of the facility, and the name of the operator name of the facility:	Facility Name: Hochstrassers Marina, Inc. Operator Name:	
Please provide the owner name the facility or parcel of land:	Owner Name:	
If your request is in reference to a specific parcel of land, please provide the street address, block, lot and property owner of the parcel of land: (Note: if the property in question is over multiple blocks and lots, please list all in the description field below)	Street Address 1: 401 West 8th Street Street Address 2: Block: Lot:	
If your request is in reference to a facility, site or parcel of land, please provide the Municipality and County where the facility, site or parcel of land is located:	County: Ocean Municipality: Ship Bottom Boro	
If the request is in reference to a particular permit issued by NJDEP, please provide the type of permit and any identifying numbers such as permit, incident or case numbers. (i.e. Fishing, Hunting, Hazardous Waste, Solid Waste, Land Use, NJPDES, Pesticides, Stream Encroachment, TWA, UST, Water Allocation)	List Permit Type: NJPDES	List ID Numbers: NJG0114049
If your request is in reference to an individual, please provide the individual's name and type, and if the individual is a DEP employee, your relationship with the individual:	Individual's name: Type of Individual: Relationship:	
If the an individual was specified above, the individual was DEP Licensed, please specify the license type the individual holds:	License Type:	

The New Jersey Department of Environmental Protection has responded to your submitted Open Public Records Act (OPRA) record request. The following information will help you understand the response and your next available actions.

Tracking #: This is the Department's assigned Tracking # to your OPRA record request, which should be used in all corresponding matters.

Record Request Response:

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- **Filled** – Based on the information provided in your request, the Department was able to investigate and respond to your record request.
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Disposition Notes: Provides detailed information concerning the Department's response to your request.

Accessing Records: Dependent on the volume of records and your interest, there are four (4) methods available to access the responsive government records:

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Access to Government Records Under the New Jersey Open Public Records Act (N.J.S.A. 47:1A-1 et seq.)

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2. Pursuant to OPRA (C.47:1A-5C), whenever the nature, format, manner of collation, or volume of a government record embodied in the form of printed matter to be inspected, examined, or copied pursuant to this section is such that the record cannot be reproduced by ordinary document copying equipment in ordinary business size or involves an extraordinary expenditure of time and effort to accommodate the request, the public agency may charge, in addition to the actual cost of duplicating the record, a special service charge that shall be reasonable and shall be based upon the actual direct cost of providing the copy or copies.

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3. By law, the Department must notify you that it grants or denies a request for access to government records within seven business days after the custodian of the record requested receives the request, provided that the record is currently available and not in storage. If the record requested is not currently available or is in storage, the custodian will advise you within seven business days when the record can be made available and the estimated cost. You may agree with the custodian to extend the time for making records available, or granting or denying your request.

4. You may be denied access to a government record if your request would substantially disrupt agency operations and the custodian is unable to reach a reasonable solution with you.

5. If the Department was unable to comply with your request for access to a government record, the custodian will indicate the reasons for denial on the request form.

6. Except as otherwise provided by law or by agreement with the requester, if the custodian of the record requested fails to respond to you within seven business days of receiving a request form, the failure to respond will be considered a denial of your request.

7. **Resolution of Disputed Findings:**

   In the event that a requester does not agree with the Department's record response, the requester should:

   No Records - Reexamined the request details to evaluate if all of the information was provided that could aid the Department in locating records. The Department's ability to identify records of interest is in direct correlation to matching the Department information with the information provided on the request. Such important identifiers are Facility/Site Name, Address, Case #, Permit #, Block/Lot.

   Denial - If your request for access to a government record has been denied or unfilled within the time permitted by law, you have a right to challenge the decision by the Department to deny access. The Department denies access to records only when those records do not meet the definition of a government record and/or public access is not allowed pursuant to the law. At your option, you may either:

   a. Contact the Office of Record Access to re-visit the matter or provide further explanation.

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   c. File a complaint in writing with the Government Records Council (GRC). You may contact the GRC by toll-free telephone at 866-850-0511, by mail at PO Box 819, Trenton, NJ, 08625, by e-mail at *grc@dca.state.nj.us*, or at their web site at *www.state.nj.us/grc*. The Council can also respond to other questions about the law.

8. Information provided on this form may be subject to disclosure under the Open Public Records Act.

Revised Addendum Disposition Notes: NONE

NJDOT ROUTE 72
MANAHAWKIN BAY BRIDGES

REQUEST FOR INFORMATION TO
STAFFORD TOWNSHIP

Prestige Environmental, Inc.
www.prestige-environmental.com
27 Progress Street • Edison, New Jersey 08820 • Phone (908) 757-9700 • Fax (908) 757-5050 • 1-888-8000-PEI

December 24, 2009

Ms. Bernadette Park
Municipal Clerk
Stafford Township
260 East Bay Avenue
Manahawkin, NJ 08050

Via Fax: (609) 597-4911

Re: Request for Information
NJDOT Route 72
Manahawkin Bay Bridges Project
Stafford Township, New Jersey

Dear Ms. Park:

Prestige Environmental, Inc. is currently conducting a Hazardous Waste Screening for the Route 72 Manahawkin Bay Bridges project.

We would request information regarding the known or potential environmental and public health impacts posed by toxic waste dumping, waste water or chemical discharge, chemical or petroleum product storage, and spills from vehicular accidents at the properties shown on the attached table.

Thank you for cooperation. If you have any questions or need additional information, please contact us.

Very truly yours,
PRESTIGE ENVIRONMENTAL, INC.

Xerxes Antia
Project Manager

NJDOT Route. 72 Manahawkin Bay Bridges Project
Properties within the Project Corridor
Township of Stafford, Ocean County, New Jersey

Block	Lot	Property Description/Address	Property Owner
158.01	23		Ocean County, 101 Hooper Avenue, Toms River, NJ
158.01	21.01	Route 72 N/S	Aynilian, NJ & Vah Ram N. Ttees, 381 Broadway II Floor, Westwood, NJ
158	21	Bay Avenue & Old RR,	Ocean County, 101 Hooper Avenue, Toms River, NJ
158.01	21.02	Route 72/Bay/Marsha	West Outlook Advertising Co, PO Box 538, Manahawkin, NJ
158.01	114	Route 72 N/S	Jersey Outdoor Media, LLC 505 S Lenola Road #116, Moorestown, NJ
158.01	120	1347 East Bay Avenue	Tonnesen Realty LLC 55 Muriel Drive, Manahawkin, NJ
158.01	114.01	1355 East Bay Avenue	Tooker, Jefrey PO Box 1129, Tuckerton, NJ
158.02	114	Route 72 S/S	Jersey Outdoor Media, LLC 505 S Lenola Road #116 , Moorestown, NJ
181	3	8 Selma Drive	Hekl, Debra 1072 Route 9 West, Grandview, NY
182	20	7 Selma Drive	D'amico, Patricia & Pace, Ruth 353 Lake Shore Drive, Haworth, NJ
182	21	3 Selma Drive	D'amico, Patricia & Pace, Ruth 353 Lake Shore Drive, Haworth, NJ
182.01	28	4 Julia Drive	Boyton, Elizabeth, 4 Julia Drive, Manahawkin, NJ
183	40	5 Julia Drive	Jersey Outdoor Media, LLC 505 S Lenola Road #116, Moorestown, NJ
183	41	Julia Drive W/S	Jersey Outdoor Media, LLC 505 S Lenola Road #116, Moorestown, NJ

NJDOT Route. 72 Manahawkin Bay Bridges Project
Properties within the Project Corridor
Township of Stafford, Ocean County, New Jersey

Block	Lot	Property Description/Address	Property Owner
184	61	3 Steven Drive	Caravella, Sistoantonio & Rosa, 30 Maple Street, Paramus, NJ
184	60	7 Steven Drive	Skiba, EJ Jr., EJ Sr. & Ann Marie, 5 Gritman Ct, Westwood, NJ
184	55	16 Steven Drive, Inc. Lot 54	Pancost, Thomas & Judith, 16 Steven Drive, Manahawkin, NJ
185	47	Bay Avenue E/S	Tonnesen Edward L, 55 Muriel Dr, Manahawkin, NJ
185	52	1432 E Bay Avenue	Mallard Island Yacht Club LLC, PO 5471, Trenton, NJ
185	68	Bay Avenue NE/Hilliard	Stafford Township, 260 East Bay Avenue, Manahawkin, NJ
300	2	2500 East Bay Avenue	Schmid, Otto Robert, 2500 E Bay Avenue, Manahawkin, NJ
300	3	2516 Rt 72 East	Schmid, Otto Robert, 2500 E Bay Avenue, Manahawkin, NJ
300	5	12 Manning Drive	Schmid, Otto Robert, 2500 E Bay Avenue, Manahawkin, NJ
300	31	2572 East Bay Avenue	Dutchman's Brau Haus, 2500 E Bay Avenue, Manahawkin, NJ
302	1	2532 East Bay Avenue	Rafter, Joanne & Timothy, 2532 East Bay Avenue, Manahawkin, NJ
302	4	Route 72 N/S	Schmid Robert, 2500 E Bay Avenue, Manahawkin, NJ
302	6.01	Route 72 N/S	Dutchman's Brau Haus, 2500 E Bay Avenue, Manahawkin, NJ
302	6	Route 72 N/S	Schifano Communications, Inc., 818 Winword Drive, Forked River, NJ
302	8	2560 East Bay Avenue	Harquist, John T & Medford, Sandra, 207 5th Street, Ship Bottom, NJ

NJDOT Route. 72 Manahawkin Bay Bridges Project Properties within the Project Corridor Township of Stafford, Ocean County, New Jersey			
Block	**Lot**	**Property Description/Address**	**Property Owner**
302	11	2568 East Bay Avenue	Dutchman's Brau Haus, 2500 E Bay Avenue, Manahawkin, NJ
303	1	Route 72 & First Avenue	Nagel, Anthony W & Dorothy A, 7 Canary Way, Hamilton, NJ
303	2	4 Second Street	Wuest, Donald C & Theresa M, 4 Second Street, Manahawkin, NJ
304	1	3 Second Street	Macdonald, Jane, 3 Second Street, Manahawkin, NJ
304	2	4 Third Street	Simmons, Raymond A, 4 Third Street, Manahawkin, NJ
305	13	Route 72 S/W Cor & 4th	Jersey Outdoor Media, LLC 505 S Lenola Road #116, Moorestown, NJ
305	6.01	2 Northeast Drive	Lizzi, Frank & Dominic, 2903 South 13th Street, Philadelphia, PA
305	6.02	2 Fourth Street	Hart, Timothy G. & Lorraine C., 1 Fourth Street, Manahawkin, NJ
306	1	1 Fourth Street	BGC Holdings, LLC, 550 Penny Lane, Perkasie, PA
307	2	4 First Street	Dreher, Kimberly, 111 Kylies Road, Coatesville, PA

Send Result Report

KYOCERA

MFP

KM-3050

Firmware Version 2GR_2000.012.011 2007.07.06

Job No. : 021481 Total Time : 0°00'58" Page : 004

Completed

Document : doc20091224165856

Prestige Environmental, Inc. www.prestige-env

27 Progress Street • Edison, New Jersey 08820 • Phone (908) 757-9700 • Fax (908) 757-5050 •

December 24, 2009

Ms. Bernadette Park
Municipal Clerk
Stafford Township
260 East Bay Avenue
Manahawkin, NJ 08050

Via Fax: (609) 597-4911

Re: Request for Information
NJDOT Route 72
Manahawkin Bay Bridges Project
Stafford Township, New Jersey

Dear Ms. Park:

No.	Date and Time	Destination	Times	Type	Result	Resolution / ECM
001	12/24/2009 17:00	16095974911	0°00'58"	FAX	OK	200x200 Fine / On

NJDOT ROUTE 72
MANAHAWKIN BAY BRIDGES

REQUEST FOR INFORMATION TO
SHIP BOTTOM BOROUGH

Prestige Environmental, Inc.
www.prestige-environmental.com
27 Progress Street • Edison, New Jersey 08820 • Phone (908) 757-9700 • Fax (908) 757-5050 • 1-888-8000-PEI

December 24, 2009

Borough Clerk
Borough of Ship Bottom
1621 Long Beach Blvd.,
Ship Bottom, NJ 08008

Via Fax: (609) 361 8484

Re: Request for Information
NJDOT Route 72
Manahawkin Bay Bridges Project
Borough of Ship Bottom, New Jersey

Dear Sir/Madam:

Prestige Environmental, Inc. is currently conducting a Hazardous Waste Screening for the Route 72 Manahawkin Bay Bridges project.

We would request information regarding the known or potential environmental and public health impacts posed by toxic waste dumping, waste water or chemical discharge, chemical or petroleum product storage, and spills from vehicular accidents at the properties shown on the attached table.

Thank you for cooperation. If you have any questions or need additional information, please contact us.

Very truly yours,
PRESTIGE ENVIRONMENTAL, INC.

Xerxes Antia
Project Manager

NJDOT Route. 72 Manahawkin Bay Bridges Project
Properties within the Project Corridor
Borough of Ship Bottom, Ocean County, New Jersey

Block	Lot	Property Description/Address	Property Owner
111	1		Louis Sr. & Ester Hochstrasser
110	21		Sea Bee Corp
110	22		Sea Bee Corp
110	8.02		Samuel S.Wieczorek
110	18		Russon Fuel Oil Company
110	16		Louis Sr. & Ester Hochstrasser
110	17		Louis Sr. & Ester Hochstrasser
110	17.01		Louis Sr. & Ester Hochstrasser
110	15.02		Louis Sr. & Ester Hochstrasser
110	23		John T. Harquist
110	25		John T. & Patriccia Brennan
110	1		J. P. Brennan
110	19.01		CJG Realty Management LLC
110	24		BDJ Associates

NJDOT Route. 72 Manahawkin Bay Bridges Project
Properties within the Project Corridor
Borough of Ship Bottom, Ocean County, New Jersey

Block	Lot	Property Description/Address	Property Owner
103	6		Tara Enterprises of LBI, LLC
103	1.01		Anohr Properties, Inc.
103	3		Anohr Properties, Inc.
103	4		330-334 8th Street LLC
103	5		330-334 8th Street LLC
103	7		330 West 8th Street
101	1		Borough Of Ship Bottom
100	1		Thomas J. & Eileen Yetman
100	8		Tara Enterprises of LBI, LLC
100	2		Ship Bottom Water & Sewer Dept
100	10		Renee Houghton
100	9		Raymon R. Ciccone
100	11		Patrick & Esposito R. McKegney
100	6		James M. Weichart
100	7		Edward & Suzanne Wuerker

NJDOT Route. 72 Manahawkin Bay Bridges Project Properties within the Project Corridor Borough of Ship Bottom, Ocean County, New Jersey			
Block	**Lot**	**Property Description/Address**	**Property Owner**
100	9.03		Casualty Professional Plaza Assn.
100	9.02		Casualty Professional Plaza Assn.
100	9.04		Casualty Professional Plaza Assn.
100	9.01		Casualty Professional Plaza Assn.
100	4		Arthur & Anna & Arthur J. Cox
100	5		Arthur & Anna & Arthur J. Cox
93	2		Philip D. Michael S. & Marcie Rubin
93	1		Gloria Box
90	2		David High

NJDOT ROUTE 72
MANAHAWKIN BAY BRIDGES

REQUEST FOR INFORMATION TO
OCEAN COUNTY

COUNTY OF OCEAN

REQUEST FOR GOVERNMENTAL RECORDS

This form should be completed and returned to the Custodian of Records in the Office of the Clerk of the Board of Chosen Freeholders, Ocean County Administration Building, 1 01 Hooper Avenue, Room 328, Toms River, New Jersey 08753.

Please complete the information below. See reverse side for important information.

NAME: Xerxes (First Name) (MI) Antia (Last Name)

ADDRESS: 27 Progress Street (Street, PO) Edison (Town/City) NJ (State) 08820 (zip)

PHONE NUMBER: (908) 757-9700 (Work) (908) 875-9873 (Home)

EMAIL ADDRESS: xerxes@prestige-environmnental.com

Brief description of government record(s) you are requesting to copy ____ or inspect X (check one):

We request access to any information which may be available with your department regarding the known potential environmental and public health hazards posed by the toxic waste dumping, waste water discharge, chemical or petroleum storage, air emissions and toxic spills which are proximity to the subject site. Table showing locations /properties of interest in Stafford is attached.

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Signature

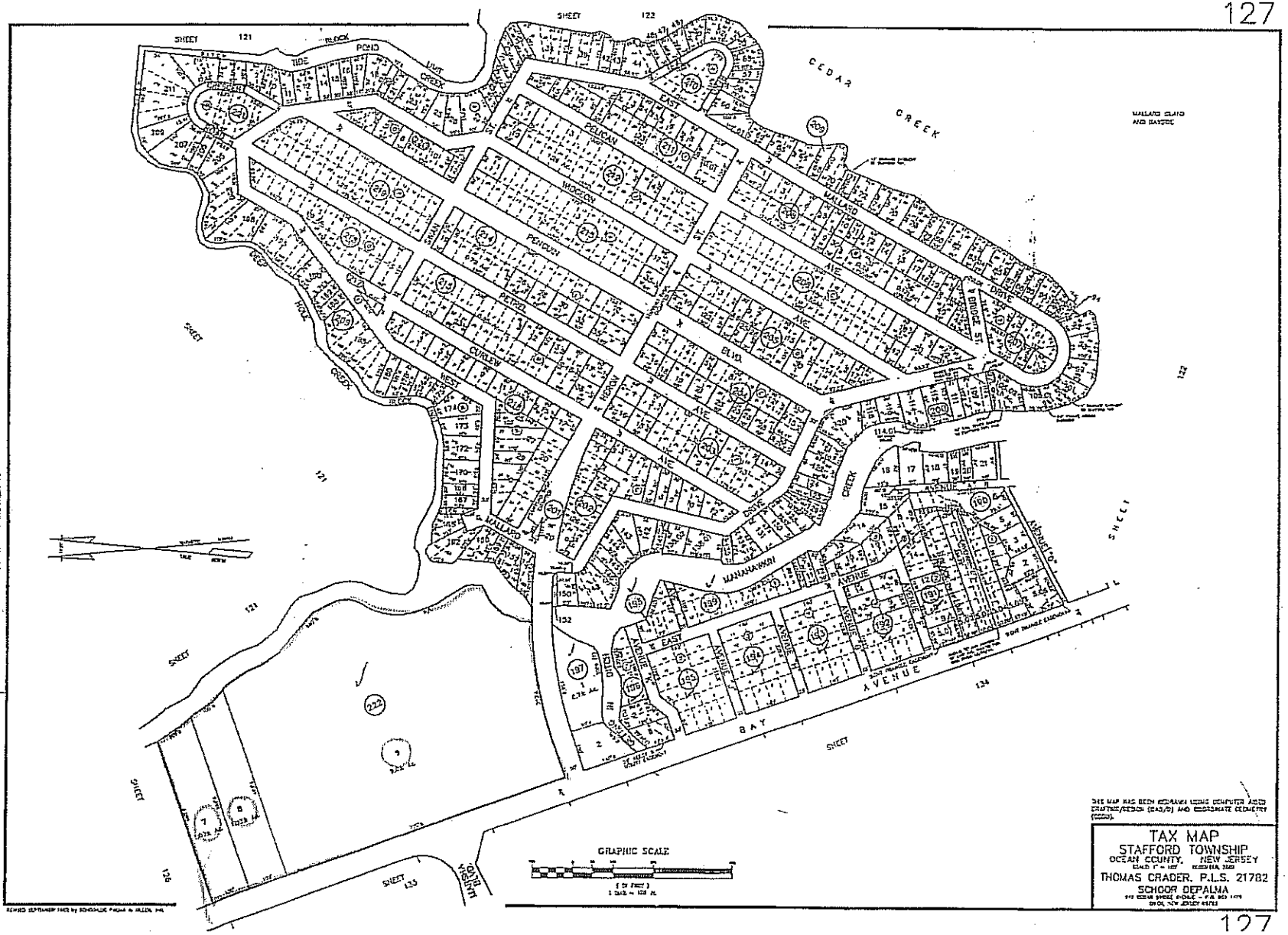
Jan 28, 2010

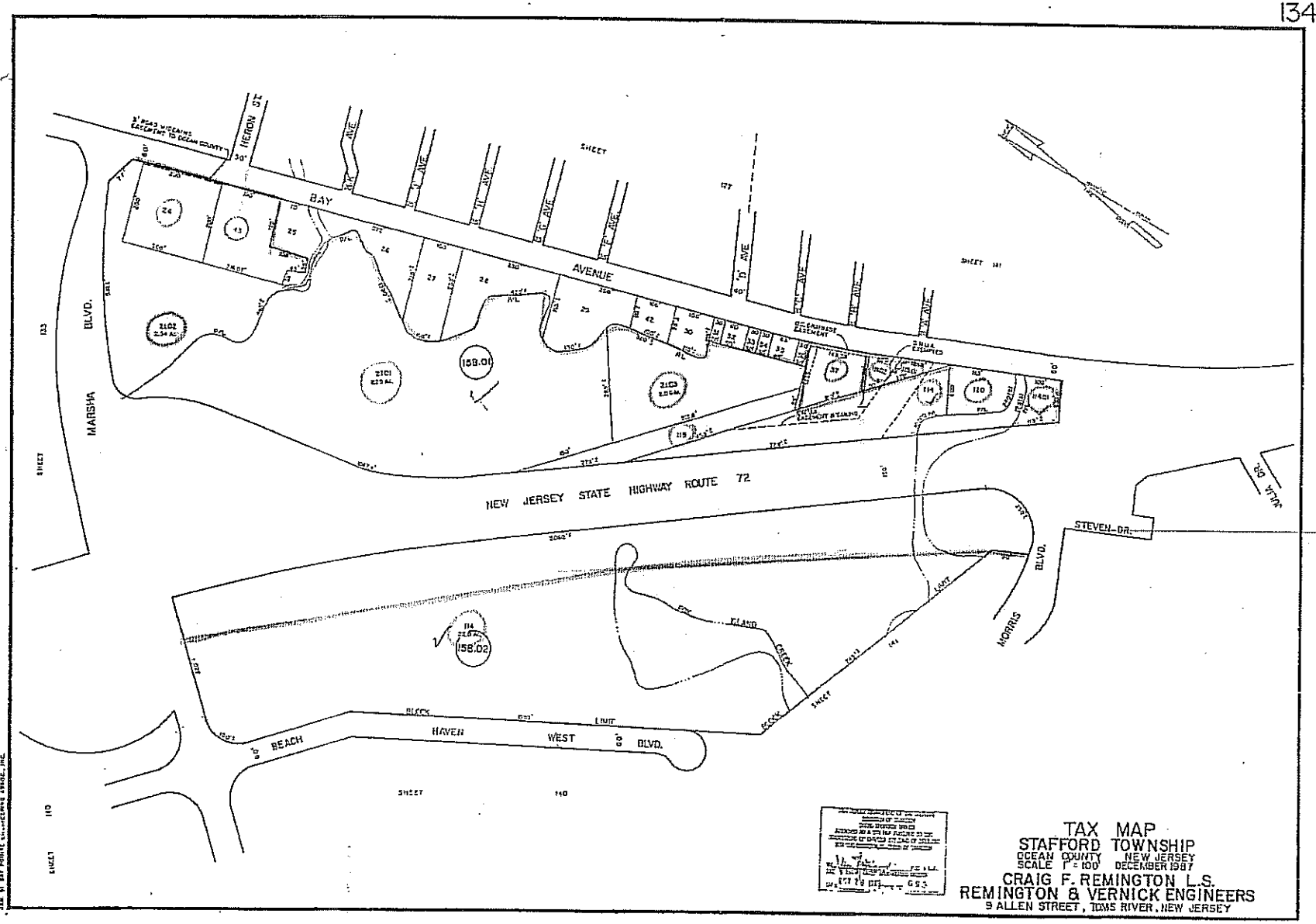
Date

July 1, 2002

Table 1A

NJDOT Route. 72 Manahawkin Bay Bridges Project Properties within the Project Corridor Township of Stafford, Ocean County, New Jersey				
Block	**Lot**	**Property Description/Address**	**Property Owner**	**Sheet Reference**
222	9	Vacant Plot Bay Avenue/ Marsha Dr.	Edward Berger 848 Ocean View Drive Toms River, NJ	Stafford Sheet-127
158.01	21.01	Route 72 N/S	Aynilian, NJ & Vah Ram N. Ttees, 381 Broadway II Floor, Westwood, NJ	Stafford Sheet-134
158.01	21.02	Route 72/Bay/Marsha	West Outdoor Advertising Co, PO Box 538, Manahawkin, NJ	Stafford Sheet-134


SHEET 121
SHEET 122
SHEET 123
SHEET 124
SHEET 126
TIDE POND
CEDAR CREEK
PELICAN
WHOOPER
PETREL
CURLEW
HERON
MALLARD
EAST
WEST
AVE
BLVD
DRIVE
BRIDGE ST
MANAHAWKIN
BAY AVENUE
GRAPHIC SCALE
TAX MAP
STAFFORD TOWNSHIP
OCEAN COUNTY, NEW JERSEY
THOMAS CRADER, P.L.S. 21782
SCHOOR DEPALMA


BAY AVENUE
HERON ST
MARSHA BLVD.
NEW JERSEY STATE HIGHWAY ROUTE 72
STEVEN DR.
MORRIS BLVD.
BEACH HAVEN WEST BLVD.
BLOCK UNIT
ISLAND CREEK
SHEET 110
SHEET 111
SHEET 133
TAX MAP
STAFFORD TOWNSHIP
OCEAN COUNTY NEW JERSEY
SCALE 1" = 100' DECEMBER 1987
CRAIG F. REMINGTON L.S.
REMINGTON & VERNICK ENGINEERS
9 ALLEN STREET, TOMS RIVER, NEW JERSEY

COUNTY OF OCEAN

REQUEST FOR GOVERNMENTAL RECORDS

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ADDRESS: 27 Progress Street (Street, PO) Edison (Town/City) NJ (State) 08820 (zip)

PHONE NUMBER: (908) 757-9700 (Work) (908) 875-9873 (Home)

EMAIL ADDRESS: xerxes@prestige-environmnental.com

Brief description of government record(s) you are requesting to copy ____ or inspect X (check one):

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Signature

Jan 28, 2010

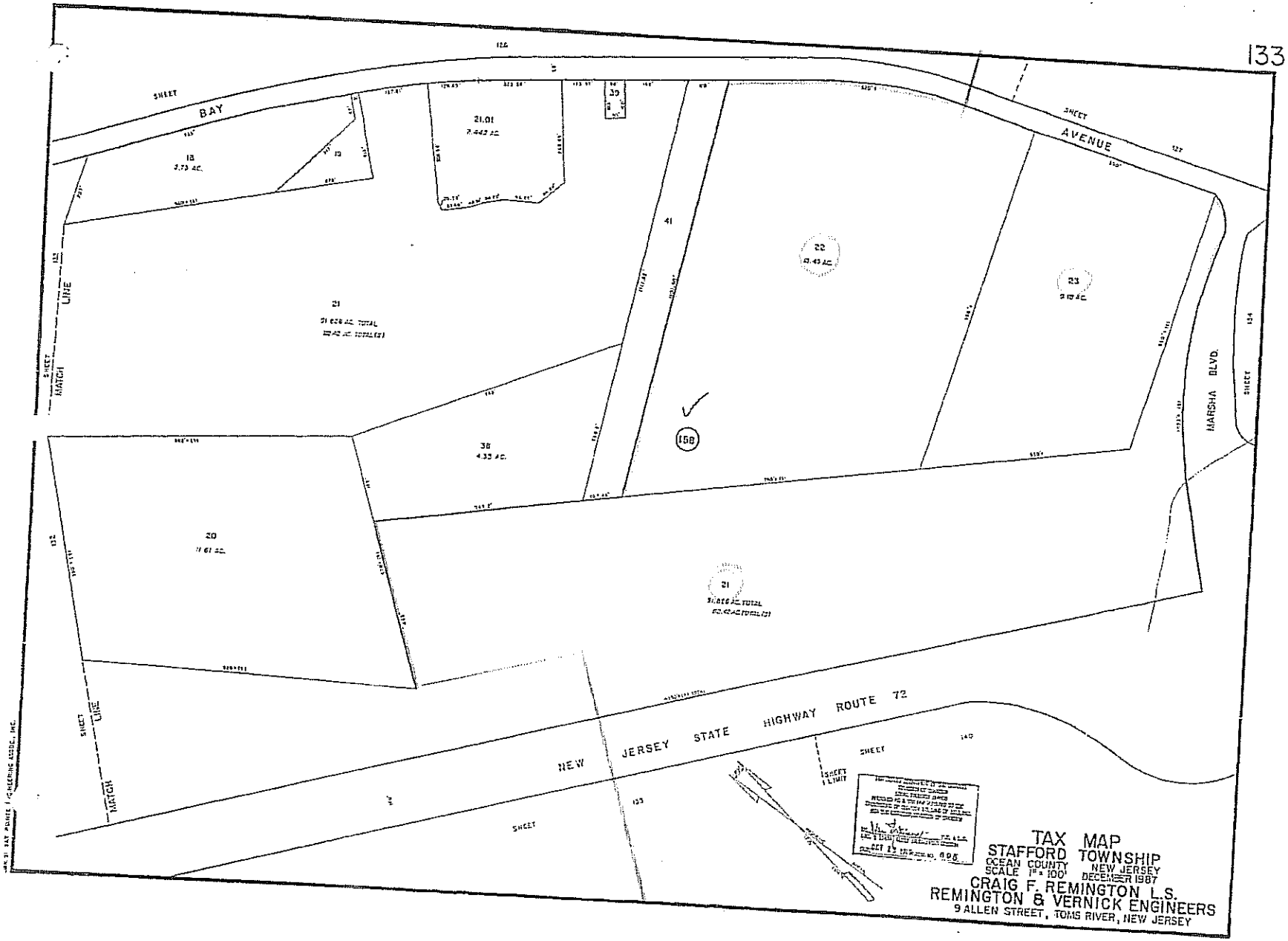
Date

July 1, 2002

Table 1B

NJDOT Route. 72 Manahawkin Bay Bridges Project Properties within the Project Corridor Township of Stafford, Ocean County, New Jersey				
Block	**Lot**	**Property Description/Address**	**Property Owner**	**Sheet Reference**
158	21	Bay Avenue & Old RR,	Ocean County, 101 Hooper Avenue, Toms River, NJ	Stafford Sheet-133

(Page 1 of 1)


133
BAY
AVENUE
SHEET
MATCH
LINE
18
2.73 AC.
19
21.01
7.442 AC.
39
41
21
22
23
9.19 AC.
158
38
4.33 AC.
20
21
MARSHA BLVD.
NEW JERSEY STATE HIGHWAY ROUTE 72
SHEET LIMIT
TAX MAP
STAFFORD TOWNSHIP
OCEAN COUNTY NEW JERSEY
SCALE 1" = 100' DECEMBER 1987
CRAIG F. REMINGTON L.S.
REMINGTON & VERNICK ENGINEERS
9 ALLEN STREET, TOMS RIVER, NEW JERSEY
132

COUNTY OF OCEAN

REQUEST FOR GOVERNMENTAL RECORDS

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Signature

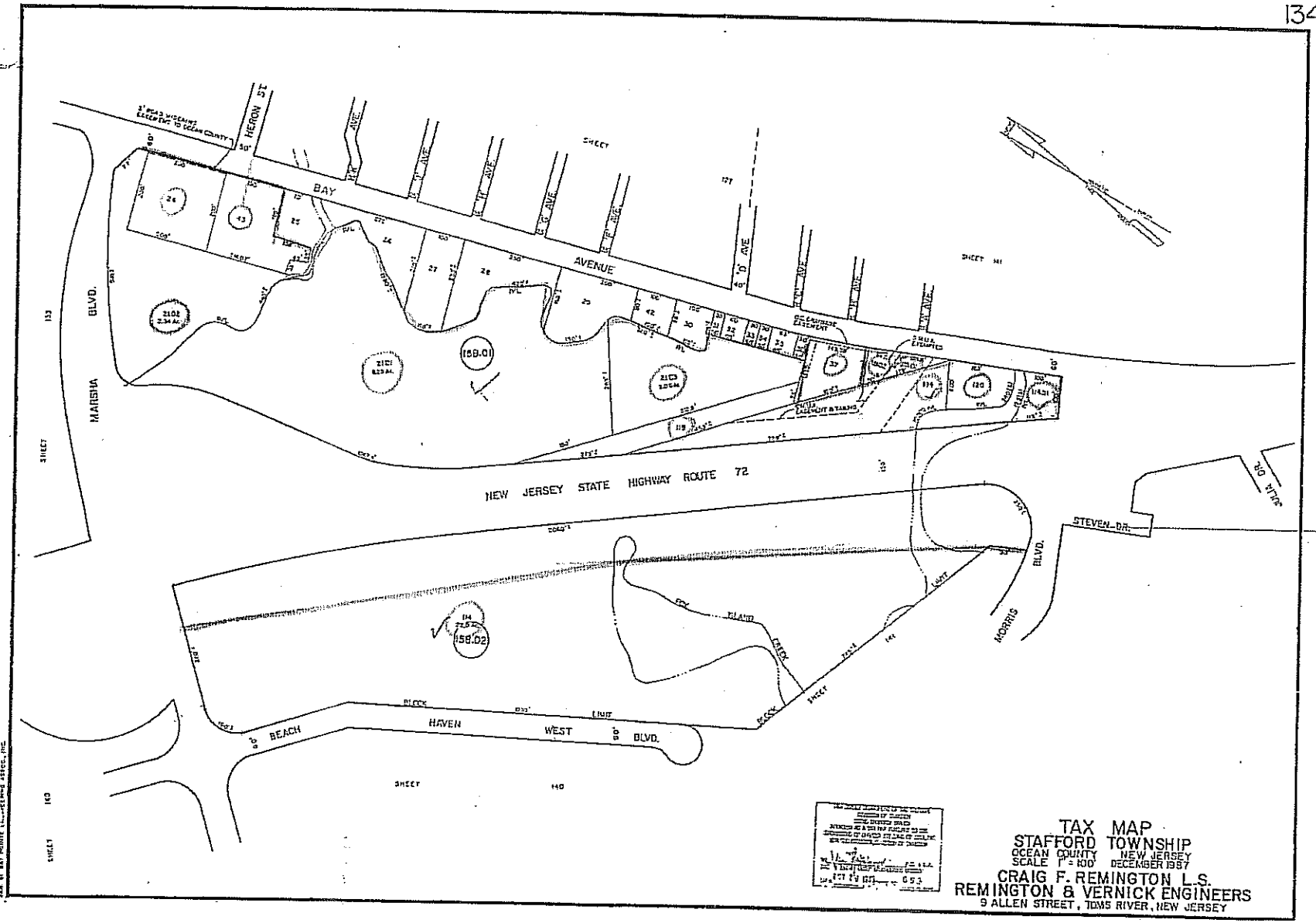
Jan 28, 2010

Date

July 1, 2002

Table 1C

NJDOT Route. 72 Manahawkin Bay Bridges Project Properties within the Project Corridor Township of Stafford, Ocean County, New Jersey				
Block	**Lot**	**Property Description/Address**	**Property Owner**	**Sheet Reference**
158.01	114	Route 72 N/S	Jersey Outdoor Media, LLC 505 S Lenola Road #116, Moorestown, NJ	Stafford Sheet-134
158.01	120	1347 East Bay Avenue	Tonnesen Realty LLC 55 Muriel Drive, Manahawkin, NJ	Stafford Sheet-134
158.01	114.01	1355 East Bay Avenue	Tooker, Jefrey PO Box 1129, Tuckerton, NJ	Stafford Sheet-134


BAY AVENUE
HERON ST
MARSHA BLVD.
NEW JERSEY STATE HIGHWAY ROUTE 72
STEVEN DR.
MORRIS BLVD.
BEACH HAVEN WEST BLVD.
158.01
158.02
TAX MAP
STAFFORD TOWNSHIP
OCEAN COUNTY NEW JERSEY
SCALE 1" = 100' DECEMBER 1987
CRAIG F. REMINGTON L.S.
REMINGTON & VERNICK ENGINEERS
9 ALLEN STREET, TOMS RIVER, NEW JERSEY

COUNTY OF OCEAN

REQUEST FOR GOVERNMENTAL RECORDS

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Signature

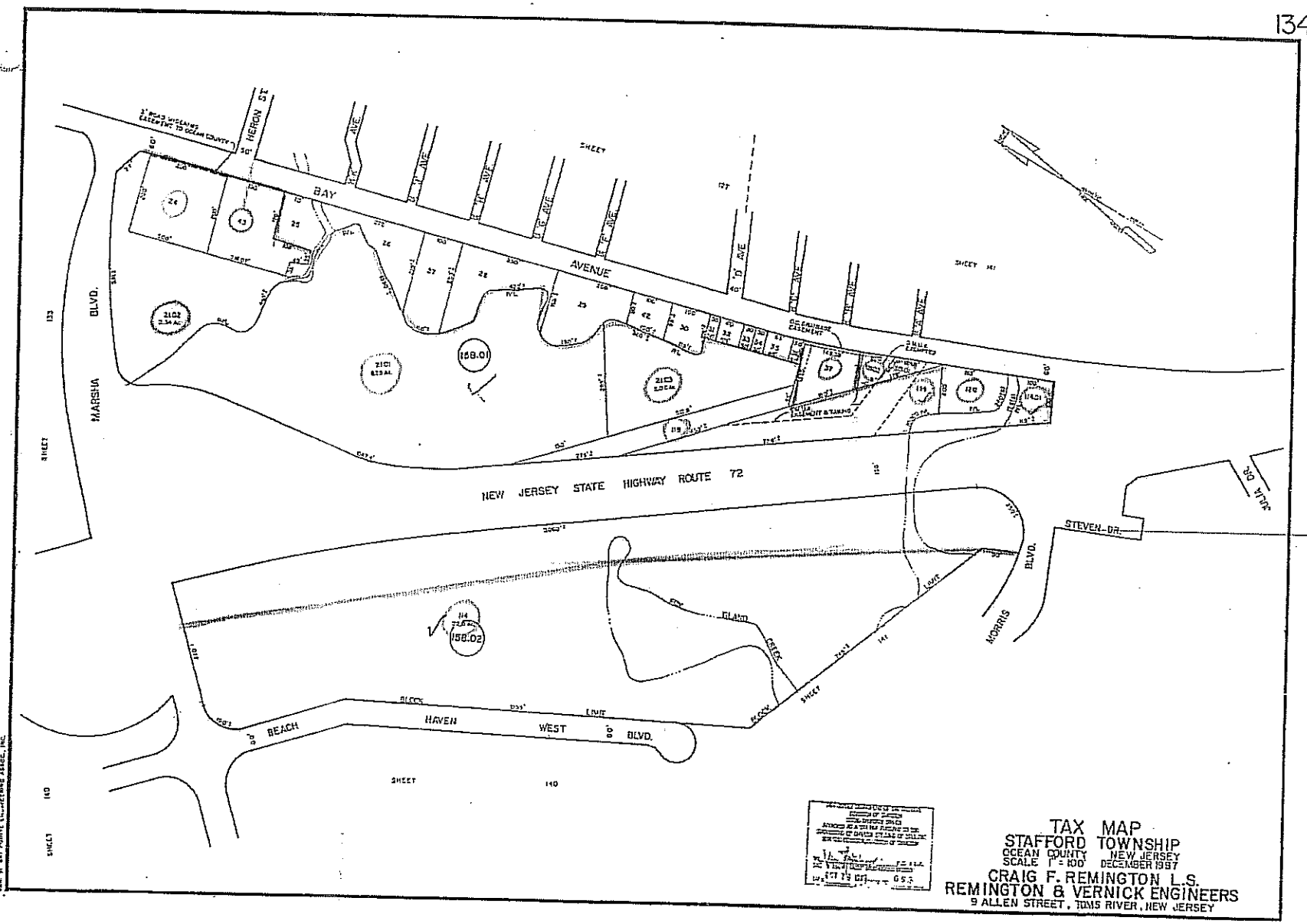
Jan 28, 2010

Date

July 1, 2002

Table 1D

NJDOT Route. 72 Manahawkin Bay Bridges Project Properties within the Project Corridor Township of Stafford, Ocean County, New Jersey				
Block	**Lot**	**Property Description/Address**	**Property Owner**	**Sheet Reference**
158.02	114	Route 72 S/S	Jersey Outdoor Media, LLC 505 S Lenola Road #116 , Moorestown, NJ	Stafford Sheet-134


BAY AVENUE
HERON ST
MARSHA BLVD.
NEW JERSEY STATE HIGHWAY ROUTE 72
STEVEN DR.
JULIA DR.
MORRIS BLVD.
BEACH HAVEN WEST BLVD.
GLAND CREEK
158.01
158.02
TAX MAP
STAFFORD TOWNSHIP
OCEAN COUNTY NEW JERSEY
SCALE 1" = 100' DECEMBER 1997
CRAIG F. REMINGTON L.S.
REMINGTON & VERNICK ENGINEERS
9 ALLEN STREET, TOMS RIVER, NEW JERSEY

COUNTY OF OCEAN

REQUEST FOR GOVERNMENTAL RECORDS

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EMAIL ADDRESS: xerxes@prestige-environmnental.com

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Signature

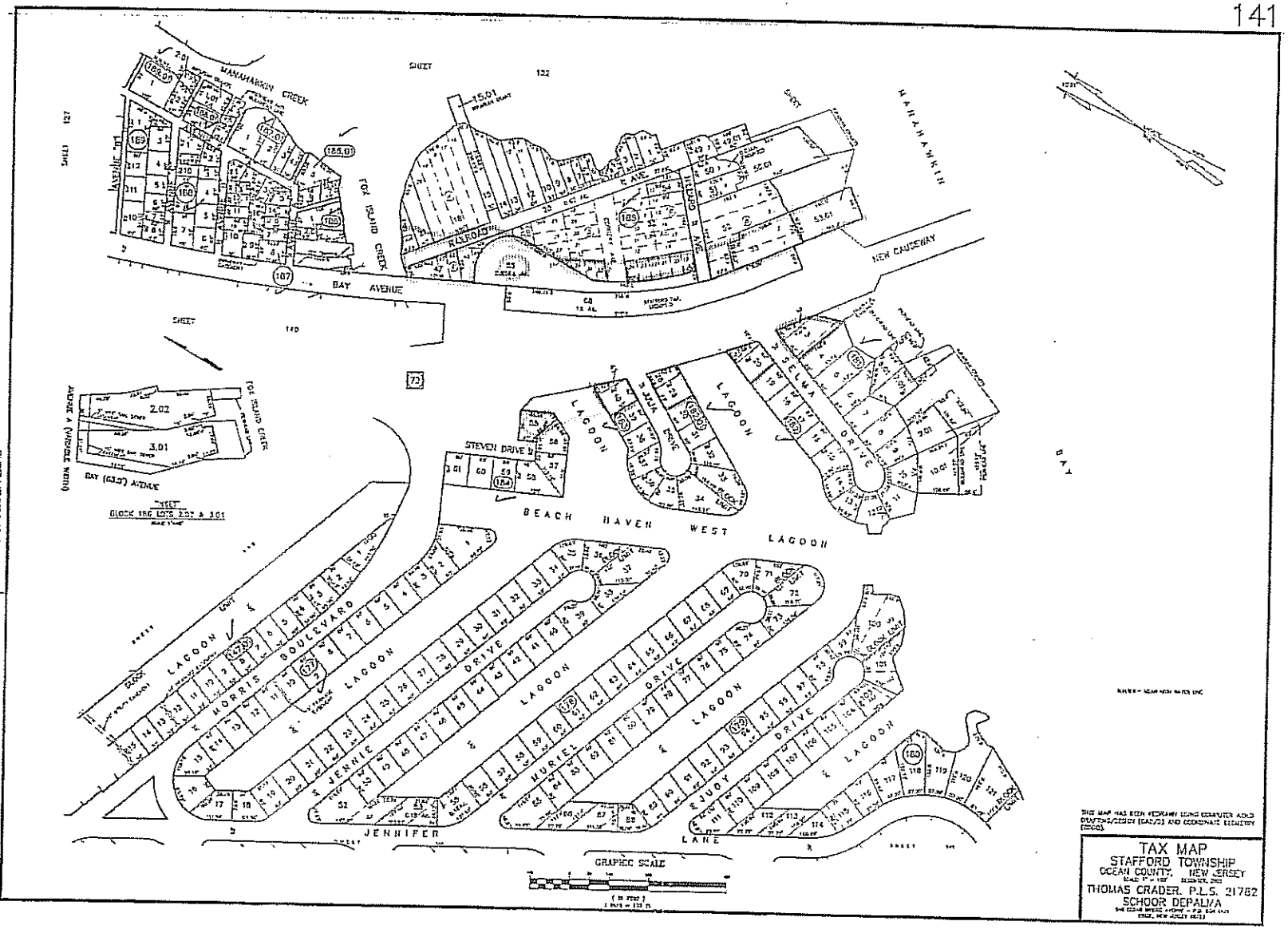
Jan 28, 2010

Date

July 1, 2002

Table 2A

NJDOT Route. 72 Manahawkin Bay Bridges Project Properties within the Project Corridor Township of Stafford, Ocean County, New Jersey				
Block	**Lot**	**Property Description/Address**	**Property Owner**	**Sheet Reference**
181	3	8 Selma Drive	Hekl, Debra 1072 Route 9 West, Grandview, NY	Stafford Sheet-141
182	20	7 Selma Drive	D'amico, Patricia & Pace, Ruth 353 Lake Shore Drive, Haworth, NJ	Stafford Sheet-141
182	21	3 Selma Drive	D'amico, Patricia & Pace, Ruth 353 Lake Shore Drive, Haworth, NJ	Stafford Sheet-141



TAX MAP
STAFFORD TOWNSHIP
OCEAN COUNTY, NEW JERSEY
THOMAS CRADER, P.L.S. 21782
SCHOOR DEPALVA

COUNTY OF OCEAN

REQUEST FOR GOVERNMENTAL RECORDS

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Please complete the information below. See reverse side for important information.

NAME: Xerxes (First Name) (MI) Antia (Last Name)

ADDRESS: 27 Progress Street (Street, PO) Edison (Town/City) NJ (State) 08820 (zip)

PHONE NUMBER: (908) 757-9700 (Work) (908) 875-9873 (Home)

EMAIL ADDRESS: xerxes@prestige-environmnental.com

Brief description of government record(s) you are requesting to copy ____ or inspect X (check one):

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Signature

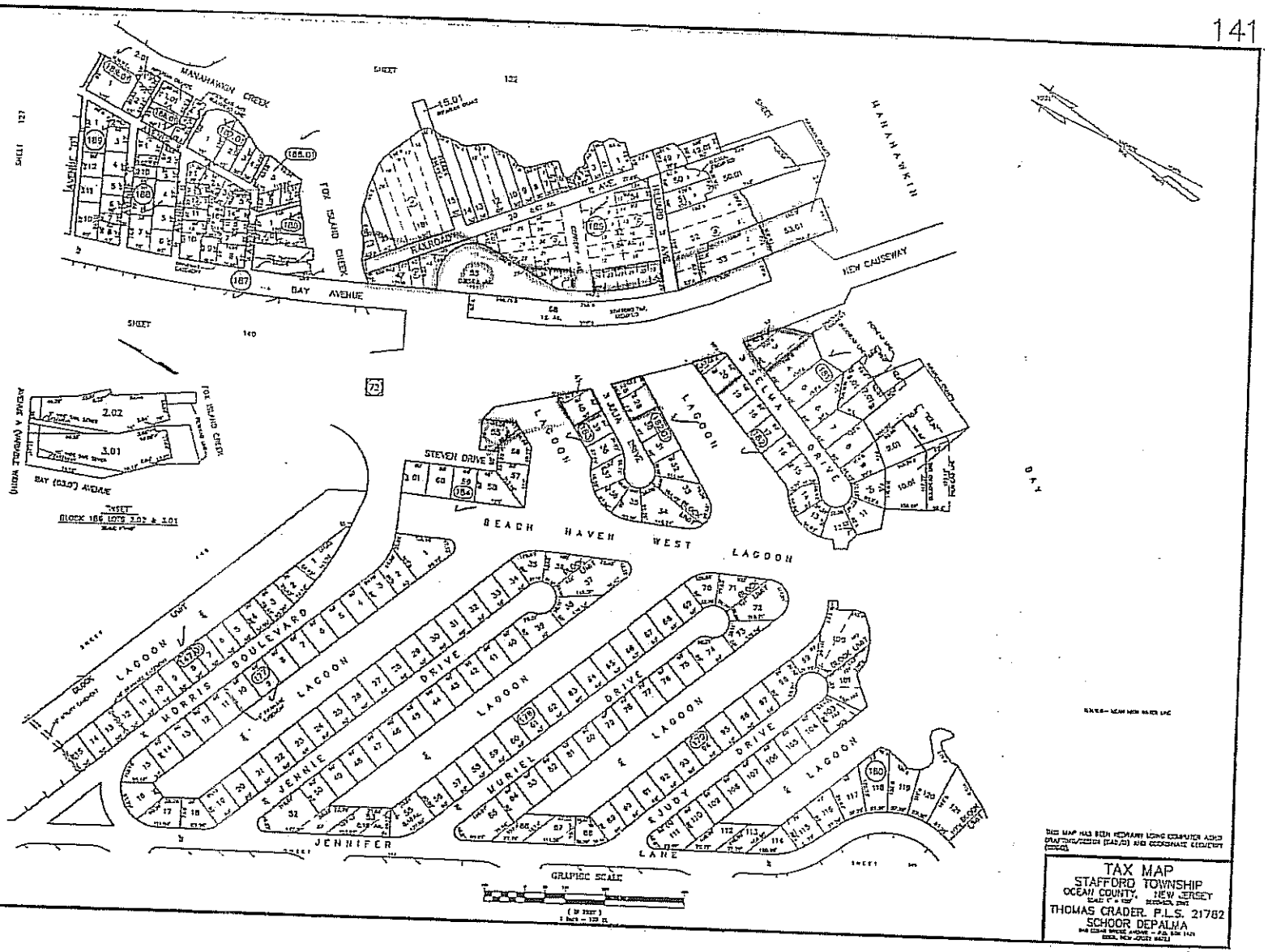
Jan 28, 2010

Date

July 1, 2002

Table 2B

NJDOT Route. 72 Manahawkin Bay Bridges Project Properties within the Project Corridor Township of Stafford, Ocean County, New Jersey				
Block	**Lot**	**Property Description/Address**	**Property Owner**	**Sheet Reference**
182.01	28	4 Julia Drive	Boyton, Elizabeth, 4 Julia Drive, Manahawkin, NJ	Stafford Sheet-141
183	40	5 Julia Drive	Jersey Outdoor Media, LLC 505 S Lenola Road #116, Moorestown, NJ	Stafford Sheet-141
183	41	Julia Drive W/S	Jersey Outdoor Media, LLC 505 S Lenola Road #116, Moorestown, NJ	Stafford Sheet-141


MANAHAKIN CREEK
FOX ISLAND CREEK
BAY AVENUE
FAIRHAVEN
HAHAHAKIN
NEW CAUSEWAY
BAY
BEACH HAVEN WEST
LAGOON
DRIVE
STEVEN DRIVE
MORRIS BOULEVARD
JENNIFER
JENNIE
MURIEL
JUDY
LANE
GRAPHIC SCALE
TAX MAP
STAFFORD TOWNSHIP
OCEAN COUNTY, NEW JERSEY
THOMAS CRADER, P.L.S. 21782
SCHOOR DEPALMA

COUNTY OF OCEAN

REQUEST FOR GOVERNMENTAL RECORDS

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Please complete the information below. See reverse side for important information.

NAME: Xerxes (First Name) (MI) Antia (Last Name)

ADDRESS: 27 Progress Street (Street, PO) Edison (Town/City) NJ (State) 08820 (zip)

PHONE NUMBER: (908) 757-9700 (Work) (908) 875-9873 (Home)

EMAIL ADDRESS: xerxes@prestige-environmnental.com

Brief description of government record(s) you are requesting to copy ____ or inspect X (check one):

We request access to any information which may be available with your department regarding the known potential environmental and public health hazards posed by the toxic waste dumping, waste water discharge, chemical or petroleum storage, air emissions and toxic spills which are proximity to the subject site. Table showing locations /properties of interest in Stafford is attached.

The Applicant hereby acknowledges receipt of a copy of this form with the date on which the information is expected to be available and the estimated cost. The Applicant hereby certifies that he or she has not been convicted of any indictable offense under the laws of this State, any other state or the United States and is not seeking government records containing personal information pertaining to the victim or the victim's family as provided by N.J.S.A. 47:1A-1 et seq.

Signature

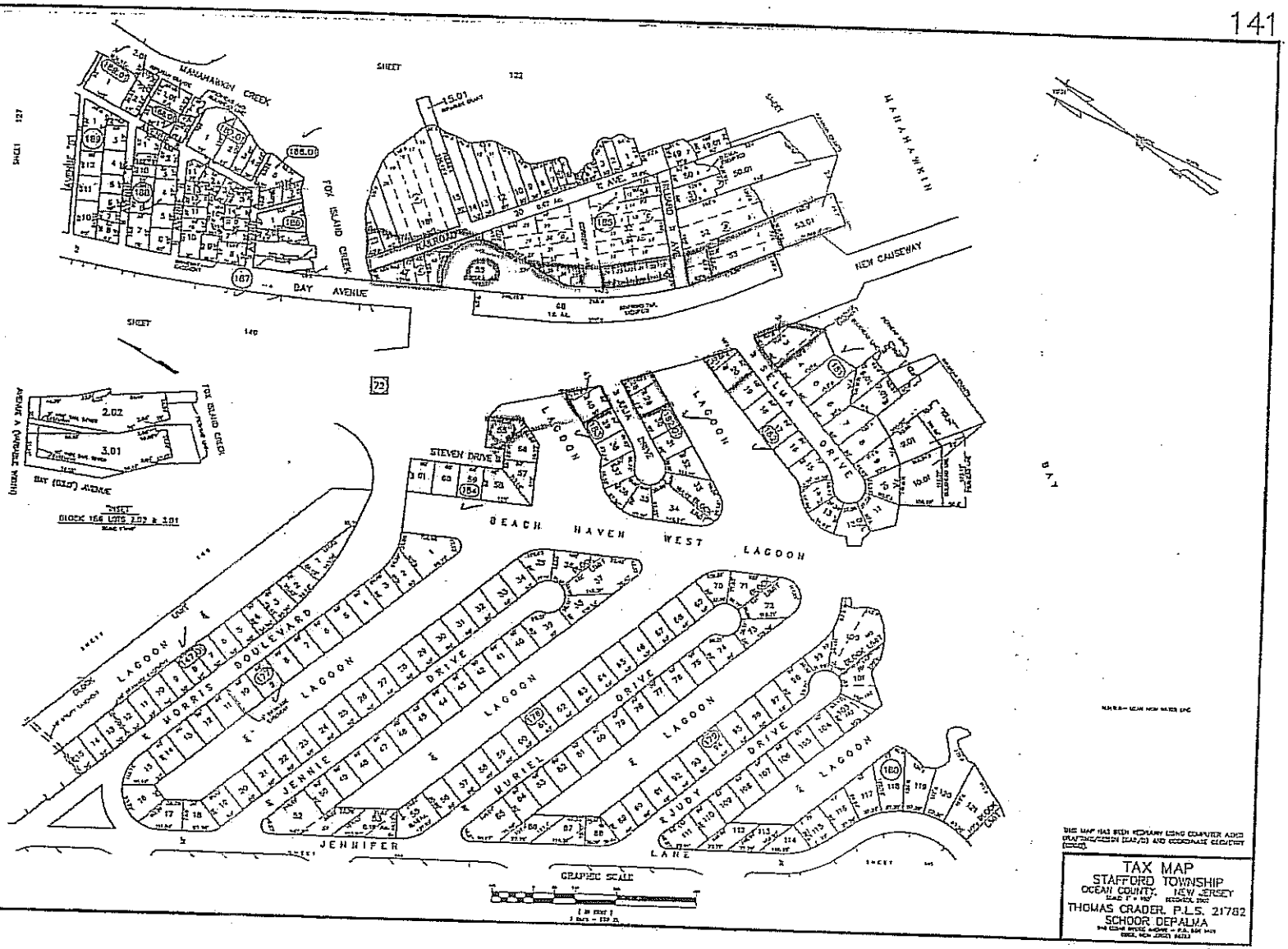
Jan 28, 2010

Date

July 1, 2002

Table 2C

NJDOT Route. 72 Manahawkin Bay Bridges Project Properties within the Project Corridor Township of Stafford, Ocean County, New Jersey				
Block	**Lot**	**Property Description/Address**	**Property Owner**	**Sheet Reference**
184	61	3 Steven Drive	Caravella, Sistoantonio & Rosa, 30 Maple Street, Paramus, NJ	Stafford Sheet-141
184	60	7 Steven Drive	Skiba, EJ Jr., EJ Sr. & Ann Marie, 5 Gritman Ct, Westwood, NJ	Stafford Sheet-141
184	55	16 Steven Drive, Inc. Lot 54	Pancost, Thomas & Judith, 16 Steven Drive, Manahawkin, NJ	Stafford Sheet-141



TAX MAP
STAFFORD TOWNSHIP
OCEAN COUNTY, NEW JERSEY
SCALE 1" = 150'
THOMAS CRADER, P.L.S. 21782
SCHOOR DEPALMA

COUNTY OF OCEAN

REQUEST FOR GOVERNMENTAL RECORDS

This form should be completed and returned to the Custodian of Records in the Office of the Clerk of the Board of Chosen Freeholders, Ocean County Administration Building, 1 01 Hooper Avenue, Room 328, Toms River, New Jersey 08753.

Please complete the information below. See reverse side for important information.

NAME: Xerxes (First Name) (MI) Antia (Last Name)

ADDRESS: 27 Progress Street (Street, PO) Edison (Town/City) NJ (State) 08820 (zip)

PHONE NUMBER: (908) 757-9700 (Work) (908) 875-9873 (Home)

EMAIL ADDRESS: xerxes@prestige-environmnental.com

Brief description of government record(s) you are requesting to copy ____ or inspect X (check one):

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Signature

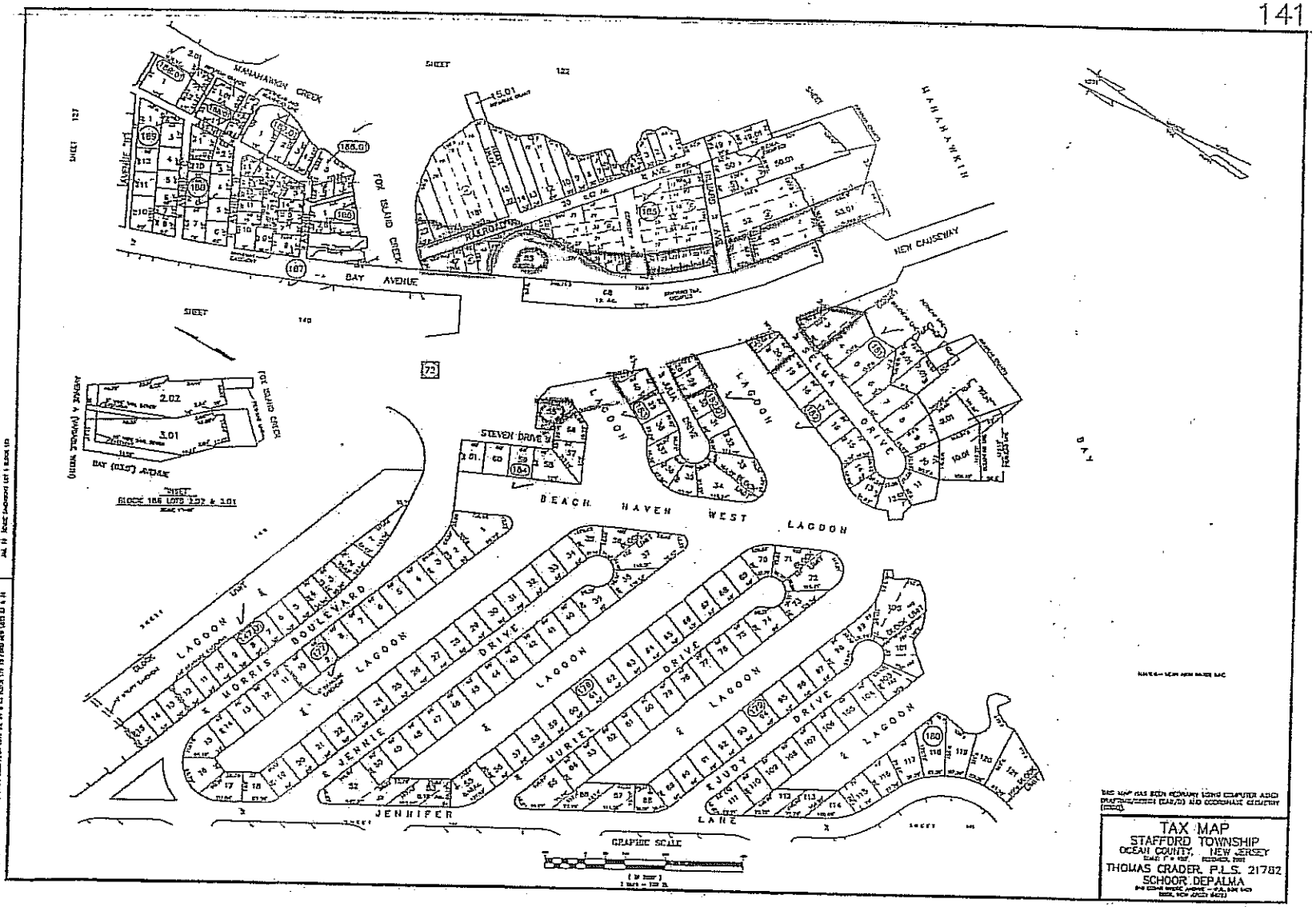
Jan 28, 2010

Date

July 1, 2002

Table 2D

NJDOT Route. 72 Manahawkin Bay Bridges Project Properties within the Project Corridor Township of Stafford, Ocean County, New Jersey				
Block	**Lot**	**Property Description/Address**	**Property Owner**	**Sheet Reference**
185	52	1432 E Bay Avenue	Mallard Island Yacht Club LLC, PO 5471, Trenton, NJ	Stafford Sheet-141


TAX MAP
STAFFORD TOWNSHIP
OCEAN COUNTY, NEW JERSEY
THOMAS CRADER, P.L.S. 21782
SCHOOR DEPALMA
BAY AVENUE
NEW CAUSEWAY
HAHAHAWKIN
BAY
FOX ISLAND CREEK
MANAHAWKIN CREEK
BEACH HAVEN WEST
LAGOON
DRIVE
BOULEVARD
MORRIS
JENNIFER
JENNIE
MURIEL
JUDY
LANE
STEVEN DRIVE
GRAPHIC SCALE

COUNTY OF OCEAN

REQUEST FOR GOVERNMENTAL RECORDS

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Brief description of government record(s) you are requesting to copy ____ or inspect X (check one):

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Signature

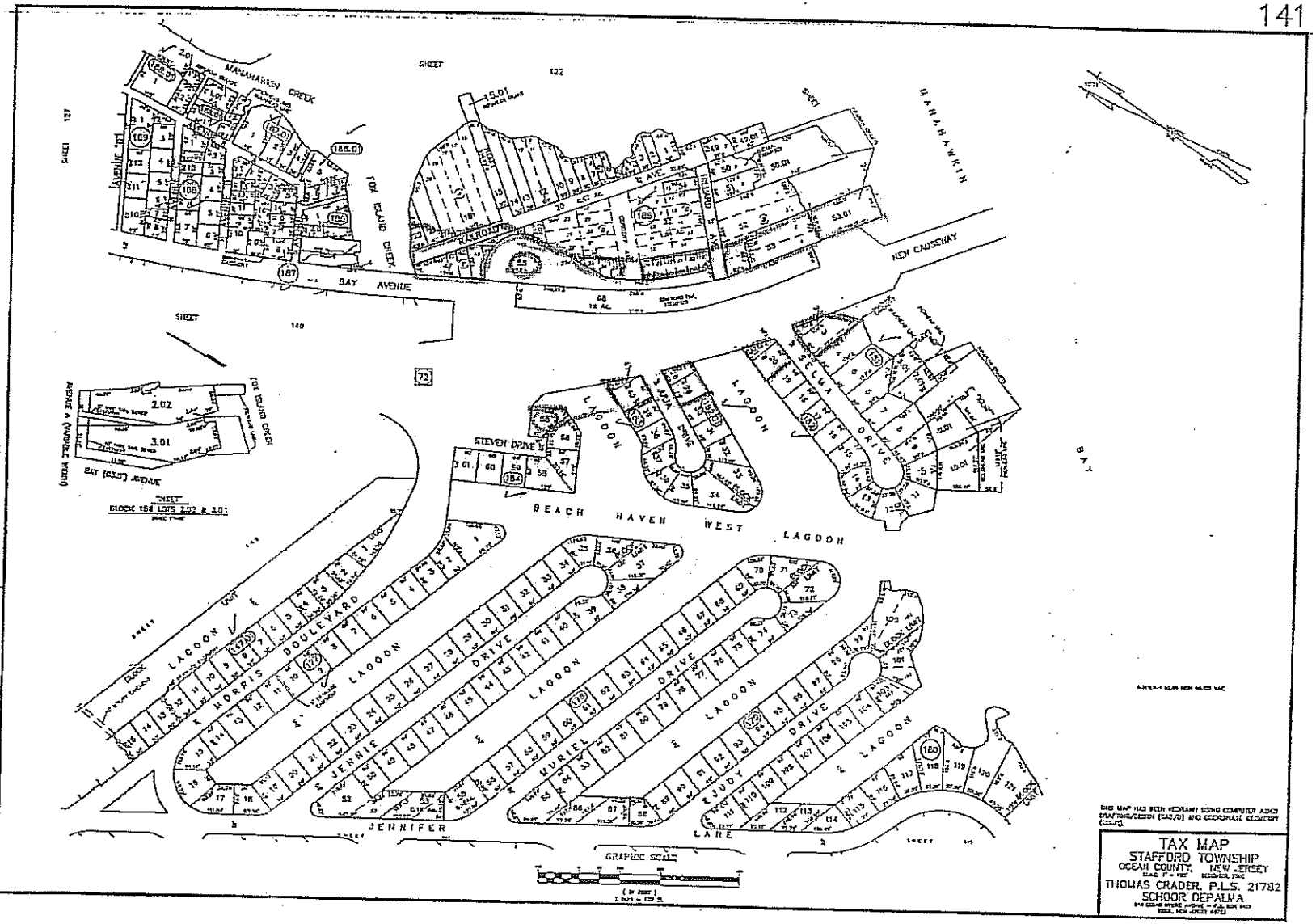
Jan 28, 2010

Date

July 1, 2002

Table 2E

NJDOT Route. 72 Manahawkin Bay Bridges Project Properties within the Project Corridor Township of Stafford, Ocean County, New Jersey				
Block	**Lot**	**Property Description/Address**	**Property Owner**	**Sheet Reference**
185	68	Bay Avenue NE/Hilliard	Stafford Township, 260 East Bay Avenue, Manahawkin, NJ	Stafford Sheet-141



TAX MAP
STAFFORD TOWNSHIP
OCEAN COUNTY, NEW JERSEY
SCALE 1" = 100'
REVISED 1992
THOMAS CRADER, P.L.S. 21782
SCHOOR DEPALMA

COUNTY OF OCEAN

REQUEST FOR GOVERNMENTAL RECORDS

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PHONE NUMBER: (908) 757-9700 (Work) (908) 875-9873 (Home)

EMAIL ADDRESS: xerxes@prestige-environmnental.com

Brief description of government record(s) you are requesting to copy ____ or inspect X (check one):

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Signature

Jan 28, 2010

Date

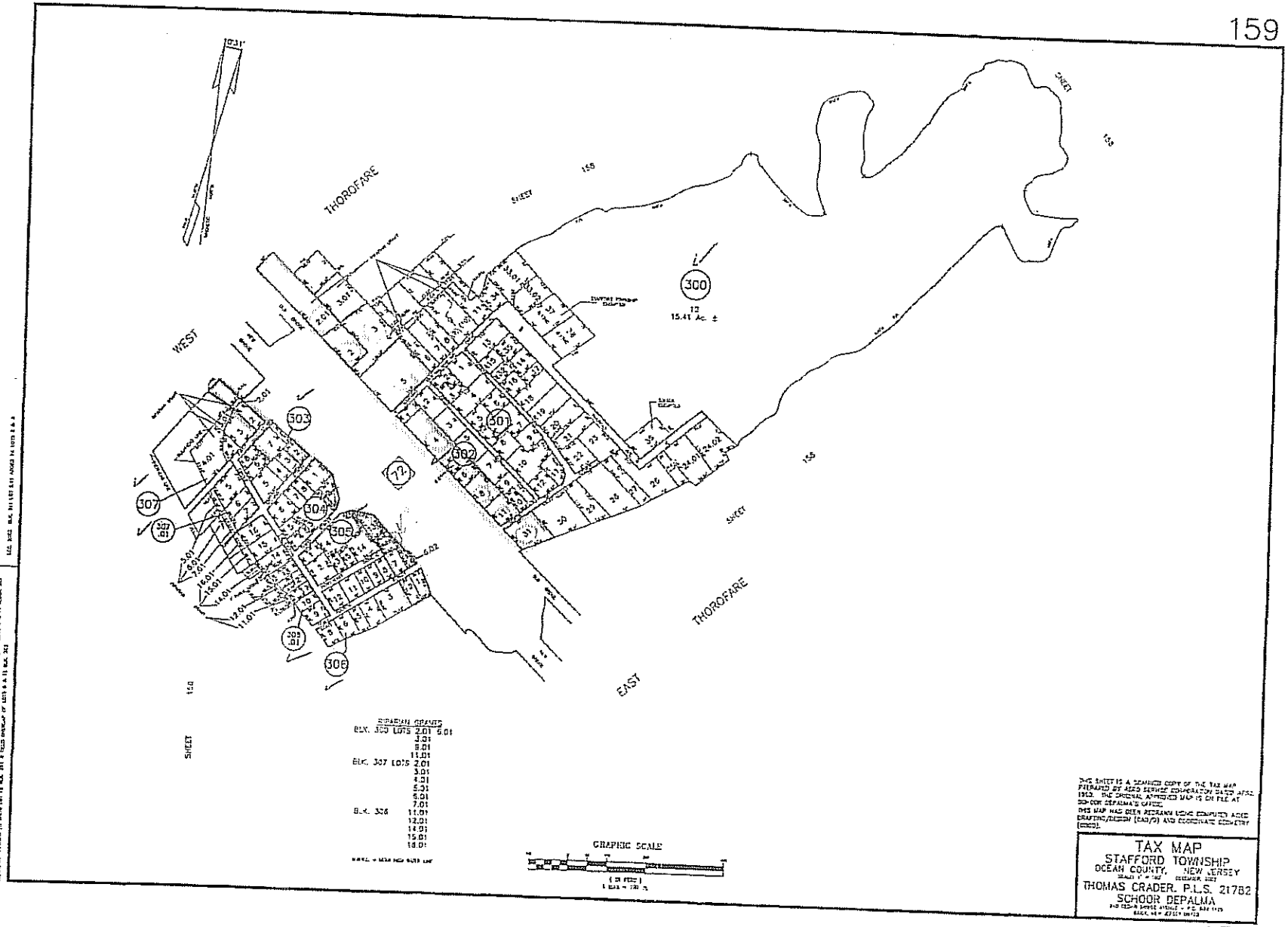
July 1, 2002

Table 3A

NJDOT Route. 72 Manahawkin Bay Bridges Project Properties within the Project Corridor Township of Stafford, Ocean County, New Jersey				
Block	**Lot**	**Property Description/Address**	**Property Owner**	**Sheet Reference**
300	2	2500 East Bay Avenue	Schmid, Otto Robert, 2500 E Bay Avenue, Manahawkin, NJ	Stafford Sheet-159
300	3	2516 Rt 72 East	Schmid, Otto Robert, 2500 E Bay Avenue, Manahawkin, NJ	Stafford Sheet-159
300	5	12 Manning Drive	Schmid, Otto Robert, 2500 E Bay Avenue, Manahawkin, NJ	Stafford Sheet-159
300	31	2572 East Bay Avenue	Dutchman's Brau Haus, 2500 E Bay Avenue, Manahawkin, NJ	Stafford Sheet-159
302	1	2532 East Bay Avenue	Rafter, Joanne & Timothy, 2532 East Bay Avenue, Manahawkin, NJ	Stafford Sheet-159
302	4	Route 72 N/S	Schmid Robert, 2500 E Bay Avenue, Manahawkin, NJ	Stafford Sheet-159
302	6.01	Route 72 N/S	Dutchman's Brau Haus, 2500 E Bay Avenue, Manahawkin, NJ	Stafford Sheet-159
302	6	Route 72 N/S	Schifano Communications, Inc., 818 Winword Drive, Forked River, NJ	Stafford Sheet-159
302	8	2560 East Bay Avenue	Harquist, John T & Medford, Sandra, 207 5th Street, Ship Bottom, NJ	Stafford Sheet-159
302	11	2568 East Bay Avenue	Dutchman's Brau Haus, 2500 E Bay Avenue, Manahawkin, NJ	Stafford Sheet-159

TABLE 3B

NJDOT Route. 72 Manahawkin Bay Bridges Project Properties within the Project Corridor Township of Stafford, Ocean County, New Jersey				
Block	**Lot**	**Property Description/Address**	**Property Owner**	**Sheet Reference**
303	1	Route 72 & First Avenue	Nagel, Anthony W & Dorothy A, 7 Canary Way, Hamilton, NJ	Stafford Sheet-159
303	2	4 Second Street	Wuest, Donald C & Theresa M, 4 Second Street, Manahawkin, NJ	Stafford Sheet-159
304	1	3 Second Street	Macdonald, Jane, 3 Second Street, Manahawkin, NJ	Stafford Sheet-159
304	2	4 Third Street	Simmons, Raymond A, 4 Third Street, Manahawkin, NJ	Stafford Sheet-159
305	13	Route 72 S/W Cor & 4th	Jersey Outdoor Media, LLC 505 S Lenola Road #116, Moorestown, NJ	Stafford Sheet-159
305	6.01	2 Northeast Drive	Lizzi, Frank & Dominic, 2903 South 13th Street, Philadelphia, PA	Stafford Sheet-159
305	6.02	2 Fourth Street	Hart, Timothy G. & Lorraine C., 1 Fourth Street, Manahawkin, NJ	Stafford Sheet-159
306	1	1 Fourth Street	BGC Holdings, LLC, 550 Penny Lane, Perkasie, PA	Stafford Sheet-159
307	2	4 First Street	Dreher, Kimberly, 111 Kylies Road, Coatesville, PA	Stafford Sheet-159


THOROFARE
WEST
EAST
SHEET
300
301
302
303
304
305
306
307
72
12
15.41 Ac. ±
RIPARIAN GRANTS
BLK. 305 LOTS 2.01 - 6.01
4.01
8.01
11.01
BLK. 307 LOTS 2.01
3.01
4.01
5.01
6.01
7.01
BLK. 306
11.01
12.01
14.01
15.01
16.01
GRAPHIC SCALE
TAX MAP
STAFFORD TOWNSHIP
OCEAN COUNTY, NEW JERSEY
THOMAS CRADER, P.L.S. 21782
SCHOOR DEPALMA

COUNTY OF OCEAN

REQUEST FOR GOVERNMENTAL RECORDS

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Signature

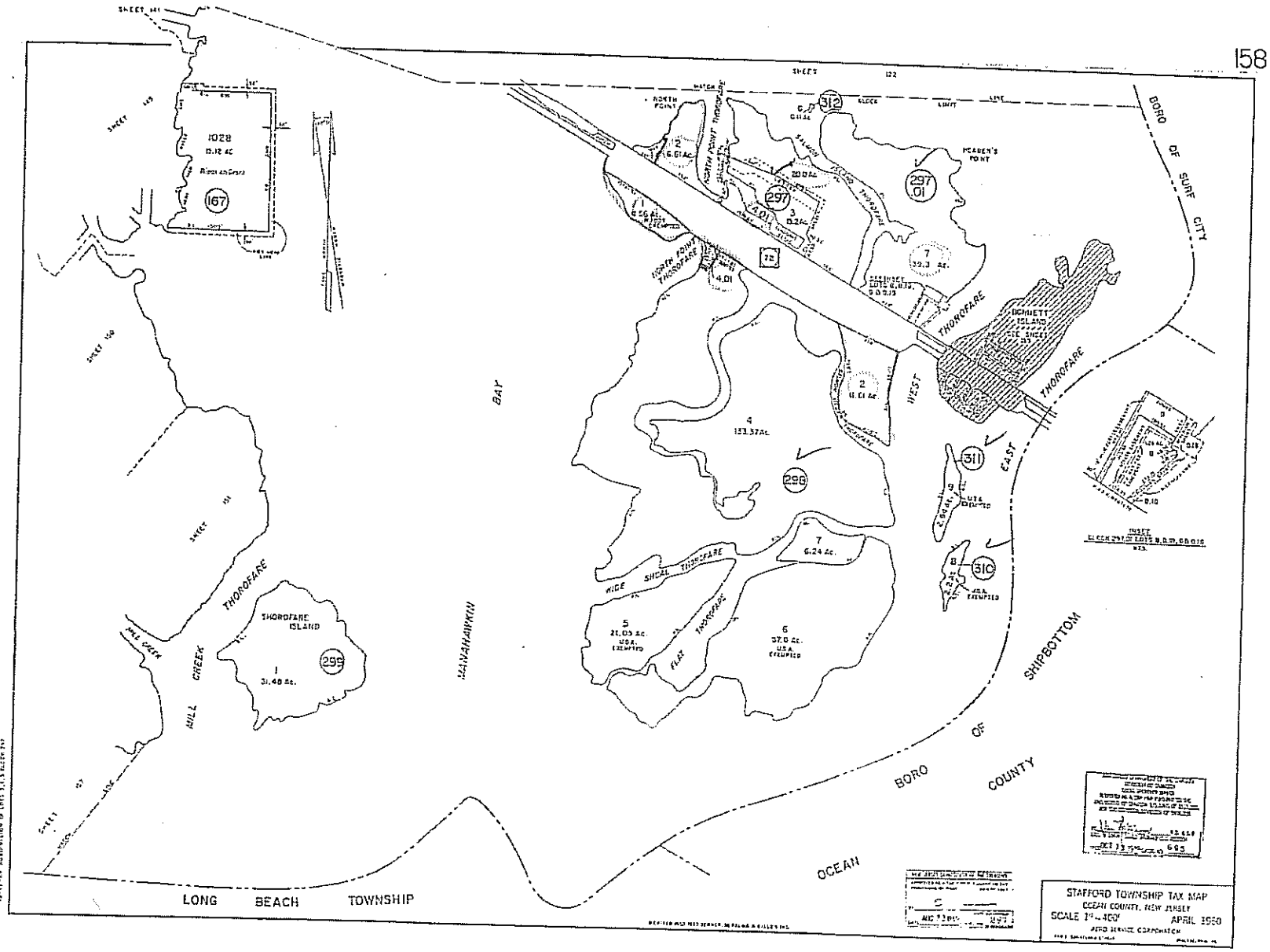
Jan 28, 2010

Date

July 1, 2002

Table 4

NJDOT Route. 72 Manahawkin Bay Bridges Project Properties within the Project Corridor Township of Stafford, Ocean County, New Jersey				
Block	**Lot**	**Property Description/Address**	**Property Owner**	**Sheet Reference**
297	1	2040 East Bay Avenue	Tonnesen, Allen, 2040 E Bay Avenue, Manahawkin, NJ	Stafford Sheet-158
297	2	2070 East Bay Avenue	Tonnesen, Allen, Eugene 65 Parker St, Manahawkin, NJ	Stafford Sheet-158
297	3	2200 East Bay Avenue	Chapman, Walter PO Box 144 Ship Bottom, NJ	Stafford Sheet-158
297	4	2304 Route 72 East	Chapman, Walter PO Box 144 Ship Bottom, NJ	Stafford Sheet-158
297.01	7	Route 72 N/S	United States of America Westgate Center Drive Hadley, MA	Stafford Sheet-158
297.01	8	2390 East Bay Avenue	Vernon Christopher PO Box 5471 Trenton, NJ	Stafford Sheet-158
297.01	9	2380 East Bay Avenue	Vernon Christopher PO Box 5471 Trenton, NJ	Stafford Sheet-158
298	1	Route 72 S/S	NJDOT 1035 Parkway Avenue Trenton, NJ	Stafford Sheet-158
298	2	2560 East Bay Avenue	United States of America Westgate Center Drive Hadley, MA	Stafford Sheet-158
298	4	2568 East Bay Avenue	United States of America Westgate Center Drive Hadley, MA	Stafford Sheet-158
298	4.01	Route 72 & First Avenue	Unknown	Stafford Sheet-158


STAFFORD TOWNSHIP TAX MAP
OCEAN COUNTY, NEW JERSEY
SCALE 1" = 400'
APRIL 1950
AERO SERVICE CORPORATION
LONG BEACH TOWNSHIP
OCEAN
BORO OF SHIPBOTTOM
BORO OF SURF CITY
BAY
MANAHAWKIN
WEST THOROFARE
EAST THOROFARE
NORTH POINT THOROFARE
WIDE SHOAL THOROFARE
FLAT THOROFARE
HILL CREEK
PEARCE'S POINT
DONNETT ISLAND
THOROFARE ISLAND
SHEET 122
SHEET 121
SHEET 123
SHEET 124
SHEET 125
SHEET 126
1028
167
312
297
297.01
296
295
311
310

COUNTY OF OCEAN

REQUEST FOR GOVERNMENTAL RECORDS

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EMAIL ADDRESS: xerxes@prestige-environmnental.com

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We request access to any information which may be available with your department regarding the known potential environmental and public health hazards posed by the toxic waste dumping, waste water discharge, chemical or petroleum storage, air emissions and toxic spills which are proximity to the subject site. Table showing locations /properties of interest in Ship Bottom is attached.

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Signature

Jan 19, 2010

Date

July 1, 2002

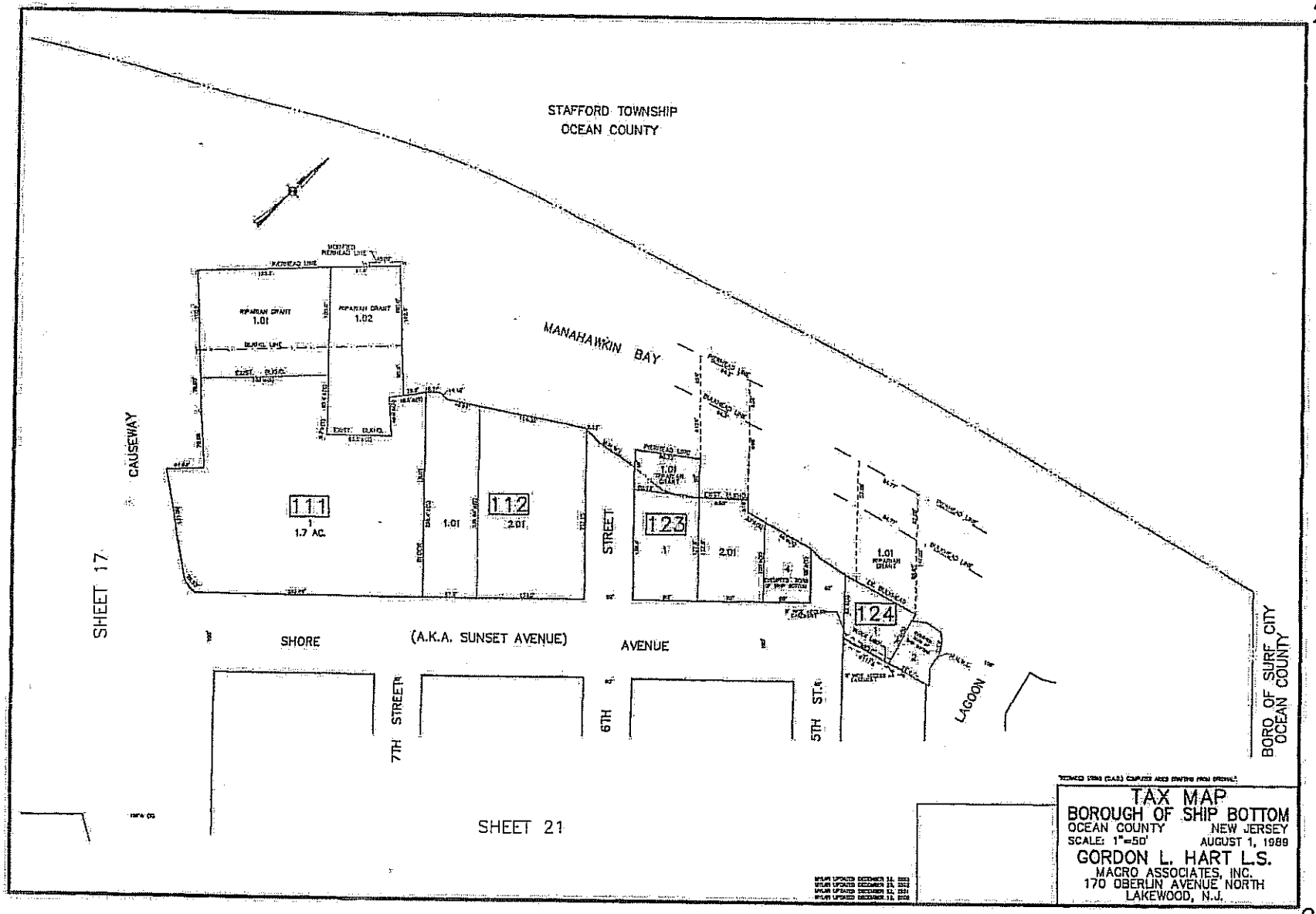
NJDOT Route. 72 Manahawkin Bay Bridges Project Properties within the Project Corridor Borough of Ship Bottom, Ocean County, New Jersey				
Block	**Lot**	**Property Description/Address**	**Property Owner**	**Sheet Reference**
111	1	Hochstrasser's Marina 401 West 8th Street	Louis Sr. & Ester Hochstrasser	Ship Bottom Sheet 22

Block	Lot	Property Description/Address	Property Owner	Sheet Reference
110	21	Carpet Land 339 West 8th Street	Sea Bee Corp	Ship Bottom Sheet 21
110	22	Carpet Land 331 West 8th Street	Sea Bee Corp	Ship Bottom Sheet 21
110	8.02	Barnegat Light, Plumbing & Builders 347 W. 8th Streeet	Samuel S.Wieczorek	Ship Bottom Sheet 21
110	18	BP Gas Station 379 W. 8th Street	Russon Fuel Oil Company	Ship Bottom Sheet 21
110	16	399 W. 8th Street	Louis Sr. & Ester Hochstrasser	Ship Bottom Sheet 21
110	17	399 W. 8th Street	Louis Sr. & Ester Hochstrasser	Ship Bottom Sheet 21
110	17.01	Mercury Outboards 385 W. 8th Street	Louis Sr. & Ester Hochstrasser	Ship Bottom Sheet 21
110	23	327 W. 8th Street	John T. Harquist	Ship Bottom Sheet 21
110	19.01	La Spiaggia Restaurant 355 W. 8th Street	CJG Realty Management LLC	Ship Bottom Sheet 21

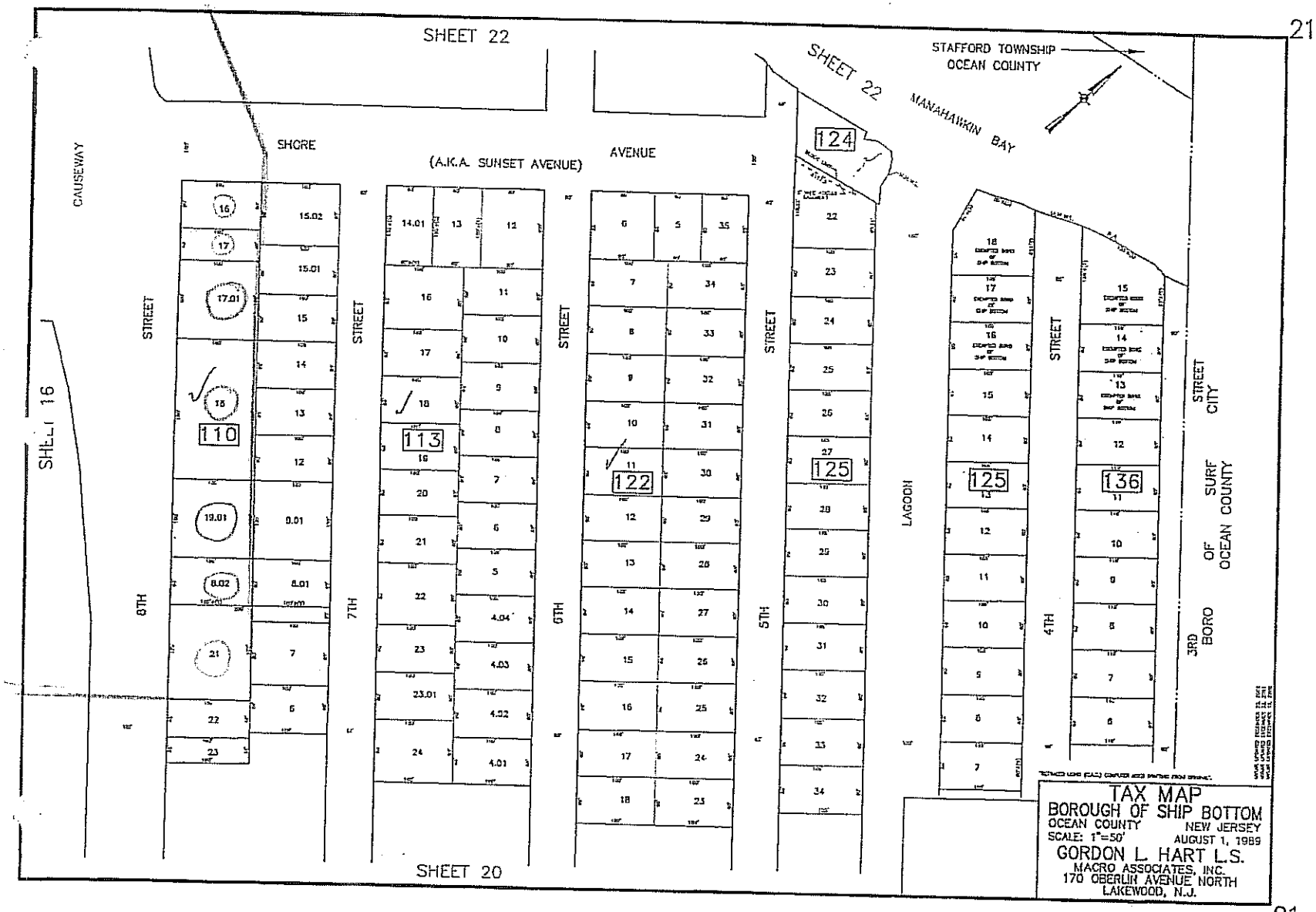
Block	Lot	Property Description/Address	Property Owner	Sheet Reference
101	1	Playground 901-915 Shore Avenue	Borough Of Ship Bottom	Ship Bottom Sheet17

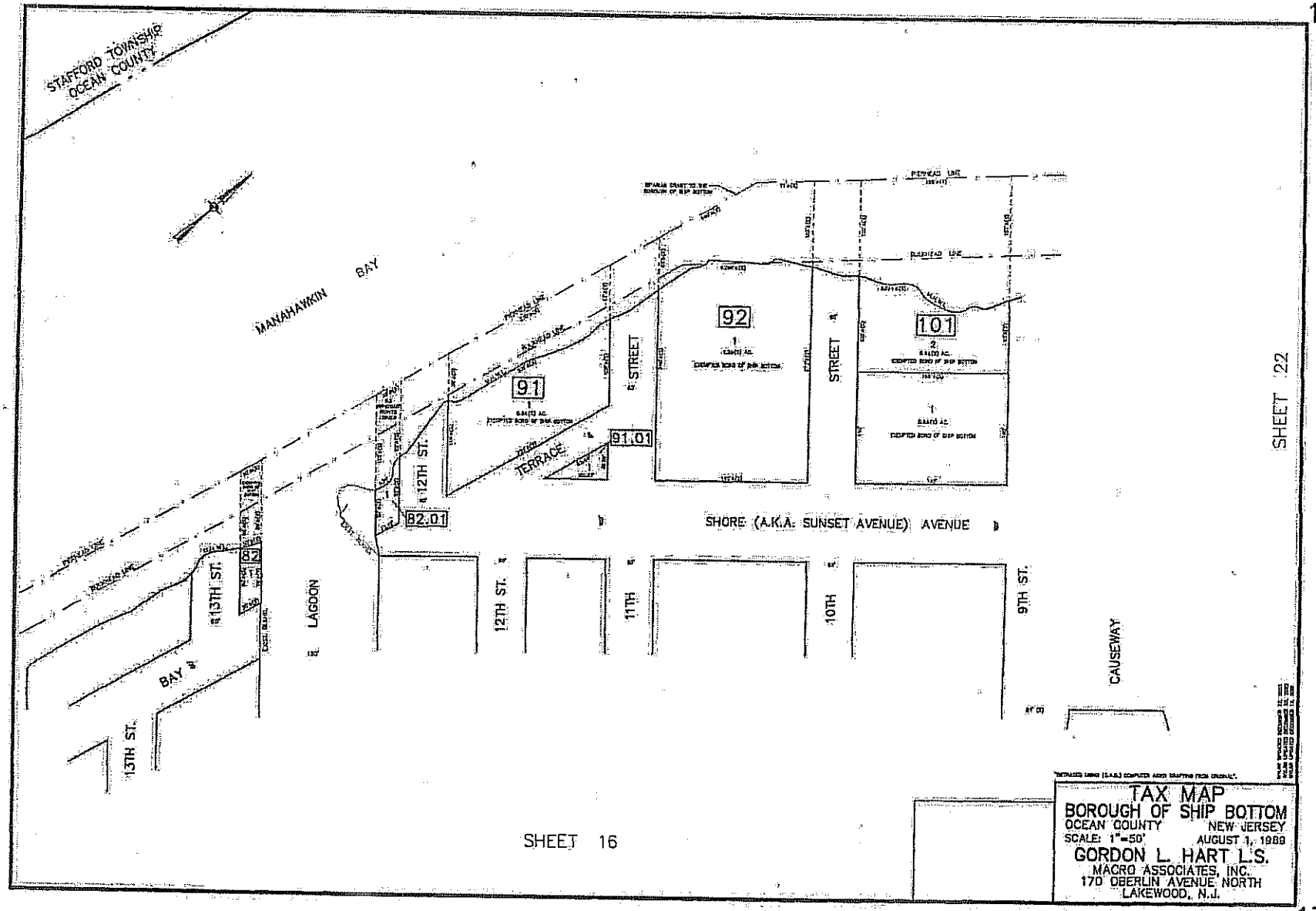
Block	Lot	Property Description/Address	Property Owner	Sheet Reference
103	6	Quaterdeck Inn 338-380 W. 8th Street	Tara Enterprises of LBI, LLC	Ship Bottom Sheet 16
103	4	RE/Max Realtors 330 W. 8th Street	330-334 8th Street LLC	Ship Bottom Sheet 16
103	5	330 W. 8th Street	330-334 8th Street LLC	Ship Bottom Sheet 16
103	7	Re/Max Realtors 330 W. 8th Street	330 West 8th Street	Ship Bottom Sheet 16
100	8	Additional parking for Quarterdeck Inn 354 W. 9th Street	Tara Enterprises of LBI, LLC	Ship Bottom Sheet 16
100	9	Ciccone, Gotthold & Koseff 368 W. 9th Street	Raymon R. Ciccone	Ship Bottom Sheet 16
100	6	Weichert Realty 326 W. 9th Street	James M. Weichart	Ship Bottom Sheet 16
100	7	LBI Scuba 342 W. 9th Street	Edward & Suzanne Wuerker	Ship Bottom Sheet 16
100	9.03	Causeway Professional Plaza 370 W. 9th Street	Casualty Professional Plaza Assn.	Ship Bottom Sheet 16
100	9.02	Causeway Professional Plaza 370 W. 9th Street	Casualty Professional Plaza Assn.	Ship Bottom Sheet 16
100	9.04	Causeway Professional Plaza 370 W. 9th Street	Casualty Professional Plaza Assn.	Ship Bottom Sheet 16
100	9.01	Causeway Professional Plaza 370 W. 9th Street	Casualty Professional Plaza Assn.	Ship Bottom Sheet 16

22


STAFFORD TOWNSHIP
OCEAN COUNTY
MANAHAWKIN BAY
CAUSEWAY
SHEET 17
111
1.7 AC.
1.01
112
2.01
STREET
123
2.01
124
1.01
SHORE
(A.K.A. SUNSET AVENUE)
AVENUE
7TH STREET
6TH
5TH ST.
LAGOON
BORO. OF SURF CITY
OCEAN COUNTY
SHEET 21
TAX MAP
BOROUGH OF SHIP BOTTOM
OCEAN COUNTY
NEW JERSEY
SCALE: 1"=50'
AUGUST 1, 1989
GORDON L. HART L.S.
MACRO ASSOCIATES, INC.
170 OBERLIN AVENUE NORTH
LAKEWOOD, N.J.

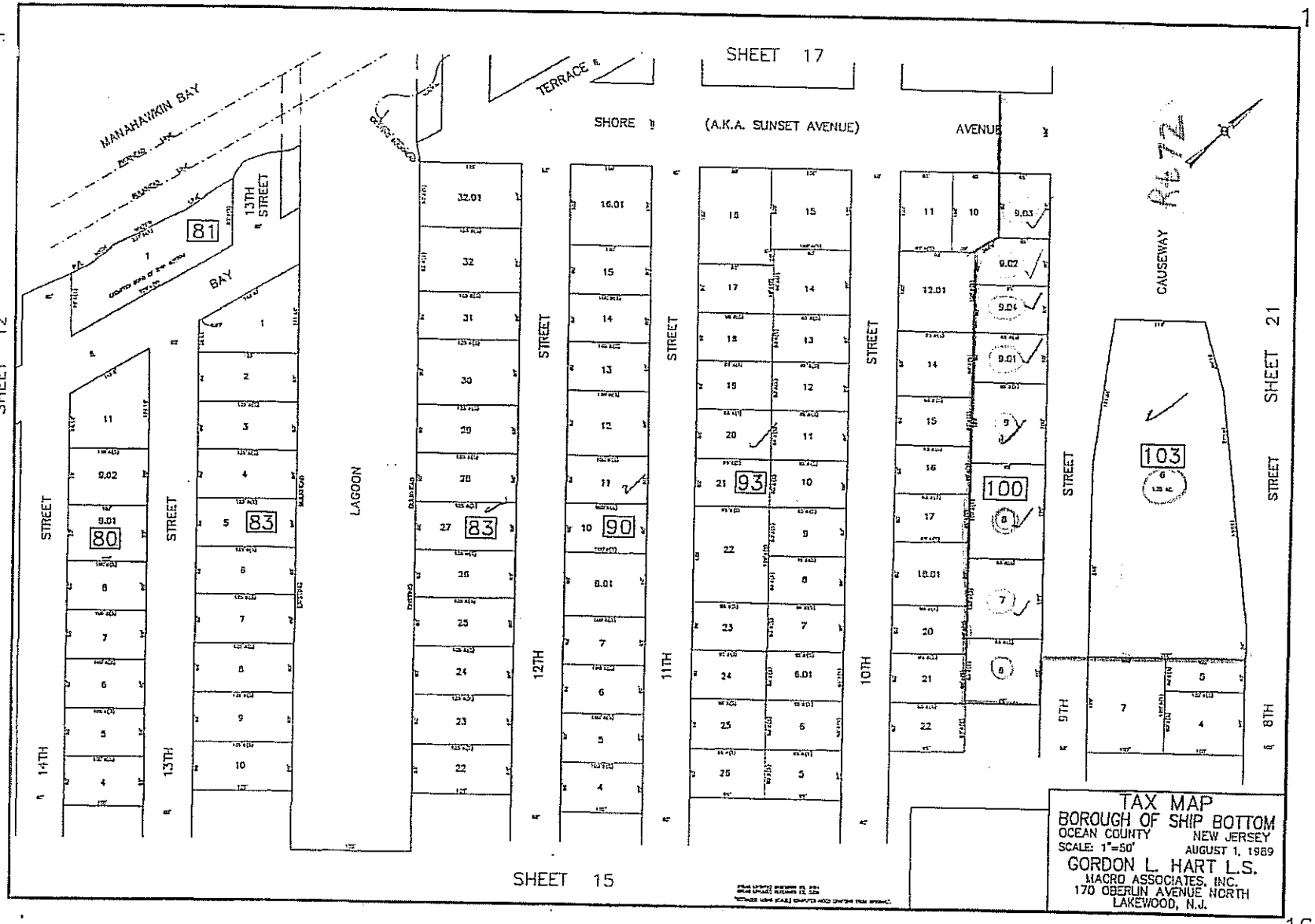
22


21
SHEET 22
SHEET 22
STAFFORD TOWNSHIP
OCEAN COUNTY
MANAHAWKIN BAY
SHORE
(A.K.A. SUNSET AVENUE)
AVENUE
CAUSEWAY
SHEET 16
8TH
STREET
7TH
STREET
6TH
STREET
5TH
STREET
LAGOON
4TH
STREET
STREET
CITY
SURF
OF OCEAN COUNTY
3RD BORO
110
113
122
124
125
125
136
SHEET 20
TAX MAP
BOROUGH OF SHIP BOTTOM
OCEAN COUNTY
NEW JERSEY
SCALE: 1"=50'
AUGUST 1, 1989
GORDON L. HART L.S.
MACRO ASSOCIATES, INC.
170 OBERLIN AVENUE NORTH
LAKEWOOD, N.J.
21



TAX MAP
BOROUGH OF SHIP BOTTOM
OCEAN COUNTY NEW JERSEY
SCALE: 1"=50' AUGUST 1, 1989
GORDON L. HART L.S.
MACRO ASSOCIATES, INC.
170 OBERLIN AVENUE NORTH
LAKEWOOD, N.J.

16



TAX MAP
BOROUGH OF SHIP BOTTOM
OCEAN COUNTY NEW JERSEY
SCALE: 1"=50' AUGUST 1, 1989
GORDON L. HART L.S.
MACRO ASSOCIATES, INC.
170 OBERLIN AVENUE NORTH
LAKEWOOD, N.J.

16

APPENDIX F

DOCUMENTS RECEIVED FROM NJEDP
STAFFORD TOWNSHIP, SHIP BOTTOM BOROUGH AND OCEAN COUNTY

NJDOT ROUTE 72
MANAHAWKIN BAY BRIDGES

DOCUMENTS RECEIVED FROM
NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION

REMEDIAL INVESTIGATION REPORT

for

Former Russo Fuels Ship Bottom Service Station
(A/K/A Mr. Big Texaco)
379 West 8th Street
Ship Bottom, Ocean County, New Jersey
Block 110, Lot 18
NJDEP Case #03-02-25-1646
SRP ID# 0226271

Prepared for

Ewing Oil II, LLC
PO Box 2251
Beach Haven, New Jersey 08008

Submitted to:

Bureau of Underground Storage Tanks
New Jersey Department of Environmental Protection
P.O. Box 433
Trenton, NJ 08625-0433

Date:

June 30, 2008

DAVID
MIELE
777-0900

RECEIVED
JAN 20 2009
BY

UST REPORT CERTIFICATION

A. Facility Name : Former Ship Bottom Service Station (a/k/a Russo Ship Bottom; a/k/a Mr. Big Texaco)

Facility Street Address : 379 West 8th Street

Municipality: Ship Bottom County : Ocean

Block: 110 Lot(s): 18 Telephone Number : N/A

B. Owner (RP)'s Name: Ewing Oil II, LLC

Street Address: PO Box 2251 City Beach Haven

State: New Jersey Zip: 08008 Telephone Number : (609) 492 - 1102

C. Assigned Case Manager : David Miele UST Closure Number : N04 - 3232

Incident Report Number 03 — 02 — 25 — 1646 — Program Interest Number: 0226271

D. Certification by the Subsurface Evaluator:

"I certify under penalty of law that the work was performed under my oversight and I have reviewed the report and all attached documents, and the submitted information is true, accurate and complete in accordance with the requirements of N.J.A.C. 7:14B and N.J.A.C. 7:26E. I am aware that there are significant civil and criminal penalties for submitting false, inaccurate or incomplete information including fines and/or imprisonment. "

Name: Jonathan Lisko Signature: UST Cert. No.: 0024007

Firm: Brownfield Associates, Inc. Firm's UST Cert. Number: 452140

Firm Address: P.O. Box 600 City: Belmar

State: New Jersey Zip: 07719 Telephone Number : (732) 280 - 1420

E. Certification by the Responsible Party(ies) of the Facility:

The following certification shall be signed [according to the requirements of N.J.A.C. 7:14B-1.7(b)]as follows:

1. For a Corporation by a person authorized by a resolution of the board of directors to sign the document. A copy of the resolution, certified as a true copy by the secretary of the corporation, shall be submitted along with the certification; or
2. For a partnership or sole proprietorship, by a general partner or the proprietor, respectively; or
3. For a municipality, State, federal or other public agency by either a principal executive officer or ranking elected Official.

"I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attached documents, and that based on my inquiry of those individuals responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant civil penalties for knowingly submitting false, inaccurate, or incomplete information and that I am committing a crime of the fourth degree if I make a written false statement which I do not believe to be true. I am also aware that if I knowingly direct or authorize the violation of any statute, I am personally liable for the penalties."

Name (Print or Type): Title:

Signature: Date:

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ADDITIONAL ATTACHMENTS

Diskettes	Laboratory Analytical Data in NJDEP's EDSA Format

ADDENDUM OF APPLICABILITY

This report was prepared in June 2008. The data and conclusions contained in this report were prepared in accordance with NJDEP regulations/standards in use at that time. Ewing Oil II is aware that NJDEP regulations have changes since this report has been prepared and the changes may affect the results and conclusions presented in this report.

1.0 INTRODUCTION

1.1 General

On behalf of Ewing Oil II, LLC (Ewing Oil), Renova Environmental Services LLC, (Renova) has conducted a Remedial Investigation (RI) at the Former Russo Fuels, Ship Bottom Service Station (A/K/A Mr. Big Texaco) (Site). The RI was conducted in accordance with the *Remedial Investigation Workplan* (RIWP) dated July 6, 2007. The RIWP was approved by the New Jersey Department of Environmental Protection (NJDEP) on July 11, 2007. A copy of the NJDEP approval letter has been enclosed as **Appendix A**.

This *Remedial Investigation Report* (RIR) has been prepared in accordance with the NJDEP Technical Requirements for Site Remediation (N.J.A.C. 7:26) (*Tech Regs*).

1.2 Health and Safety Program

The remedial investigation was performed in accordance with a site-specific health and safety plan (HASP) developed for this project site. The HASP includes specific provisions regarding health and safety concerns and monitoring when conducting intrusive activities in the area of impacted soil. Also included in the HASP are directions and a route map to a local hospital in the event that injuries were sustained during completion of the work. The HASP was prepared in accordance with Occupational Safety and Health Administration (OSHA) Health and Safety Practices (29 CFR Part 1910), and meets the minimum requirements of N.J.A.C. 7:26E-1.9. All site personnel who participated in onsite remedial investigation activities were in possession of current and valid HAZWOPER training that meets the criteria of OSHA regulations stipulated in 29 CFR 1910.120. A copy of the HASP is enclosed as **Appendix B**.

2.0 BACKGROUND INFORMATION

2.1 Site History

The Site was formerly operated by Russo Fuels, Inc. (Russo Fuels) as a retail gas station. Gas station operations ceased on or about December 2004 in conjunction with the commencement of UST closure activities.

Prior to the station's closure, Russo Fuels submitted limited records and/or documentation to the NJDEP regarding the station activities, UST registrations, and/or compliance status in general. The bulk of available data for the site was gathered by the NJDEP during field inspections, in compliance/enforcement letters to Russo Fuel, and/or oral communication from the former environmental consultant on the project.

During UST closure activities, Russo Fuels went out of business and the property was seized through foreclosure. At the time of foreclosure, the USTs had been excavated and removed from the site. Excavation spoils (soil, asphalt, etc.) were stockpiled at various locations across the site and the UST excavation area appears to have been backfilled with construction fill.

Ewing Oil purchased the site through the public auction process on or about October 2006 and commenced with remedial activities.

2.2 Physical Setting

The Site is located at 379 West 8th Street in Ship Bottom, Ocean County, New Jersey. Topography of the site is relatively flat with the general area sloping gently towards the west. A site location map, based on the USGS 7.5' Quadrangle of Ship Bottom, New Jersey, is enclosed as **Figure 1**.

2.3 Land Use

The site was formerly operated as a retail gas station. The Site is bordered to the north by residential properties, to the east by a commercial property currently being used a restaurant, to

the south by 8th Avenue and to the west by a commercial property currently being utilized as a recreational boat yard and associated retail store. Land use within 1,000 feet of the site is consistent with mixed residential/light commercial usages.

The site is currently improved with a station canopy, concrete dispenser islands, an attendant kiosk and a one story building located in the western portion of the site. The one-story building appears to have been most recently utilized as an office space with an adjacent retail area. The construction of the one story building is consistent with that of a service garage, with at least one garage bay located in the southern most portion of the building. Approximately 50% of the site is covered with asphalt or concrete. The remaining 50% is pervious materials exhibiting bare soils and/or vegetation. A site plan is enclosed as **Figure 2.** Photos of the site prior to the start of this RI are presented in **Appendix C**.

2.4 Site Geology & Hydrogeology

According to the 1999 Geologic Survey of New Jersey, geology in the area consists of Costal Plain sediments primarily comprised of beach and estuarine deposits formed during the Cenozoic, Holocene era. Based on visual observation made during the remedial investigation, native soils encountered at the site predominantly consist of medium and coarse sands to approximately five feet below grade. Medium – fine sand mixed with trace amounts of silt was encountered between five and six feet below grade. An organic layer of peat was encountered between six and eight beet below grade in native soils. Fine grey sand was encountered between eight and twelve feet below grade, which was the depth of the deepest soil boring installed in conjunction with this investigation.

Groundwater at the site was encountered at approximately four - six feet below grade across the site. The closest surface water body is the Barnegat Bay approximately 700 feet to the west of the site. Barnegat Bay is a tidally influenced salt water body and is a tributary to the Atlantic Ocean. The site lies in Planning Area 19 as presented in the *NJ Statewide Water Supply Plan of 1996*.

3.0 REMEDIAL INVESTIGATION ACTIVITIES

Remedial investigation activities were conducted during August & September 2007. Remedial activities presented in this RIR include:

- Subsurface Survey by Magnetometer;
- Potable Well and Septic Field Survey
- Well Search;
- Baseline Ecological Evaluation;
- Soil and Groundwater Investigation;
- Removal and Disposal of the Above-Ground Storage Tank; and
- Soil Pile Documentation.
- Dispenser Island Removal and Excavation
- Remedial Excavation of the UST Field
- Dewatering Activities
- Temporary Well Investigation
- Modified Preliminary Assessment

3.1 Subsurface Survey by Magnetometer

As proposed in the RIWP, a geophysical survey of the site via a magnetometer scan was conducted to determine the presence or absence of unidentified USTs, the approximate location of UST #8 and/or apurtances of the UST system.

The magnetometer scan was conducted on July 28, 2007. Results of the magnetometer scan did not indicate the presence of any additional apurtances at the site; noting that rebar in the concrete pad beneath the station canopy may have interfered with the identification of metal objects (i.e. piping/unidentified USTs) beneath the pad. UST #8 was removed from the site prior to the magnetometer survey.

3.2 Potable Well and Septic Field Survey

In accordance with the RIWP, a survey was conducted to verify the presence or absence of potable well(s) and/or a septic system on the site. According to the municipal clerk's office of Ship Bottom, public water and sanitary sewer utilities are available to all properties in Ship Bottom. Potable water and sanitary sewage treatment is provided by the Ship Bottom Water & Sewer Department.

A visual inspection was conducted to verify that utilities were available and/or present at the site. Based on a visual inspection, which did not include a review of the interior of the one-story building, no evidence of a potable well or septic system was identified. Furthermore, a water line and sanitary sewer line was identified in the southwest corner of the site by a New Jersey One-Call utility mark out. Locations of the referenced utilities are presented on **Figure 3**.

3.3 Well Search

As proposed in the RIWP, a well search was conducted pursuant to N.J.A.C. 7:26E-3.7(e) 3. **Appendix D** presents the results of the search utilizing NJDEP records for all monitoring and domestic wells within 1/2 mile of the site, and all irrigation, industrial wells, public supply wells and wells with water allocation permits within one mile of the site. **Figure D-1** presents a scaled map of the identified wells. Results of the Well search indicate the following:

- **Monitoring Wells** – There are several monitoring wells located within ½ mile of the site. The monitoring wells are associated with open NJDEP cases.
- **Domestic Wells** – There are several domestic wells within ½ mile of the site. The domestic wells are located in Manahawkin, Stafford Township. It's important to note that the Barnegat Bay is located between the domestic wells and the site.
- **Irrigation Wells**: No wells in this use group were identified within 1-mile of the site.
- **Industrial Supply Wells**: No wells in this use group were identified within 1-mile of the site.
- **Public Supply Wells**: No wells in this use group were identified within 1-mile of the site
- **Wells with Water Allocation Permits**: No wells in this use group were identified within 1-mile of the site.

3.4 Baseline Ecological Evaluation

In accordance with N.J.A.C. 7:26E 4.7 regarding Remedial Investigation of Ecological Receptors, a Baseline Ecological Evaluation (BEE), was conducted for the site. The results of the evaluation identified several potentially complete exposure pathways including:

- Direct Contact Exposure Pathway to Hydrocarbons in Stockpiled Soils;
- Direct Contact Exposure Pathway to Subsurface Hydrocarbons; and
- Percolation of Rainwater through Affected Areas

The BEE is presented in **Appendix E.** As discussed in the BEE, the identified exposure pathways represent minimal risk to sensitive ecological receptors and have either been mitigated with engineering controls or will be addressed in future activities.

3.5 Soil Investigation

On August 1 & 2, 2007 a track mounted Geo-Probe was utilized to complete 33 soil borings (B-1 through B-33) via a direct push method. Sample cores, lined in acetate sleeves, were continuously collected during the advancement of borings B-1 through B-33. Recovered soils were screened at six-inch intervals for volatile organic compounds (VOCs) via a photo-ionization detector (PID) and logged for soil classification purposes. Boring B-34 was installed via a hand auger on September 7, 2007. Soils cuttings from the hand auger were screened via PID and logged for classification purposes. Boring logs for B-1 through B-34 are presented in **Appendix F**. Figure 3 presents soil boring locations.

Soil samples were collected from the borings exhibiting evidence of highest contamination as determined by PID, from the pre-determined depths presented in the RIWP and/or the 0 – 6-inch interval above the water table. Soil samples were collected in accordance with the NJDEP's August 2005 *Field Sampling Procedures Manual*. Soil samples were analyzed for various compounds in accordance with the *Tech Regs* and/or the parameters presented in the RIWP.

Laboratory analysis was completed by QC Laboratories of South Hampton, PA (NJDEP Lab ID #PA166).

Table 1 presents a summary of the soil sample protocol as presented in the RIWP and associated documents. **Table 2A, Table 2B, Table 2C** and **Table 3** present soil analytical data. **Figure 4** presents select soil analytical data for borings which exhibited concentrations above applicable soil cleanup criteria. **Appendix G** presents the laboratory analytical data for the soil samples collected on August 1, 2007. **Appendix H** presents the laboratory analytical data for the soil samples collected on August 2, 2007. **Appendix I** presents the laboratory analytical data for the soil sample collected on September 6 & & 2007. A disk containing laboratory analytical data configured to the NJDEP's EDSA format has been enclosed with this report.

3.6 Groundwater Investigation

Thirteen temporary wells were installed for the purpose of assessing groundwater quality at the site. The temporary wells were constructed with 1-inch PVC well casing and screen. Wells were constructed across the water table and sampled in accordance with the August 2005 *Field Sampling Procedures Manual*. Well construction logs are presented on the soil boring logs (where applicable). The temporary wells were removed once groundwater samples had been collected.

Ground water samples were collected from the temporary wells in accordance with Method 4.00 of the NJDEP's July 1994 *Alternative Groundwater Sampling Techniques Guide*. Groundwater samples were analyzed for various compounds in accordance with the *Tech Regs* and/or the parameters presented in the RIWP. Laboratory analysis was completed by QC Laboratories of South Hampton, PA

Table 4 presents a summary of the groundwater sample protocol as proposed in the RIWP and associated documents. **Table 5A** and **Table 5B** present a summary of groundwater analytical data. **Figure 5** presents select groundwater analytical data.

3.7 Removal of the Above-Ground Storage Tank

On September 7, 2007 the contents of the above ground storage tank (AST) were removed via vacuum truck by Monarch Environmental Services of Woodstown New Jersey (EPA Transporter ID # NJR000040667, EPA Facility # NJD011881174). Prior to transportation offsite, the AST was filled with dry ice and purged. A hole was cut in the AST and the inside of the tank was cleaned. The tank was cut into smaller pieces and transported offsite for disposal at Red Lion Metals, Inc. of Southampton, New Jersey.

Appendix J presents liquid/sludge disposal documentation. **Appendix K** presents documentation of the AST disposal.

3.8 Soil Pile Documentation

Several piles of soil, asphalt and/or debris are present at the site. Based on the condition of the site, it is assumed that the soil piles are the remnants of incomplete UST closure activities conducted on behalf of Russo Fuels. It is estimated that approximately 30 yards of soil and 20 yards of mixed asphalt, concrete and debris are currently present at the site. Soil pile locations are presented on Figure 3. A summary of soil pile contents is presented in the following table.

Table 3-1
Soil & Debris Pile Designations[1]

Pile Number	Estimated Size (cubic yards)	Contents
1	30	Soil
2	5	Concrete
3	5	Soil
4	5	Asphalt
5	5	Soil & Debris

[1] Based on visual observations.

The soil piles have been sampled for waste classification purposes and will be transported offsite for disposal and/or recycling at an EPA approved facility in conjunction with upcoming site redevelopment activities. Documentation of the soil disposal will be submitted to the NJDEP in accordance with the *Tech Regs* in a future submittal.

3.9 Modified Preliminary Assessment

At the request of the NJDEP a modified preliminary assessment was conducted to identify potentially unidentified areas of concern at the site. The results of the preliminary assessment indicate that the site was a service station since the 1950s. Other that AOCs associated with the historic operation of the site, no additional AOCs were identified as a result of the modified PA. Results of the modified PA are presented in **Appendix Q**.

4.0 SOIL AND GROUNDWATER SAMPLING RESULTS

The following sections present a brief discussion regarding the results of the soil and groundwater investigation.

4.1 Soils 1 – 2 Feet Outwards from the Excavation Extent

Soil borings B-1 through B-5, B-7, B-8, B-9, B-19 and B-34 were installed at approximately 1 – 2 feet outward from each side of the perimeter of the UST excavation (with the exception of B-7 which was installed approximately six feet outside the excavation area due to the presence of the northern most Dispenser Island). Soil samples were collected at the 0 – 6" interval above the water table and analyzed for select parameters presented in Table 1. Based on a review of boring logs, the referenced samples were collected from native soils.

Based on a review of laboratory analytical data, soil samples collected from boring locations at a distance of 1 – 2 feet outwards of the excavation extent (including B-7 collected six feet outwards from the excavation extent) are in compliance with the NJDEP's most stringent soil cleanup criteria.

No further action was proposed for soils at this AOC (i.e. soils immediately outside the UST excavation area).

4.2 Soils beneath the Former, Regulated USTs

Based on a review of available data, eight regulated USTs were removed from the site during UST closure activities. The following table presents a summary of the former, regulated UST information. UST locations are presented on Figure 3.

Table 4-1
Former Regulated UST Designations[1]

UST #	Reported Size (gals)	Reported Contents	Invert Depth (fbg)
1	10,000	Unleaded Gasoline	10.5 – 11.0
2	6,000	Unleaded Gasoline	9.5 – 10.0
3	6,000	Unleaded Gasoline	9.5 – 10.0
4	3,000	Diesel (No. 2-D)	8.0 – 8.5
5	2,000	Diesel or Kerosene	8.0 – 8.5
6	2,000	Light Diesel (No. 1-D)	8.0 – 8.5
7	2,000	Light Diesel (No. 1-D)	8.0 – 8.5
8	2,000	Waste Oil (assumed)	8.0 – 8.5

[1] UST Details as reported by NJDEP for purposes of UST registration

Soil borings B-10 through B-17 were installed along the suspected centerline for each of the eight former, regulated USTs. At least one soil sample from each boring location was collected from the suspected UST invert in accordance with *Table 2 of the RIWP*. In borings where elevated PID readings were detected, a second sample was collected for vertical delineation purposes. It's important to note that the vertical delineation samples were collected above or below the UST invert samples biased towards elevated PID responses where applicable.

Based on a review of laboratory analytical data, soil samples collected from the inverts of UST #s 1, 2, 3, 4, 6, 7, and 8 are in compliance with the NJDEP's most stringent soil cleanup criteria. The soil sample collected from the invert of UST #5 (B-14A at 8.0 – 8.5 fbg) and shallow soil sample B-12A (4.5 – 5.0 fbg) exhibited several compounds above the applicable standard. Each of the referenced soil samples were vertically delineated by soil samples B-12B and B-14B, respectively.

Soil excavation was proposed for the impacted soils identified above applicable standards in this area and conduct post remedial sampling in accordance with the *Tech Regs*.

4.3 Soils beneath the Former Product Piping

Soil borings B-6 and B-29 were installed beneath the former product piping located to the southeast of the dispenser islands. One soil sample was collected from each boring at the 0 – 6"

interval above the water table. In borings where elevated PID readings were detected, a second sample was collected for vertical delineation purposes.

Based on a review of laboratory analytical data, soil sample B-6A exhibited concentrations above applicable criteria. Compounds exceeding applicable criteria in soil sample B-6A were vertically delineated by soil sample B-6B.

Soil excavation was proposed for the impacted soils identified above applicable standards in this area and conduct post remedial sampling in accordance with the *Tech Regs*.

4.4 Soil Proximal to the Dispenser Islands

Soil borings B-30 through B-33 were installed proximal to the dispenser islands for horizontal/vertical delineation purposes. One soil sample was collected from each boring at the 0 – 6" interval above the water table. In borings where elevated PID readings were detected, a second sample was collected for vertical delineation purposes.

Based on a review of laboratory analytical data, soil sample B-31A exhibited concentrations above applicable criteria. Compounds exceeding applicable criteria in soil sample B-31A were vertically delineated by soil sample B-31B.

Soil excavation was proposed for the impacted soils identified above applicable standards in this area and conduct post remedial sampling in accordance with the *Tech Regs*.

4.5 Excavation Backfill Material

Soil sample B-16B and B-18 were collected from the suspected backfill material (i.e. sand) within the former UST excavation area to determine whether "clean" soil had been utilized to backfill the excavation. The soil samples were analyzed for waste classification purposes.

Based on a review of laboratory analytical data, the soil samples are in compliance with applicable criteria, indicating that clean soil was likely utilized to backfill the excavation.

As proposed in the *RIWP*, soils outside the excavation area were compared to soils inside the excavation area. Fence diagrams, created from the boring logs, were completed for the purpose of this comparison. Figure 3 presents the locations of the cross sections in the horizontal plane. **Figure 13** and **Figure 14** present fence diagrams for the excavation area.

Based on a review of available information, distinct differences in soil classifications were logged inside and outside of the excavation area. It appears that non-native soils (i.e. construction fill) are present in the UST excavation area above the water table. Soils in the excavation area below the water table (approximately 4.5 – 11 fbg) consisted of fine grey sands with the notable absence of the organic/peat layer observed in native soils at that depth.

Due to the fact that the excavation area was left open for an extended period of time, it is likely that running sands filled the UST/excavation void to the height of the water table (i.e. 4 – 11 fbg), and construction fill was used to fill the excavation area to grade (0 – 4 fbg).

The results of the sampling and visual comparison indicate that "clean" non-native soils are present in the excavation area. As proposed in the *RIWP*, soil analytical data from samples B-16B and B-18 is hereby submitted in lieu of "clean fill" documentation. Ewing Oil respectfully proposed "No Further Action" for the soils at this AOC (i.e. backfill material).

4.6 Soils proximal to the Unregulated, 550 gallon Heating Oil UST

In accordance with the *RIWP*, soil borings B-24 through B-28 were installed proximal to the former location of the unregulated heating oil UST release. Based on a review of laboratory analytical data, soil samples collected from boring locations proximal to the former UST are in compliance with the NJDEP's most stringent soil cleanup criteria. Ewing Oil respectfully proposed "No Further Action" for the soils at this AOC (i.e. unregulated, 550 gallon heating oil UST release).

4.7 Groundwater Investigation

In accordance with the RIWP, groundwater samples were collected from boring locations B-1, B-2, B-5, B-10, and B-18 through B-23 in order to investigate hydrocarbon impacted groundwater related to the former UST system. Groundwater samples were collected from boring locations B-26, B-27 and B-28 to investigate hydrocarbon impacted groundwater proximal to the unregulated 550 gallon heating oil UST.

Temporary wells were installed, constructed and sampled in accordance with the NJDEP's *July 1994 Alternative Groundwater Sampling Techniques Guide* and the *August 2005 Field Sampling Procedures Manual*. Temporary well construction details are documented in the corresponding soil boring logs. .

Based on a review of groundwater analytical data, the majority of groundwater samples were within compliance with the NJDEP's Class II-A GWQC. Compounds above the applicable criteria were detected at B-5, B-10, B-27 and B-28.

4.7.1 B-5 Groundwater Results

Based on a review of analytical data from B-5, Tentatively Identified Compounds (TICs) were detected above NJDEP Class II-A GWQC for the volatile organic analysis. Several semi-volatile organic compounds (SVOC) were detected above applicable criteria in the semi-volatile organic analysis.

Based on topographic slope of the general area and the proximity of the site to the Barnegat Bay, it is likely that groundwater moves across the site to the west. Groundwater in the area of B-5 requires further investigation.

Ewing Oil proposes to excavate impacted soils identified in the area and collect a post remedial groundwater sample from the area. A Remedial Investigation Workplan, discussing this proposal is presented later in this report.

4.7.2 B-10 Groundwater Results

Based on a review of analytical data from B-10, benzo(a)pyrene was detected above the NJDEP's Class II-A GWQC. Benzo(a)pyrene was detected at a concentration of 0.12 ug/L compared to the GWQC for 0.10 ug/l. Groundwater in this area requires further investigation.

Ewing Oil proposes to collect a post remedial groundwater sample from this location from a temporary well. A Remedial Investigation Workplan, discussing this proposal is presented later in this report.

4.7.3 B-27 and B-28 Groundwater Results

Based on a review of analytical data from B-27 and B-28, benzene was detected above applicable criteria in B-28 and TBA was detected above applicable criteria in both B-27 and B-28. Several SVOC compounds were detected above the applicable standards for both B-27 and B-28.

B-27 and B-28 were installed to investigate groundwater in the area of the former unregulated heating oil UST. Benzene and TBA are generally associated with gasoline rather than heating oil. Given that soils in the area of the unregulated heating oil UST are within the NJDEP's IGWSCC, it is possible that the groundwater samples from this area are indicative of residual dissolved-phase hydrocarbon impact from the regulated UST system (assumed to be up gradient). Groundwater in this area requires further investigation

As discussed in Remedial Investigation Workplan below, Ewing Oil proposes to install several wells across the site to determine groundwater flow direction, dissolved-phase hydrocarbon concentration trends and plume delineation.

5.0 REMEDIAL ACTIVITIES

Based on the results of the investigative activities, several phases of remediation were implemented, including the excavation of soils from both the former UST areas (B-12/B-14 areas), the removal/disposal of product piping, the removal/disposal of the dispenser islands, and the removal/disposal of the pre-existing soil piles at the site. Details regarding these remedial activities are presented in the following sections.

5.1 Soils Excavation – Soils Proximal to UST Field

Hydrocarbon impacted soils were detected at boring locations B-12 and B-14. As a result, the impacted soils were subsequently excavated for off-site disposal. Soil excavation was conducted in conjunction with dewatering and site demolition activities.

Figure 7 presents remedial excavation areas. Approximately 540 tons of soil was removed from the site to a depth of approximately 8 feet below grade at the excavation outer perimeter sloping downward towards the center at a depth of 12 feet below grade near excavation samples PE 12 and PE-14. Excavated soils were taken to Clean Earth of Farmingdale, NJ for recycling. **Appendix L.**

Post excavation soil samples were analyzed for VOCs in accordance with conversations with the NJDEP case manager and Tech Regs. Soil sample results are presented in Table 2A, Table 2B and Table 2C.

5.2 Soil Excavation - Soils Proximal to the Dispenser Islands & Station Canopy

Hydrocarbon impacted soils were detected at boring locations proximal to the Dispenser Islands beneath the former station canopy. Approximately 540 tons of soil was removed from the site to a depth of approximately 5 feet below grade in this area. Excavated soils were taken to Clean Earth for recycling. **Appendix L.** Dewatering for this excavation was completed via vacuum truck. Recovered groundwater was taken to Monarch Environmental for recycling and/or disposal. **Appendix M** presents vacuum truck disposal documentation. Post excavation soil samples were

analyzed for VOCs in accordance with conversations with the NJDEP case manager and Tech Regs. Soil sample results are presented in Table 2A, Table 2B and Table 2C.

During the excavation, one steel vent line from the former UST system was discovered to the north of the UST field extending toward the fence at the border of the property. The line was removed and its location was screened via PID for evidence of VOCs. Based on a review of field observations, in PID readings were detected above back ground levels in the soils proximal to the UST vent line. Accordingly, the vent line was not considered an Area of Concern and no samples were collected.

5.3 Removal of Dispenser Islands and Existing Product Piping

As previously noted, Ewing Oil agreed with the NJDEP's assumptions that product piping remained at the site beneath the station canopy. During site demolition activities, the dispensers and concrete pad beneath eh canopy was excavated. Based on visual observations, it appeared that no product piping remained and had been removed during previous investigations completed by the site's former owner. However, four trenches were excavated across the dispenser island areas to confirm the absence of pipinf and/or any other appurtenances. The investigation trenches were excavated to a depth of approximately 5 feet below grade. **Figure 6** presents location of the investigation trenches.

Investigation trenches were screened via PID for presence of volatile organics. Based on a review of field evaluation data, no evidence of significant contamination was present beneath the station canopy with the exception of the areas beneath the former dispensers. Dispenser Island samples were collected as well as post excavation samples collected. Soil analytical data is presented in Table 2A and Groundwater Analytical Data is presented in Table %A and Table 5B. Figure 7 presents post excavation sample locations.

5.4 Soil & Debris Piles - Disposal Documentation

The volume and location of existing soil piles was presented in Section 3.8. Soil piles were sampled for waste classification purposes and were transported offsite to an EPA approved facility for recycling or disposal. Documentation of the soil disposal was submitted to the NJDEP

in accordance with the *Tech Regs* The soil and debris piles were removed from the site in conjunction with excavation activities. Appendix L presents soil disposal documentation.

5.5 Concrete Vault

During site demolition activities, a concrete vault with the approximate dimensions of 12 foot long, 8 foot wide and 10 foot deep was discovered beneath he northern end of the station building. The vault was broken up with heavy machinery and the interior of the vault was inspected.

The construction of the vault was consistent with a mechanics repair pit that had been backfilled with construction fill material and concrete to prevent future use. Based on the observations and confirmatory discussions with the NJDEP case manager, the vault was not considered an Area of Concern. Accordingly, the remaining rubble was left in place. **Appendix N** presents photographs of the vault.

5.6 Groundwater Remediation Activities

In conjunction with excavation activities, dewatering activities were completed as an interim measure of groundwater remediation. During dewatering activities, approximately 60,000 gallons of groundwater were extracted from the site, treated in accordance with the site's Permit-by-Rule and discharged back into the excavation.

Treatment system analytical data collected during system operations will be submitted to the NJDEP under separate cover.

5.7 Post Excavation Groundwater Investigation

Ten temporary monitoring wells were installed at the site following excavation and dewatering activities to assess groundwater quality. During May 2008, the temporary wells were installed via Geo-Probe and sampled in accordance with the Technical Regulations. Table 5A and Table 5B present groundwater analytical data. Laboratory analytical data for referenced samples is presented in **Appendix O.** Several compounds wee detected above applicable standards.

Prior to removal, the temporary wells were field surveyed for relative elevation and gauged for groundwater elevation. **Figure 8** presents the groundwater contours measured at the temporary wells. **Figure 9** presents dissolved-phase benzene concentrations. **Figure 10** presents dissolved-phase TBA concentrations. **Figure 11** presents 2,4 di-nitrotoulene concentrations. **Figure 12** presents semi-volatile TICs concentrations.

5.8 Site Status

At the conclusion of the above referenced investigation, clean fill was brought to the site to raise grade. Approximately 600 tons of clean fill were used at the site. The site is currently cleared with no improvements and graded flat. Clean fill documentation is presented in **Appendix P.** Laboratory analytical data from post excavation sampling are presented in **Appendix R.**

6.0 CONCLUSIONS & RECOMMENDATIONS

The following presents a summary of conclusions and/or recommendations for this remedial investigation.

6.1 Subsurface Survey by Magnetometer

No unidentified USTs or ancillary components were identified at the site in conjunction with the magnetometer survey.

6.2 Potable Well and Septic Field Survey

No evidence of a potable well or septic field was identified at the site. Ship Bottom Township Water and Sewer Department provides public water and sanitary sewer services to township properties. No further action is proposed for this AOC.

6.3 Well Search

Several monitoring wells were identified within ½ mile of the site. The monitoring wells are utilized for monitoring groundwater contamination at known contaminated sites.

Several domestic wells were identified within ½ mile of the site. The domestic wells are located in Manahawkin, Stafford Township and are separated from the site by the Barnegat Bay.

No public supply wells, industrial supply wells, irrigation wells or wells with water allocation permits were identified within 1 mile of the site.

No further action is proposed for this AOC.

6.4 Baseline Ecological Evaluation

The results of the evaluation identified several complete exposure pathways which represent minimal risk to sensitive ecological receptors. Complete exposure pathways have either been mitigated with engineering controls or will be addressed in future activities. A revised BEE will be prepared and submitted to the NJDEP once site restoration activities have been conducted.

6.5 Soil Investigation

6.5.1 Soils 1 – 2 Feet Outwards from the Excavation Extent

Soil samples collected from boring locations at a distance of 1 – 2 feet outwards of the excavation extent (with B-7 at six feet outwards from the excavation) are in compliance with the NJDEP's most stringent soil cleanup criteria. No further action is proposed for soils at this AOC.

6.5.2 Soils beneath the Former, Regulated USTs

Soil samples collected from the inverts of UST #s 1, 2, 3, 4, 6, 7, and 8 are in compliance with the NJDEP's most stringent soil cleanup criteria. The soil sample collected from the invert of UST #5 and soil sample B-12A exhibited several compounds above the applicable standard. Each of the referenced soil samples was vertically delineated. Excavation and post remedial sampling was implemented for soils at this AOC. Therefore no further action is proposed for soils at this AOC.

6.5.3 Soils beneath the Former Product Piping

Soil sample B-6A exhibited concentrations above applicable criteria. Compounds exceeding applicable criteria in soil sample B-6A were vertically delineated. Excavation

and post remedial sampling was implemented for impacted soils at this AOC. Therefore no further action is proposed for soils at this AOC.

6.5.4 *Soil Proximal to the Dispenser Islands*

Soil sample B-31A exhibited concentrations above applicable criteria. Compounds exceeding applicable criteria in soil sample B-31A were vertically delineated. Excavation and post remedial sampling was implemented for the impacted soils at this AOC. Therefore no further action is proposed for soils at this AOC.

6.5.5 *Excavation Backfill Material (Clean Fill Certification)*

Soil sample B-16B and B-18 were collected from the suspected backfill material (i.e. sand) within the former UST excavation area to determine whether "clean" soil had been utilized to backfill the excavation. Laboratory analytical data indicates that the backfill above the water table is within applicable NJDEP IGWSCC. Soil boring logs indicate distinct differences in soil classifications logged inside versus outside of the excavation area. It appears that non-native soils (i.e. construction fill) were utilized to backfill the UST excavation area.

The data associated with the sampling and evaluation of backfill is being submitted in lieu of clean fill certification. No further action is proposed for the soils at this AOC.

6.5.6 *Soils proximal to the Unregulated, 550 gallon Heating Oil UST*

Soil samples collected from boring locations proximal to the former UST are in compliance with the NJDEP's most stringent soil cleanup criteria. No further action is proposed for the soils at this AOC.

6.6 Groundwater Investigation

Groundwater analytical data indicates that the majority of groundwater samples were within compliance of the NJDEP's Class II-A GWQC; however several compounds were detected above applicable criteria. Groundwater flows towards the southeast and groundwater analytical data indicates that dissolved-phase hydrocarbons have migrated offsite and are not delineated. Delineation, monitoring wells, groundwater sampling and monitoring are proposed for this AOC.

6.7 Removal of the Above-Grade Storage Tank

The AST and its contents were transported offsite for recycling and/or disposal in accordance with applicable regulations. No further action is proposed for this AOC.

6.8 Soil & Debris Piles

Onsite soil and debris piles have been documented and sampled for waste classification purposes and were transported offsite for recycling/disposal. No Further action is proposed for this AOC.

7.0 REMEDIAL INVESTIGATION WORKPLAN

The following presents proposed remedial activities based on the results of this investigation:

7.1 Groundwater Investigation

Dissolved-phase hydrocarbons were detected above applicable standards at various locations across the site. Ewing Oil proposes to install approximately five permanent groundwater monitoring wells (PMW-1 through PMW-5) for plume monitoring purposes. The monitoring wells will be sampled two weeks after installation. Groundwater samples will be analyzed for VO+10 and BN+15.

The elevation of each permanent well will be surveyed. Additional wells and/or periodic groundwater sampling will be proposed in an upcoming submittal. In conjunction with a Remedial Action Workplan once dissolved-phase hydrocarbons have been delineated to the south and west of the site.

7.2 Reporting

Ewing Oil will submit the results of the above referenced investigation activities within a Remedial Investigation Report (RIR). A Remedial Investigation Workplan (RIW), Remedial Action Workplan (RAW) and/or request for No Further Action (NFA) will be submitted in conjunction with the RIR as required.

8.0 IMPLEMENTATION SCHEDULE

The following presents the implementation schedule for the above activities. The implementation schedule is based on typical availability of resources and approval of applicable permits. Actual dates of work may vary.

As required, the NJDEP shall be notified within seven (7) days of the actual field work so that the Case Manager/Inspector may be present. The Case Manager/Inspector's presence will facilitate the agreement to adjustments, if necessary, in the proposed soil and ground water sample locations or number of samples based upon field observations.

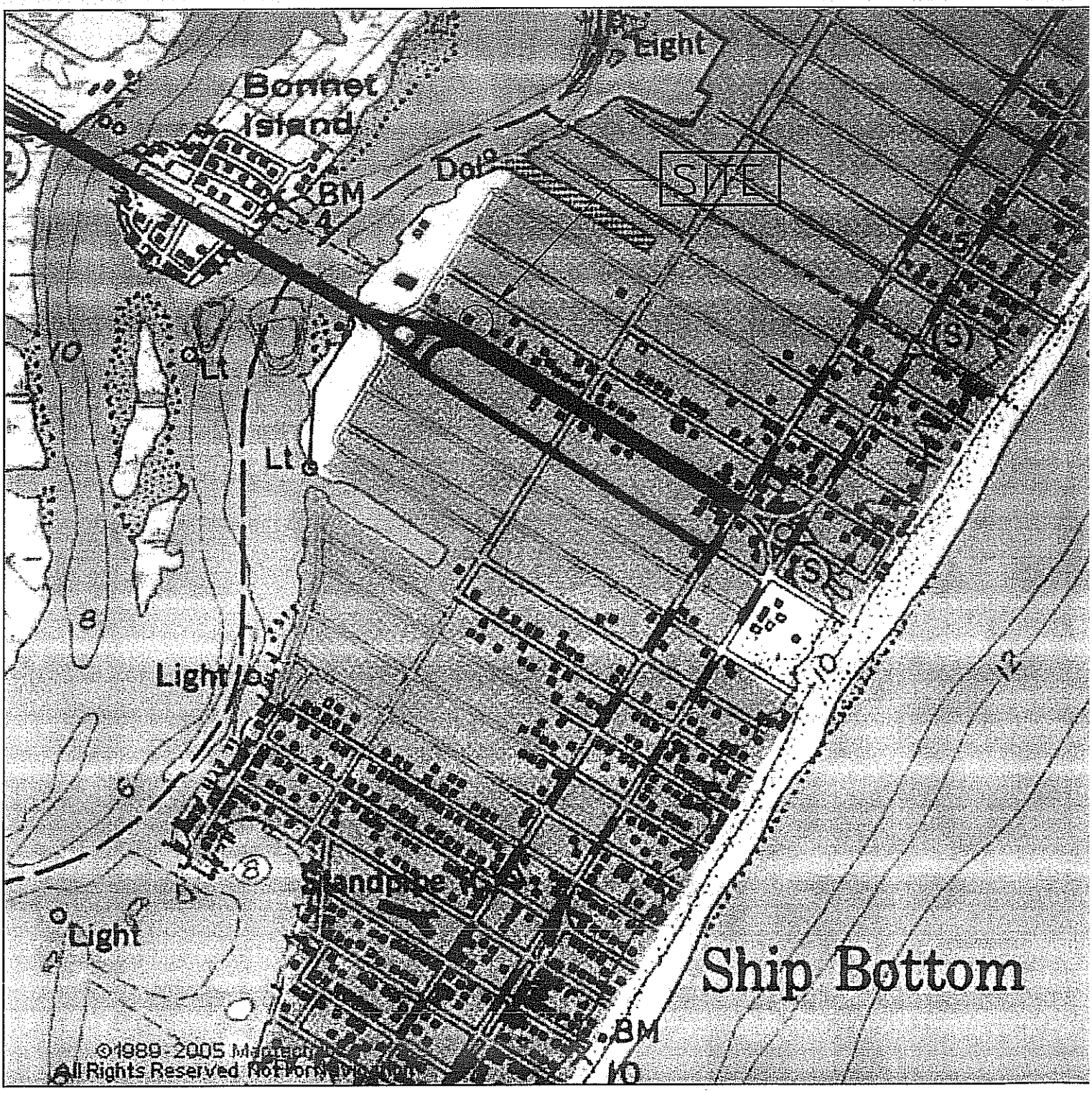
Table 6-1
Implementation Schedule

Proposed Activity	Schedule
NJDEP Approval of RIW	Day 0
Monitoring/temporary Well Installation	Day 60
Well Survey	Day 70
Well Gauging and Sampling	Day 75
Remedial Action Workplan	Day 140

9.0 REMEDIAL ACTION COST ESTIMATE

Approximately $150,000 has been expended for the above referenced remedial investigation.

FIGURES



Map Scale: 1: 24,000

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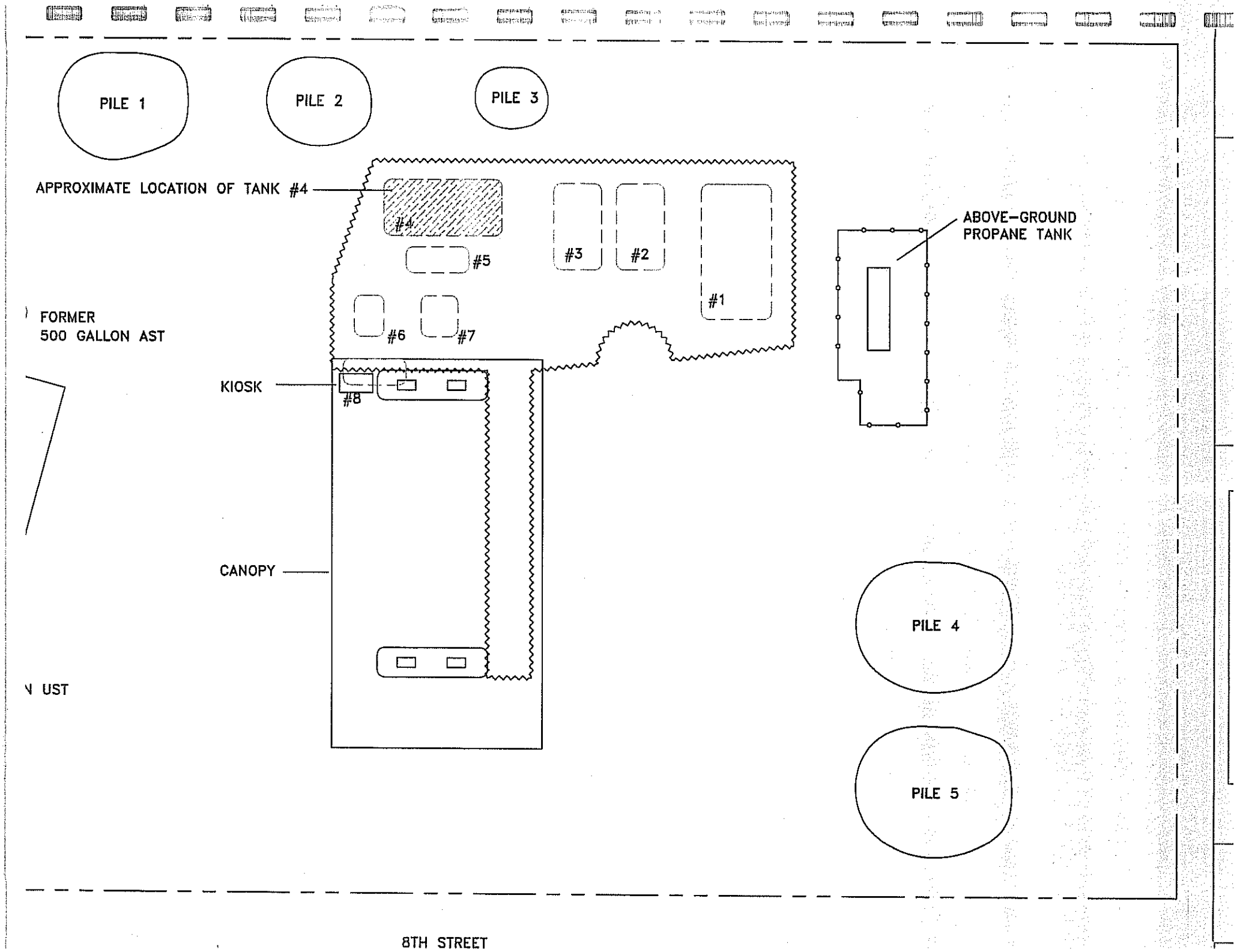
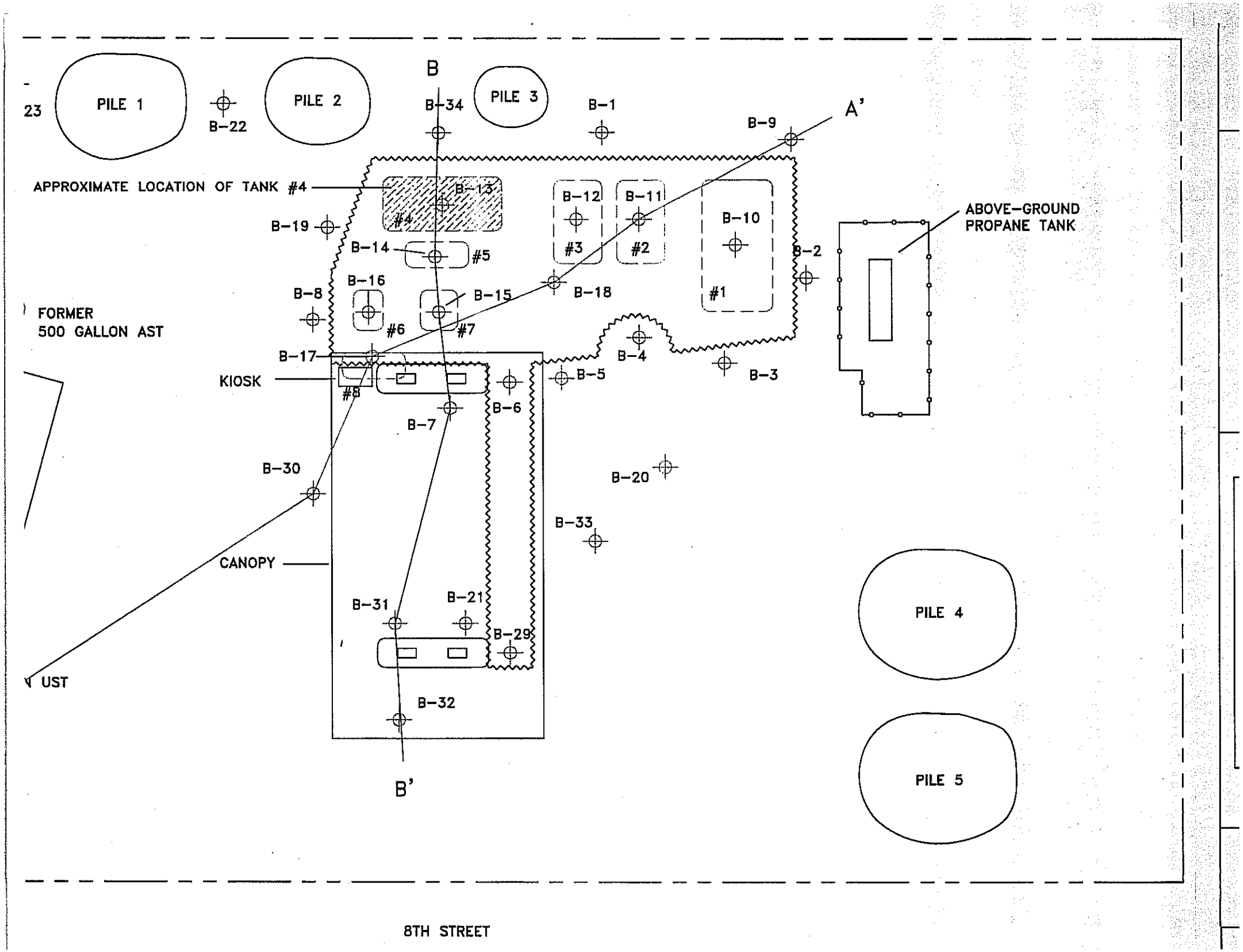
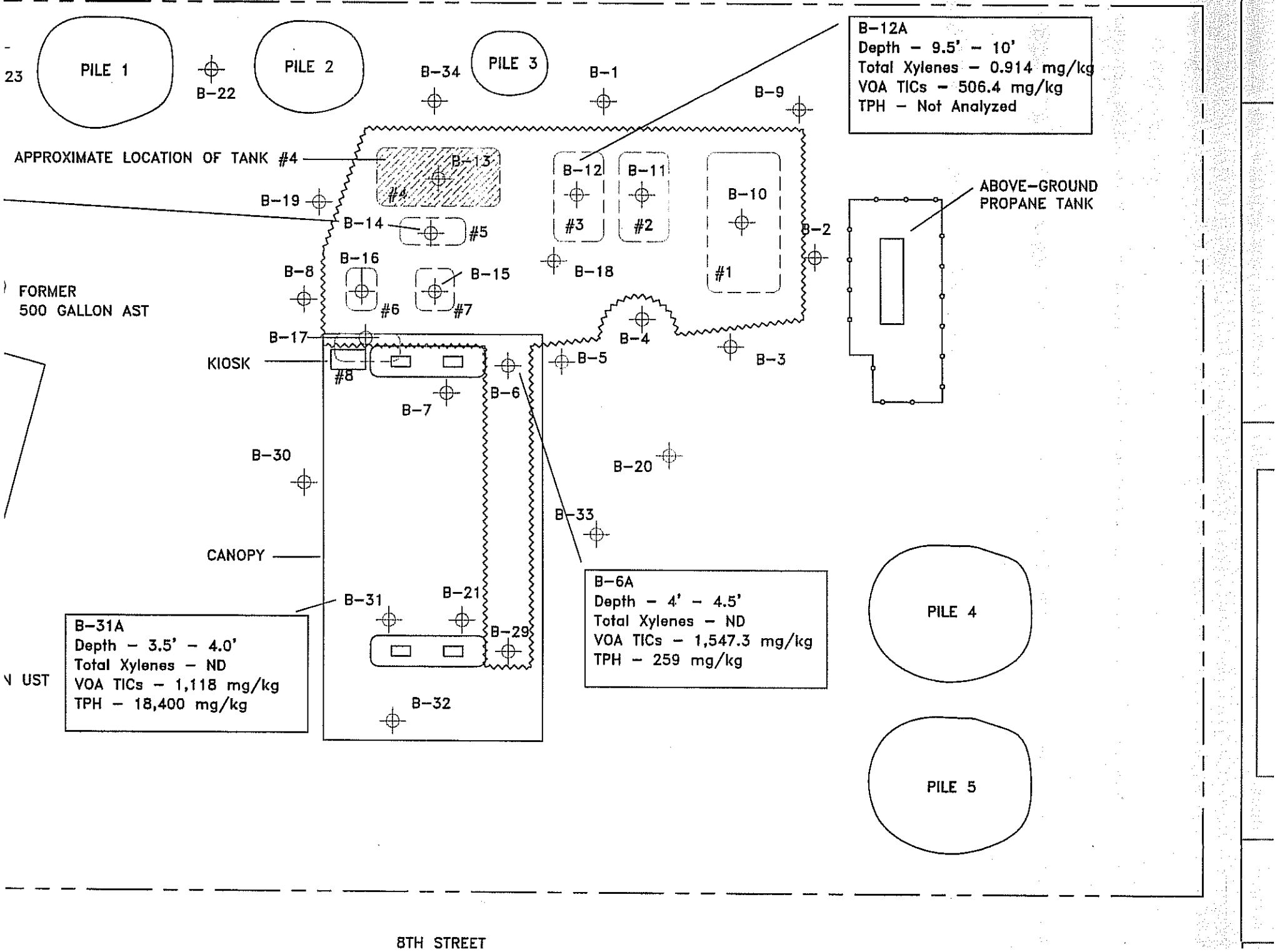
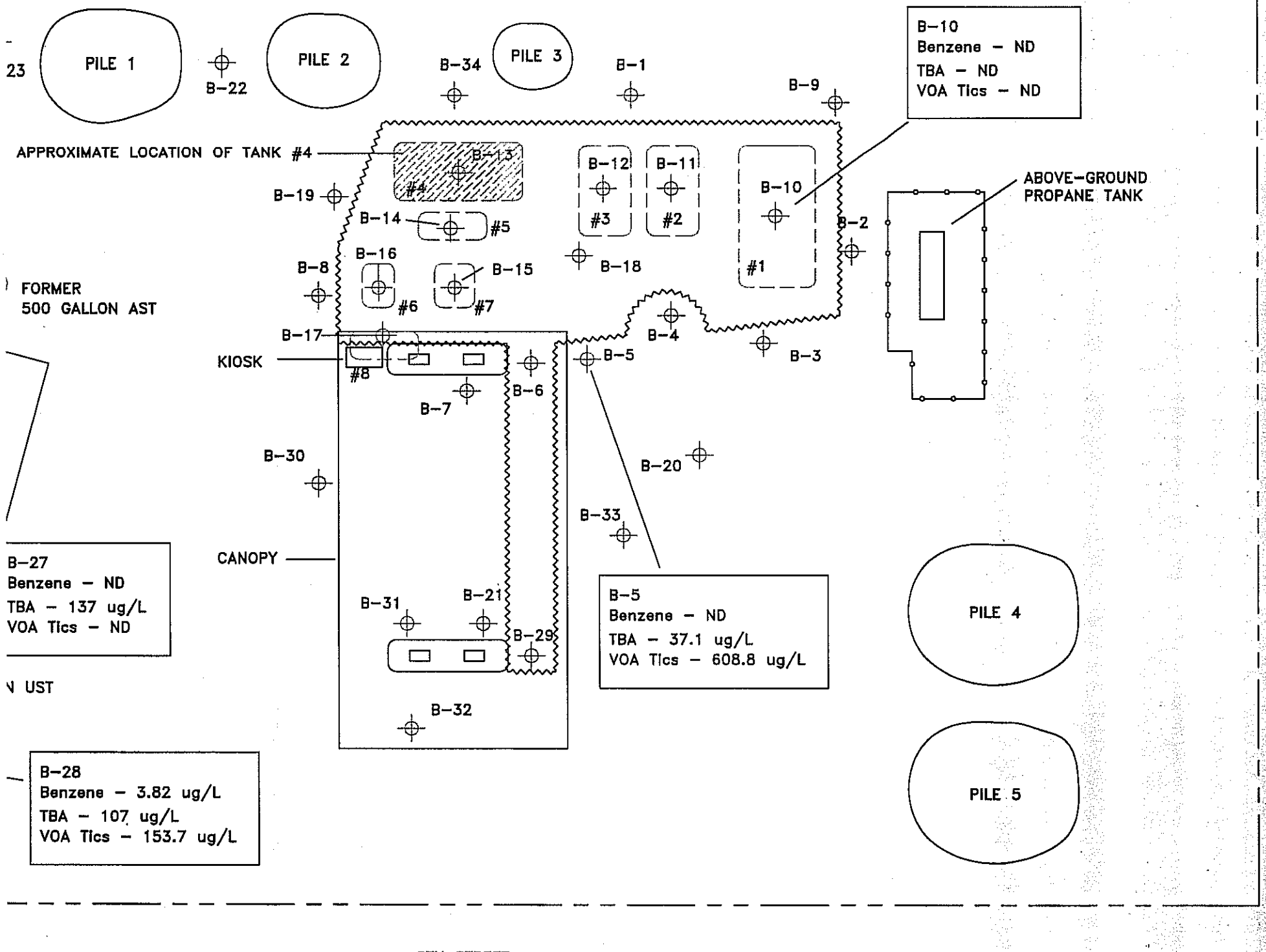
DATE 11/15/07	FIGURE 1 SITE LOCATION MAP SHIP BOTTOM SERVICE STATION 379 W. 8TH ST., SURF CITY,
DRAWN BY AR	
CHECKED BY	

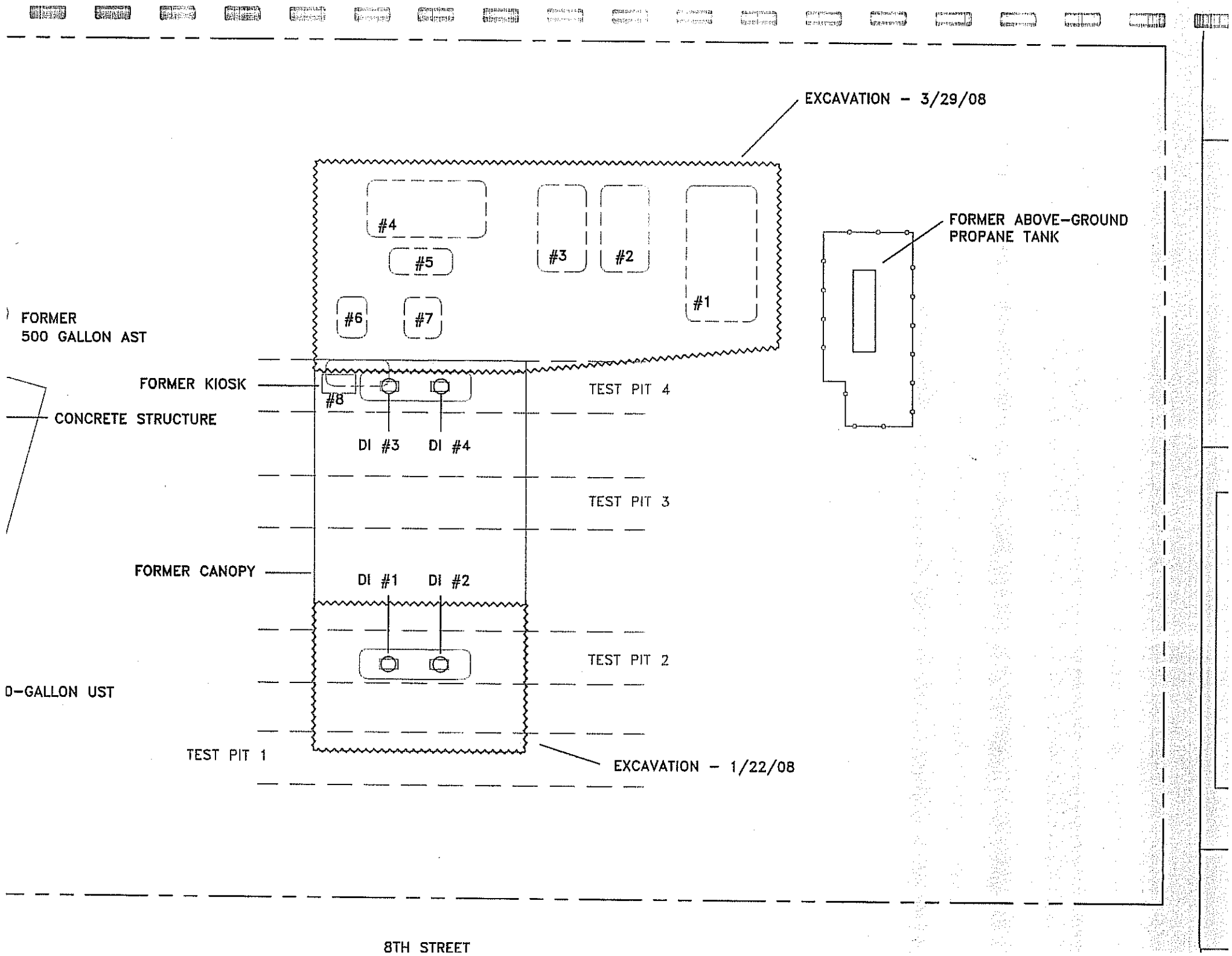
Source: USGS – Ship Bottom, NJ

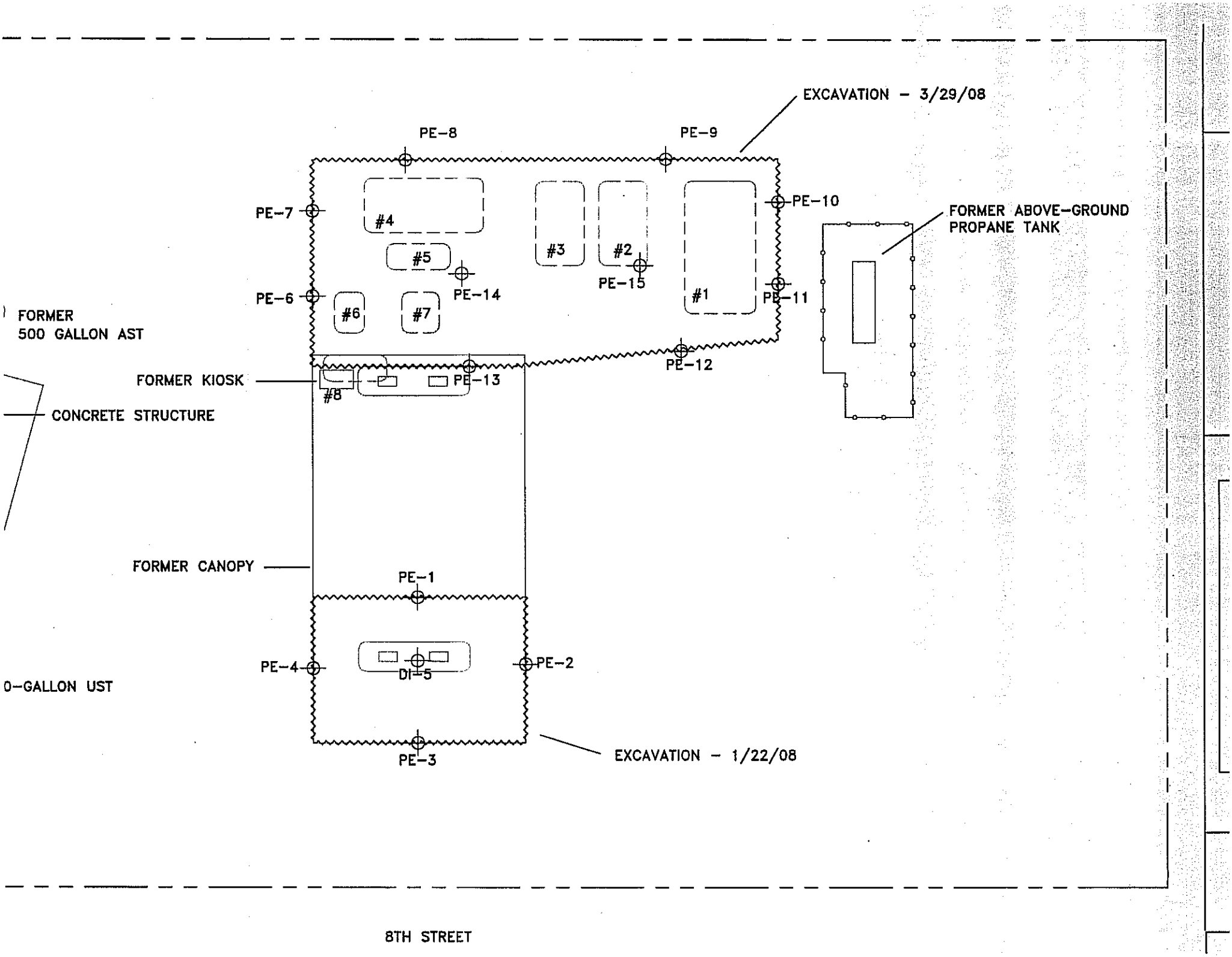

PILE 1
PILE 2
PILE 3
APPROXIMATE LOCATION OF TANK #4
#4
#5
#3
#2
#1
#6
#7
#8
FORMER
500 GALLON AST
KIOSK
CANOPY
ABOVE-GROUND
PROPANE TANK
PILE 4
PILE 5
UST
8TH STREET

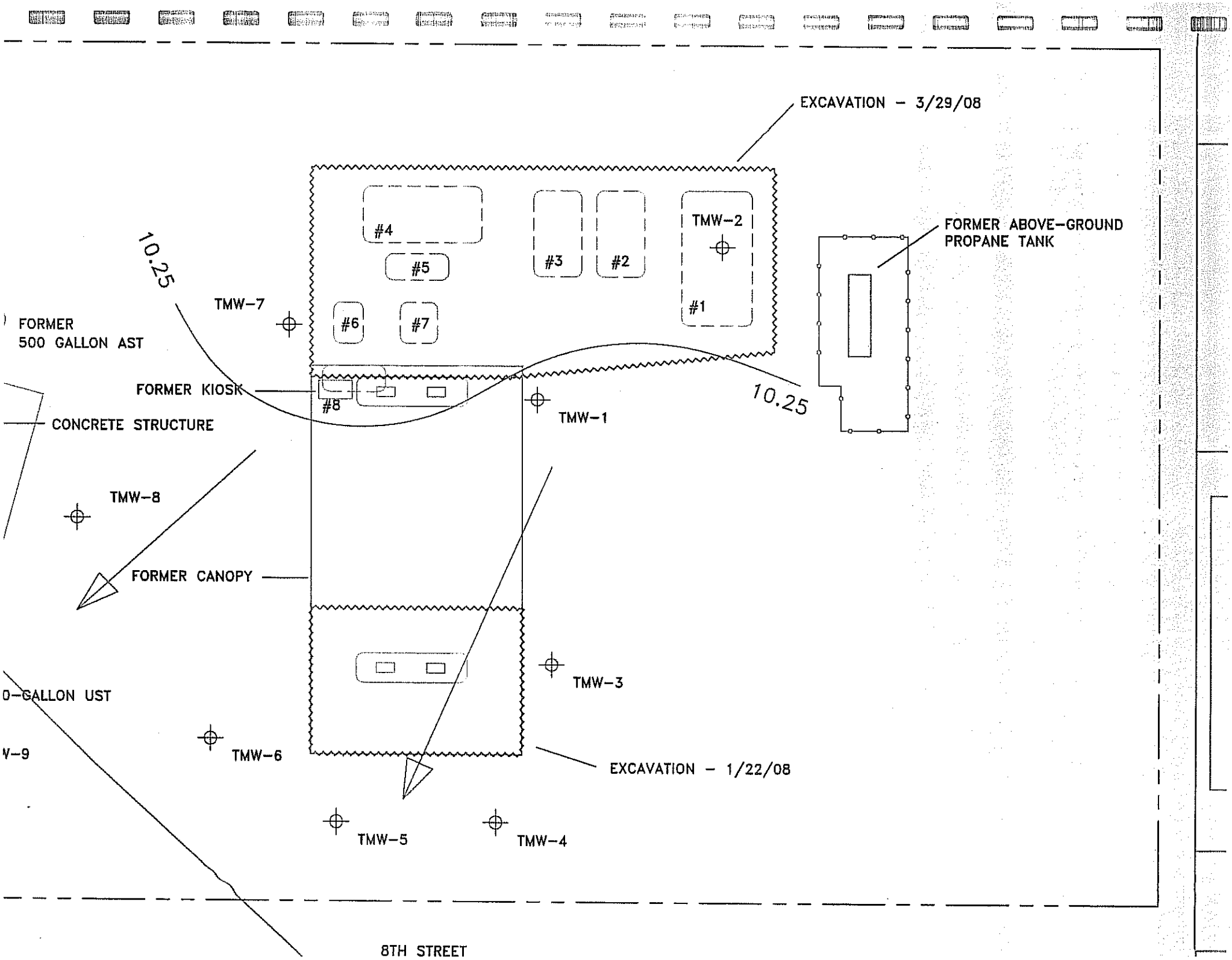

23
PILE 1
B-22
PILE 2
B
B-34
PILE 3
B-1
B-9
A'
APPROXIMATE LOCATION OF TANK #4
B-13
#4
B-12
#3
B-11
#2
B-10
#1
ABOVE-GROUND
PROPANE TANK
B-19
B-14
#5
B-2
B-16
B-8
B-15
B-18
FORMER
500 GALLON AST
#6
#7
B-17
B-4
KIOSK
#8
B-5
B-3
B-6
B-7
B-30
B-20
B-33
CANOPY
B-31
B-21
B-29
PILE 4
UST
B-32
B'
PILE 5
8TH STREET

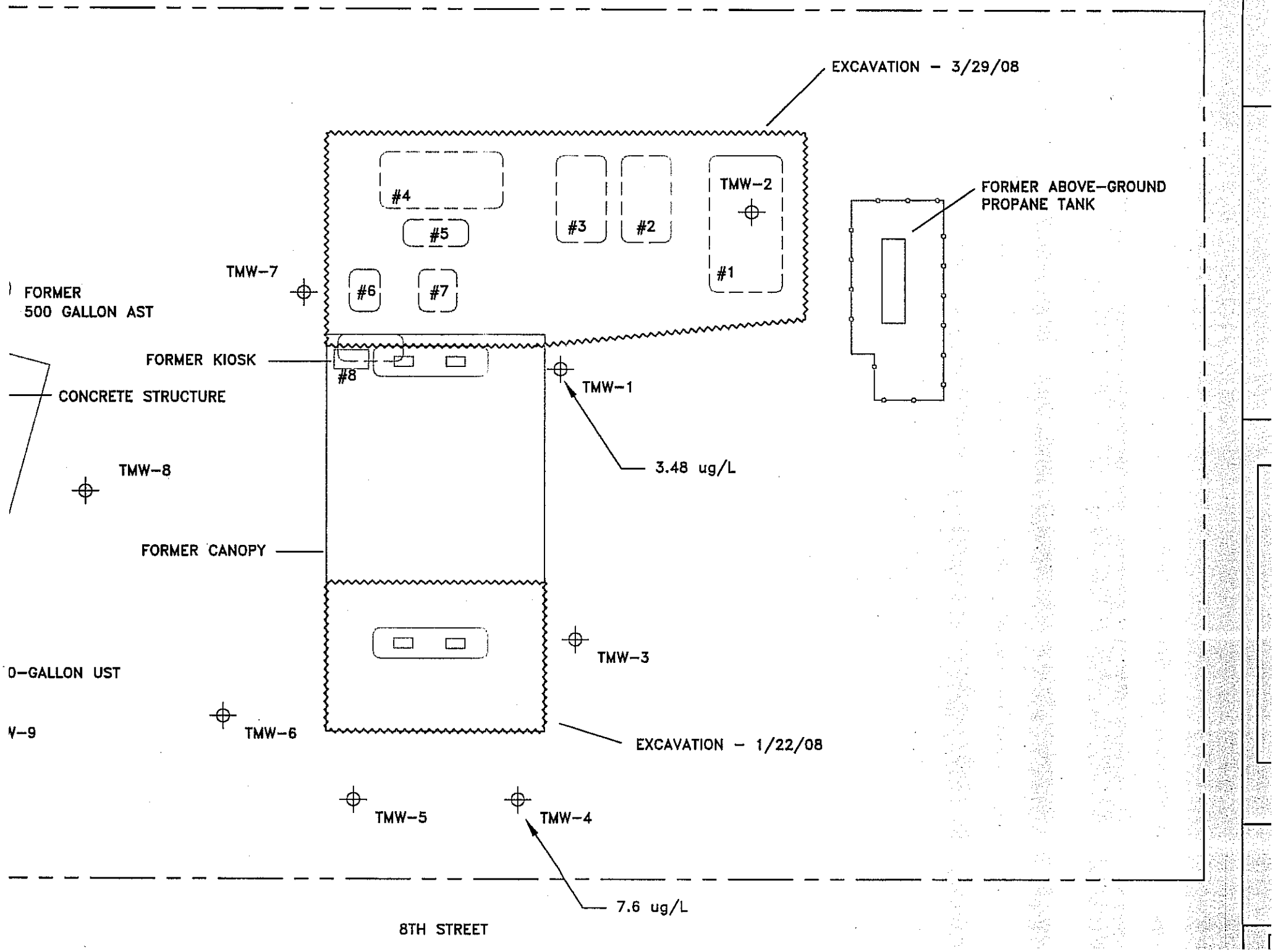

PILE 1
PILE 2
PILE 3
PILE 4
PILE 5
B-22
B-34
B-1
B-9
B-12A
Depth – 9.5' – 10'
Total Xylenes – 0.914 mg/kg
VOA TICs – 506.4 mg/kg
TPH – Not Analyzed
APPROXIMATE LOCATION OF TANK #4
B-13
#4
B-12
#3
B-11
#2
B-10
#1
B-19
B-14
#5
B-2
ABOVE-GROUND
PROPANE TANK
B-16
B-15
B-8
#6
#7
B-18
FORMER
500 GALLON AST
B-17
B-4
KIOSK
#8
B-5
B-3
B-6
B-7
B-30
B-20
B-33
CANOPY
B-6A
Depth – 4' – 4.5'
Total Xylenes – ND
VOA TICs – 1,547.3 mg/kg
TPH – 259 mg/kg
B-31
B-21
B-29
B-31A
Depth – 3.5' – 4.0'
Total Xylenes – ND
VOA TICs – 1,118 mg/kg
TPH – 18,400 mg/kg
UST
B-32
8TH STREET

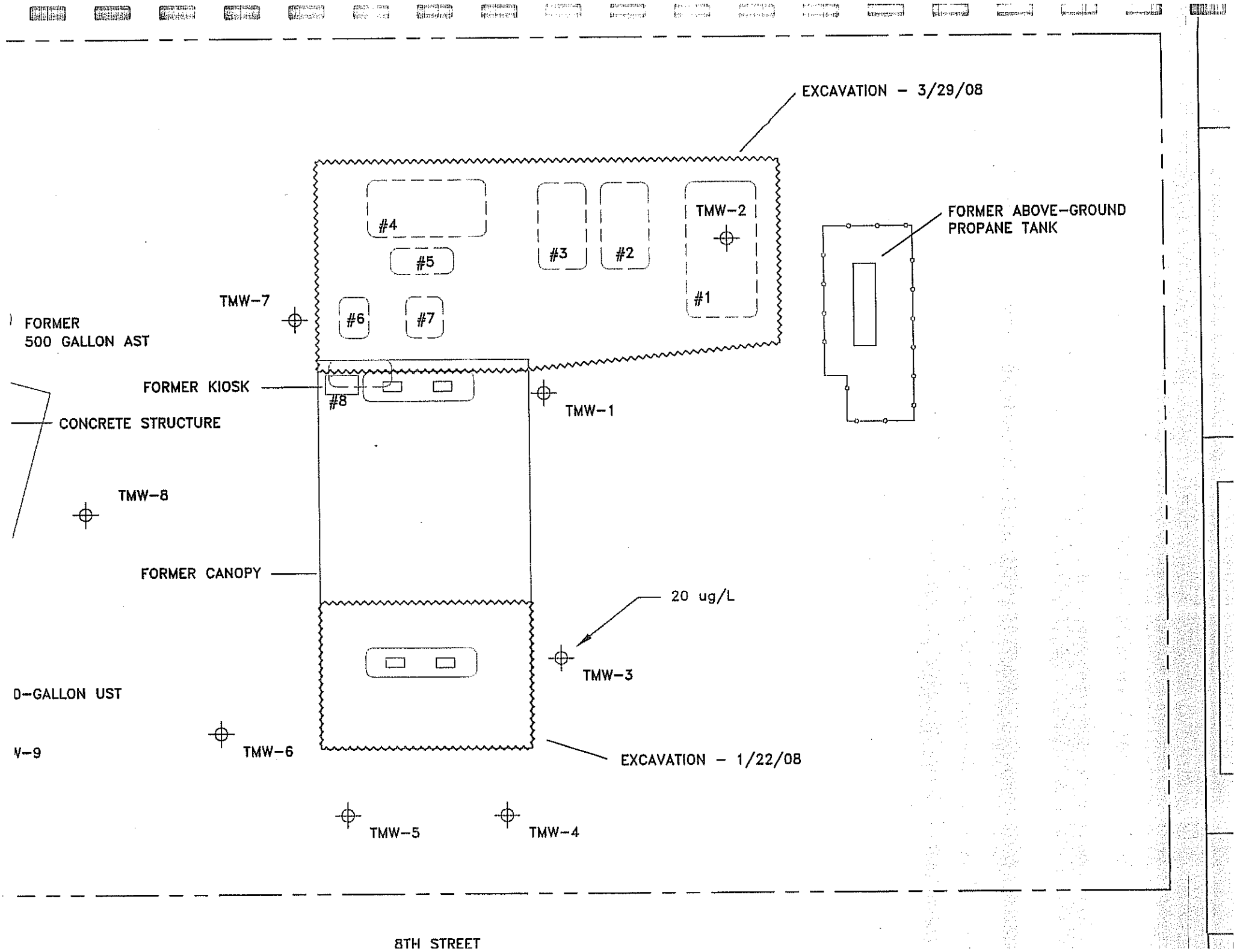

23
PILE 1
B-22
PILE 2
B-34
PILE 3
B-1
B-9
B-10
Benzene - ND
TBA - ND
VOA Tics - ND
APPROXIMATE LOCATION OF TANK #4
B-13
#4
B-12
#3
B-11
#2
B-10
#1
B-19
B-14
#5
B-2
ABOVE-GROUND
PROPANE TANK
B-16
B-15
B-8
B-18
FORMER
500 GALLON AST
#6
#7
B-17
B-4
KIOSK
#8
B-5
B-3
B-6
B-7
B-30
B-20
B-33
B-27
Benzene - ND
TBA - 137 ug/L
VOA Tics - ND
CANOPY
B-31
B-21
B-29
B-5
Benzene - ND
TBA - 37.1 ug/L
VOA Tics - 608.8 ug/L
PILE 4
N UST
B-32
B-28
Benzene - 3.82 ug/L
TBA - 107 ug/L
VOA Tics - 153.7 ug/L
PILE 5
8TH STREET

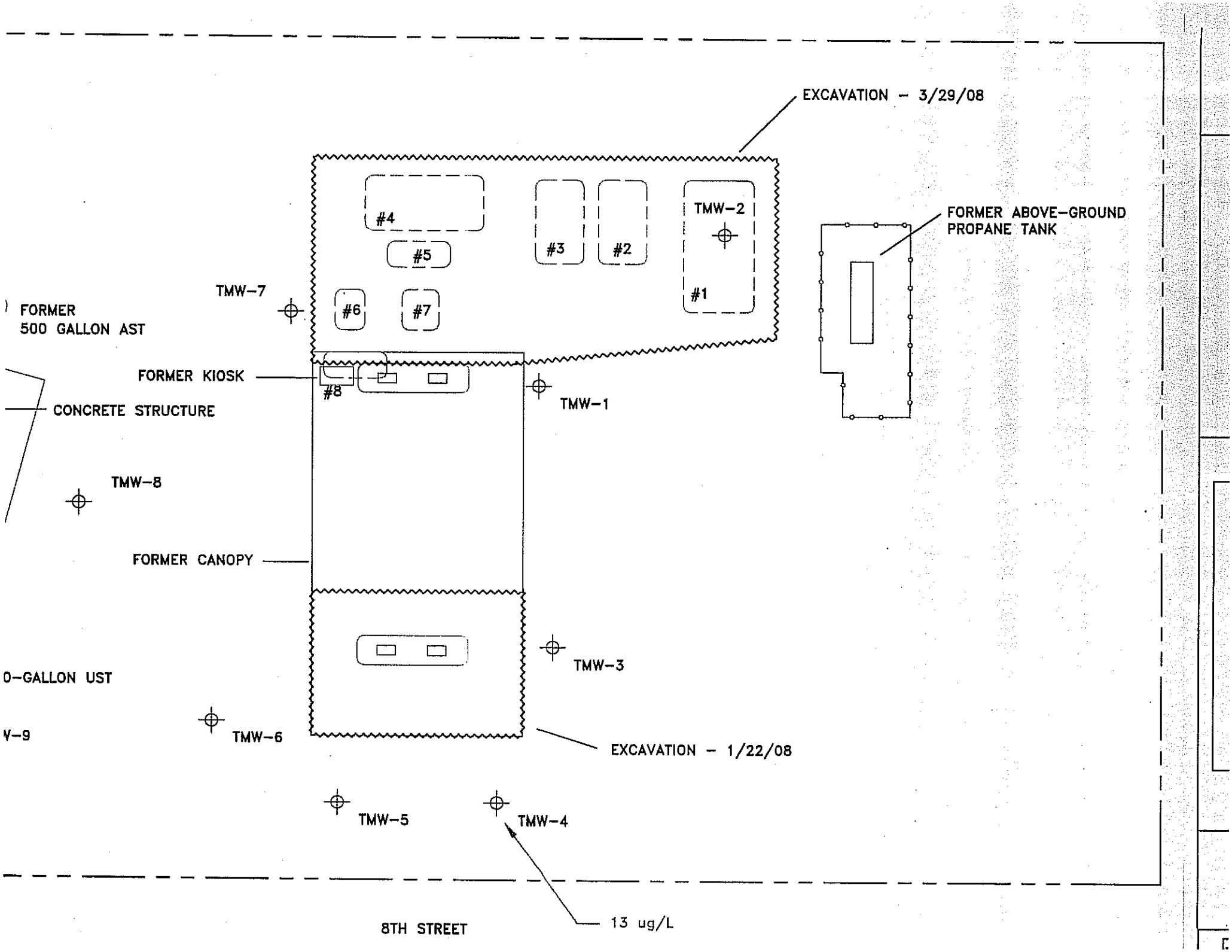

EXCAVATION - 3/29/08
#4
#5
#3
#2
#1
#6
#7
FORMER ABOVE-GROUND PROPANE TANK
FORMER 500 GALLON AST
FORMER KIOSK
#8
CONCRETE STRUCTURE
TEST PIT 4
DI #3
DI #4
TEST PIT 3
FORMER CANOPY
DI #1
DI #2
TEST PIT 2
0-GALLON UST
TEST PIT 1
EXCAVATION - 1/22/08
8TH STREET

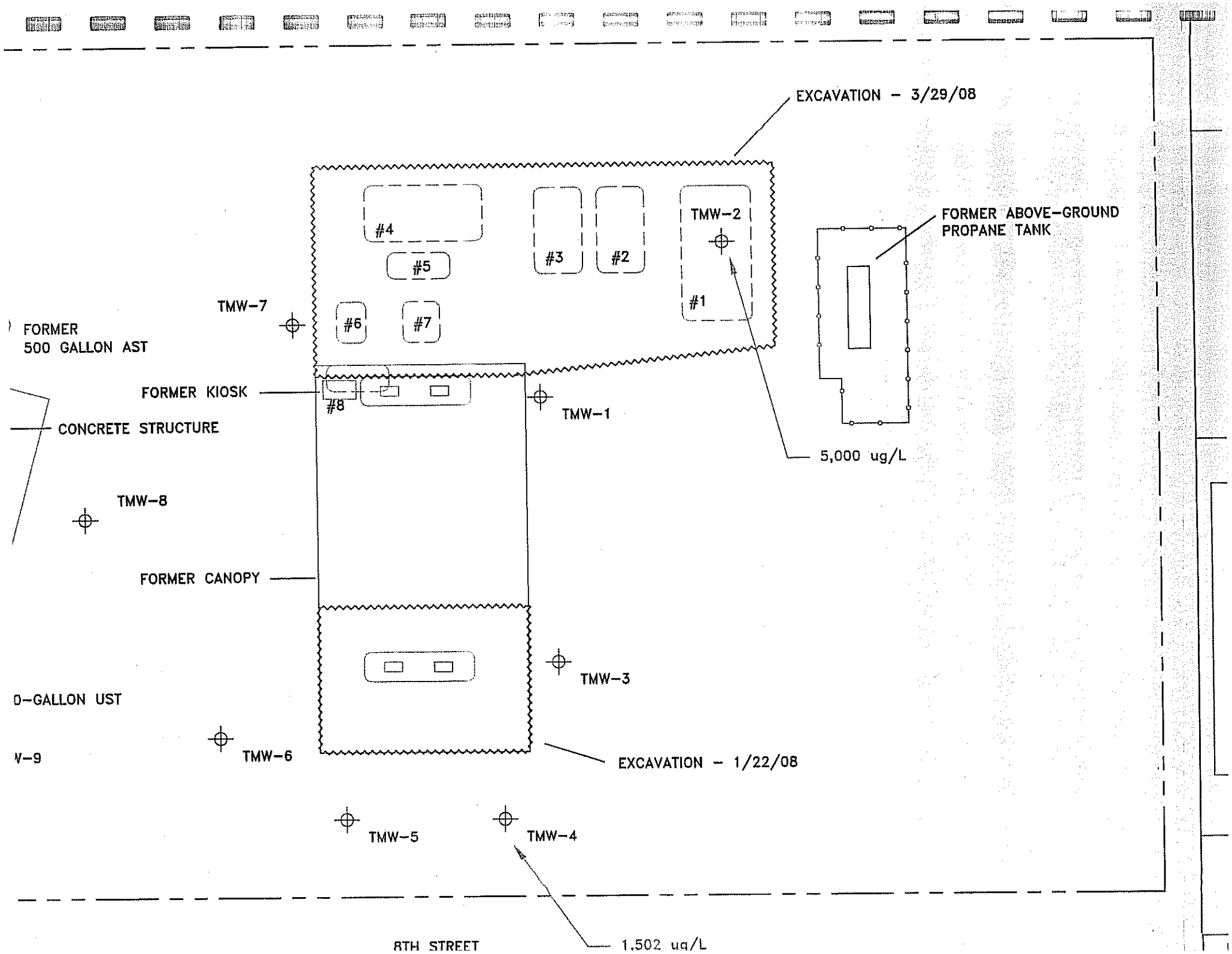

EXCAVATION - 3/29/08
PE-8
PE-9
PE-10
PE-7
PE-6
PE-11
PE-12
PE-13
PE-14
PE-15
#1
#2
#3
#4
#5
#6
#7
#8
FORMER ABOVE-GROUND PROPANE TANK
FORMER 500 GALLON AST
FORMER KIOSK
CONCRETE STRUCTURE
FORMER CANOPY
PE-1
PE-2
PE-3
PE-4
DI-5
0-GALLON UST
EXCAVATION - 1/22/08
8TH STREET

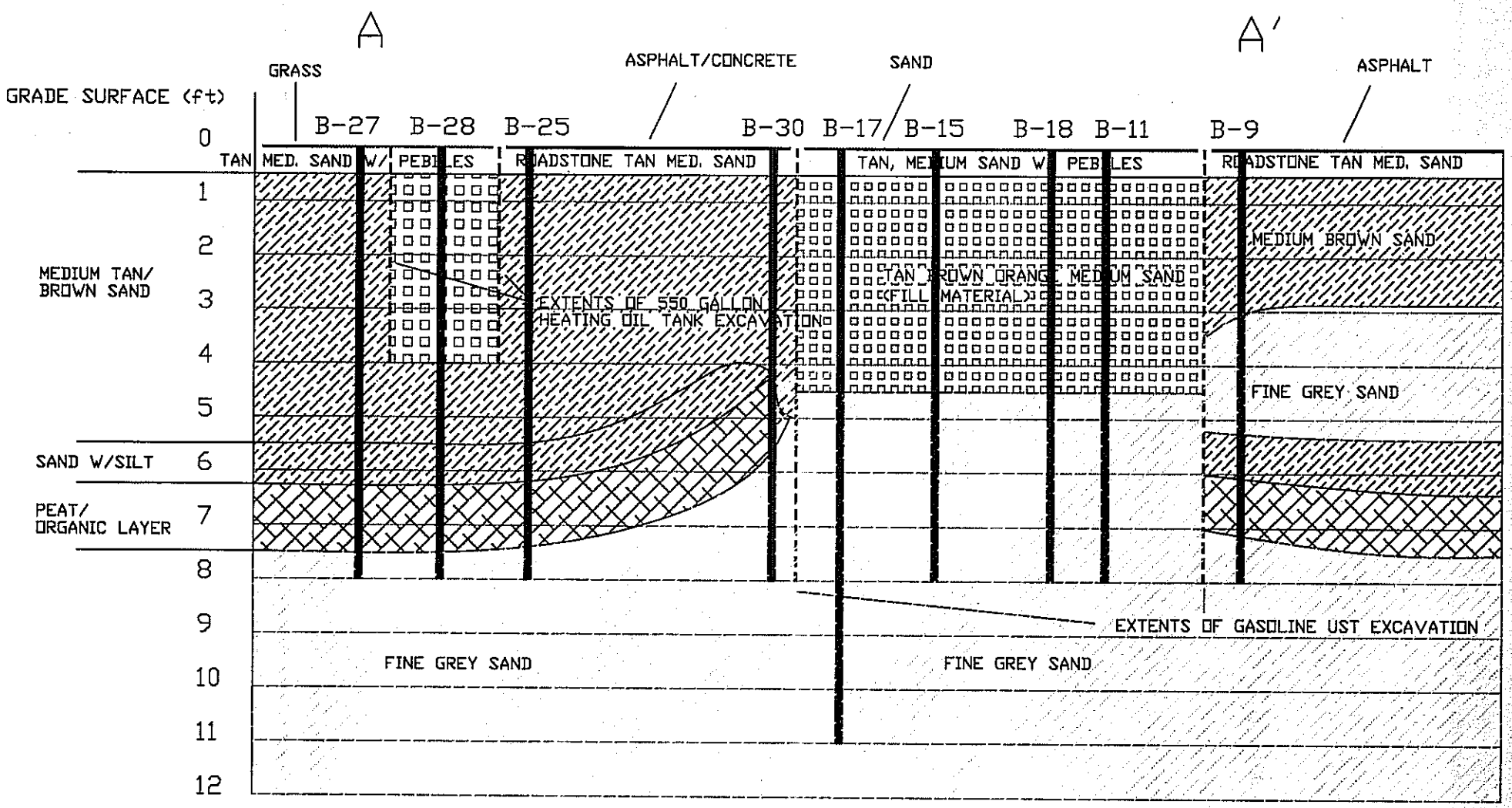

EXCAVATION – 3/29/08
FORMER ABOVE-GROUND PROPANE TANK
TMW-2
#4
#5
#3
#2
#1
#6
#7
#8
10.25
10.25
TMW-7
FORMER 500 GALLON AST
FORMER KIOSK
CONCRETE STRUCTURE
TMW-1
TMW-8
FORMER CANOPY
TMW-3
0-GALLON UST
V-9
TMW-6
EXCAVATION – 1/22/08
TMW-5
TMW-4
8TH STREET


EXCAVATION – 3/29/08
#4
#5
#3
#2
TMW-2
#1
FORMER ABOVE-GROUND PROPANE TANK
TMW-7
#6
#7
FORMER 500 GALLON AST
FORMER KIOSK
#8
TMW-1
CONCRETE STRUCTURE
3.48 ug/L
TMW-8
FORMER CANOPY
TMW-3
0-GALLON UST
V-9
TMW-6
EXCAVATION – 1/22/08
TMW-5
TMW-4
7.6 ug/L
8TH STREET


EXCAVATION – 3/29/08
#4
#5
#3
#2
TMW-2
#1
FORMER ABOVE-GROUND PROPANE TANK
TMW-7
#6
#7
FORMER 500 GALLON AST
FORMER KIOSK
#8
TMW-1
CONCRETE STRUCTURE
TMW-8
FORMER CANOPY
20 ug/L
TMW-3
D-GALLON UST
V-9
TMW-6
EXCAVATION – 1/22/08
TMW-5
TMW-4
8TH STREET


EXCAVATION - 3/29/08
#4
#5
#3
#2
TMW-2
#1
FORMER ABOVE-GROUND
PROPANE TANK
TMW-7
#6
#7
FORMER
500 GALLON AST
FORMER KIOSK
#8
TMW-1
CONCRETE STRUCTURE
TMW-8
FORMER CANOPY
TMW-3
0-GALLON UST
V-9
TMW-6
EXCAVATION - 1/22/08
TMW-5
TMW-4
13 ug/L
8TH STREET


EXCAVATION – 3/29/08
FORMER ABOVE-GROUND PROPANE TANK
TMW-2
#4
#5
#3
#2
#1
TMW-7
#6
#7
FORMER 500 GALLON AST
FORMER KIOSK
#8
TMW-1
CONCRETE STRUCTURE
5,000 ug/L
TMW-8
FORMER CANOPY
TMW-3
0-GALLON UST
V-9
TMW-6
EXCAVATION – 1/22/08
TMW-5
TMW-4
8TH STREET
1,502 ug/L



KEY:

- - - - - - - Extents of excavation

Figure note: Horizontally not to scale.

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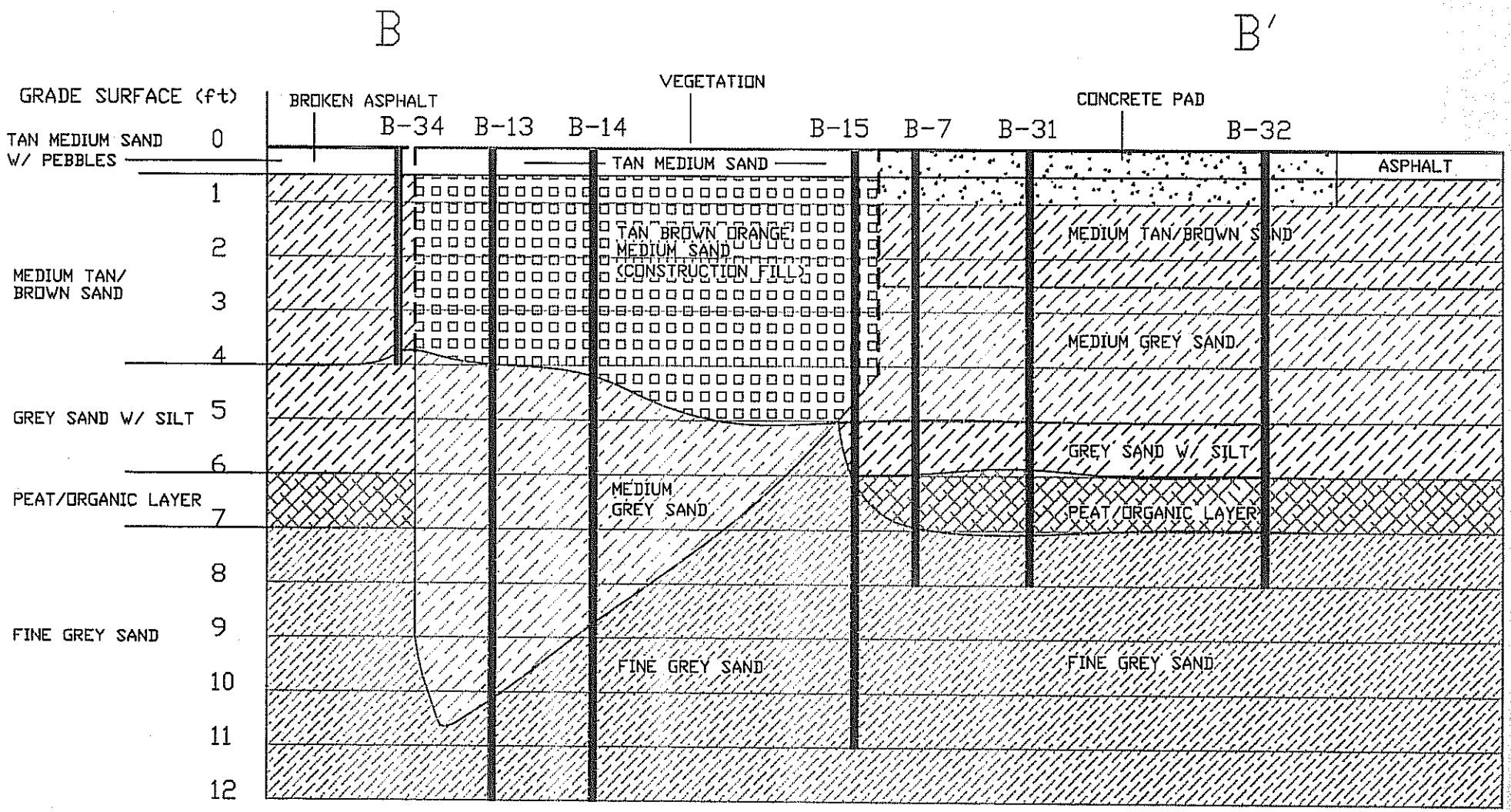
FIGURE 13
CROSS-SECTION A – A'
SHIP BOTTOM SERVICE STATION



KEY:

- - - - - - - - Extents of excavation

Figure note: Horizontally not to scale.

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DATE 7/8/08

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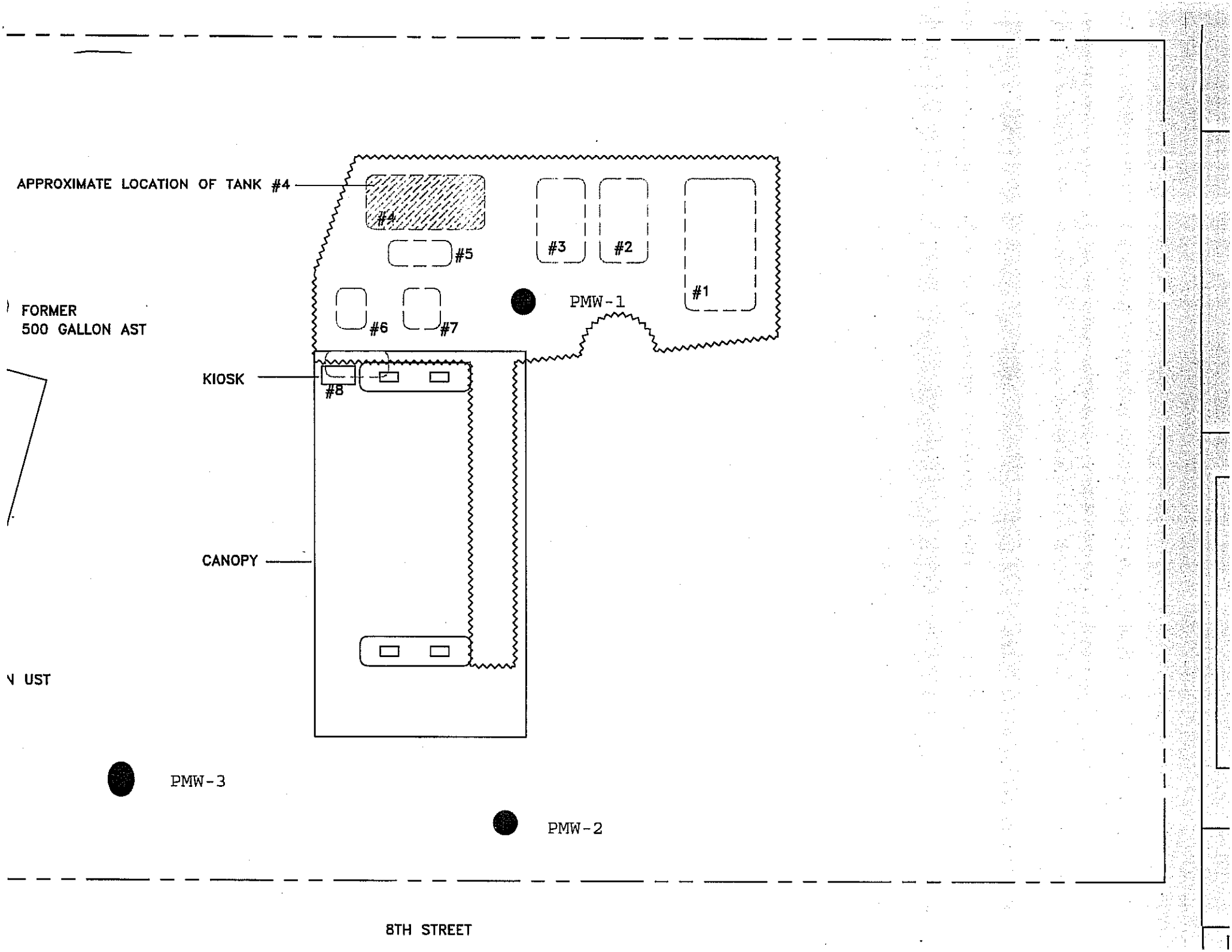
FIGURE 14
CROSS-SECTION B – B'


APPROXIMATE LOCATION OF TANK #4
#4
#5
#3
#2
#1
PMW-1
#6
#7
FORMER
500 GALLON AST
KIOSK
#8
CANOPY
N UST
PMW-3
PMW-2
8TH STREET

TABLES

TABLE 1
SOIL SAMPLING PROTOCOL AND AREAS OF CONCERN

Former Russo Ship Bottom Service Station
Ship Bottom, New Jersey

Sample Location	Area Of Concern	Reported UST Size (gals)	Proposed Sample Depth (fbg)	Field Sample Depth (fbg)
B-1	2 feet Outside of Excavation	N/A	0 – 6 " above Water Table	3.5 - 4.0
B-1 Dup	N/A - Duplicate	N/A	0 – 6 " above Water Table	3.5 - 4.0
B-2	2 feet Outside of Excavation	N/A	0 – 6 " above Water Table	4.0 - 4.5
B-3	2 feet Outside of Excavation	N/A	0 – 6 " above Water Table	4.0 - 4.5
B-4	2 feet Outside of Excavation	N/A	0 – 6 " above Water Table	4.0 - 4.5
B-5	2 feet Outside of Excavation	N/A	0 – 6 " above Water Table	3.5 - 4.0
B-6a	Product Piping	N/A	0 – 6 " above Water Table	4.0 - 4.5
B-6b	Vertical Delineation	N/A	Not Specified in RIW	7.5 - 8.0
B-7a	6 feet Outside of Excavation	N/A	0 – 6 " above Water Table	3.5 - 4.0
B-7b	Vertical Delineation	N/A	Not Specified in RIW	7.5 - 8.0
B-8	2 feet Outside of Excavation	N/A	0 – 6 " above Water Table	3.5 - 4.0
B-9	2 feet Outside of Excavation	N/A	0 – 6 " above Water Table	3.5 - 4.0
B-10a	Vertical Delineation	N/A	Not Specified in RIW	4.0 - 4.5
B-10b	UST 0001	10,000	Tank Invert (10.5 - 10.0)	10.5 - 11.0
B-11	UST 0002	6,000	Tank Invert (9.5 - 10.0)	9.5 - 10.0
B-12a	Vertical Delineation	N/A	Not Specified in RIW	4.5 - 5.0
B-12b	UST 0003	6,000	Tank Invert (9.5 - 10.0)	9.5 - 10.0
B-13a	Vertical Delineation	N/A	Not Specified in RIW	6.0 - 6.5

TABLE 1
SOIL SAMPLING PROTOCOL AND AREAS OF CONCERN

Former Russo Ship Bottom Service Station
Ship Bottom, New Jersey

Sample Location	Area Of Concern	Reported UST Size (gals)	Proposed Sample Depth (fbg)	Field Sample Depth (fbg)
B-13b	UST 0004	3,000	Tank Invert (8.0 - 8.5)	8.0 - 8.5
B-14a	UST 0005	2,000	Tank Invert (8.0 - 8.5)	8.0 - 8.5
B-14b	Vertical Delineation	N/A	Not Specified in RIW	11.5 - 12.0
B-15	UST 0006	2,000	Tank Invert (8.0 - 8.5)	8.5 - 9.0
B-16a	UST 0007	2,000	Tank Invert (8.0 - 8.5)	8.5 - 9.0
B-16b	Excavation Backfill	N/A	0 – 6 " above Water Table	4.0 - 4.5
B-17	UST 0008	2,000	Tank Invert (8.0 - 8.5)	8.5 - 9.0
B-18	Excavation Backfill	N/A	0 – 6 " above Water Table	4.5 - 5.0
B-19	2 feet outside of excavation	N/A	Temporary Monitoring Well	Not Sampled
B-20	Groundwater Delineation	N/A	Temporary Monitoring Well	Not Sampled
B-21	Groundwater Delineation	N/A	Temporary Monitoring Well	Not Sampled
B-22	Groundwater Delineation	N/A	Temporary Monitoring Well	Not Sampled
B-23	Groundwater Delineation	N/A	Temporary Monitoring Well	Not Sampled
B-24	550 Gal Heating Oil UST	N/A	0 – 6 " above Water Table	3.5 - 4.0
B-25	550 Gal Heating Oil UST	N/A	0 – 6 " above Water Table	4.0 - 4.5
B-26	550 Gal Heating Oil UST	N/A	0 – 6 " above Water Table	4.0 - 4.5

TABLE 1
SOIL SAMPLING PROTOCOL AND AREAS OF CONCERN

Former Russo Ship Bottom Service Station
Ship Bottom, New Jersey

Sample Location	Area Of Concern	Reported UST Size (gals)	Proposed Sample Depth (fbg)	Field Sample Depth (fbg)
B-27	550 Gal Heating Oil UST	N/A	0 – 6 " above Water Table	4.0 - 4.5
B-28	550 Gal Heating Oil UST	N/A	0 – 6 " above Water Table	4.0 - 4.5
B-29	Product Piping	N/A	Not Specified in RIW	4.0 - 4.5
B-30	Horizontal Delineation	N/A	Not Specified in RIW	4.0 - 4.5
B-31A	Horizontal Delineation	N/A	Not Specified in RIW	3.5 - 4.0
B-31B	Vertical Delineation	N/A	Not Specified in RIW	7.6 = 8.0
B-32	Horizontal Delineation	N/A	Not Specified in RIW	4.0 - 4.5
B-33	Horizontal Delineation	N/A	Not Specified in RIW	4.0 - 4.5
B-33 Dup	N/A - Duplicate	N/A	Not Specified in RIW	4.0 - 4.5
B-34	2 feet Outside of Excavation	N/A	Not Specified in RIW	3.5 - 4.0

TABLE 2A
SOIL ANALYTICAL DATA - VOLATILE ORGANIC COMPOUNDS

Former Russo Fuels Ship Bottom Service Station (A/K/A Mr. Big Texaco)
Ship Bottom, New Jersey

Sample ID	NJDEP	B-1		B-1 DUP		B-2		B-3	
Sample Depth	IMPACT TO	3.0 - 3.5		3.0 - 3.5		4.0 - 4.5		4.0 - 4.5	
Lab ID:	GROUND WATER	L2412682-9		L2412682-10		L2412682-11		L2412982-1	
Date Sampled:	SOIL CLEANUP	39295		39295		39295		39296	
Matrix:	CRITERIA	Soil		Soil		Soil		Soil	
	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Volatile Organic Compound		Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL
1,1,1-TRICHLOROETHANE	50	ND	0.001	ND	0.001	ND	0.001	ND	0.001
1,1,2,2-TETRACHLOROETHANE	1	ND	0.001	ND	0.002	ND	0.001	ND	0.001
1,1,2-TRICHLOROETHANE	1	ND	0.001	ND	0.001	ND	0.001	ND	0.001
1,1-DICHLOROETHANE	10	ND	0.001	ND	0.001	ND	0.001	ND	0.001
1,1-DICHLOROETHENE	10	ND	0.001	ND	0.001	ND	0.001	ND	0.001
1,2-DICHLOROBENZENE	50	ND	0.001	ND	0.001	ND	0.001	ND	0.001
1,2-DICHLOROETHANE	1	ND	0.001	ND	0.001	ND	0.001	ND	0.001
1,2-DICHLOROPROPANE	NA	ND	0.001	ND	0.001	ND	0.001	ND	0.001
1,3-DICHLOROBENZENE	100	ND	0.001	ND	0.001	ND	0.001	ND	0.001
1,4-DICHLOROBENZENE	100	ND	0.001	ND	0.001	ND	0.001	ND	0.001
2-BUTANONE	50	ND	0.002	ND	0.003	ND	0.002	ND	0.002
2-CHLOROETHYL VINYL ETHER	NA	ND	0.002	ND	0.003	ND	0.002	ND	0.002
2-HEXANONE	NA	ND	0.002	ND	0.003	ND	0.002	ND	0.002
4-METHYL-2-PENTANONE	50	ND	0.002	ND	0.003	ND	0.002	ND	0.002
ACETONE	100	0.004	0.003	0.013	0.004	0.026	0.003	0.012	0.003
ACROLEIN	NA	ND	0.006	ND	0.009	ND	0.006	ND	0.007
ACRYLONITRILE	1	ND	0.005	ND	0.007	ND	0.005	ND	0.005
BENZENE	1	ND	0.001	ND	0.001	ND	0.001	ND	0.001
BROMODICHLOROMETHANE	1	ND	0.001	ND	0.001	ND	0.001	ND	0.001
BROMOFORM	1	ND	0.001	ND	0.001	ND	0.001	ND	0.001
BROMOMETHANE	1	ND	0.004	ND	0.006	ND	0.004	ND	0.004
CARBON DISULFIDE	NA	ND	0.002	ND	0.002	ND	0.001	0.003	0.002
CARBON TETRACHLORIDE	1	ND	0.001	ND	0.002	ND	0.001	ND	0.001
CHLOROBENZENE	1	ND	0.001	ND	0.001	ND	0.001	ND	0.001
CHLOROETHANE	NA	ND	0.001	ND	0.001	ND	0.001	ND	0.001
CHLOROFORM	1	ND	0.001	ND	0.001	ND	0.001	ND	0.001
CHLOROMETHANE	10	ND	0.001	ND	0.001	ND	0.001	ND	0.001
CIS-1,2-DICHLOROETHENE	1	ND	0.001	ND	0.001	ND	0.001	ND	0.001
CIS-1,3-DICHLOROPROPENE	NA	ND	0.001	ND	0.001	ND	0.001	ND	0.001
DIBROMOCHLOROMETHANE	1	ND	0.001	ND	0.002	ND	0.001	ND	0.001
ETHYL BENZENE	100	ND	0.001	ND	0.001	ND	0.001	ND	0.001
TOTAL XYLENES	67	ND	0.002	ND	0.003	ND	0.002	ND	0.002
METHYL TERTIARY BUTYL ETHER	3	ND	0.001	ND	0.001	ND	0.001	ND	0.001
METHYLENE CHLORIDE	1	0.001	0.001	0.002	0.002	0.001	0.001	0.002	0.001
STYRENE	100	ND	0.001	ND	0.001	ND	0.001	ND	0.001
TERTIARY BUTYL ALCOHOL	NA	ND	0.006	ND	0.009	ND	0.006	ND	0.006
TETRACHLOROETHENE	1	ND	0.001	ND	0.001	ND	0.001	ND	0.001
TOLUENE	500	ND	0.001	ND	0.001	ND	0.001	ND	0.001
TRANS-1,2-DICHLOROETHENE	50	ND	0.001	ND	0.001	ND	0.001	ND	0.001
TRANS-1,3-DICHLOROPROPENE	NA	ND	0.001	ND	0.002	ND	0.001	ND	0.001
TRICHLOROETHENE	1	ND	0.001	ND	0.001	ND	0.001	ND	0.001
VINYL ACETATE	NA	ND	0.002	ND	0.003	ND	0.002	ND	0.002
VINYL CHLORIDE	10	ND	0.001	ND	0.001	ND	0.001	ND	0.001
TENTATIVELY IDENTIFIED COMPOUND	500	ND	NA	0.008	NA	ND	NA	ND	NA

TABLE 2A
SOIL ANALYTICAL DATA - VOLATILE ORGANIC COMPOUNDS

Former Russo Fuels Ship Bottom Service Station (A/K/A Mr. Big Texaco)
Ship Bottom, New Jersey

Sample ID	NJDEP	B-4		B-5		B-6A		B-6B	
Sample Depth	IMPACT TO	4.0 - 4.5		3.5 - 4.0		4.0 - 4.5		7.5 - 8.0	
Lab ID:	GROUND WATER	L2412982-2		L2412982-3		L2412982-4		L2412982-5	
Date Sampled:	SOIL CLEANUP	39296		39296		39296		39296	
Matrix:	CRITERIA	Soil		Soil		Soil		Soil	
	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Volatile Organic Compound		Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL
1,1,1-TRICHLOROETHANE	50	ND	0.001	ND	0.001	ND	0.491	ND	0.002
1,1,2,2-TETRACHLOROETHANE	1	ND	0.001	ND	0.001	ND	0.737	ND	0.002
1,1,2-TRICHLOROETHANE	1	ND	0.001	ND	0.001	ND	0.502	ND	0.002
1,1-DICHLOROETHANE	10	ND	0.001	ND	0.001	ND	0.569	ND	0.002
1,1-DICHLOROETHENE	10	ND	0.001	ND	0.001	ND	0.435	ND	0.001
1,2-DICHLOROBENZENE	50	ND	0.001	ND	0.001	ND	0.502	ND	0.002
1,2-DICHLOROETHANE	1	ND	0.001	ND	0.001	ND	0.514	ND	0.002
1,2-DICHLOROPROPANE	NA	ND	0.001	ND	0.001	ND	0.659	ND	0.001
1,3-DICHLOROBENZENE	100	ND	0.001	ND	0.001	ND	0.447	ND	0.002
1,4-DICHLOROBENZENE	100	ND	0.001	ND	0.001	ND	0.424	ND	0.002
2-BUTANONE	50	ND	0.002	0.002	0.002	ND	2.190	0.003	0.003
2-CHLOROETHYL VINYL ETHER	NA	ND	0.002	ND	0.002	ND	3.450	ND	0.004
2-HEXANONE	NA	ND	0.002	ND	0.002	ND	2.230	ND	0.003
4-METHYL-2-PENTANONE	50	ND	0.002	ND	0.002	ND	4.120	ND	0.004
ACETONE	100	0.008	0.003	0.012	0.003	3.530	2.220	0.017	0.004
ACROLEIN	NA	ND	0.006	ND	0.007	ND	2.150	ND	0.011
ACRYLONITRILE	1	ND	0.005	ND	0.005	ND	**3.370**	ND	0.008
BENZENE	1	ND	0.001	ND	0.001	ND	0.402	ND	0.002
BROMODICHLOROMETHANE	1	ND	0.001	ND	0.001	ND	0.480	ND	0.001
BROMOFORM	1	ND	0.001	ND	0.001	ND	0.715	ND	0.001
BROMOMETHANE	1	ND	0.004	ND	0.004	ND	0.793	ND	0.006
CARBON DISULFIDE	NA	ND	0.002	ND	0.002	ND	0.782	0.009	0.003
CARBON TETRACHLORIDE	1	ND	0.001	ND	0.001	ND	0.681	ND	0.002
CHLOROBENZENE	1	ND	0.001	ND	0.001	ND	**1.080**	ND	0.002
CHLOROETHANE	NA	ND	0.001	ND	0.001	ND	0.949	ND	0.002
CHLOROFORM	1	0.001	0.001	ND	0.001	ND	0.435	0.001	0.001
CHLOROMETHANE	10	ND	0.001	ND	0.001	ND	0.681	ND	0.001
CIS-1,2-DICHLOROETHENE	1	ND	0.001	ND	0.001	ND	0.469	ND	0.001
CIS-1,3-DICHLOROPROPENE	NA	ND	0.001	ND	0.001	ND	0.435	ND	0.002
DIBROMOCHLOROMETHANE	1	ND	0.001	ND	0.001	ND	**1.310**	ND	0.002
ETHYL BENZENE	100	ND	0.001	ND	0.001	ND	0.391	ND	0.001
TOTAL XYLENES	67	ND	0.002	ND	0.002	ND	0.916	ND	0.003
METHYL TERTIARY BUTYL ETHER	3	ND	0.001	ND	0.001	ND	0.536	0.005	0.002
METHYLENE CHLORIDE	1	0.002	0.001	0.002	0.001	ND	0.592	0.003	0.002
STYRENE	100	ND	0.001	ND	0.001	ND	0.357	ND	0.002
TERTIARY BUTYL ALCOHOL	NA	ND	0.006	ND	0.006	ND	8.220	0.023	0.010
TETRACHLOROETHENE	1	ND	0.001	ND	0.001	ND	0.558	ND	0.001
TOLUENE	500	ND	0.001	ND	0.001	ND	0.413	ND	0.001
TRANS-1,2-DICHLOROETHENE	50	ND	0.001	ND	0.001	ND	0.458	ND	0.001
TRANS-1,3-DICHLOROPROPENE	NA	ND	0.001	ND	0.001	ND	0.681	ND	0.002
TRICHLOROETHENE	1	ND	0.001	ND	0.001	ND	0.882	ND	0.001
VINYL ACETATE	NA	ND	0.002	ND	0.002	ND	1.190	ND	0.004
VINYL CHLORIDE	10	ND	0.001	ND	0.001	ND	0.681	ND	0.001
TENTATIVELY IDENTIFIED COMPOUND	500	ND	NA	ND	NA	**1547.300**	NA	ND	NA

TABLE 2A
SOIL ANALYTICAL DATA - VOLATILE ORGANIC COMPOUNDS

Former Russo Fuels Ship Bottom Service Station (A/K/A Mr. Big Texaco)
Ship Bottom, New Jersey

Sample ID	NJDEP	B-7A		B-7B		B-8		B-9	
Sample Depth	IMPACT TO	3.5 - 4.0		7.5 - 8.0		3.5 - 4.0		3.5 - 4.0	
Lab ID:	GROUND WATER	L2412982-6		L2412982-7		L2412982-8		L2412982-9	
Date Sampled:	SOIL CLEANUP	39296		39296		39296		39296	
Matrix:	CRITERIA	Soil		Soil		Soil		Soil	
	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Volatile Organic Compound		Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL
1,1,1-TRICHLOROETHANE	50	ND	0.114	ND	0.001	ND	0.001	ND	0.001
1,1,2,2-TETRACHLOROETHANE	1	ND	0.170	ND	0.001	ND	0.001	ND	0.001
1,1,2-TRICHLOROETHANE	1	ND	0.116	ND	0.001	ND	0.001	ND	0.001
1,1-DICHLOROETHANE	10	ND	0.132	ND	0.001	ND	0.001	ND	0.001
1,1-DICHLOROETHENE	10	ND	0.101	ND	0.001	ND	0.001	ND	0.001
1,2-DICHLOROBENZENE	50	ND	0.116	ND	0.001	ND	0.001	ND	0.001
1,2-DICHLOROETHANE	1	ND	0.119	ND	0.001	ND	0.001	ND	0.001
1,2-DICHLOROPROPANE	NA	ND	0.152	ND	0.001	ND	0.001	ND	0.001
1,3-DICHLOROBENZENE	100	ND	0.103	ND	0.001	ND	0.001	ND	0.001
1,4-DICHLOROBENZENE	100	ND	0.098	ND	0.001	ND	0.001	ND	0.001
2-BUTANONE	50	ND	0.506	0.011	0.002	0.003	0.002	ND	0.002
2-CHLOROETHYL VINYL ETHER	NA	ND	0.798	ND	0.003	ND	0.002	ND	0.002
2-HEXANONE	NA	ND	0.517	ND	0.003	ND	0.002	ND	0.002
4-METHYL-2-PENTANONE	50	ND	0.953	ND	0.003	ND	0.002	ND	0.002
ACETONE	100	ND	0.514	0.038	0.003	0.015	0.003	0.008	0.002
ACROLEIN	NA	ND	0.499	ND	0.008	ND	0.007	ND	0.006
ACRYLONITRILE	1	ND	0.780	ND	0.006	ND	0.005	ND	0.005
BENZENE	1	ND	0.093	0.006	0.001	ND	0.001	ND	0.001
BROMODICHLOROMETHANE	1	ND	0.111	ND	0.001	ND	0.001	ND	0.001
BROMOFORM	1	ND	0.165	ND	0.001	ND	0.001	ND	0.001
BROMOMETHANE	1	ND	0.183	ND	0.005	ND	0.004	ND	0.004
CARBON DISULFIDE	NA	ND	0.181	0.011	0.002	0.004	0.002	ND	0.001
CARBON TETRACHLORIDE	1	ND	0.158	ND	0.001	ND	0.001	ND	0.001
CHLOROBENZENE	1	ND	0.251	ND	0.001	ND	0.001	ND	0.001
CHLOROETHANE	NA	ND	0.220	ND	0.001	ND	0.001	ND	0.001
CHLOROFORM	1	ND	0.101	ND	0.001	ND	0.001	ND	0.001
CHLOROMETHANE	10	ND	0.158	ND	0.001	ND	0.001	ND	0.001
CIS-1,2-DICHLOROETHENE	1	ND	0.108	ND	0.001	ND	0.001	ND	0.001
CIS-1,3-DICHLOROPROPENE	NA	ND	0.101	ND	0.001	ND	0.001	ND	0.001
DIBROMOCHLOROMETHANE	1	ND	0.302	ND	0.001	ND	0.001	ND	0.001
ETHYL BENZENE	100	ND	0.090	ND	0.001	ND	0.001	ND	0.001
TOTAL XYLENES	67	ND	0.212	0.003	0.002	ND	0.002	ND	0.002
METHYL TERTIARY BUTYL ETHER	3	ND	0.124	0.002	0.001	ND	0.001	ND	0.001
METHYLENE CHLORIDE	1	ND.	0.137	0.002	0.001	0.002	0.001	0.002	0.001
STYRENE	100	ND	0.083	ND	0.001	ND	0.001	ND	0.001
TERTIARY BUTYL ALCOHOL	NA	ND	1.900	0.020	0.007	ND	0.006	ND	0.005
TETRACHLOROETHENE	1	ND	0.129	ND	0.001	ND	0.001	ND	0.001
TOLUENE	500	ND	0.096	ND	0.001	ND	0.001	ND	0.001
TRANS-1,2-DICHLOROETHENE	50	ND	0.106	ND	0.001	ND	0.001	ND	0.001
TRANS-1,3-DICHLOROPROPENE	NA	ND	0.158	ND	0.001	ND	0.001	ND	0.001
TRICHLOROETHENE	1	ND	0.204	ND	0.001	ND	0.001	ND	0.001
VINYL ACETATE	NA	ND	0.276	ND	0.003	ND	0.002	ND	0.002
VINYL CHLORIDE	10	ND	0.158	ND	0.001	ND	0.001	ND	0.001
TENTATIVELY IDENTIFIED COMPOUND	500	ND	NA	0.024	NA	ND	NA	ND	NA

TABLE 2A
SOIL ANALYTICAL DATA - VOLATILE ORGANIC COMPOUNDS

Former Russo Fuels Ship Bottom Service Station (A/K/A Mr. Big Texaco)
Ship Bottom, New Jersey

Sample ID	NJDEP	B-10A		B-10B		B-11		B-12A	
Sample Depth	IMPACT TO	4.0 - 4.5		10.5 - 11.0		9.5 - 10.0		4.5 - 5.0	
Lab ID:	GROUND WATER	L2412682-12		L2412682-13		L2412682-14		L2412682-15	
Date Sampled:	SOIL CLEANUP	39295		39295		39295		39295	
Matrix:	CRITERIA	Soil		Soil		Soil		Soil	
	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Volatile Organic Compound		Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL
1,1,1-TRICHLOROETHANE	50	ND	0.001	ND	0.001	ND	0.046	ND	0.457
1,1,2,2-TETRACHLOROETHANE	1	ND	0.001	ND	0.001	ND	0.069	ND	0.686
1,1,2-TRICHLOROETHANE	1	ND	0.001	ND	0.001	ND	0.047	ND	0.467
1,1-DICHLOROETHANE	10	ND	0.001	ND	0.001	ND	0.053	ND	0.530
1,1-DICHLOROETHENE	10	ND	0.001	ND	0.001	ND	0.041	ND	0.405
1,2-DICHLOROBENZENE	50	ND	0.001	ND	0.001	ND	0.047	ND	0.467
1,2-DICHLOROETHANE	1	ND	0.001	ND	0.001	ND	0.048	ND	0.478
1,2-DICHLOROPROPANE	NA	ND	0.001	ND	0.001	ND	0.061	ND	0.613
1,3-DICHLOROBENZENE	100	ND	0.001	ND	0.001	ND	0.042	ND	0.416
1,4-DICHLOROBENZENE	100	ND	0.001	ND	0.001	ND	0.040	ND	0.395
2-BUTANONE	50	ND	0.002	0.007	0.002	ND	0.204	ND	2.040
2-CHLOROETHYL VINYL ETHER	NA	ND	0.002	ND	0.002	ND	0.321	ND	3.210
2-HEXANONE	NA	ND	0.002	ND	0.002	ND	0.208	ND	2.080
4-METHYL-2-PENTANONE	50	ND	0.002	ND	0.002	ND	0.384	ND	3.830
ACETONE	100	0.007	0.002	0.024	0.003	0.452	0.207	2.600	2.070
ACROLEIN	NA	ND	0.006	ND	0.006	ND	0.201	ND	2.010
ACRYLONITRILE	1	ND	0.005	ND	0.005	ND	0.314	ND	**3.140**
BENZENE	1	ND	0.001	ND	0.001	ND	0.037	0.551	0.374
BROMODICHLOROMETHANE	1	ND	0.001	ND	0.001	ND	0.045	ND	0.447
BROMOFORM	1	ND	0.001	ND	0.001	ND	0.067	ND	0.665
BROMOMETHANE	1	ND	0.004	ND	0.004	ND	0.074	ND	0.738
CARBON DISULFIDE	NA	ND	0.001	0.003	0.002	ND	0.073	ND	0.727
CARBON TETRACHLORIDE	1	ND	0.001	ND	0.001	ND	0.063	ND	0.634
CHLOROBENZENE	1	ND	0.001	ND	0.001	ND	0.101	ND	**1.010**
CHLOROETHANE	NA	ND	0.001	ND	0.001	ND	0.088	ND	0.883
CHLOROFORM	1	ND	0.001	ND	0.001	ND	0.041	ND	0.405
CHLOROMETHANE	10	ND	0.001	ND	0.001	ND	0.063	ND	0.634
CIS-1,2-DICHLOROETHENE	1	ND	0.001	ND	0.001	ND	0.044	ND	0.436
CIS-1,3-DICHLOROPROPENE	NA	ND	0.001	ND	0.001	ND	0.041	ND	0.405
DIBROMOCHLOROMETHANE	1	ND	0.001	ND	0.001	ND	0.122	ND	**1.220**
ETHYL BENZENE	100	ND	0.001	0.001	0.001	ND	0.036	19.800	0.364
TOTAL XYLENES	67	ND	0.002	ND	0.002	ND	0.085	0.914	0.852
METHYL TERTIARY BUTYL ETHER	3	ND	0.001	ND	0.001	ND	0.050	ND	0.499
METHYLENE CHLORIDE	1	0.001	0.001	0.001	0.001	ND	0.055	ND	0.551
STYRENE	100	ND	0.001	ND	0.001	ND	0.033	ND	0.332
TERTIARY BUTYL ALCOHOL	NA	ND	0.005	ND	0.006	ND	0.765	ND	7.650
TETRACHLOROETHENE	1	ND	0.001	ND	0.001	ND	0.052	ND	0.519
TOLUENE	500	ND	0.001	ND	0.001	ND	0.039	ND	0.384
TRANS-1,2-DICHLOROETHENE	50	ND	0.001	ND	0.001	ND	0.043	ND	0.426
TRANS-1,3-DICHLOROPROPENE	NA	ND	0.001	ND	0.001	ND	0.063	ND	0.634
TRICHLOROETHENE	1	ND	0.001	ND	0.001	ND	0.082	ND	0.821
VINYL ACETATE	NA	ND	0.002	ND	0.002	ND	0.111	ND	1.110
VINYL CHLORIDE	10	ND	0.001	ND	0.001	ND	0.063	ND	0.634
TENTATIVELY IDENTIFIED COMPOUND	500	ND	NA	0.506	NA	23.040	NA	**506.400**	NA

TABLE 2A
SOIL ANALYTICAL DATA - VOLATILE ORGANIC COMPOUNDS

Former Russo Fuels Ship Bottom Service Station (A/K/A Mr. Big Texaco)
Ship Bottom, New Jersey

Sample ID	NJDEP	B-12B		B-13A		B-13B		B-14A	
Sample Depth	IMPACT TO	9.5 - 10.0		6.0 - 6.5		8.0 - 8.5		8.0 - 8.5	
Lab ID:	GROUND WATER	L2412682-16		L2412982-10		L2412982-11		L2412982-12	
Date Sampled:	SOIL CLEANUP	39295		39296		39296		39296	
Matrix:	CRITERIA	Soil		Soil		Soil		Soil	
	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Volatile Organic Compound		Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL
1,1,1-TRICHLOROETHANE	50	ND	0.049	ND	0.050	ND	0.001	ND	1.910
1,1,2,2-TETRACHLOROETHANE	1	ND	0.074	ND	0.075	ND	0.001	ND	**2.860**
1,1,2-TRICHLOROETHANE	1	ND	0.051	ND	0.051	ND	0.001	ND	**1.950**
1,1-DICHLOROETHANE	10	ND	0.057	ND	0.058	ND	0.001	ND	2.210
1,1-DICHLOROETHENE	10	ND	0.044	ND	0.044	ND	0.001	ND	1.690
1,2-DICHLOROBENZENE	50	ND	0.051	ND	0.051	ND	0.001	ND	1.950
1,2-DICHLOROETHANE	1	ND	0.052	ND	0.052	ND	0.001	ND	**1.990**
1,2-DICHLOROPROPANE	NA	ND	0.066	ND	0.067	ND	0.001	ND	2.560
1,3-DICHLOROBENZENE	100	ND	0.045	ND	0.045	ND	0.001	ND	1.730
1,4-DICHLOROBENZENE	100	ND	0.043	ND	0.043	ND	0.001	ND	1.650
2-BUTANONE	50	ND	0.220	ND	0.222	ND	0.002	ND	8.490
2-CHLOROETHYL VINYL ETHER	NA	ND	0.347	ND	0.349	ND	0.002	ND	13.400
2-HEXANONE	NA	ND	0.225	ND	0.226	ND	0.002	ND	8.660
4-METHYL-2-PENTANONE	50	ND	0.415	ND	0.417	ND	0.002	ND	16.000
ACETONE	100	ND	0.224	ND	0.225	0.012	0.003	22.500	8.620
ACROLEIN	NA	ND	0.217	ND	0.218	ND	0.007	ND	8.360
ACRYLONITRILE	1	ND	0.339	ND	0.342	ND	0.005	ND	**13.100**
BENZENE	1	ND	0.041	ND	0.041	ND	0.001	ND	**1.560**
BROMODICHLOROMETHANE	1	ND	0.048	ND	0.049	ND	0.001	ND	**1.860**
BROMOFORM	1	ND	0.072	ND	0.072	ND	0.001	ND	**2.770**
BROMOMETHANE	1	ND	0.080	ND	0.080	ND	0.004	ND	**3.070**
CARBON DISULFIDE	NA	ND	0.079	ND	0.079	ND	0.002	ND	3.030
CARBON TETRACHLORIDE	1	ND	0.069	ND	0.069	ND	0.001	ND	**2.640**
CHLOROBENZENE	1	ND	0.109	ND	0.110	ND	0.001	ND	**4.200**
CHLOROETHANE	NA	ND	0.096	ND	0.096	ND	0.001	ND	3.680
CHLOROFORM	1	ND	0.044	ND	0.044	ND	0.001	ND	**1.690**
CHLOROMETHANE	10	ND	0.069	ND	0.069	ND	0.001	ND	2.640
CIS-1,2-DICHLOROETHENE	1	ND	0.047	ND	0.048	ND	0.001	ND	**1.820**
CIS-1,3-DICHLOROPROPENE	NA	ND	0.044	ND	0.044	ND	0.001	ND	1.690
DIBROMOCHLOROMETHANE	1	ND	0.131	ND	0.132	ND	0.001	ND	**5.070**
ETHYL BENZENE	100	0.161	0.039	ND	0.040	ND	0.001	69.200	1.520
TOTAL XYLENES	67	ND	0.092	0.098	0.093	ND	0.002	**461.000**	3.550
METHYL TERTIARY BUTYL ETHER	3	ND	0.054	ND	0.054	ND	0.001	ND	2.080
METHYLENE CHLORIDE	1	ND	0.060	ND	0.060	0.002	0.001	ND	**2.300**
STYRENE	100	ND	0.036	ND	0.036	ND	0.001	ND	1.390
TERTIARY BUTYL ALCOHOL	NA	ND	0.827	ND	0.832	ND	0.006	ND	31.900
TETRACHLOROETHENE	1	ND	0.056	ND	0.057	ND	0.001	ND	**2.170**
TOLUENE	500	ND	0.042	ND	0.042	ND	0.001	4.370	1.600
TRANS-1,2-DICHLOROETHENE	50	ND	0.046	ND	0.046	ND	0.001	ND	1.780
TRANS-1,3-DICHLOROPROPENE	NA	ND	0.069	ND	0.069	ND	0.001	ND	2.640
TRICHLOROETHENE	1	ND	0.089	ND	0.089	ND	0.001	ND	**3.420**
VINYL ACETATE	NA	ND	0.120	ND	0.121	ND	0.002	ND	4.630
VINYL CHLORIDE	10	ND	0.069	ND	0.069	ND	0.001	ND	2.640
TENTATIVELY IDENTIFIED COMPOUND	500	23.170	NA	0.691	NA	ND	NA	**1119.100**	NA

TABLE 2A
SOIL ANALYTICAL DATA - VOLATILE ORGANIC COMPOUNDS

Former Russo Fuels Ship Bottom Service Station (A/K/A Mr. Big Texaco)
Ship Bottom, New Jersey

Sample ID	NJDEP	B-14B		B-15		B-16A		B-16B	
Sample Depth	IMPACT TO	11.5 - 12.0		8.5 - 9.0		8.5 - 9.0		4.0 - 4.5	
Lab ID:	GROUND WATER	L2412982-13		L2412682-17		L2412682-18		L2412682-19	
Date Sampled:	SOIL CLEANUP	39296		39295		39295		39295	
Matrix:	CRITERIA	Soil		Soil		Soil		Soil	
	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Volatile Organic Compound		Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL
1,1,1-TRICHLOROETHANE	50	ND	0.001	ND	0.001	ND	0.048	ND	0.001
1,1,2,2-TETRACHLOROETHANE	1	ND	0.001	ND	0.001	ND	0.072	ND	0.001
1,1,2-TRICHLOROETHANE	1	ND	0.001	ND	0.001	ND	0.049	ND	0.001
1,1-DICHLOROETHANE	10	ND	0.001	ND	0.001	ND	0.056	ND	0.001
1,1-DICHLOROETHENE	10	ND	0.001	ND	0.001	ND	0.043	ND	0.001
1,2-DICHLOROBENZENE	50	ND	0.001	ND	0.001	ND	0.049	ND	0.001
1,2-DICHLOROETHANE	1	ND	0.001	ND	0.001	ND	0.050	ND	0.001
1,2-DICHLOROPROPANE	NA	ND	0.001	ND	0.001	ND	0.064	ND	0.001
1,3-DICHLOROBENZENE	100	ND	0.001	ND	0.001	ND	0.044	ND	0.001
1,4-DICHLOROBENZENE	100	ND	0.001	ND	0.001	ND	0.041	ND	0.001
2-BUTANONE	50	0.004	0.002	0.004	0.002	ND	0.214	ND	0.002
2-CHLOROETHYL VINYL ETHER	NA	ND	0.002	ND	0.002	ND	0.337	ND	0.002
2-HEXANONE	NA	ND	0.002	ND	0.002	ND	0.218	ND	0.002
4-METHYL-2-PENTANONE	50	ND	0.002	ND	0.002	ND	0.402	ND	0.003
ACETONE	100	0.014	0.003	0.018	0.003	0.390	0.217	ND	0.003
ACROLEIN	NA	ND	0.006	ND	0.007	ND	0.210	ND	0.007
ACRYLONITRILE	1	ND	0.005	ND	0.005	ND	0.329	ND	0.006
BENZENE	1	ND	0.001	ND	0.001	ND	0.039	ND	0.001
BROMODICHLOROMETHANE	1	ND	0.001	ND	0.001	ND	0.047	ND	0.001
BROMOFORM	1	ND	0.001	ND	0.001	ND	0.070	ND	0.001
BROMOMETHANE	1	ND	0.004	ND	0.004	ND	0.077	ND	0.004
CARBON DISULFIDE	NA	0.004	0.002	0.004	0.002	ND	0.076	ND	0.002
CARBON TETRACHLORIDE	1	ND	0.001	ND	0.001	ND	0.067	ND	0.001
CHLOROBENZENE	1	ND	0.001	ND	0.001	ND	0.106	ND	0.001
CHLOROETHANE	NA	ND	0.001	ND	0.001	ND	0.093	ND	0.001
CHLOROFORM	1	0.001	0.001	ND	0.001	ND	0.043	ND	0.001
CHLOROMETHANE	10	ND	0.001	ND	0.001	ND	0.067	ND	0.001
CIS-1,2-DICHLOROETHENE	1	ND	0.001	ND	0.001	ND	0.046	ND	0.001
CIS-1,3-DICHLOROPROPENE	NA	ND	0.001	ND	0.001	ND	0.043	ND	0.001
DIBROMOCHLOROMETHANE	1	ND	0.001	ND	0.001	ND	0.127	ND	0.001
ETHYL BENZENE	100	0.017	0.001	ND	0.001	ND	0.038	ND	0.001
TOTAL XYLENES	67	0.003	0.002	ND	0.002	ND	0.089	ND	0.002
METHYL TERTIARY BUTYL ETHER	3	ND	0.001	ND	0.001	ND	0.052	ND	0.001
METHYLENE CHLORIDE	1	0.002	0.001	0.001	0.001	ND	0.058	ND	0.001
STYRENE	100	ND	0.001	ND	0.001	ND	0.035	ND	0.001
TERTIARY BUTYL ALCOHOL	NA	ND	0.006	ND	0.006	ND	0.802	ND	0.006
TETRACHLOROETHENE	1	ND	0.001	ND	0.001	ND	0.055	ND	0.001
TOLUENE	500	ND	0.001	ND	0.001	ND	0.040	ND	0.001
TRANS-1,2-DICHLOROETHENE	50	ND	0.001	ND	0.001	ND	0.045	ND	0.001
TRANS-1,3-DICHLOROPROPENE	NA	ND	0.001	ND	0.001	ND	0.067	ND	0.001
TRICHLOROETHENE	1	ND	0.001	ND	0.001	ND	0.086	ND	0.001
VINYL ACETATE	NA	ND	0.002	ND	0.002	ND	0.117	ND	0.003
VINYL CHLORIDE	10	ND	0.001	ND	0.001	ND	0.067	ND	0.001
TENTATIVELY IDENTIFIED COMPOUND	500	0.187	NA	ND	NA	11.253	NA	ND	NA

TABLE 2A
SOIL ANALYTICAL DATA - VOLATILE ORGANIC COMPOUNDS

Former Russo Fuels Ship Bottom Service Station (A/K/A Mr. Big Texaco)
Ship Bottom, New Jersey

Sample ID	NJDEP	B-17		B-18		B-24		B-25	
Sample Depth	IMPACT TO	8.5 - 9.0		4.5 - 5.0		3.5 - 4.0		3.5 - 4.0	
Lab ID:	GROUND WATER	L2412682-20		L2412682-21		L2412982-14		L2412982-15	
Date Sampled:	SOIL CLEANUP	39295		39295		39296		39296	
Matrix:	CRITERIA	Soil		Soil		Soil		Soil	
	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Volatile Organic Compound		Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL
1,1,1-TRICHLOROETHANE	50	ND	0.001	ND	0.001	NM	NA	NM	NA
1,1,2,2-TETRACHLOROETHANE	1	ND	0.001	ND	0.001	NM	NA	NM	NA
1,1,2-TRICHLOROETHANE	1	ND	0.001	ND	0.001	NM	NA	NM	NA
1,1-DICHLOROETHANE	10	ND	0.001	ND	0.001	NM	NA	NM	NA
1,1-DICHLOROETHENE	10	ND	0.001	ND	0.001	NM	NA	NM	NA
1,2-DICHLOROBENZENE	50	ND	0.001	ND	0.001	NM	NA	NM	NA
1,2-DICHLOROETHANE	1	ND	0.001	ND	0.001	NM	NA	NM	NA
1,2-DICHLOROPROPANE	NA	ND	0.001	ND	0.001	NM	NA	NM	NA
1,3-DICHLOROBENZENE	100	ND	0.001	ND	0.001	NM	NA	NM	NA
1,4-DICHLOROBENZENE	100	ND	0.001	ND	0.001	NM	NA	NM	NA
2-BUTANONE	50	0.006	0.002	0.004	0.002	NM	NA	NM	NA
2-CHLOROETHYL VINYL ETHER	NA	ND	0.002	ND	0.002	NM	NA	NM	NA
2-HEXANONE	NA	ND	0.002	ND	0.002	NM	NA	NM	NA
4-METHYL-2-PENTANONE	50	ND	0.002	ND	0.002	NM	NA	NM	NA
ACETONE	100	0.031	0.003	0.028	0.003	NM	NA	NM	NA
ACROLEIN	NA	ND	0.006	ND	0.006	NM	NA	NM	NA
ACRYLONITRILE	1	ND	0.005	ND	0.005	NM	NA	NM	NA
BENZENE	1	ND	0.001	ND	0.001	NM	NA	NM	NA
BROMODICHLOROMETHANE	1	ND	0.001	ND	0.001	NM	NA	NM	NA
BROMOFORM	1	ND	0.001	ND	0.001	NM	NA	NM	NA
BROMOMETHANE	1	ND	0.004	ND	0.004	NM	NA	NM	NA
CARBON DISULFIDE	NA	ND	0.002	ND	0.001	NM	NA	NM	NA
CARBON TETRACHLORIDE	1	ND	0.001	ND	0.001	NM	NA	NM	NA
CHLOROBENZENE	1	ND	0.001	ND	0.001	NM	NA	NM	NA
CHLOROETHANE	NA	ND	0.001	ND	0.001	NM	NA	NM	NA
CHLOROFORM	1	ND	0.001	ND	0.001	NM	NA	NM	NA
CHLOROMETHANE	10	ND	0.001	ND	0.001	NM	NA	NM	NA
CIS-1,2-DICHLOROETHENE	1	ND	0.001	ND	0.001	NM	NA	NM	NA
CIS-1,3-DICHLOROPROPENE	NA	ND	0.001	ND	0.001	NM	NA	NM	NA
DIBROMOCHLOROMETHANE	1	ND	0.001	ND	0.001	NM	NA	NM	NA
ETHYL BENZENE	100	ND	0.001	ND	0.001	NM	NA	NM	NA
TOTAL XYLENES	67	ND	0.002	ND	0.002	NM	NA	NM	NA
METHYL TERTIARY BUTYL ETHER	3	ND	0.001	ND	0.001	NM	NA	NM	NA
METHYLENE CHLORIDE	1	0.002	0.001	0.001	0.001	NM	NA	NM	NA
STYRENE	100	ND	0.001	ND	0.001	NM	NA	NM	NA
TERTIARY BUTYL ALCOHOL	NA	ND	0.006	ND	0.005	NM	NA	NM	NA
TETRACHLOROETHENE	1	ND	0.001	ND	0.001	NM	NA	NM	NA
TOLUENE	500	ND	0.001	ND	0.001	NM	NA	NM	NA
TRANS-1,2-DICHLOROETHENE	50	ND	0.001	ND	0.001	NM	NA	NM	NA
TRANS-1,3-DICHLOROPROPENE	NA	ND	0.001	ND	0.001	NM	NA	NM	NA
TRICHLOROETHENE	1	ND	0.001	ND	0.001	NM	NA	NM	NA
VINYL ACETATE	NA	ND	0.002	ND	0.002	NM	NA	NM	NA
VINYL CHLORIDE	10	ND	0.001	ND	0.001	NM	NA	NM	NA
TENTATIVELY IDENTIFIED COMPOUND	500	2.043	NA	ND	NA	NM	NA	NM	NA

TABLE 2A
SOIL ANALYTICAL DATA - VOLATILE ORGANIC COMPOUNDS

Former Russo Fuels Ship Bottom Service Station (A/K/A Mr. Big Texaco)
Ship Bottom, New Jersey

Sample ID	NJDEP	B-26		B-27		B-28		B-29	
Sample Depth	IMPACT TO	3.5 - 4.0		3.5 - 4.0		3.5 = 4.0		4.0 - 4.5	
Lab ID:	GROUND WATER	L2412982-16		L2412982-17		L2412982-18		L2412982-19	
Date Sampled:	SOIL CLEANUP	39296		39296		39296		39296	
Matrix:	CRITERIA	Soil		Soil		Soil		Soil	
	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Volatile Organic Compound		Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL
1,1,1-TRICHLOROETHANE	50	NM	NA	NM	NA	NM	NA	ND	0.001
1,1,2,2-TETRACHLOROETHANE	1	NM	NA	NM	NA	NM	NA	ND	0.001
1,1,2-TRICHLOROETHANE	1	NM	NA	NM	NA	NM	NA	ND	0.001
1,1-DICHLOROETHANE	10	NM	NA	NM	NA	NM	NA	ND	0.001
1,1-DICHLOROETHENE	10	NM	NA	NM	NA	NM	NA	ND	0.001
1,2-DICHLOROBENZENE	50	NM	NA	NM	NA	NM	NA	ND	0.001
1,2-DICHLOROETHANE	1	NM	NA	NM	NA	NM	NA	ND	0.001
1,2-DICHLOROPROPANE	NA	NM	NA	NM	NA	NM	NA	ND	0.001
1,3-DICHLOROBENZENE	100	NM	NA	NM	NA	NM	NA	ND	0.001
1,4-DICHLOROBENZENE	100	NM	NA	NM	NA	NM	NA	ND	0.001
2-BUTANONE	50	NM	NA	NM	NA	NM	NA	0.014	0.002
2-CHLOROETHYL VINYL ETHER	NA	NM	NA	NM	NA	NM	NA	ND	0.002
2-HEXANONE	NA	NM	NA	NM	NA	NM	NA	ND	0.002
4-METHYL-2-PENTANONE	50	NM	NA	NM	NA	NM	NA	ND	0.002
ACETONE	100	NM	NA	NM	NA	NM	NA	0.065	0.003
ACROLEIN	NA	NM	NA	NM	NA	NM	NA	ND	0.007
ACRYLONITRILE	1	NM	NA	NM	NA	NM	NA	ND	0.005
BENZENE	1	NM	NA	NM	NA	NM	NA	ND	0.001
BROMODICHLOROMETHANE	1	NM	NA	NM	NA	NM	NA	ND	0.001
BROMOFORM	1	NM	NA	NM	NA	NM	NA	ND	0.001
BROMOMETHANE	1	NM	NA	NM	NA	NM	NA	ND	0.004
CARBON DISULFIDE	NA	NM	NA	NM	NA	NM	NA	0.002	0.002
CARBON TETRACHLORIDE	1	NM	NA	NM	NA	NM	NA	ND	0.001
CHLOROBENZENE	1	NM	NA	NM	NA	NM	NA	ND	0.001
CHLOROETHANE	NA	NM	NA	NM	NA	NM	NA	ND	0.001
CHLOROFORM	1	NM	NA	NM	NA	NM	NA	ND	0.001
CHLOROMETHANE	10	NM	NA	NM	NA	NM	NA	ND	0.001
CIS-1,2-DICHLOROETHENE	1	NM	NA	NM	NA	NM	NA	ND	0.001
CIS-1,3-DICHLOROPROPENE	NA	NM	NA	NM	NA	NM	NA	ND	0.001
DIBROMOCHLOROMETHANE	1	NM	NA	NM	NA	NM	NA	ND	0.001
ETHYL BENZENE	100	NM	NA	NM	NA	NM	NA	0.005	0.001
TOTAL XYLENES	67	NM	NA	NM	NA	NM	NA	0.025	0.002
METHYL TERTIARY BUTYL ETHER	3	NM	NA	NM	NA	NM	NA	ND	0.001
METHYLENE CHLORIDE	1	NM	NA	NM	NA	NM	NA	0.002	0.001
STYRENE	100	NM	NA	NM	NA	NM	NA	ND	0.001
TERTIARY BUTYL ALCOHOL	NA	NM	NA	NM	NA	NM	NA	ND	0.006
TETRACHLOROETHENE	1	NM	NA	NM	NA	NM	NA	ND	0.001
TOLUENE	500	NM	NA	NM	NA	NM	NA	0.003	0.001
TRANS-1,2-DICHLOROETHENE	50	NM	NA	NM	NA	NM	NA	ND	0.001
TRANS-1,3-DICHLOROPROPENE	NA	NM	NA	NM	NA	NM	NA	ND	0.001
TRICHLOROETHENE	1	NM	NA	NM	NA	NM	NA	ND	0.001
VINYL ACETATE	NA	NM	NA	NM	NA	NM	NA	ND	0.002
VINYL CHLORIDE	10	NM	NA	NM	NA	NM	NA	ND	0.001
TENTATIVELY IDENTIFIED COMPOUND	500	NM	NA	NM	NA	NM	NA	0.170	NA

TABLE 2A
SOIL ANALYTICAL DATA - VOLATILE ORGANIC COMPOUNDS

Former Russo Fuels Ship Bottom Service Station (A/K/A Mr. Big Texaco)
Ship Bottom, New Jersey

Sample ID	NJDEP	B-30		B-31A		B-31B		B-32	
Sample Depth	IMPACT TO	4.0 - 4.5		3.5 - 4.0		7.5 - 8.0		4.0 - 4.5	
Lab ID:	GROUND WATER	L2412982-20		L2412982-21		L2412982-22		L2412982-23	
Date Sampled:	SOIL CLEANUP	39296		39296		39296		39296	
Matrix:	CRITERIA	Soil		Soil		Soil		Soil	
	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Volatile Organic Compound		Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL
1,1,1-TRICHLOROETHANE	50	ND	0.001	ND	0.001	ND	0.001	ND	0.002
1,1,2,2-TETRACHLOROETHANE	1	ND	0.001	ND	0.001	ND	0.001	ND	0.002
1,1,2-TRICHLOROETHANE	1	ND	0.001	ND	0.001	ND	0.001	ND	0.002
1,1-DICHLOROETHANE	10	ND	0.001	ND	0.001	ND	0.001	ND	0.002
1,1-DICHLOROETHENE	10	ND	0.001	ND	0.001	ND	0.001	ND	0.001
1,2-DICHLOROBENZENE	50	ND	0.001	ND	0.001	ND	0.001	ND	0.002
1,2-DICHLOROETHANE	1	ND	0.001	ND	0.001	ND	0.001	ND	0.002
1,2-DICHLOROPROPANE	NA	ND	0.001	ND	0.001	ND	0.001	ND	0.001
1,3-DICHLOROBENZENE	100	ND	0.001	ND	0.001	ND	0.001	ND	0.002
1,4-DICHLOROBENZENE	100	ND	0.001	ND	0.001	ND	0.001	ND	0.002
2-BUTANONE	50	0.002	0.002	0.006	0.002	ND	0.002	ND	0.003
2-CHLOROETHYL VINYL ETHER	NA	ND	0.002	ND	0.002	ND	0.002	ND	0.004
2-HEXANONE	NA	ND	0.002	ND	0.002	ND	0.002	ND	0.004
4-METHYL-2-PENTANONE	50	ND	0.002	ND	0.003	ND	0.003	ND	0.004
ACETONE	100	0.013	0.003	0.019	0.003	0.007	0.003	0.021	0.005
ACROLEIN	NA	ND	0.006	ND	0.007	ND	0.007	ND	0.011
ACRYLONITRILE	1	ND	0.005	ND	0.005	ND	0.006	ND	0.009
BENZENE	1	ND	0.001	ND	0.001	ND	0.001	ND	0.002
BROMODICHLOROMETHANE	1	ND	0.001	ND	0.001	ND	0.001	ND	0.001
BROMOFORM	1	ND	0.001	ND	0.001	ND	0.001	ND	0.001
BROMOMETHANE	1	ND	0.004	ND	0.004	ND	0.004	ND	0.007
CARBON DISULFIDE	NA	0.002	0.002	ND	0.002	0.005	0.002	ND	0.003
CARBON TETRACHLORIDE	1	ND	0.001	ND	0.001	ND	0.001	ND	0.002
CHLOROBENZENE	1	ND	0.001	ND	0.001	ND	0.001	ND	0.002
CHLOROETHANE	NA	ND	0.001	ND	0.001	ND	0.001	ND	0.002
CHLOROFORM	1	0.001	0.001	ND	0.001	ND	0.001	0.002	0.001
CHLOROMETHANE	10	ND	0.001	ND	0.001	ND	0.001	ND	0.001
CIS-1,2-DICHLOROETHENE	1	ND	0.001	ND	0.001	ND	0.001	ND	0.002
CIS-1,3-DICHLOROPROPENE	NA	ND	0.001	ND	0.001	ND	0.001	ND	0.002
DIBROMOCHLOROMETHANE	1	ND	0.001	ND	0.001	ND	0.001	ND	0.002
ETHYL BENZENE	100	ND	0.001	ND	0.001	ND	0.001	ND	0.001
TOTAL XYLENES	67	ND	0.002	ND	0.002	ND	0.002	ND	0.003
METHYL TERTIARY BUTYL ETHER	3	ND	0.001	ND	0.001	0.001	0.001	ND	0.002
METHYLENE CHLORIDE	1	0.003	0.001	0.002	0.001	ND	0.001	0.004	0.002
STYRENE	100	ND	0.001	ND	0.001	ND	0.001	ND	0.002
TERTIARY BUTYL ALCOHOL	NA	ND	0.006	ND	0.006	0.017	0.006	ND	0.010
TETRACHLOROETHENE	1	ND	0.001	ND	0.001	ND	0.001	ND	0.001
TOLUENE	500	ND	0.001	ND	0.001	ND	0.001	ND	0.002
TRANS-1,2-DICHLOROETHENE	50	ND	0.001	ND	0.001	ND	0.001	ND	0.001
TRANS-1,3-DICHLOROPROPENE	NA	ND	0.001	ND	0.001	ND	0.001	ND	0.002
TRICHLOROETHENE	1	ND	0.001	ND	0.001	ND	0.001	ND	0.002
VINYL ACETATE	NA	ND	0.002	ND	0.003	ND	0.003	ND	0.004
VINYL CHLORIDE	10	ND	0.001	ND	0.001	ND	0.001	ND	0.001
TENTATIVELY IDENTIFIED COMPOUND	500	ND	NA	1.118	NA	0.006	NA	0.806	NA

TABLE 2A
SOIL ANALYTICAL DATA - VOLATILE ORGANIC COMPOUNDS

Former Russo Fuels Ship Bottom Service Station (A/K/A Mr. Big Texaco)
Ship Bottom, New Jersey

Sample ID	NJDEP	B-33		B-33 DUP		B-34		PE-1	
Sample Depth	IMPACT TO	4.0 - 4.5		4.0 - 4.5		3.5 - 4.0		6.0 - 6.5	
Lab ID:	GROUND WATER	L2412982-24		L2412982-25		L2441096-1		L2550758-1	
Date Sampled:	SOIL CLEANUP	39296		39296		39332		1/23/2008	
Matrix:	CRITERIA	Soil		Soil		Soil		Soil	
	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	ug/kg	ug/kg
Volatile Organic Compound		Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL
1,1,1-TRICHLOROETHANE	50	ND	0.001	ND	0.001	ND	0.036	ND	1.45
1,1,2,2-TETRACHLOROETHANE	1	ND	0.001	ND	0.001	ND	0.029	ND	1.9
1,1,2-TRICHLOROETHANE	1	ND	0.001	ND	0.001	ND	0.035	ND	1.57
1,1-DICHLOROETHANE	10	ND	0.001	ND	0.001	ND	0.037	ND	1.44
1,1-DICHLOROETHENE	10	ND	0.001	ND	0.001	ND	0.030	ND	1.3
1,2-DICHLOROBENZENE	50	ND	0.001	ND	0.001	ND	0.037	ND	1.52
1,2-DICHLOROETHANE	1	ND	0.001	ND	0.001	ND	0.023	ND	1.47
1,2-DICHLOROPROPANE	NA	ND	0.001	ND	0.001	ND	0.041	ND	1.17
1,3-DICHLOROBENZENE	100	ND	0.001	ND	0.001	ND	0.037	ND	1.5
1,4-DICHLOROBENZENE	100	ND	0.001	ND	0.001	ND	0.025	ND	1.55
2-BUTANONE	50	ND	0.002	ND	0.002	ND	0.115	16.4	3.17
2-CHLOROETHYL VINYL ETHER	NA	ND	0.003	ND	0.003	ND	0.157	ND	3.42
2-HEXANONE	NA	ND	0.002	ND	0.002	ND	0.056	ND	3.25
4-METHYL-2-PENTANONE	50	ND	0.003	ND	0.003	ND	0.077	ND	3.65
ACETONE	100	0.013	0.003	0.019	0.003	ND	0.155	75.9	4.23
ACROLEIN	NA	ND	0.007	ND	0.007	ND	0.194	ND	10.1
ACRYLONITRILE	1	ND	0.006	ND	0.006	ND	0.209	ND	7.93
BENZENE	1	ND	0.001	ND	0.001	ND	0.038	ND	1.45
BROMODICHLOROMETHANE	1	ND	0.001	ND	0.001	ND	0.029	ND	1.27
BROMOFORM	1	ND	0.001	ND	0.001	ND	0.077	ND	1.37
BROMOMETHANE	1	ND	0.005	ND	0.004	ND	0.725	ND	6.13
CARBON DISULFIDE	NA	0.003	0.002	ND	0.002	ND	0.102	4.61	2.46
CARBON TETRACHLORIDE	1	ND	0.001	ND	0.001	ND	0.044	ND	1.6
CHLOROBENZENE	1	ND	0.001	ND	0.001	ND	0.046	ND	1.5
CHLOROETHANE	NA	ND	0.001	ND	0.001	ND	0.121	ND	1.5
CHLOROFORM	1	ND	0.001	ND	0.001	0.276	0.056	ND	0.89
CHLOROMETHANE	10	ND	0.001	ND	0.001	ND	0.058	ND	1.24
CIS-1,2-DICHLOROETHENE	1	ND	0.001	ND	0.001	ND	0.033	ND	1.4
CIS-1,3-DICHLOROPROPENE	NA	ND	0.001	ND	0.001	ND	0.026	ND	1.47
DIBROMOCHLOROMETHANE	1	ND	0.001	ND	0.001	ND	0.027	ND	1.73
ETHYL BENZENE	100	ND	0.001	ND	0.001	ND	0.073	ND	1.32
TOTAL XYLENES	67	ND	0.002	ND	0.003	ND	0.042	6.77	4.44
METHYL TERTIARY BUTYL ETHER	3	ND	0.001	ND	0.001	ND	0.031	12.5	1.5
METHYLENE CHLORIDE	1	0.003	0.001	0.002	0.001	ND	0.071	ND	1.65
STYRENE	100	ND	0.001	ND	0.001	ND	0.023	ND	1.52
TERTIARY BUTYL ALCOHOL	NA	ND	0.007	ND	0.007	ND	0.665	44.4	9.13
TETRACHLOROETHENE	1	ND	0.001	ND	0.001	ND	0.034	ND	1.21
TOLUENE	500	ND	0.001	ND	0.001	ND	0.041	ND	1.39
TRANS-1,2-DICHLOROETHENE	50	ND	0.001	ND	0.001	ND	0.038	ND	1.27
TRANS-1,3-DICHLOROPROPENE	NA	ND	0.001	ND	0.001	ND	0.025	ND	1.64
TRICHLOROETHENE	1	ND	0.001	ND	0.001	ND	0.037	ND	1.42
VINYL ACETATE	NA	ND	0.003	ND	0.003	ND	0.065	ND	3.62
VINYL CHLORIDE	10	ND	0.001	ND	0.001	ND	0.058	ND	1.37
TENTATIVELY IDENTIFIED COMPOUND	500	0.006	NA	0.082	NA	ND	NA	303.8	NA

TABLE 2A
SOIL ANALYTICAL DATA - VOLATILE ORGANIC COMPOUNDS

Former Russo Fuels Ship Bottom Service Station (A/K/A Mr. Big Texaco)
Ship Bottom, New Jersey

Sample ID	NJDEP	PE-2		PE-3		PE-4		PE-6	
Sample Depth	IMPACT TO	6.0 - 6.5		6.0 - 6.5		6.0 - 6.5		8.0	
Lab ID:	GROUND WATER	L2550758-2		L2550758-3		L2550758-4		L2602356-1	
Date Sampled:	SOIL CLEANUP	1/23/2008		1/23/2008		1/23/2008		3/27/2008	
Matrix:	CRITERIA	Soil		Soil		Soil		Soil	
	mg/Kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Volatile Organic Compound		Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL
1,1,1-TRICHLOROETHANE	50	ND	0.98	ND	1.4	ND	1.05	ND	1.16
1,1,2,2-TETRACHLOROETHANE	1	ND	1.28	ND	1.83	ND	1.38	ND	1.51
1,1,2-TRICHLOROETHANE	1	ND	1.06	ND	1.51	ND	1.14	ND	1.25
1,1-DICHLOROETHANE	10	ND	0.97	ND	1.38	ND	1.04	ND	1.14
1,1-DICHLOROETHENE	10	ND	0.88	ND	1.26	ND	0.95	ND	1.04
1,2-DICHLOROBENZENE	50	ND	1.02	ND	1.46	ND	1.1	ND	1.21
1,2-DICHLOROETHANE	1	ND	0.99	ND	1.41	ND	1.07	ND	1.17
1,2-DICHLOROPROPANE	NA	ND	0.79	ND	1.13	ND	0.85	ND	0.93
1,3-DICHLOROBENZENE	100	ND	1.01	ND	1.45	ND	1.09	ND	1.2
1,4-DICHLOROBENZENE	100	ND	1.05	ND	1.49	ND	1.12	ND	1.24
2-BUTANONE	50	ND	2.13	ND	3.05	ND	2.3	ND	2.53
2-CHLOROETHYL VINYL ETHER	NA	ND	2.3	ND	3.29	ND	2.48	ND	2.72
2-HEXANONE	NA	ND	2.19	ND	3.13	ND	2.36	ND	2.59
4-METHYL-2-PENTANONE	50	ND	2.46	ND	3.51	ND	2.64	ND	2.91
ACETONE	100	7.46	2.85	23.3	4.07	11	3.06	18.7	4.84
ACROLEIN	NA	ND	6.77	ND	9.68	ND	7.29	ND	8.01
ACRYLONITRILE	1	ND	5.34	ND	7.63	ND	5.74	ND	6.31
BENZENE	1	ND	0.98	ND	1.4	ND	1.05	ND	1.16
BROMODICHLOROMETHANE	1	ND	0.86	ND	1.22	ND	0.92	ND	1.01
BROMOFORM	1	ND	0.92	ND	1.32	ND	0.99	ND	1.09
BROMOMETHANE	1	ND	4.13	ND	5.9	ND	4.44	ND	4.88
CARBON DISULFIDE	NA	1.8	1.66	3.39	2.37	5	1.78	9.46 J	1.96
CARBON TETRACHLORIDE	1	ND	1.08	ND	1.54	ND	1.16	ND	1.28
CHLOROBENZENE	1	ND	1.01	ND	1.45	ND	1.09	ND	1.2
CHLOROETHANE	NA	ND	1.01	ND	1.45	ND	1.09	ND	2.13
CHLOROFORM	1	ND	0.6	ND	0.86	ND	0.65	ND	0.89
CHLOROMETHANE	10	ND	0.83	ND	1.19	ND	0.9	ND	0.99
CIS-1,2-DICHLOROETHENE	1	ND	0.95	ND	1.35	ND	1.02	ND	1.12
CIS-1,3-DICHLOROPROPENE	NA	ND	0.99	ND	1.41	ND	1.07	ND	1.17
DIBROMOCHLOROMETHANE	1	ND	1.17	ND	1.67	ND	1.26	ND	1.38
ETHYL BENZENE	100	ND	0.89	ND	1.27	3.02	0.96	ND	1.05
TOTAL XYLENES	67	2.54	3.00	4.61	4.28	2.47	3.22	ND	
METHYL TERTIARY BUTYL ETHER	3	ND	1.01	2.89	1.45	3.17	1.09	ND	1.2
METHYLENE CHLORIDE	1	2.03	1.11	2.46	1.59	2.31	1.2	7.09	1.59
STYRENE	100	ND	1.02	ND	1.46	ND	1.1	ND	1.21
TERTIARY BUTYL ALCOHOL	NA	ND	6.15	66.5	8.79	ND	6.62	ND	9.55
TETRACHLOROETHENE	1	ND	0.81	ND	1.16	ND	0.87	ND	0.96
TOLUENE	500	ND	0.93	4.93	1.34	ND	1.01	ND	1.1
TRANS-1,2-DICHLOROETHENE	50	ND	0.86	ND	1.22	ND	0.92	ND	1.01
TRANS-1,3-DICHLOROPROPENE	NA	ND	1.1	ND	1.57	ND	1.18	ND	1.3
TRICHLOROETHENE	1	ND	0.96	ND	1.37	ND	1.03	ND	1.13
VINYL ACETATE	NA	ND	2.43	ND	3.48	ND	2.62	ND	2.88
VINYL CHLORIDE	10	ND	0.92	ND	1.32	ND	0.99	ND	1.09
TENTATIVELY IDENTIFIED COMPOUND	500	677.4	NA	106.3	NA	92.83	NA	ND	NA

TABLE 2A
SOIL ANALYTICAL DATA - VOLATILE ORGANIC COMPOUNDS

Former Russo Fuels Ship Bottom Service Station (A/K/A Mr. Big Texaco)
Ship Bottom, New Jersey

Sample ID	NJDEP	PE-7		PE-8		PE-9		PE-10		PE-11	
Sample Depth	IMPACT TO	8.0		7.5		7.5		8.0		8.0	
Lab ID:	GROUND WATER	L2602356-2		L2602356-3		L2602356-4		L2602356-5		L2602356-6	
Date Sampled:	SOIL CLEANUP	3/27/2008		3/27/2008		3/27/2008		3/27/2008		3/27/2008	
Matrix:	CRITERIA	Soil		Soil		Soil		Soil		Soil	
	mg/Kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Volatile Organic Compound		Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL
1,1,1-TRICHLOROETHANE	50	ND	1.08	ND	2.2	ND	1.1	ND	1.04	ND	1
1,1,2,2-TETRACHLOROETHANE	1	ND	1.41	ND	2.87	ND	1.43	ND	1.36	ND	1.31
1,1,2-TRICHLOROETHANE	1	ND	1.16	ND	2.37	ND	1.18	ND	1.12	ND	1.08
1,1-DICHLOROETHANE	10	ND	1.07	ND	2.17	ND	1.08	ND	1.03	ND	0.99
1,1-DICHLOROETHENE	10	ND	0.97	ND	1.97	ND	0.99	ND	0.94	ND	0.9
1,2-DICHLOROBENZENE	50	ND	1.13	ND	2.3	ND	1.15	ND	1.09	ND	1.05
1,2-DICHLOROETHANE	1	ND	1.09	ND	2.22	ND	1.11	ND	1.05	ND	1.02
1,2-DICHLOROPROPANE	NA	ND	0.87	ND	1.77	ND	0.89	ND	0.84	ND	0.81
1,3-DICHLOROBENZENE	100	ND	1.11	ND	2.27	ND	1.13	ND	1.08	ND	1.04
1,4-DICHLOROBENZENE	100	ND	1.15	ND	2.35	ND	1.17	ND	1.11	ND	1.07
2-BUTANONE	50	6.05 J	2.35	40.8	4.79	ND	2.39	ND	2.27	ND	2.19
2-CHLOROETHYL VINYL ETHER	NA	ND	2.54	ND	5.17	ND	2.58	ND	2.45	ND	2.36
2-HEXANONE	NA	ND	2.41	ND	4.92	ND	2.46	ND	2.33	ND	2.25
4-METHYL-2-PENTANONE	50	ND	2.71	ND	5.52	ND	2.75	ND	2.62	ND	2.52
ACETONE	100	34	4.51	136	9.19	20.8	4.59	12.5	4.36	48.7	4.2
ACROLEIN	NA	ND	7.46	ND	15.2	ND	7.59	ND	7.21	ND	6.95
ACRYLONITRILE	1	ND	5.88	ND	12	ND	5.98	ND	5.68	ND	5.47
BENZENE	1	ND	1.08	ND	2.2	ND	1.1	ND	1.04	51.8	1
BROMODICHLOROMETHANE	1	ND	0.94	ND	1.92	ND	0.96	ND	0.91	ND	0.88
BROMOFORM	1	ND	1.02	ND	2.07	ND	1.03	ND	0.98	ND	0.95
BROMOMETHANE	1	ND	4.55	ND	9.26	ND	4.62	ND	4.39	ND	4.23
CARBON DISULFIDE	NA	13.3	1.83	19.0 J	3.72	23.4	1.86	8.60 J	1.76	2.16 J	1.7
CARBON TETRACHLORIDE	1	ND	1.19	ND	2.42	ND	1.21	ND	1.15	ND	1.11
CHLOROBENZENE	1	ND	1.11	ND	2.27	ND	1.13	ND	1.08	ND	1.04
CHLOROETHANE	NA	ND	1.98	ND	4.05	ND	2.02	ND	1.92	ND	1.85
CHLOROFORM	1	ND	0.83	ND	1.7	ND	0.85	ND	0.81	ND	0.78
CHLOROMETHANE	10	ND	0.92	ND	1.87	ND	0.94	ND	0.89	ND	0.86
CIS-1,2-DICHLOROETHENE	1	ND	1.04	ND	2.12	ND	1.06	ND	1.01	ND	0.97
CIS-1,3-DICHLOROPROPENE	NA	ND	1.09	ND	2.22	ND	1.11	ND	1.05	ND	1.02
DIBROMOCHLOROMETHANE	1	ND	1.29	ND	2.62	ND	1.31	ND	1.24	ND	1.2
ETHYL BENZENE	100	ND	0.98	ND	2	ND	1	ND	0.95	112	0.91
TOTAL XYLENES	67	ND		96.85 J		ND		ND		4.38 J	
METHYL TERTIARY BUTYL ETHER	3	ND	1.11	ND	2.27	ND	1.13	ND	1.08	ND	1.04
METHYLENE CHLORIDE	1	5.18 J	1.48	6.64 J	3.02	5.97 J	1.51	5.65 J	1.43	5.18 J	1.38
STYRENE	100	ND	1.13	ND	2.3	ND	1.15	ND	1.09	ND	1.05
TERTIARY BUTYL ALCOHOL	NA	ND	8.9	ND	18.1	ND	9.05	ND	8.6	ND	8.28
TETRACHLOROETHENE	1	ND	0.89	ND	1.82	ND	0.91	ND	0.86	ND	0.83
TOLUENE	500	ND	1.03	ND	2.1	ND	1.05	ND	1	ND	0.96
TRANS-1,2-DICHLOROETHENE	50	ND	0.94	ND	1.92	ND	0.96	ND	0.91	ND	0.88
TRANS-1,3-DICHLOROPROPENE	NA	ND	1.21	ND	2.47	ND	1.23	ND	1.17	ND	1.13
TRICHLOROETHENE	1	ND	1.05	ND	2.15	ND	1.07	ND	1.02	ND	0.98
VINYL ACETATE	NA	ND	2.68	ND	5.47	ND	2.73	ND	2.59	ND	2.5
VINYL CHLORIDE	10	ND	1.02	ND	2.07	ND	1.03	ND	0.98	ND	0.95
TENTATIVELY IDENTIFIED COMPOUND	500	ND	NA	587.6	NA	ND	NA	ND	NA	2544	NA

TABLE 2A
SOIL ANALYTICAL DATA - VOLATILE ORGANIC COMPOUNDS

Former Russo Fuels Ship Bottom Service Station (A/K/A Mr. Big Texaco)
Ship Bottom, New Jersey

Sample ID	NJDEP	PE-12		PE-13		PE-14		PE-15	
Sample Depth	IMPACT TO	8.5		8.5		12.0		12.0	
Lab ID:	GROUND WATER	L2602356-7		L2602356-8		L2602356-9		L2602356-10	
Date Sampled:	SOIL CLEANUP	3/27/2008		3/27/2008		3/27/2008		3/27/2008	
Matrix:	CRITERIA	Soil		Soil		Soil		Soil	
	mg/Kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Volatile Organic Compound		Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL
1,1,1-TRICHLOROETHANE	50	ND	1.04	ND	1.95	ND	1.05	ND	1.02
1,1,2,2-TETRACHLOROETHANE	1	ND	1.36	ND	2.55	ND	1.37	ND	1.33
1,1,2-TRICHLOROETHANE	1	ND	1.12	ND	2.11	ND	1.13	ND	1.1
1,1-DICHLOROETHANE	10	ND	1.03	ND	1.93	ND	1.04	ND	1.01
1,1-DICHLOROETHENE	10	ND	0.93	ND	1.75	ND	0.94	ND	0.92
1,2-DICHLOROBENZENE	50	ND	1.09	ND	2.04	ND	1.1	ND	1.07
1,2-DICHLOROETHANE	1	ND	1.05	ND	1.98	ND	1.06	ND	1.03
1,2-DICHLOROPROPANE	NA	ND	0.84	ND	1.58	ND	0.85	ND	0.82
1,3-DICHLOROBENZENE	100	ND	1.08	ND	2.02	ND	1.08	ND	1.05
1,4-DICHLOROBENZENE	100	ND	1.11	ND	2.09	ND	1.12	ND	1.09
2-BUTANONE	50	ND	2.27	ND	4.26	ND	2.29	4.21 J	2.22
2-CHLOROETHYL VINYL ETHER	NA	ND	2.45	ND	4.6	ND	2.47	ND	2.4
2-HEXANONE	NA	ND	2.33	ND	4.38	ND	2.35	ND	2.28
4-METHYL-2-PENTANONE	50	ND	2.61	ND	4.91	ND	2.63	ND	2.56
ACETONE	100	7.42 J	4.35	87.3	8.17	11.0 J	4.38	19.5	4.26
ACROLEIN	NA	ND	7.2	ND	13.5	ND	7.25	ND	7.06
ACRYLONITRILE	1	ND	5.67	ND	10.7	ND	5.72	ND	5.56
BENZENE	1	ND	1.04	3.73 J	1.95	ND	1.05	ND	1.02
BROMODICHLOROMETHANE	1	ND	0.91	ND	1.71	ND	0.92	ND	0.89
BROMOFORM	1	ND	0.98	ND	1.84	ND	0.99	ND	0.96
BROMOMETHANE	1	ND	4.39	ND	8.24	ND	4.42	ND	4.3
CARBON DISULFIDE	NA	ND	1.76	23.1	3.31	8.29 J	1.77	4.29 J	1.73
CARBON TETRACHLORIDE	1	ND	1.15	ND	2.15	ND	1.16	ND	1.12
CHLOROBENZENE	1	ND	1.08	ND	2.02	ND	1.08	ND	1.05
CHLOROETHANE	NA	ND	1.92	ND	3.6	ND	1.93	ND	1.88
CHLOROFORM	1	ND	0.8	ND	1.51	ND	0.81	ND	0.79
CHLOROMETHANE	10	ND	0.89	ND	1.67	ND	0.89	ND	0.87
CIS-1,2-DICHLOROETHENE	1	ND	1	ND	1.89	ND	1.01	ND	0.99
CIS-1,3-DICHLOROPROPENE	NA	ND	1.05	ND	1.98	ND	1.06	ND	1.03
DIBROMOCHLOROMETHANE	1	ND	1.24	ND	2.33	ND	1.25	ND	1.22
ETHYL BENZENE	100	3.07 J	0.95	24.2	1.78	26.7	0.95	2.97 J	0.93
TOTAL XYLENES	67	9.22 J		42.83		98.8		6.26 J	
METHYL TERTIARY BUTYL ETHER	3	ND	1.08	7.62 J	2.02	ND	1.08	ND	1.05
METHYLENE CHLORIDE	1	6.15	1.43	8.48 J	2.69	4.70 J	1.44	5.91	1.4
STYRENE	100	ND	1.09	ND	2.04	ND	1.1	ND	1.07
TERTIARY BUTYL ALCOHOL	NA	ND	8.58	83.1 J	16.1	ND	8.65	ND	8.41
TETRACHLOROETHENE	1	ND	0.86	ND	1.62	ND	0.87	ND	0.85
TOLUENE	500	ND	0.99	7.08 J	1.87	ND	1	ND	0.97
TRANS-1,2-DICHLOROETHENE	50	ND	0.91	ND	1.71	ND	0.92	ND	0.89
TRANS-1,3-DICHLOROPROPENE	NA	ND	1.17	ND	2.2	ND	1.18	ND	1.15
TRICHLOROETHENE	1	ND	1.02	ND	1.91	ND	1.02	ND	1
VINYL ACETATE	NA	ND	2.59	ND	4.86	ND	2.61	ND	2.54
VINYL CHLORIDE	10	ND	0.98	ND	1.84	ND	0.99	ND	0.96
TENTATIVELY IDENTIFIED COMPOUND	500	340.9	NA	660.8	NA	9.47	NA	213.4	NA

TABLE 2B
SOIL ANALYTICAL DATA - SEMI-VOLATILE ORGANIC COMPOUNDS

Former Russo Fuels Ship Bottom Service Station (A/K/A Mr. Big Texaco)
Ship Bottom, New Jersey

Sample ID	NJDEP	B-1		B-1 DUP		B-2		B-3		B-4	
Sample Depth	IMPACT TO	3.0 - 3.5		3.0 - 3.5		4.0 - 4.5		4.0 - 4.5		4.0 - 4.5	
Lab ID:	GROUND WATER	L2412682-9		L2412682-10		L2412682-11		L2412982-1		L2412982-2	
Date Sampled:	SOIL CLEANUP	39295		39295		39295		39296		39296	
Matrix:	CRITERIA	Soil		Soil		Soil		Soil		Soil	
	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Semivolatile Organic Compound		Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL
1,2,4-TRICHLOROBENZENE	100	ND	0.063	ND	0.215	ND	0.064	ND	0.063	ND	0.064
1,2-DICHLOROBENZENE	NA	ND	0.057	ND	0.197	ND	0.059	ND	0.058	ND	0.058
1,2-DIPHENYLHYDRAZINE	NA	ND	0.061	ND	0.209	ND	0.062	ND	0.062	ND	0.062
1,3-DICHLOROBENZENE	100	ND	0.052	ND	0.178	ND	0.053	ND	0.053	ND	0.053
1,4-DICHLOROBENZENE	100	ND	0.063	ND	0.216	ND	0.064	ND	0.063	ND	0.064
2,4-DINITROTOLUENE	10	ND	0.058	ND	0.200	ND	0.059	ND	0.059	ND	0.059
2,6-DINITROTOLUENE	10	ND	0.067	ND	0.229	ND	0.068	ND	0.067	ND	0.068
2-CHLORONAPHTHALENE	NA	ND	0.051	ND	0.175	ND	0.052	ND	0.052	ND	0.052
2-METHYLNAPHTHALENE	NA	ND	0.061	ND	0.208	ND	0.062	ND	0.061	ND	0.061
2-NITROANILINE	NA	ND	0.058	ND	0.200	ND	0.060	ND	0.059	ND	0.059
3,3'-DICHLOROBENZIDINE	100	ND	0.483	ND	1.650	ND	0.492	ND	0.487	ND	0.489
3-NITROANILINE	NA	ND	0.062	ND	0.212	ND	0.063	ND	0.062	ND	0.063
4-BROMOPHENYL-PHENYLETHER	NA	ND	0.060	ND	0.206	ND	0.061	ND	0.061	ND	0.061
4-CHLOROANILINE	NA	ND	0.069	ND	0.237	ND	0.071	ND	0.070	ND	0.070
4-CHLOROPHENYL-PHENYLETHER	NA	ND	0.058	ND	0.199	ND	0.059	ND	0.059	ND	0.059
4-NITROANILINE	NA	ND	0.090	ND	0.308	ND	0.092	ND	0.091	ND	0.091
ACENAPHTHENE	100	ND	0.060	ND	0.205	ND	0.061	ND	0.060	ND	0.061
ACENAPHTHYLENE	NA	ND	0.066	ND	0.226	ND	0.067	ND	0.067	ND	0.067
ANTHRACENE	100	ND	0.060	ND	0.204	ND	0.061	ND	0.060	ND	0.060
BENZIDINE	NA	ND	0.530	ND	1.820	ND	0.540	ND	0.534	ND	0.536
BENZO(A)ANTHRACENE	500	ND	0.066	ND	0.227	ND	0.068	ND	0.067	ND	0.067
BENZO(A)PYRENE	100	ND	0.053	ND	0.182	ND	0.054	ND	0.053	ND	0.054
BENZO(B)FLUORANTHENE	50	ND	0.070	ND	0.241	ND	0.072	ND	0.071	ND	0.071
BENZO(G,H,I)PERYLENE	NA	ND	0.049	ND	0.168	ND	0.050	ND	0.049	ND	0.050
BENZO(K)FLUORANTHENE	500	ND	0.061	ND	0.208	ND	0.062	ND	0.061	ND	0.062
BENZOIC ACID	NA	ND	0.686	ND	2.350	ND	0.699	ND	0.692	ND	0.695
BENZYL ALCOHOL	50	ND	0.054	ND	0.184	ND	0.055	ND	0.054	ND	0.054
BIS(2-CHLOROETHOXY)METHANE	NA	ND	0.066	ND	0.225	ND	0.067	ND	0.066	ND	0.067
BIS(2-CHLOROETHYL)ETHER	NA	ND	0.060	ND	0.206	ND	0.061	ND	0.061	ND	0.061
BIS(2-CHLOROISOPROPYL)ETHER	NA	ND	0.052	ND	0.177	ND	0.053	ND	0.052	ND	0.052
BIS(2-ETHYLHEXYL)PHTHALATE	NA	ND	0.061	ND	0.208	ND	0.062	ND	0.061	ND	0.062
BUTYLBENZYLPHTHALATE	NA	ND	0.057	ND	0.197	ND	0.059	ND	0.058	ND	0.058
CARBAZOLE	NA	ND	0.120	ND	0.410	ND	0.122	ND	0.121	ND	0.121
CHRYSENE	500	ND	0.066	ND	0.225	ND	0.067	ND	0.066	ND	0.066
DIBENZ(A,H)ANTHRACENE	100	ND	0.051	ND	0.174	ND	0.052	ND	0.051	ND	0.051
DIBENZOFURAN	NA	ND	0.060	ND	0.207	ND	0.062	ND	0.061	ND	0.061
DIETHYLPHTHALATE	NA	ND	0.057	ND	0.194	ND	0.058	ND	0.057	ND	0.057
DIMETHYLPHTHALATE	50	ND	0.062	ND	0.212	ND	0.063	ND	0.062	ND	0.063
DI-N-BUTYLPHTHALATE	NA	ND	0.057	ND	0.194	ND	0.058	ND	0.057	ND	0.057
DI-N-OCTYLPHTHALATE	NA	ND	0.054	ND	0.184	ND	0.055	ND	0.054	ND	0.054
FLUORANTHENE	100	ND	0.057	0.278	0.197	ND	0.059	ND	0.058	ND	0.058
FLUORENE	100	ND	0.062	ND	0.214	ND	0.064	ND	0.063	ND	0.063
HEXACHLOROBENZENE	100	ND	0.064	ND	0.217	ND	0.065	ND	0.064	ND	0.064
HEXACHLOROBUTADIENE	100	ND	0.064	ND	0.221	ND	0.066	ND	0.065	ND	0.065
HEXACHLOROCYCLOPENTADIENE	100	ND	0.066	ND	0.227	ND	0.068	ND	0.067	ND	0.067
HEXACHLOROETHANE	100	ND	0.068	ND	0.232	ND	0.069	ND	0.068	ND	0.069
INDENO(1,2,3-CD)PYRENE	500	ND	0.051	ND	0.176	ND	0.052	ND	0.052	ND	0.052
ISOPHORONE	50	ND	0.069	ND	0.235	ND	0.070	ND	0.069	ND	0.070
NAPHTHALENE	100	ND	0.063	ND	0.217	ND	0.064	ND	0.064	ND	0.064
NITROBENZENE	10	ND	0.059	ND	0.204	ND	0.061	ND	0.060	ND	0.060
N-NITROSODIMETHYLAMINE	NA	ND	0.053	ND	0.182	ND	0.054	ND	0.054	ND	0.054
N-NITROSO-DI-N-PROPYLAMINE	NA	ND	0.056	ND	0.191	ND	0.057	ND	0.056	ND	0.056
N-NITROSODIPHENYLAMINE	100	ND	0.073	ND	0.251	ND	0.075	ND	0.074	ND	0.074
PHENANTHRENE	NA	ND	0.065	ND	0.223	ND	0.066	ND	0.066	ND	0.066
PYRENE	100	ND	0.061	0.361	0.208	ND	0.062	ND	0.061	ND	0.061
TENTATIVELY IDENTIFIED COMPOUND	500	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA

TABLE 2B
SOIL ANALYTICAL DATA - SEMI-VOLATILE ORGANIC COMPOUNDS

Former Russo Fuels Ship Bottom Service Station (A/K/A Mr. Big Texaco)
Ship Bottom, New Jersey

Sample ID	NJDEP	B-5		B-6A		B-6B		B-7A		B-7B	
Sample Depth	IMPACT TO	3.5 - 4.0		4.0 - 4.5		7.5 - 8.0		3.5 - 4.0		7.5 - 8.0	
Lab ID:	GROUND WATER	L2412982-3		L2412982-4		L2412982-5		L2412982-6		L2412982-7	
Date Sampled:	SOIL CLEANUP	39296		39296		39296		39296		39296	
Matrix:	CRITERIA	Soil		Soil		Soil		Soil		Soil	
	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Semivolatile Organic Compound		Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL
1,2,4-TRICHLOROBENZENE	100	ND	0.063	ND	0.071	ND	0.207	ND	0.061	ND	0.740
1,2-DICHLOROBENZENE	NA	ND	0.058	ND	0.065	ND	0.189	ND	0.056	ND	0.068
1,2-DIPHENYLHYDRAZINE	NA	ND	0.062	ND	0.069	ND	0.201	ND	0.059	ND	0.079
1,3-DICHLOROBENZENE	100	ND	0.053	ND	0.059	ND	0.172	ND	0.051	ND	0.065
1,4-DICHLOROBENZENE	100	ND	0.063	ND	0.071	ND	0.207	ND	0.061	ND	0.056
2,4-DINITROTOLUENE	10	ND	0.059	ND	0.066	ND	0.192	ND	0.057	ND	0.065
2,6-DINITROTOLUENE	10	ND	0.067	ND	0.075	ND	0.220	ND	0.065	ND	0.067
2-CHLORONAPHTHALENE	NA	ND	0.052	ND	0.058	ND	0.169	ND	0.050	ND	0.072
2-METHYLNAPHTHALENE	NA	ND	0.061	ND	0.068	ND	0.200	ND	0.059	ND	0.070
2-NITROANILINE	NA	ND	0.059	ND	0.066	ND	0.192	ND	0.057	ND	0.055
3,3'-DICHLOROBENZIDINE	100	ND	0.486	ND	0.543	ND	1.590	ND	0.469	ND	0.062
3-NITROANILINE	NA	ND	0.062	ND	0.070	ND	0.204	ND	0.060	ND	0.065
4-BROMOPHENYL-PHENYLETHER	NA	ND	0.061	ND	0.068	ND	0.198	ND	0.058	ND	0.066
4-CHLOROANILINE	NA	ND	0.070	ND	0.078	ND	0.228	ND	0.067	ND	0.068
4-CHLOROPHENYL-PHENYLETHER	NA	ND	0.059	ND	0.065	ND	0.191	ND	0.056	ND	0.067
4-NITROANILINE	NA	ND	0.091	ND	0.101	ND	0.296	ND	0.087	ND	0.061
ACENAPHTHENE	100	ND	0.060	ND	0.067	ND	0.197	ND	0.058	ND	0.072
ACENAPHTHYLENE	NA	ND	0.067	ND	0.074	ND	0.218	ND	0.064	ND	0.063
ANTHRACENE	100	ND	0.060	ND	0.067	ND	0.197	ND	0.058	ND	0.070
BENZIDINE	NA	ND	0.534	ND	0.596	ND	1.750	ND	0.514	ND	0.062
BENZO(A)ANTHRACENE	500	ND	0.067	ND	0.075	ND	0.219	ND	0.064	ND	0.521
BENZO(A)PYRENE	100	ND	0.053	ND	0.060	ND	0.175	ND	0.051	ND	0.066
BENZO(B)FLUORANTHENE	50	ND	0.071	ND	0.079	ND	0.232	ND	0.068	ND	0.058
BENZO(G,H,I)PERYLENE	NA	ND	0.049	ND	0.055	ND	0.161	ND	0.048	ND	0.055
BENZO(K)FLUORANTHENE	500	ND	0.061	ND	0.068	ND	0.200	ND	0.059	ND	0.076
BENZOIC ACID	NA	ND	0.691	ND	0.772	ND	2.260	ND	0.666	ND	0.071
BENZYL ALCOHOL	50	ND	0.054	ND	0.060	ND	0.177	ND	0.052	ND	0.062
BIS(2-CHLOROETHOXY)METHANE	NA	ND	0.066	ND	0.074	ND	0.217	ND	0.064	ND	0.074
BIS(2-CHLOROETHYL)ETHER	NA	ND	0.061	ND	0.068	ND	0.198	ND	0.058	ND	0.057
BIS(2-CHLOROISOPROPYL)ETHER	NA	ND	0.052	ND	0.058	ND	0.170	ND	0.050	ND	0.058
BIS(2-ETHYLHEXYL)PHTHALATE	NA	ND	0.061	ND	0.068	ND	0.200	ND	0.059	ND	0.071
BUTYLBENZYLPHTHALATE	NA	ND	0.058	ND	0.065	ND	0.189	ND	0.056	ND	0.065
CARBAZOLE	NA	ND	0.120	ND	0.134	ND	0.394	ND	0.116	ND	0.064
CHRYSENE	500	ND	0.066	ND	0.074	ND	0.216	ND	0.064	ND	0.072
DIBENZ(A,H)ANTHRACENE	100	ND	0.051	ND	0.057	ND	0.167	ND	0.049	ND	0.055
DIBENZOFURAN	NA	ND	0.061	ND	0.068	ND	0.199	ND	0.059	ND	0.067
DIETHYLPHTHALATE	NA	ND	0.057	ND	0.064	ND	0.186	ND	0.055	ND	0.063
DIMETHYLPHTHALATE	50	ND	0.062	ND	0.069	ND	0.203	ND	0.060	ND	0.071
DI-N-BUTYLPHTHALATE	NA	ND	0.057	ND	0.064	ND	0.186	ND	0.055	ND	0.129
DI-N-OCTYLPHTHALATE	NA	ND	0.054	ND	0.060	ND	0.177	ND	0.052	ND	0.066
FLUORANTHENE	100	ND	0.058	ND	0.065	ND	0.189	ND	0.056	ND	0.061
FLUORENE	100	ND	0.063	ND	0.070	ND	0.205	ND	0.061	ND	0.063
HEXACHLOROBENZENE	100	ND	0.064	ND	0.071	ND	0.209	ND	0.062	ND	0.065
HEXACHLOROBUTADIENE	100	ND	0.065	ND	0.072	ND	0.212	ND	0.063	ND	0.075
HEXACHLOROCYCLOPENTADIENE	100	ND	0.067	ND	0.075	ND	0.219	ND	0.064	ND	0.066
HEXACHLOROETHANE	100	ND	0.068	ND	0.076	ND	0.223	ND	0.066	ND	0.056
INDENO(1,2,3-CD)PYRENE	500	ND	0.052	ND	0.058	ND	0.169	ND	0.050	ND	0.057
ISOPHORONE	50	ND	0.069	ND	0.077	ND	0.226	ND	0.067	ND	0.064
NAPHTHALENE	100	ND	0.064	ND	0.071	ND	0.208	ND	0.061	ND	0.068
NITROBENZENE	10	ND	0.060	ND	0.067	ND	0.196	ND	0.058	ND	0.060
N-NITROSODIMETHYLAMINE	NA	ND	0.054	ND	0.060	ND	0.175	ND	0.052	0.011	0.000
N-NITROSO-DI-N-PROPYLAMINE	NA	ND	0.056	ND	0.063	ND	0.184	ND	0.054	ND	0.073
N-NITROSODIPHENYLAMINE	100	ND	0.074	ND	0.083	ND	0.242	ND	0.071	ND	0.097
PHENANTHRENE	NA	ND	0.066	ND	0.073	ND	0.215	0.335	0.063	ND	0.069
PYRENE	100	ND	0.061	ND	0.068	ND	0.200	0.175	0.059	ND	0.572
TENTATIVELY IDENTIFIED COMPOUND	500	ND	NA	ND	NA	ND	NA	44.510	NA	ND	NA

TABLE 2B
SOIL ANALYTICAL DATA - SEMI-VOLATILE ORGANIC COMPOUNDS

Former Russo Fuels Ship Bottom Service Station (A/K/A Mr. Big Texaco)
Ship Bottom, New Jersey

Sample ID	NJDEP	B-8		B-9		B-10A		B-10B		B-11	
Sample Depth	IMPACT TO	3.5 - 4.0		3.5 - 4.0		4.0 - 4.5		10.5 - 11.0		9.5 - 10.0	
Lab ID:	GROUND WATER	L2412982-8		L2412982-9		L2412682-12		L2412682-13		L2412682-14	
Date Sampled:	SOIL CLEANUP	39296		39296		39295		39295		39295	
Matrix:	CRITERIA	Soil		Soil		Soil		Soil		Soil	
	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Semivolatile Organic Compound		Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL
1,2,4-TRICHLOROBENZENE	100	ND	0.066	ND	0.063	ND	0.061	ND	0.063	ND	0.195
1,2-DICHLOROBENZENE	NA	ND	0.060	ND	0.057	ND	0.056	ND	0.058	ND	0.179
1,2-DIPHENYLHYDRAZINE	NA	ND	0.064	ND	0.061	ND	0.060	ND	0.062	ND	0.190
1,3-DICHLOROBENZENE	100	ND	0.055	ND	0.052	ND	0.051	ND	0.053	ND	0.162
1,4-DICHLOROBENZENE	100	ND	0.066	ND	0.063	ND	0.061	ND	0.064	ND	0.196
2,4-DINITROTOLUENE	10	ND	0.061	ND	0.058	ND	0.057	ND	0.059	ND	0.182
2,6-DINITROTOLUENE	10	ND	0.070	ND	0.067	ND	0.065	ND	0.067	ND	0.208
2-CHLORONAPHTHALENE	NA	ND	0.054	ND	0.051	ND	0.050	ND	0.052	ND	0.159
2-METHYLNAPHTHALENE	NA	ND	0.064	ND	0.061	ND	0.059	ND	0.061	ND	0.189
2-NITROANILINE	NA	ND	0.061	ND	0.058	ND	0.057	ND	0.059	ND	0.182
3,3'-DICHLOROBENZIDINE	100	ND	0.507	ND	0.483	ND	0.472	ND	0.488	ND	1.500
3-NITROANILINE	NA	ND	0.065	ND	0.062	ND	0.060	ND	0.063	ND	0.193
4-BROMOPHENYL-PHENYLETHER	NA	ND	0.063	ND	0.060	ND	0.059	ND	0.061	ND	0.187
4-CHLOROANILINE	NA	ND	0.073	ND	0.069	ND	0.068	ND	0.070	ND	0.216
4-CHLOROPHENYL-PHENYLETHER	NA	ND	0.061	ND	0.058	ND	0.057	ND	0.059	ND	0.181
4-NITROANILINE	NA	ND	0.094	ND	0.090	ND	0.088	ND	0.091	ND	0.280
ACENAPHTHENE	100	ND	0.063	ND	0.060	ND	0.058	ND	0.060	0.320	0.186
ACENAPHTHYLENE	NA	ND	0.069	ND	0.066	ND	0.065	ND	0.067	ND	0.205
ANTHRACENE	100	ND	0.063	ND	0.060	ND	0.058	ND	0.060	ND	0.186
BENZIDINE	NA	ND	0.557	ND	0.530	ND	0.518	ND	0.535	ND	1.650
BENZO(A)ANTHRACENE	500	ND	0.070	ND	0.066	ND	0.065	ND	0.067	ND	0.207
BENZO(A)PYRENE	100	ND	0.056	ND	0.053	ND	0.052	ND	0.054	ND	0.165
BENZO(B)FLUORANTHENE	50	ND	0.074	ND	0.070	ND	0.069	ND	0.071	ND	0.219
BENZO(G,H,I)PERYLENE	NA	ND	0.052	ND	0.049	ND	0.048	ND	0.050	ND	0.153
BENZO(K)FLUORANTHENE	500	ND	0.064	ND	0.061	ND	0.059	ND	0.061	ND	0.189
BENZOIC ACID	NA	ND	0.721	ND	0.687	ND	0.670	ND	0.693	ND	2.140
BENZYL ALCOHOL	50	ND	0.056	ND	0.054	ND	0.052	ND	0.054	ND	0.167
BIS(2-CHLOROETHOXY)METHANE	NA	ND	0.069	ND	0.066	ND	0.064	ND	0.066	ND	0.205
BIS(2-CHLOROETHYL)ETHER	NA	ND	0.063	ND	0.060	ND	0.059	ND	0.061	ND	0.187
BIS(2-CHLOROISOPROPYL)ETHER	NA	ND	0.054	ND	0.052	ND	0.050	ND	0.052	ND	0.160
BIS(2-ETHYLHEXYL)PHTHALATE	NA	ND	0.064	ND	0.061	ND	0.059	ND	0.061	ND	0.189
BUTYLBENZYLPHTHALATE	NA	ND	0.060	ND	0.057	ND	0.056	ND	0.058	ND	0.179
CARBAZOLE	NA	ND	0.126	ND	0.120	ND	0.117	ND	0.121	ND	0.372
CHRYSENE	500	ND	0.069	ND	0.066	ND	0.064	ND	0.066	ND	0.204
DIBENZ(A,H)ANTHRACENE	100	ND	0.053	ND	0.051	ND	0.050	ND	0.051	ND	0.158
DIBENZOFURAN	NA	ND	0.063	ND	0.060	ND	0.059	ND	0.061	0.190	0.188
DIETHYLPHTHALATE	NA	ND	0.059	ND	0.057	ND	0.055	ND	0.057	ND	0.176
DIMETHYLPHTHALATE	50	ND	0.065	ND	0.062	ND	0.060	ND	0.062	ND	0.192
DI-N-BUTYLPHTHALATE	NA	ND	0.059	ND	0.057	ND	0.055	ND	0.057	ND	0.176
DI-N-OCTYLPHTHALATE	NA	ND	0.056	ND	0.054	ND	0.052	ND	0.054	ND	0.167
FLUORANTHENE	100	ND	0.060	ND	0.057	ND	0.056	ND	0.058	0.539	0.179
FLUORENE	100	ND	0.066	ND	0.062	ND	0.061	ND	0.063	0.426	0.194
HEXACHLOROBENZENE	100	ND	0.067	ND	0.064	ND	0.062	ND	0.064	ND	0.198
HEXACHLOROBUTADIENE	100	ND	0.068	ND	0.064	ND	0.063	ND	0.065	ND	0.200
HEXACHLOROCYCLOPENTADIENE	100	ND	0.070	ND	0.066	ND	0.065	ND	0.067	ND	0.207
HEXACHLOROETHANE	100	ND	0.071	ND	0.068	ND	0.066	ND	0.068	ND	0.211
INDENO(1,2,3-CD)PYRENE	500	ND	0.054	ND	0.051	ND	0.050	ND	0.052	ND	0.160
ISOPHORONE	50	ND	0.072	ND	0.069	ND	0.067	ND	0.069	ND	0.214
NAPHTHALENE	100	ND	0.066	ND	0.063	ND	0.062	ND	0.064	ND	0.197
NITROBENZENE	10	ND	0.063	ND	0.060	ND	0.058	ND	0.060	ND	0.185
N-NITROSODIMETHYLAMINE	NA	ND	0.056	ND	0.053	ND	0.052	ND	0.054	ND	0.165
N-NITROSO-DI-N-PROPYLAMINE	NA	ND	0.059	ND	0.056	ND	0.055	ND	0.056	ND	0.174
N-NITROSODIPHENYLAMINE	100	ND	0.077	ND	0.073	ND	0.072	ND	0.074	ND	0.228
PHENANTHRENE	NA	ND	0.069	ND	0.065	ND	0.064	ND	0.066	1.340	0.203
PYRENE	100	ND	0.064	ND	0.061	ND	0.059	ND	0.061	0.408	0.189
TENTATIVELY IDENTIFIED COMPOUND	500	ND	NA	ND	NA	ND	NA	0.947	NA	ND	NA

TABLE 2B
SOIL ANALYTICAL DATA - SEMI-VOLATILE ORGANIC COMPOUNDS

Former Russo Fuels Ship Bottom Service Station (A/K/A Mr. Big Texaco)
Ship Bottom, New Jersey

Sample ID	NJDEP	B-12A		B-12B		B-13A		B-13B		B-14A	
Sample Depth	IMPACT TO	4.5 - 5.0		9.5 - 10.0		6.0 - 6.5		8.0 - 8.5		8.0 - 8.5	
Lab ID:	GROUND WATER	L2412682-15		L2412682-16		L2412982-10		L2412982-11		L2412982-12	
Date Sampled:	SOIL CLEANUP	39295		39295		39296		39296		39296	
Matrix:	CRITERIA	Soil		Soil		Soil		Soil		Soil	
	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Semivolatile Organic Compound		Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL
1,2,4-TRICHLOROBENZENE	100	ND	0.204	ND	0.067	ND	0.071	ND	0.065	ND	0.064
1,2-DICHLOROBENZENE	NA	ND	0.186	ND	0.061	ND	0.065	ND	0.060	ND	0.059
1,2-DIPHENYLHYDRAZINE	NA	ND	0.198	ND	0.065	ND	0.069	ND	0.063	ND	0.062
1,3-DICHLOROBENZENE	100	ND	0.169	ND	0.055	ND	0.059	ND	0.054	ND	0.053
1,4-DICHLOROBENZENE	100	ND	0.204	ND	0.067	ND	0.071	ND	0.065	ND	0.064
2,4-DINITROTOLUENE	10	ND	0.189	ND	0.062	ND	0.066	ND	0.061	ND	0.060
2,6-DINITROTOLUENE	10	ND	0.217	ND	0.071	ND	0.075	ND	0.069	ND	0.068
2-CHLORONAPHTHALENE	NA	ND	0.166	ND	0.054	ND	0.058	ND	0.053	ND	0.052
2-METHYLNAPHTHALENE	NA	16.500	0.197	ND	0.065	ND	0.068	ND	0.063	0.852	0.062
2-NITROANILINE	NA	ND	0.190	ND	0.062	ND	0.066	ND	0.061	ND	0.060
3,3'-DICHLOROBENZIDINE	100	ND	1.570	ND	0.514	ND	0.542	ND	0.501	ND	0.494
3-NITROANILINE	NA	ND	0.201	ND	0.066	ND	0.070	ND	0.064	ND	0.063
4-BROMOPHENYL-PHENYLETHER	NA	ND	0.195	ND	0.064	ND	0.067	ND	0.062	ND	0.061
4-CHLOROANILINE	NA	ND	0.225	ND	0.074	ND	0.078	ND	0.072	ND	0.071
4-CHLOROPHENYL-PHENYLETHER	NA	ND	0.189	ND	0.062	ND	0.065	ND	0.060	ND	0.059
4-NITROANILINE	NA	ND	0.292	ND	0.096	ND	0.101	ND	0.093	ND	0.092
ACENAPHTHENE	100	1.150	0.194	ND	0.064	ND	0.067	ND	0.062	ND	0.061
ACENAPHTHYLENE	NA	ND	0.214	ND	0.070	ND	0.074	ND	0.069	ND	0.068
ANTHRACENE	100	1.010	0.194	ND	0.064	ND	0.067	ND	0.062	ND	0.061
BENZIDINE	NA	ND	1.720	ND	0.564	ND	0.595	ND	0.550	ND	0.542
BENZO(A)ANTHRACENE	500	ND	0.215	ND	0.071	ND	0.075	ND	0.069	ND	0.068
BENZO(A)PYRENE	100	ND	0.172	ND	0.056	ND	0.060	ND	0.055	ND	0.054
BENZO(B)FLUORANTHENE	50	ND	0.228	ND	0.075	ND	0.079	ND	0.073	ND	0.072
BENZO(G,H,I)PERYLENE	NA	ND	0.159	ND	0.052	ND	0.055	ND	0.051	ND	0.050
BENZO(K)FLUORANTHENE	500	ND	0.198	ND	0.065	ND	0.068	ND	0.063	ND	0.062
BENZOIC ACID	NA	ND	2.230	ND	0.730	ND	0.771	ND	0.713	ND	0.702
BENZYL ALCOHOL	50	ND	0.174	ND	0.057	ND	0.060	ND	0.056	ND	0.055
BIS(2-CHLOROETHOXY)METHANE	NA	ND	0.214	ND	0.070	ND	0.074	ND	0.068	ND	0.067
BIS(2-CHLOROETHYL)ETHER	NA	ND	0.195	ND	0.064	ND	0.068	ND	0.062	ND	0.062
BIS(2-CHLOROISOPROPYL)ETHER	NA	ND	0.167	ND	0.055	ND	0.058	ND	0.054	ND	0.053
BIS(2-ETHYLHEXYL)PHTHALATE	NA	ND	0.198	ND	0.065	ND	0.068	ND	0.063	0.456	0.062
BUTYLBENZYLPHTHALATE	NA	ND	0.186	ND	0.061	ND	0.065	ND	0.060	ND	0.059
CARBAZOLE	NA	ND	0.388	ND	0.127	ND	0.134	ND	0.124	ND	0.122
CHRYSENE	500	ND	0.213	ND	0.070	ND	0.074	ND	0.068	ND	0.067
DIBENZ(A,H)ANTHRACENE	100	ND	0.165	ND	0.054	ND	0.057	ND	0.053	ND	0.052
DIBENZOFURAN	NA	ND	0.196	ND	0.064	ND	0.068	ND	0.063	ND	0.062
DIETHYLPHTHALATE	NA	ND	0.184	ND	0.060	ND	0.064	ND	0.059	ND	0.058
DIMETHYLPHTHALATE	50	ND	0.200	ND	0.066	ND	0.069	ND	0.064	ND	0.063
DI-N-BUTYLPHTHALATE	NA	ND	0.184	ND	0.060	ND	0.064	ND	0.059	ND	0.058
DI-N-OCTYLPHTHALATE	NA	ND	0.174	ND	0.057	ND	0.060	ND	0.056	ND	0.055
FLUORANTHENE	100	0.385	0.186	ND	0.061	ND	0.065	ND	0.060	ND	0.059
FLUORENE	100	1.320	0.202	ND	0.066	ND	0.070	ND	0.065	0.182	0.064
HEXACHLOROBENZENE	100	ND	0.206	ND	0.068	ND	0.071	ND	0.066	ND	0.065
HEXACHLOROBUTADIENE	100	ND	0.209	ND	0.069	ND	0.072	ND	0.067	ND	0.066
HEXACHLOROCYCLOPENTADIENE	100	ND	0.215	ND	0.071	ND	0.075	ND	0.069	ND	0.068
HEXACHLOROETHANE	100	ND	0.220	ND	0.072	ND	0.076	ND	0.070	ND	0.069
INDENO(1,2,3-CD)PYRENE	500	ND	0.167	ND	0.055	ND	0.058	ND	0.053	ND	0.053
ISOPHORONE	50	ND	0.223	ND	0.073	ND	0.077	ND	0.071	ND	0.070
NAPHTHALENE	100	5.550	0.205	ND	0.067	ND	0.071	ND	0.066	0.314	0.065
NITROBENZENE	10	ND	0.193	ND	0.063	ND	0.067	ND	0.062	ND	0.061
N-NITROSODIMETHYLAMINE	NA	ND	0.172	ND	0.057	ND	0.060	ND	0.055	ND	0.054
N-NITROSO-DI-N-PROPYLAMINE	NA	ND	0.181	ND	0.059	ND	0.063	ND	0.058	ND	0.057
N-NITROSODIPHENYLAMINE	100	ND	0.238	ND	0.078	ND	0.082	ND	0.076	ND	0.075
PHENANTHRENE	NA	3.230	0.212	ND	0.069	ND	0.073	ND	0.068	0.421	0.067
PYRENE	100	1.160	0.197	ND	0.064	ND	0.068	ND	0.063	0.133	0.062
TENTATIVELY IDENTIFIED COMPOUND	500	107.590	NA	ND	NA	ND	NA	ND	NA	15.903	NA

TABLE 2B
SOIL ANALYTICAL DATA - SEMI-VOLATILE ORGANIC COMPOUNDS

Former Russo Fuels Ship Bottom Service Station (A/K/A Mr. Big Texaco)
Ship Bottom, New Jersey

Sample ID	NJDEP	B-14B		B-15		B-16A		B-16B		B-17	
Sample Depth	IMPACT TO	11.5 - 12.0		8.5 - 9.0		8.5 - 9.0		4.0 - 4.5		8.5 - 9.0	
Lab ID:	GROUND WATER	L2412682-13		L2412682-17		L2412682-18		L2412682-19		L2412682-20	
Date Sampled:	SOIL CLEANUP	39296		39295		39295		39295		39295	
Matrix:	CRITERIA	Soil		Soil		Soil		Soil		Soil	
	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Semivolatile Organic Compound		Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL
1,2,4-TRICHLOROBENZENE	100	ND	0.065	ND	0.065	ND	0.065	ND	0.063	ND	0.065
1,2-DICHLOROBENZENE	NA	ND	0.059	ND	0.059	ND	0.059	ND	0.057	ND	0.059
1,2-DIPHENYLHYDRAZINE	NA	ND	0.063	ND	0.063	ND	0.063	ND	0.061	ND	0.063
1,3-DICHLOROBENZENE	100	ND	0.054	ND	0.054	ND	0.054	ND	0.052	ND	0.054
1,4-DICHLOROBENZENE	100	ND	0.065	ND	0.065	ND	0.065	ND	0.063	ND	0.065
2,4-DINITROTOLUENE	10	ND	0.060	ND	0.060	ND	0.060	ND	0.058	ND	0.060
2,6-DINITROTOLUENE	10	ND	0.069	ND	0.069	ND	0.069	ND	0.067	ND	0.069
2-CHLORONAPHTHALENE	NA	ND	0.053	ND	0.053	ND	0.053	ND	0.051	ND	0.053
2-METHYLNAPHTHALENE	NA	ND	0.063	ND	0.063	ND	0.063	ND	0.061	ND	0.063
2-NITROANILINE	NA	ND	0.060	ND	0.060	ND	0.060	ND	0.058	ND	0.060
3,3'-DICHLOROBENZIDINE	100	ND	0.497	ND	0.497	ND	0.499	ND	0.482	ND	0.497
3-NITROANILINE	NA	ND	0.064	ND	0.064	ND	0.064	ND	0.062	ND	0.064
4-BROMOPHENYL-PHENYLETHER	NA	ND	0.062	ND	0.062	ND	0.062	ND	0.060	ND	0.062
4-CHLOROANILINE	NA	ND	0.071	ND	0.071	ND	0.072	ND	0.069	ND	0.071
4-CHLOROPHENYL-PHENYLETHER	NA	ND	0.060	ND	0.060	ND	0.060	ND	0.058	ND	0.060
4-NITROANILINE	NA	ND	0.093	ND	0.092	ND	0.093	ND	0.090	ND	0.092
ACENAPHTHENE	100	ND	0.062	ND	0.062	ND	0.062	ND	0.060	ND	0.062
ACENAPHTHYLENE	NA	ND	0.068	ND	0.068	ND	0.068	ND	0.066	ND	0.068
ANTHRACENE	100	ND	0.061	ND	0.061	ND	0.062	ND	0.060	ND	0.061
BENZIDINE	NA	ND	0.546	ND	0.546	ND	0.547	ND	0.529	ND	0.545
BENZO(A)ANTHRACENE	500	ND	0.068	ND	0.068	ND	0.069	ND	0.066	ND	0.068
BENZO(A)PYRENE	100	ND	0.055	ND	0.055	ND	0.055	ND	0.053	ND	0.055
BENZO(B)FLUORANTHENE	50	ND	0.072	ND	0.072	ND	0.073	ND	0.070	ND	0.072
BENZO(G,H,I)PERYLENE	NA	ND	0.050	ND	0.050	ND	0.051	ND	0.049	ND	0.050
BENZO(K)FLUORANTHENE	500	ND	0.063	ND	0.063	ND	0.063	ND	0.061	ND	0.063
BENZOIC ACID	NA	ND	0.707	ND	0.707	ND	0.709	ND	0.686	ND	0.706
BENZYL ALCOHOL	50	ND	0.055	ND	0.055	ND	0.056	ND	0.054	ND	0.055
BIS(2-CHLOROETHOXY)METHANE	NA	ND	0.068	ND	0.068	ND	0.068	ND	0.066	ND	0.068
BIS(2-CHLOROETHYL)ETHER	NA	ND	0.062	ND	0.062	ND	0.062	ND	0.060	ND	0.062
BIS(2-CHLOROISOPROPYL)ETHER	NA	ND	0.053	ND	0.053	ND	0.053	ND	0.051	ND	0.053
BIS(2-ETHYLHEXYL)PHTHALATE	NA	ND	0.063	ND	0.063	ND	0.063	ND	0.061	ND	0.063
BUTYLBENZYLPHTHALATE	NA	ND	0.059	ND	0.059	ND	0.059	ND	0.057	ND	0.059
CARBAZOLE	NA	ND	0.123	ND	0.123	ND	0.124	ND	0.119	ND	0.123
CHRYSENE	500	ND	0.068	ND	0.068	ND	0.068	ND	0.066	ND	0.067
DIBENZ(A,H)ANTHRACENE	100	ND	0.052	ND	0.052	ND	0.053	ND	0.051	ND	0.052
DIBENZOFURAN	NA	ND	0.062	ND	0.062	ND	0.062	ND	0.060	ND	0.062
DIETHYLPHTHALATE	NA	ND	0.058	ND	0.058	ND	0.058	ND	0.057	ND	0.058
DIMETHYLPHTHALATE	50	ND	0.064	ND	0.064	ND	0.064	ND	0.062	ND	0.064
DI-N-BUTYLPHTHALATE	NA	0.060	0.058	ND	0.058	ND	0.058	ND	0.057	ND	0.058
DI-N-OCTYLPHTHALATE	NA	ND	0.055	ND	0.055	ND	0.055	ND	0.054	ND	0.055
FLUORANTHENE	100	ND	0.059	ND	0.059	ND	0.059	ND	0.057	ND	0.059
FLUORENE	100	ND	0.064	ND	0.064	ND	0.064	ND	0.062	ND	0.064
HEXACHLOROBENZENE	100	ND	0.065	ND	0.065	ND	0.066	ND	0.063	ND	0.065
HEXACHLOROBUTADIENE	100	ND	0.066	ND	0.066	ND	0.067	ND	0.064	ND	0.066
HEXACHLOROCYCLOPENTADIENE	100	ND	0.068	ND	0.068	ND	0.069	ND	0.066	ND	0.068
HEXACHLOROETHANE	100	ND	0.070	ND	0.070	ND	0.070	ND	0.068	ND	0.070
INDENO(1,2,3-CD)PYRENE	500	ND	0.053	ND	0.053	ND	0.053	ND	0.051	ND	0.053
ISOPHORONE	50	ND	0.071	ND	0.071	ND	0.071	ND	0.069	ND	0.071
NAPHTHALENE	100	ND	0.065	ND	0.065	ND	0.065	ND	0.063	ND	0.065
NITROBENZENE	10	ND	0.061	ND	0.061	ND	0.061	ND	0.059	ND	0.061
N-NITROSODIMETHYLAMINE	NA	ND	0.055	ND	0.055	ND	0.055	ND	0.053	ND	0.055
N-NITROSO-DI-N-PROPYLAMINE	NA	ND	0.057	ND	0.057	ND	0.058	ND	0.056	ND	0.057
N-NITROSODIPHENYLAMINE	100	ND	0.076	ND	0.076	ND	0.076	ND	0.073	ND	0.076
PHENANTHRENE	NA	ND	0.067	ND	0.067	ND	0.067	ND	0.065	ND	0.067
PYRENE	100	ND	0.062	ND	0.062	ND	0.063	ND	0.061	ND	0.062
TENTATIVELY IDENTIFIED COMPOUND	500	ND	NA	1.040	NA	0.347	NA	ND	NA	ND	NA

TABLE 2B
SOIL ANALYTICAL DATA - SEMI-VOLATILE ORGANIC COMPOUNDS

Former Russo Fuels Ship Bottom Service Station (A/K/A Mr. Big Texaco)
Ship Bottom, New Jersey

Sample ID	NJDEP	B-18		B-24		B-25		B-26		B-27	
Sample Depth	IMPACT TO	4.5 - 5.0		3.5 - 4.0		3.5 - 4.0		3.5 - 4.0		3.5 - 4.0	
Lab ID:	GROUND WATER	L2412682-21		L2412982-14		L2412982-15		L2412982-16		L2412982-17	
Date Sampled:	SOIL CLEANUP	39295		39296		39296		39296		39296	
Matrix:	CRITERIA	Soil		Soil		Soil		Soil		Soil	
	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Semivolatile Organic Compound		Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL
1,2,4-TRICHLOROBENZENE	100	ND	0.059	NM	NA	NM	NA	NM	NA	NM	NA
1,2-DICHLOROBENZENE	NA	ND	0.054	NM	NA	NM	NA	NM	NA	NM	NA
1,2-DIPHENYLHYDRAZINE	NA	ND	0.057	NM	NA	NM	NA	NM	NA	NM	NA
1,3-DICHLOROBENZENE	100	ND	0.049	NM	NA	NM	NA	NM	NA	NM	NA
1,4-DICHLOROBENZENE	100	ND	0.059	NM	NA	NM	NA	NM	NA	NM	NA
2,4-DINITROTOLUENE	10	ND	0.055	NM	NA	NM	NA	NM	NA	NM	NA
2,6-DINITROTOLUENE	10	ND	0.063	NM	NA	NM	NA	NM	NA	NM	NA
2-CHLORONAPHTHALENE	NA	ND	0.048	NM	NA	NM	NA	NM	NA	NM	NA
2-METHYLNAPHTHALENE	NA	ND	0.057	NM	NA	NM	NA	NM	NA	NM	NA
2-NITROANILINE	NA	ND	0.055	NM	NA	NM	NA	NM	NA	NM	NA
3,3'-DICHLOROBENZIDINE	100	ND	0.454	NM	NA	NM	NA	NM	NA	NM	NA
3-NITROANILINE	NA	ND	0.058	NM	NA	NM	NA	NM	NA	NM	NA
4-BROMOPHENYL-PHENYLETHER	NA	ND	0.056	NM	NA	NM	NA	NM	NA	NM	NA
4-CHLOROANILINE	NA	ND	0.065	NM	NA	NM	NA	NM	NA	NM	NA
4-CHLOROPHENYL-PHENYLETHER	NA	ND	0.055	NM	NA	NM	NA	NM	NA	NM	NA
4-NITROANILINE	NA	ND	0.084	NM	NA	NM	NA	NM	NA	NM	NA
ACENAPHTHENE	100	ND	0.056	NM	NA	NM	NA	NM	NA	NM	NA
ACENAPHTHYLENE	NA	ND	0.062	NM	NA	NM	NA	NM	NA	NM	NA
ANTHRACENE	100	ND	0.056	NM	NA	NM	NA	NM	NA	NM	NA
BENZIDINE	NA	ND	0.498	NM	NA	NM	NA	NM	NA	NM	NA
BENZO(A)ANTHRACENE	500	ND	0.062	NM	NA	NM	NA	NM	NA	NM	NA
BENZO(A)PYRENE	100	ND	0.050	NM	NA	NM	NA	NM	NA	NM	NA
BENZO(B)FLUORANTHENE	50	ND	0.066	NM	NA	NM	NA	NM	NA	NM	NA
BENZO(G,H,I)PERYLENE	NA	ND	0.046	NM	NA	NM	NA	NM	NA	NM	NA
BENZO(K)FLUORANTHENE	500	ND	0.057	NM	NA	NM	NA	NM	NA	NM	NA
BENZOIC ACID	NA	ND	0.645	NM	NA	NM	NA	NM	NA	NM	NA
BENZYL ALCOHOL	50	ND	0.050	NM	NA	NM	NA	NM	NA	NM	NA
BIS(2-CHLOROETHOXY)METHANE	NA	ND	0.062	NM	NA	NM	NA	NM	NA	NM	NA
BIS(2-CHLOROETHYL)ETHER	NA	ND	0.057	NM	NA	NM	NA	NM	NA	NM	NA
BIS(2-CHLOROISOPROPYL)ETHER	NA	ND	0.048	NM	NA	NM	NA	NM	NA	NM	NA
BIS(2-ETHYLHEXYL)PHTHALATE	NA	ND	0.057	NM	NA	NM	NA	NM	NA	NM	NA
BUTYLBENZYLPHTHALATE	NA	ND	0.054	NM	NA	NM	NA	NM	NA	NM	NA
CARBAZOLE	NA	ND	0.112	NM	NA	NM	NA	NM	NA	NM	NA
CHRYSENE	500	ND	0.062	NM	NA	NM	NA	NM	NA	NM	NA
DIBENZ(A,H)ANTHRACENE	100	ND	0.048	NM	NA	NM	NA	NM	NA	NM	NA
DIBENZOFURAN	NA	ND	0.057	NM	NA	NM	NA	NM	NA	NM	NA
DIETHYLPHTHALATE	NA	ND	0.053	NM	NA	NM	NA	NM	NA	NM	NA
DIMETHYLPHTHALATE	50	ND	0.058	NM	NA	NM	NA	NM	NA	NM	NA
DI-N-BUTYLPHTHALATE	NA	ND	0.053	NM	NA	NM	NA	NM	NA	NM	NA
DI-N-OCTYLPHTHALATE	NA	ND	0.050	NM	NA	NM	NA	NM	NA	NM	NA
FLUORANTHENE	100	ND	0.054	NM	NA	NM	NA	NM	NA	NM	NA
FLUORENE	100	ND	0.059	NM	NA	NM	NA	NM	NA	NM	NA
HEXACHLOROBENZENE	100	ND	0.060	NM	NA	NM	NA	NM	NA	NM	NA
HEXACHLOROBUTADIENE	100	ND	0.061	NM	NA	NM	NA	NM	NA	NM	NA
HEXACHLOROCYCLOPENTADIENE	100	ND	0.062	NM	NA	NM	NA	NM	NA	NM	NA
HEXACHLOROETHANE	100	ND	0.064	NM	NA	NM	NA	NM	NA	NM	NA
INDENO(1,2,3-CD)PYRENE	500	ND	0.048	NM	NA	NM	NA	NM	NA	NM	NA
ISOPHORONE	50	ND	0.065	NM	NA	NM	NA	NM	NA	NM	NA
NAPHTHALENE	100	ND	0.059	NM	NA	NM	NA	NM	NA	NM	NA
NITROBENZENE	10	ND	0.056	NM	NA	NM	NA	NM	NA	NM	NA
N-NITROSODIMETHYLAMINE	NA	ND	0.050	NM	NA	NM	NA	NM	NA	NM	NA
N-NITROSO-DI-N-PROPYLAMINE	NA	ND	0.052	NM	NA	NM	NA	NM	NA	NM	NA
N-NITROSODIPHENYLAMINE	100	ND	0.069	NM	NA	NM	NA	NM	NA	NM	NA
PHENANTHRENE	NA	ND	0.061	NM	NA	NM	NA	NM	NA	NM	NA
PYRENE	100	ND	0.057	NM	NA	NM	NA	NM	NA	NM	NA
TENTATIVELY IDENTIFIED COMPOUND	500	ND	NA	NM	NA	NM	NA	NM	NA	NM	NA

TABLE 2B
SOIL ANALYTICAL DATA - SEMI-VOLATILE ORGANIC COMPOUNDS

Former Russo Fuels Ship Bottom Service Station (A/K/A Mr. Big Texaco)
Ship Bottom, New Jersey

Sample ID	NJDEP	B-28		B-29		B-30		B-31A		B-31B	
Sample Depth	IMPACT TO	3.5 = 4.0		4.0 - 4.5		4.0 - 4.5		3.5 - 4.0		7.5 - 8.0	
Lab ID:	GROUND WATER	L2412982-18		L2412982-19		L2412982-20		L2412982-21		L2412982-22	
Date Sampled:	SOIL CLEANUP	39296		39296		39296		39296		39296	
Matrix:	CRITERIA	Soil		Soil		Soil		Soil		Soil	
	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Semivolatile Organic Compound		Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL
1,2,4-TRICHLOROBENZENE	100	NM	NA	ND	0.185	ND	0.065	ND	0.066	ND	0.068
1,2-DICHLOROBENZENE	NA	NM	NA	ND	0.169	ND	0.060	ND	0.060	ND	0.062
1,2-DIPHENYLHYDRAZINE	NA	NM	NA	ND	0.180	ND	0.064	ND	0.064	ND	0.066
1,3-DICHLOROBENZENE	100	NM	NA	ND	0.153	ND	0.054	ND	0.055	ND	0.056
1,4-DICHLOROBENZENE	100	NM	NA	ND	0.185	ND	0.066	ND	0.066	ND	0.068
2,4-DINITROTOLUENE	10	NM	NA	ND	0.171	ND	0.061	ND	0.061	ND	0.063
2,6-DINITROTOLUENE	10	NM	NA	ND	0.196	ND	0.069	ND	0.070	ND	0.072
2-CHLORONAPHTHALENE	NA	NM	NA	ND	0.150	ND	0.053	ND	0.054	ND	0.055
2-METHYLNAPHTHALENE	NA	NM	NA	ND	0.178	ND	0.063	1.320	0.064	ND	0.065
2-NITROANILINE	NA	NM	NA	ND	0.172	ND	0.061	ND	0.061	ND	0.063
3,3'-DICHLOROBENZIDINE	100	NM	NA	ND	1.420	ND	0.503	ND	0.506	ND	0.520
3-NITROANILINE	NA	NM	NA	ND	0.182	ND	0.064	ND	0.065	ND	0.067
4-BROMOPHENYL-PHENYLETHER	NA	NM	NA	ND	0.176	ND	0.063	ND	0.063	ND	0.065
4-CHLOROANILINE	NA	NM	NA	ND	0.204	ND	0.072	ND	0.073	ND	0.075
4-CHLOROPHENYL-PHENYLETHER	NA	NM	NA	ND	0.171	ND	0.061	ND	0.061	ND	0.063
4-NITROANILINE	NA	NM	NA	ND	0.264	ND	0.094	ND	0.094	ND	0.097
ACENAPHTHENE	100	NM	NA	ND	0.176	ND	0.062	ND	0.063	ND	0.064
ACENAPHTHYLENE	NA	NM	NA	ND	0.194	ND	0.069	ND	0.069	ND	0.071
ANTHRACENE	100	NM	NA	ND	0.175	ND	0.062	ND	0.063	ND	0.064
BENZIDINE	NA	NM	NA	ND	1.560	ND	0.552	ND	0.556	ND	0.571
BENZO(A)ANTHRACENE	500	NM	NA	ND	0.195	ND	0.069	ND	0.070	ND	0.072
BENZO(A)PYRENE	100	NM	NA	ND	0.156	ND	0.055	ND	0.056	ND	0.057
BENZO(B)FLUORANTHENE	50	NM	NA	ND	0.207	ND	0.073	ND	0.074	ND	0.076
BENZO(G,H,I)PERYLENE	NA	NM	NA	ND	0.144	ND	0.051	ND	0.051	ND	0.053
BENZO(K)FLUORANTHENE	500	NM	NA	ND	0.179	ND	0.063	ND	0.064	ND	0.066
BENZOIC ACID	NA	NM	NA	ND	2.020	ND	0.715	ND	0.720	ND	0.739
BENZYL ALCOHOL	50	NM	NA	ND	0.158	ND	0.056	ND	0.056	ND	0.058
BIS(2-CHLOROETHOXY)METHANE	NA	NM	NA	ND	0.193	ND	0.069	ND	0.069	ND	0.071
BIS(2-CHLOROETHYL)ETHER	NA	NM	NA	ND	0.177	ND	0.063	ND	0.063	ND	0.065
BIS(2-CHLOROISOPROPYL)ETHER	NA	NM	NA	ND	0.151	ND	0.054	ND	0.054	ND	0.056
BIS(2-ETHYLHEXYL)PHTHALATE	NA	NM	NA	ND	0.179	ND	0.063	0.585	0.064	ND	0.066
BUTYLBENZYLPHTHALATE	NA	NM	NA	ND	0.169	ND	0.060	ND	0.060	ND	0.062
CARBAZOLE	NA	NM	NA	ND	0.352	ND	0.125	ND	0.125	ND	0.129
CHRYSENE	500	NM	NA	ND	0.193	ND	0.068	ND	0.069	ND	0.071
DIBENZ(A,H)ANTHRACENE	100	NM	NA	ND	0.149	ND	0.053	ND	0.053	ND	0.055
DIBENZOFURAN	NA	NM	NA	ND	0.177	ND	0.063	ND	0.063	ND	0.065
DIETHYLPHTHALATE	NA	NM	NA	ND	0.166	ND	0.059	ND	0.059	ND	0.061
DIMETHYLPHTHALATE	50	NM	NA	ND	0.182	ND	0.064	ND	0.065	ND	0.067
DI-N-BUTYLPHTHALATE	NA	NM	NA	ND	0.166	ND	0.059	ND	0.059	ND	0.061
DI-N-OCTYLPHTHALATE	NA	NM	NA	ND	0.158	ND	0.056	ND	0.056	ND	0.058
FLUORANTHENE	100	NM	NA	ND	0.169	ND	0.060	0.120	0.060	0.090	0.062
FLUORENE	100	NM	NA	ND	0.183	ND	0.065	0.773	0.065	ND	0.067
HEXACHLOROBENZENE	100	NM	NA	ND	0.187	ND	0.066	ND	0.067	ND	0.068
HEXACHLOROBUTADIENE	100	NM	NA	ND	0.189	ND	0.067	ND	0.068	ND	0.069
HEXACHLOROCYCLOPENTADIENE	100	NM	NA	ND	0.195	ND	0.069	ND	0.070	ND	0.072
HEXACHLOROETHANE	100	NM	NA	ND	0.199	ND	0.071	ND	0.071	ND	0.073
INDENO(1,2,3-CD)PYRENE	500	NM	NA	ND	0.151	ND	0.054	ND	0.054	ND	0.055
ISOPHORONE	50	NM	NA	ND	0.202	ND	0.072	ND	0.072	ND	0.074
NAPHTHALENE	100	NM	NA	ND	0.186	ND	0.066	ND	0.066	ND	0.068
NITROBENZENE	10	NM	NA	ND	0.175	ND	0.062	ND	0.062	ND	0.064
N-NITROSODIMETHYLAMINE	NA	NM	NA	ND	0.156	ND	0.055	ND	0.056	ND	0.057
N-NITROSO-DI-N-PROPYLAMINE	NA	NM	NA	ND	0.164	ND	0.058	ND	0.059	ND	0.060
N-NITROSODIPHENYLAMINE	100	NM	NA	ND	0.216	ND	0.076	ND	0.077	ND	0.079
PHENANTHRENE	NA	NM	NA	ND	0.192	ND	0.068	1.370	0.068	ND	0.070
PYRENE	100	NM	NA	ND	0.178	ND	0.063	0.342	0.064	ND	0.065
TENTATIVELY IDENTIFIED COMPOUND	500	NM	NA	ND	NA	ND	NA	144.280	NA	ND	NA

TABLE 2B
SOIL ANALYTICAL DATA - SEMI-VOLATILE ORGANIC COMPOUNDS

Former Russo Fuels Ship Bottom Service Station (A/K/A Mr. Big Texaco)
Ship Bottom, New Jersey

Sample ID	NJDEP	B-32		B-33		B-33 DUP		B-34		PE-1	
Sample Depth	IMPACT TO	4.0 - 4.5		4.0 - 4.5		4.0 - 4.5		3.5 - 4.0		6.0 - 6.5	
Lab ID:	GROUND WATER	L2412982-23		L2412982-24		L2412982-25		L2441096-1		L2550758-1	
Date Sampled:	SOIL CLEANUP	39296		39296		39296		39332		1/23/2008	
Matrix:	CRITERIA	Soil		Soil		Soil		Soil		Soil	
	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	ug/kg	ug/kg
Semivolatile Organic Compound		Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL
1,2,4-TRICHLOROBENZENE	100	ND	0.067	ND	0.076	ND	0.069	ND	0.070	NA	NA
1,2-DICHLOROBENZENE	NA	ND	0.062	ND	0.069	ND	0.063	ND	0.064	NA	NA
1,2-DIPHENYLHYDRAZINE	NA	ND	0.066	ND	0.073	ND	0.067	ND	0.068	NA	NA
1,3-DICHLOROBENZENE	100	ND	0.056	ND	0.063	ND	0.057	ND	0.058	NA	NA
1,4-DICHLOROBENZENE	100	ND	0.068	ND	0.076	ND	0.069	ND	0.070	NA	NA
2,4-DINITROTOLUENE	10	ND	0.063	ND	0.070	ND	0.064	ND	0.065	NA	NA
2,6-DINITROTOLUENE	10	ND	0.072	ND	0.080	ND	0.073	ND	0.074	NA	NA
2-CHLORONAPHTHALENE	NA	ND	0.055	ND	0.062	ND	0.056	ND	0.057	NA	NA
2-METHYLNAPHTHALENE	NA	ND	0.065	ND	0.073	ND	0.066	ND	0.068	NA	NA
2-NITROANILINE	NA	ND	0.063	ND	0.070	ND	0.064	ND	0.065	NA	NA
3,3'-DICHLOROBENZIDINE	100	ND	0.518	ND	0.581	ND	0.527	ND	0.539	NA	NA
3-NITROANILINE	NA	ND	0.066	ND	0.074	ND	0.068	ND	0.069	NA	NA
4-BROMOPHENYL-PHENYLETHER	NA	ND	0.064	ND	0.072	ND	0.066	ND	0.067	NA	NA
4-CHLOROANILINE	NA	ND	0.074	ND	0.083	ND	0.076	ND	0.077	NA	NA
4-CHLOROPHENYL-PHENYLETHER	NA	ND	0.062	ND	0.070	ND	0.063	ND	0.065	NA	NA
4-NITROANILINE	NA	ND	0.096	ND	0.108	ND	0.098	ND	0.100	NA	NA
ACENAPHTHENE	100	ND	0.064	ND	0.072	ND	0.065	ND	0.067	NA	NA
ACENAPHTHYLENE	NA	ND	0.071	ND	0.079	ND	0.072	ND	0.074	NA	NA
ANTHRACENE	100	ND	0.064	ND	0.072	ND	0.065	ND	0.067	NA	NA
BENZIDINE	NA	ND	0.569	ND	0.637	ND	0.579	ND	0.591	NA	NA
BENZO(A)ANTHRACENE	500	ND	0.071	ND	0.080	ND	0.073	ND	0.074	NA	NA
BENZO(A)PYRENE	100	ND	0.057	ND	0.064	ND	0.058	ND	0.059	NA	NA
BENZO(B)FLUORANTHENE	50	ND	0.075	ND	0.085	ND	0.077	ND	0.078	NA	NA
BENZO(G,H,I)PERYLENE	NA	ND	0.053	ND	0.059	ND	0.054	ND	0.055	NA	NA
BENZO(K)FLUORANTHENE	500	ND	0.065	ND	0.073	ND	0.066	ND	0.068	NA	NA
BENZOIC ACID	NA	ND	0.737	ND	0.825	ND	0.750	ND	0.766	NA	NA
BENZYL ALCOHOL	50	ND	0.058	ND	0.065	ND	0.059	ND	0.060	NA	NA
BIS(2-CHLOROETHOXY)METHANE	NA	ND	0.071	ND	0.079	ND	0.072	ND	0.073	NA	NA
BIS(2-CHLOROETHYL)ETHER	NA	ND	0.065	ND	0.072	ND	0.066	ND	0.067	NA	NA
BIS(2-CHLOROISOPROPYL)ETHER	NA	ND	0.055	ND	0.062	ND	0.056	ND	0.058	NA	NA
BIS(2-ETHYLHEXYL)PHTHALATE	NA	ND	0.065	ND	0.073	ND	0.066	ND	0.068	NA	NA
BUTYLBENZYLPHTHALATE	NA	ND	0.062	ND	0.069	ND	0.063	ND	0.064	NA	NA
CARBAZOLE	NA	ND	0.128	ND	0.144	ND	0.131	ND	0.133	NA	NA
CHRYSENE	500	ND	0.070	ND	0.079	ND	0.072	ND	0.073	NA	NA
DIBENZ(A,H)ANTHRACENE	100	ND	0.055	ND	0.061	ND	0.056	ND	0.057	NA	NA
DIBENZOFURAN	NA	ND	0.065	ND	0.073	ND	0.066	ND	0.067	NA	NA
DIETHYLPHTHALATE	NA	ND	0.061	ND	0.068	ND	0.062	ND	0.063	NA	NA
DIMETHYLPHTHALATE	50	ND	0.066	ND	0.074	ND	0.067	ND	0.069	NA	NA
DI-N-BUTYLPHTHALATE	NA	0.130	0.061	ND	0.068	0.116	0.062	ND	0.063	NA	NA
DI-N-OCTYLPHTHALATE	NA	ND	0.058	ND	0.064	ND	0.059	ND	0.060	NA	NA
FLUORANTHENE	100	ND	0.062	0.097	0.069	ND	0.063	ND	0.064	NA	NA
FLUORENE	100	ND	0.067	ND	0.075	ND	0.068	ND	0.070	NA	NA
HEXACHLOROBENZENE	100	ND	0.068	ND	0.076	ND	0.069	ND	0.071	NA	NA
HEXACHLOROBUTADIENE	100	ND	0.069	ND	0.077	ND	0.070	ND	0.072	NA	NA
HEXACHLOROCYCLOPENTADIENE	100	ND	0.071	ND	0.080	ND	0.073	ND	0.074	NA	NA
HEXACHLOROETHANE	100	ND	0.073	ND	0.081	ND	0.074	ND	0.076	NA	NA
INDENO(1,2,3-CD)PYRENE	500	ND	0.055	ND	0.062	ND	0.056	ND	0.057	NA	NA
ISOPHORONE	50	ND	0.074	ND	0.083	ND	0.075	ND	0.077	NA	NA
NAPHTHALENE	100	ND	0.068	ND	0.076	ND	0.069	ND	0.071	NA	NA
NITROBENZENE	10	ND	0.064	ND	0.072	ND	0.065	ND	0.066	NA	NA
N-NITROSODIMETHYLAMINE	NA	ND	0.057	0.006	0.064	ND	0.058	ND	0.059	NA	NA
N-NITROSO-DI-N-PROPYLAMINE	NA	ND	0.060	ND	0.067	ND	0.061	ND	0.062	NA	NA
N-NITROSODIPHENYLAMINE	100	ND	0.079	ND	0.088	ND	0.080	ND	0.082	NA	NA
PHENANTHRENE	NA	ND	0.070	ND	0.078	ND	0.071	ND	0.073	NA	NA
PYRENE	100	ND	0.065	ND	0.073	ND	0.066	ND	0.068	NA	NA
TENTATIVELY IDENTIFIED COMPOUND	500	ND	NA	ND	NA	ND	NA	ND	NA	NA	NA

TABLE 2B
SOIL ANALYTICAL DATA - SEMI-VOLATILE ORGANIC COMPOUNDS

Former Russo Fuels Ship Bottom Service Station (A/K/A Mr. Big Texaco)
Ship Bottom, New Jersey

Sample ID	NJDEP	PE-2		PE-3		PE-4	
Sample Depth	IMPACT TO	6.0 - 6.5		6.0 - 6.5		6.0 - 6.5	
Lab ID:	GROUND WATER	L2550758-2		L2550758-3		L2550758-4	
Date Sampled:	SOIL CLEANUP	1/23/2008		1/23/2008		1/23/2008	
Matrix:	CRITERIA	Soil		Soil		Soil	
	mg/Kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Semivolatile Organic Compound		Conc	MDL	Conc	MDL	Conc	MDL
1,2,4-TRICHLOROBENZENE	100	NA	NA	NA	NA	NA	NA
1,2-DICHLOROBENZENE	NA	NA	NA	NA	NA	NA	NA
1,2-DIPHENYLHYDRAZINE	NA	NA	NA	NA	NA	NA	NA
1,3-DICHLOROBENZENE	100	NA	NA	NA	NA	NA	NA
1,4-DICHLOROBENZENE	100	NA	NA	NA	NA	NA	NA
2,4-DINITROTOLUENE	10	NA	NA	NA	NA	NA	NA
2,6-DINITROTOLUENE	10	NA	NA	NA	NA	NA	NA
2-CHLORONAPHTHALENE	NA	NA	NA	NA	NA	NA	NA
2-METHYLNAPHTHALENE	NA	NA	NA	NA	NA	NA	NA
2-NITROANILINE	NA	NA	NA	NA	NA	NA	NA
3,3'-DICHLOROBENZIDINE	100	NA	NA	NA	NA	NA	NA
3-NITROANILINE	NA	NA	NA	NA	NA	NA	NA
4-BROMOPHENYL-PHENYLETHER	NA	NA	NA	NA	NA	NA	NA
4-CHLOROANILINE	NA	NA	NA	NA	NA	NA	NA
4-CHLOROPHENYL-PHENYLETHER	NA	NA	NA	NA	NA	NA	NA
4-NITROANILINE	NA	NA	NA	NA	NA	NA	NA
ACENAPHTHENE	100	NA	NA	NA	NA	NA	NA
ACENAPHTHYLENE	NA	NA	NA	NA	NA	NA	NA
ANTHRACENE	100	NA	NA	NA	NA	NA	NA
BENZIDINE	NA	NA	NA	NA	NA	NA	NA
BENZO(A)ANTHRACENE	500	NA	NA	NA	NA	NA	NA
BENZO(A)PYRENE	100	NA	NA	NA	NA	NA	NA
BENZO(B)FLUORANTHENE	50	NA	NA	NA	NA	NA	NA
BENZO(G,H,I)PERYLENE	NA	NA	NA	NA	NA	NA	NA
BENZO(K)FLUORANTHENE	500	NA	NA	NA	NA	NA	NA
BENZOIC ACID	NA	NA	NA	NA	NA	NA	NA
BENZYL ALCOHOL	50	NA	NA	NA	NA	NA	NA
BIS(2-CHLOROETHOXY)METHANE	NA	NA	NA	NA	NA	NA	NA
BIS(2-CHLOROETHYL)ETHER	NA	NA	NA	NA	NA	NA	NA
BIS(2-CHLOROISOPROPYL)ETHER	NA	NA	NA	NA	NA	NA	NA
BIS(2-ETHYLHEXYL)PHTHALATE	NA	NA	NA	NA	NA	NA	NA
BUTYLBENZYLPHTHALATE	NA	NA	NA	NA	NA	NA	NA
CARBAZOLE	NA	NA	NA	NA	NA	NA	NA
CHRYSENE	500	NA	NA	NA	NA	NA	NA
DIBENZ(A,H)ANTHRACENE	100	NA	NA	NA	NA	NA	NA
DIBENZOFURAN	NA	NA	NA	NA	NA	NA	NA
DIETHYLPHTHALATE	NA	NA	NA	NA	NA	NA	NA
DIMETHYLPHTHALATE	50	NA	NA	NA	NA	NA	NA
DI-N-BUTYLPHTHALATE	NA	NA	NA	NA	NA	NA	NA
DI-N-OCTYLPHTHALATE	NA	NA	NA	NA	NA	NA	NA
FLUORANTHENE	100	NA	NA	NA	NA	NA	NA
FLUORENE	100	NA	NA	NA	NA	NA	NA
HEXACHLOROBENZENE	100	NA	NA	NA	NA	NA	NA
HEXACHLOROBUTADIENE	100	NA	NA	NA	NA	NA	NA
HEXACHLOROCYCLOPENTADIENE	100	NA	NA	NA	NA	NA	NA
HEXACHLOROETHANE	100	NA	NA	NA	NA	NA	NA
INDENO(1,2,3-CD)PYRENE	500	NA	NA	NA	NA	NA	NA
ISOPHORONE	50	NA	NA	NA	NA	NA	NA
NAPHTHALENE	100	NA	NA	NA	NA	NA	NA
NITROBENZENE	10	NA	NA	NA	NA	NA	NA
N-NITROSODIMETHYLAMINE	NA	NA	NA	NA	NA	NA	NA
N-NITROSO-DI-N-PROPYLAMINE	NA	NA	NA	NA	NA	NA	NA
N-NITROSODIPHENYLAMINE	100	NA	NA	NA	NA	NA	NA
PHENANTHRENE	NA	NA	NA	NA	NA	NA	NA
PYRENE	100	NA	NA	NA	NA	NA	NA
TENTATIVELY IDENTIFIED COMPOUND	500	NA	NA	NA	NA	NA	NA

TABLE 2C
SOIL ANALYTICAL DATA - TOTAL PETROLEUM HYDROCARBONS AND LEAD

Former Russo Fuels Ship Bottom Service Station (A/K/A Mr. Big Texaco)
Ship Bottom, New Jersey

Sample ID	NJDEP	B-1		B-1 DUP		B-2	
Sample Depth	IMPACT TO	3.0 - 3.5		3.0 - 3.5		4.0 - 4.5	
Lab ID:	GROUND WATER	L2412682-9		L2412682-10		L2412682-11	
Date Sampled:	SOIL CLEANUP	39295		39295		39295	
Matrix:	CRITERIA	Soil		Soil		Soil	
Metals	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
LEAD	6	ND	2.300	ND	2.630	ND	2.340
Total Petroleum Hydrocarbons		mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
PETROLEUM HYDROCARBONS	10000.00	195.00	23.00	171.00	26.30	381.00	23.40

TABLE 2C
SOIL ANALYTICAL DATA - TOTAL PETROLEUM HYDROCARBONS AND LEAD

Former Russo Fuels Ship Bottom Service Station (A/K/A Mr. Big Texaco)
Ship Bottom, New Jersey

Sample ID	NJDEP	B-3		B-4		B-5	
Sample Depth	IMPACT TO	4.0 - 4.5		4.0 - 4.5		3.5 - 4.0	
Lab ID:	GROUND WATER	L2412982-1		L2412982-2		L2412982-3	
Date Sampled:	SOIL CLEANUP	39296		39296		39296	
Matrix:	CRITERIA	Soil		Soil		Soil	
Metals	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
LEAD	6	ND	2.320	ND	2.330	ND	2.320
Total Petroleum Hydrocarbons		mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
PETROLEUM HYDROCARBONS	10000.00	116.00	23.20	157.00	23.30	168.00	23.20

TABLE 2C
SOIL ANALYTICAL DATA - TOTAL PETROLEUM HYDROCARBONS AND LEAD

Former Russo Fuels Ship Bottom Service Station (A/K/A Mr. Big Texaco)
Ship Bottom, New Jersey

Sample ID	NJDEP	B-6A		B-6B		B-7A	
Sample Depth	IMPACT TO	4.0 - 4.5		7.5 - 8.0		3.5 - 4.0	
Lab ID:	GROUND WATER	L2412982-4		L2412982-5		L2412982-6	
Date Sampled:	SOIL CLEANUP	39296		39296		39296	
Matrix:	CRITERIA	Soil		Soil		Soil	
Metals	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
LEAD	6	2.940	2.59	ND	3.790	5.510	2.230
Total Petroleum Hydrocarbons		mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
PETROLEUM HYDROCARBONS	10000.00	259.00	25.90	227.00	37.90	1260.00	112.00

TABLE 2C
SOIL ANALYTICAL DATA - TOTAL PETROLEUM HYDROCARBONS AND LEAD

Former Russo Fuels Ship Bottom Service Station (A/K/A Mr. Big Texaco)
Ship Bottom, New Jersey

Sample ID	NJDEP	B-7B		B-8		B-9	
Sample Depth	IMPACT TO	7.5 - 8.0		3.5 - 4.0		3.5 - 4.0	
Lab ID:	GROUND WATER	L2412982-7		L2412982-8		L2412982-9	
Date Sampled:	SOIL CLEANUP	39296		39296		39296	
Matrix:	CRITERIA	Soil		Soil		Soil	
Metals	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
LEAD	6	ND	2.480	ND	2.420	ND	2.300
Total Petroleum Hydrocarbons		mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
PETROLEUM HYDROCARBONS	10000.00	105.00	24.80	90.60	24.20	74.80	23.00

TABLE 2C
SOIL ANALYTICAL DATA - TOTAL PETROLEUM HYDROCARBONS AND LEAD

Former Russo Fuels Ship Bottom Service Station (A/K/A Mr. Big Texaco)
Ship Bottom, New Jersey

Sample ID	NJDEP	B-10A		B-10B		B-11	
Sample Depth	IMPACT TO	4.0 - 4.5		10.5 - 11.0		9.5 - 10.0	
Lab ID:	GROUND WATER	L2412682-12		L2412682-13		L2412682-14	
Date Sampled:	SOIL CLEANUP	39295		39295		39295	
Matrix:	CRITERIA	Soil		Soil		Soil	
Metals	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
LEAD	6	3.000	2.250	3.180	2.320	6.030	2.390
Total Petroleum Hydrocarbons		mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
PETROLEUM HYDROCARBONS	10000.00	NM	NA	NM	NA	NM	NA

TABLE 2C
SOIL ANALYTICAL DATA - TOTAL PETROLEUM HYDROCARBONS AND LEAD

Former Russo Fuels Ship Bottom Service Station (A/K/A Mr. Big Texaco)
Ship Bottom, New Jersey

Sample ID	NJDEP	B-12A		B-12B		B-13A	
Sample Depth	IMPACT TO	4.5 - 5.0		9.5 - 10.0		6.0 - 6.5	
Lab ID:	GROUND WATER	L2412682-15		L2412682-16		L2412982-10	
Date Sampled:	SOIL CLEANUP	39295		39295		39296	
Matrix:	CRITERIA	Soil		Soil		Soil	
Metals	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
LEAD	6	18.300	2.490	ND	2.450	ND	2.580
Total Petroleum Hydrocarbons		mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
PETROLEUM HYDROCARBONS	10000.00	NM	NA	NM	NA	NM	NA

TABLE 2C
SOIL ANALYTICAL DATA - TOTAL PETROLEUM HYDROCARBONS AND LEAD

Former Russo Fuels Ship Bottom Service Station (A/K/A Mr. Big Texaco)
Ship Bottom, New Jersey

Sample ID	NJDEP	B-13B		B-14A		B-14B	
Sample Depth	IMPACT TO	8.0 - 8.5		8.0 - 8.5		11.5 - 12.0	
Lab ID:	GROUND WATER	L2412982-11		L2412982-12		L2412982-13	
Date Sampled:	SOIL CLEANUP	39296		39296		39296	
Matrix:	CRITERIA	Soil		Soil		Soil	
Metals	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
LEAD	6	ND	NA	11.000	2.350	ND	2.370
Total Petroleum Hydrocarbons		mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
PETROLEUM HYDROCARBONS	10000.00	83.76	0.01	NM	NA	NM	NA

TABLE 2C
SOIL ANALYTICAL DATA - TOTAL PETROLEUM HYDROCARBONS AND LEAD

Former Russo Fuels Ship Bottom Service Station (A/K/A Mr. Big Texaco)
Ship Bottom, New Jersey

Sample ID	NJDEP	B-15		B-16A		B-16B	
Sample Depth	IMPACT TO	8.5 - 9.0		8.5 - 9.0		4.0 - 4.5	
Lab ID:	GROUND WATER	L2412682-17		L2412682-18		L2412682-19	
Date Sampled:	SOIL CLEANUP	39295		39295		39295	
Matrix:	CRITERIA	Soil		Soil		Soil	
Metals	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
LEAD	6	ND	2.370	2.740	2.380	ND	2.300
Total Petroleum Hydrocarbons		mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
PETROLEUM HYDROCARBONS	10000.00	NM	NA	NM	NA	NM	NA

TABLE 2C
SOIL ANALYTICAL DATA - TOTAL PETROLEUM HYDROCARBONS AND LEAD

Former Russo Fuels Ship Bottom Service Station (A/K/A Mr. Big Texaco)
Ship Bottom, New Jersey

Sample ID	NJDEP	B-17		B-18		B-24	
Sample Depth	IMPACT TO	8.5 - 9.0		4.5 - 5.0		3.5 - 4.0	
Lab ID:	GROUND WATER	L2412682-20		L2412682-21		L2412982-14	
Date Sampled:	SOIL CLEANUP	39295		39295		39296	
Matrix:	CRITERIA	Soil		Soil		Soil	
Metals	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
LEAD	6	ND	2.370	4.230	2.160	NM	NA
Total Petroleum Hydrocarbons		mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
PETROLEUM HYDROCARBONS	10000.00	NM	NA	NM	NA	179.00	25.60

TABLE 2C
SOIL ANALYTICAL DATA - TOTAL PETROLEUM HYDROCARBONS AND LEAD

Former Russo Fuels Ship Bottom Service Station (A/K/A Mr. Big Texaco)
Ship Bottom, New Jersey

Sample ID	NJDEP	B-25		B-26		B-27	
Sample Depth	IMPACT TO	3.5 - 4.0		3.5 - 4.0		3.5 - 4.0	
Lab ID:	GROUND WATER	L2412982-15		L2412982-16		L2412982-17	
Date Sampled:	SOIL CLEANUP	39296		39296		39296	
Matrix:	CRITERIA	Soil		Soil		Soil	
Metals	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
LEAD	6	NM	NA	NM	NA	NM	NA
Total Petroleum Hydrocarbons		mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
PETROLEUM HYDROCARBONS	10000.00	184.00	23.70	104.00	24.50	97.10	22.80

TABLE 2C
SOIL ANALYTICAL DATA - TOTAL PETROLEUM HYDROCARBONS AND LEAD

Former Russo Fuels Ship Bottom Service Station (A/K/A Mr. Big Texaco)
Ship Bottom, New Jersey

Sample ID	NJDEP	B-28		B-29		B-30	
Sample Depth	IMPACT TO	3.5 = 4.0		4.0 - 4.5		4.0 - 4.5	
Lab ID:	GROUND WATER	L2412982-18		L2412982-19		L2412982-20	
Date Sampled:	SOIL CLEANUP	39296		39296		39296	
Matrix:	CRITERIA	Soil		Soil		Soil	
Metals	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
LEAD	6	NM	NA	74.500	2.250	2.390	2.390
Total Petroleum Hydrocarbons		mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
PETROLEUM HYDROCARBONS	10000.00	602.00	60.20	383.00	22.50	95.80	23.90

TABLE 2C
SOIL ANALYTICAL DATA - TOTAL PETROLEUM HYDROCARBONS AND LEAD

Former Russo Fuels Ship Bottom Service Station (A/K/A Mr. Big Texaco)
Ship Bottom, New Jersey

Sample ID	NJDEP	B-31A		B-31B		B-
Sample Depth	IMPACT TO	3.5 - 4.0		7.5 - 8.0		4.0 -
Lab ID:	GROUND WATER	L2412982-21		L2412982-22		L2412
Date Sampled:	SOIL CLEANUP	39296		39296		39
Matrix:	CRITERIA	Soil		Soil		S
Metals	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
LEAD	6	48.000	2.410	ND	2.480	ND
Total Petroleum Hydrocarbons		mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
PETROLEUM HYDROCARBONS	10000.00	18400.00	1210.00	105.00	24.80	130.00

TABLE 2C
SOIL ANALYTICAL DATA - TOTAL PETROLEUM HYDROCARBONS AND LEAD

Former Russo Fuels Ship Bottom Service Station (A/K/A Mr. Big Texaco)
Ship Bottom, New Jersey

Sample ID	**NJDEP**	**32**
Sample Depth	**IMPACT TO**	**4.5**
Lab ID:	**GROUND WATER**	**982-23**
Date Sampled:	**SOIL CLEANUP**	**296**
Matrix:	**CRITERIA**	**oil**
Metals	**mg/Kg**	**mg/Kg**
LEAD	6	2.470
Total Petroleum Hydrocarbons		**mg/Kg**
PETROLEUM HYDROCARBONS	10000.00	24.70

TABLE 2C
SOIL ANALYTICAL DATA - TOTAL PETROLEUM HYDROCARBONS AND LEAD

Former Russo Fuels Ship Bottom Service Station (A/K/A Mr. Big Texaco)
Ship Bottom, New Jersey

Sample ID	NJDEP	B-33		B-33 DUP		B-34	
Sample Depth	IMPACT TO	4.0 - 4.5		4.0 - 4.5		3.5 - 4.0	
Lab ID:	GROUND WATER	L2412982-24		L2412982-25		L2441096-1	
Date Sampled:	SOIL CLEANUP	39296		39296		39332	
Matrix:	CRITERIA	Soil		Soil		Soil	
Metals	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
LEAD	6	ND	2.770	3.090	2.510	ND	2.560
Total Petroleum Hydrocarbons		mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
PETROLEUM HYDROCARBONS	10000.00	152.00	27.70	100.00	25.10	NM	NA

TABLE 2C
SOIL ANALYTICAL DATA - TOTAL PETROLEUM HYDROCARBONS AND LEAD

Former Russo Fuels Ship Bottom Service Station (A/K/A Mr. Big Texaco)
Ship Bottom, New Jersey

Sample ID	NJDEP	PE-1		PE-2		PE-3	
Sample Depth	IMPACT TO	6.0 - 6.5		6.0 - 6.5		6.0 - 6.5	
Lab ID:	GROUND WATER	L2550758-1		L2550758-2		L2550758-3	
Date Sampled:	SOIL CLEANUP	1/23/2008		1/23/2008		1/23/2008	
Matrix:	CRITERIA	Soil		Soil		Soil	
Metals	mg/Kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
LEAD	6	131	2.99	127	2.37	52.5	2.6
Total Petroleum Hydrocarbons		mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
PETROLEUM HYDROCARBONS	10000.00	ND	29.90	60.50	23.70	ND	26.00

TABLE 2C
SOIL ANALYTICAL DATA - TOTAL PETROLEUM HYDROCARBONS AND LEAD

Former Russo Fuels Ship Bottom Service Station (A/K/A Mr. Big Texaco)
Ship Bottom, New Jersey

Sample ID	NJDEP	PE-4		PE-6		PE-7	
Sample Depth	IMPACT TO	6.0 - 6.5		8.0		8.0	
Lab ID:	GROUND WATER	L2550758-4		L2602356-1		L2602356-2	
Date Sampled:	SOIL CLEANUP	1/23/2008		3/27/2008		3/27/2008	
Matrix:	CRITERIA	Soil		Soil		Soil	
Metals	mg/Kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
LEAD	6	32.3	2.47	ND	2.79	ND	2.62
Total Petroleum Hydrocarbons		mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
PETROLEUM HYDROCARBONS	10000.00	ND	24.70	71.1 J	55.8	103. J	52.3

TABLE 2C
SOIL ANALYTICAL DATA - TOTAL PETROLEUM HYDROCARBONS AND LEAD

Former Russo Fuels Ship Bottom Service Station (A/K/A Mr. Big Texaco)
Ship Bottom, New Jersey

Sample ID	NJDEP	PE-8		PE-9		PE-10	
Sample Depth	IMPACT TO	7.5		7.5		8.0	
Lab ID:	GROUND WATER	L2602356-3		L2602356-4		L2602356-5	
Date Sampled:	SOIL CLEANUP	3/27/2008		3/27/2008		3/27/2008	
Matrix:	CRITERIA	Soil		Soil		Soil	
Metals	mg/Kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
LEAD	6	8.07	3.95	ND	2.58	ND	2.52
Total Petroleum Hydrocarbons		mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
PETROLEUM HYDROCARBONS	10000.00	128. J	78.9	ND	51.6	ND	50.5

TABLE 2C
SOIL ANALYTICAL DATA - TOTAL PETROLEUM HYDROCARBONS AND LEAD

Former Russo Fuels Ship Bottom Service Station (A/K/A Mr. Big Texaco)
Ship Bottom, New Jersey

Sample ID	NJDEP	PE-11		PE-12		PE-13	
Sample Depth	IMPACT TO	8.0		8.5		8.5	
Lab ID:	GROUND WATER	L2602356-6		L2602356-7		L2602356-8	
Date Sampled:	SOIL CLEANUP	3/27/2008		3/27/2008		3/27/2008	
Matrix:	CRITERIA	Soil		Soil		Soil	
Metals	mg/Kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
LEAD	6	7.62	2.4	ND	2.46	6.64	3.68
Total Petroleum Hydrocarbons		mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
PETROLEUM HYDROCARBONS	10000.00	213. J	48.1	ND	49.2	192. J	73.6

TABLE 2C
SOIL ANALYTICAL DATA - TOTAL PETROLEUM HYDROCARBONS AND LEAD

Former Russo Fuels Ship Bottom Service Station (A/K/A Mr. Big Texaco)
Ship Bottom, New Jersey

Sample ID	NJDEP	PE-14		PE-15	
Sample Depth	IMPACT TO	12.0		12.0	
Lab ID:	GROUND WATER	L2602356-9		L2602356-10	
Date Sampled:	SOIL CLEANUP	3/27/2008		3/27/2008	
Matrix:	CRITERIA	Soil		Soil	
Metals	mg/Kg	ug/kg	ug/kg	ug/kg	ug/kg
LEAD	6	ND	2.61	ND	2.43
Total Petroleum Hydrocarbons		mg/Kg	mg/Kg	mg/Kg	mg/Kg
PETROLEUM HYDROCARBONS	10000.00	ND	52.1	ND	48.7

TABLE 3
EXCAVATION BACKFILL WASTE CLASSIFICATION ANALYTICAL DATA

Former Russo Ship Bottom Service Station (A/K/A/ Mr. Big Texaco)
Ship Bottom, New Jersey

Client ID:	NJDEP	B-16B	B-17	B-18
Sample Depth	IMPACT TO	4.0 - 4.5	8.5 - 9.0	4.5 - 5.0
Lab ID:	GROUNDWATER	L2412682-19	L2412682-20	L2412682-21
Date Sampled:	SOIL CLEANUP	08/01/2007	08/01/2007	08/01/2007
Matrix:	CRITERIA	Soil	Soil	Soil
	mg/Kg	ug/Kg	ug/Kg	ug/Kg
Semivolatiles	Conc	Conc	Conc	Conc
DIOXIN SCREEN	NA	ND	NA	ND
MERCURY	NA	ND	ND	ND
SILVER	NA	ND	ND	ND
ARSENIC	NA	ND	ND	ND
BERYLLIUM	NA	ND	ND	ND
CADMIUM	NA	ND	ND	ND
CHROMIUM	20	1.93	2.38	5.62
COPPER	NA	ND	ND	2.2
NICKEL	NA	ND	ND	2.59
LEAD	NA	ND	ND	4.23
ANTIMONY	NA	ND	ND	ND
SELENIUM	NA	ND	ND	ND
THALLIUM	NA	ND	ND	ND
ZINC	NA	8	3.79	3.87
AROCLOR-1016	NA	ND	ND D	ND D
AROCLOR-1221	NA	ND	ND D	ND D
AROCLOR-1232	NA	ND	ND D	ND D
AROCLOR-1242	NA	ND	ND D	ND D
AROCLOR-1248	NA	ND	ND D	ND D
AROCLOR-1254	NA	ND	ND D	ND D
AROCLOR-1260	NA	ND	ND D	ND D
ALPHA-BHC	NA	ND	NA	ND D
BETA-BHC	NA	ND	NA	ND D
DELTA-BHC	NA	ND	NA	ND D
GAMMA-BHC (LINDANE)	50	ND	NA	ND D
HEPTACHLOR	50	ND	NA	ND D
ALDRIN	50	ND	NA	ND D
HEPTACHLOR EPOXIDE	NA	ND	NA	ND D
ENDOSULFAN I	NA	ND	NA	ND D
DIELDRIN	50	ND	NA	ND D
4,4'-DDE	50	ND	NA	ND D
ENDRIN	50	ND	NA	ND D
ENDRIN ALDEHYDE	NA	ND	NA	ND D
ENDOSULFAN II	NA	ND	NA	ND D
4,4'-DDD	50	ND	NA	ND D
ENDOSULFAN SULFATE	NA	ND	NA	ND D
4,4'-DDT	500	ND	NA	ND D

TABLE 3
EXCAVATION BACKFILL WASTE CLASSIFICATION ANALYTICAL DATA

Former Russo Ship Bottom Service Station (A/K/A/ Mr. Big Texaco)
Ship Bottom, New Jersey

Client ID:	NJDEP	B-16B	B-17	B-18
Sample Depth	IMPACT TO	4.0 - 4.5	8.5 - 9.0	4.5 - 5.0
Lab ID:	GROUNDWATER	L2412682-19	L2412682-20	L2412682-21
Date Sampled:	SOIL CLEANUP	08/01/2007	08/01/2007	08/01/2007
Matrix:	CRITERIA	Soil	Soil	Soil
	mg/Kg	ug/Kg	ug/Kg	ug/Kg
Semivolatiles	Conc	Conc	Conc	Conc
CHLORDANE	NA	ND	NA	ND D
TOXAPHENE	50	ND	NA	ND D
METHOXYCHLOR	50	ND	NA	ND D
MIREX	NA	ND	NA	ND D
PHENOL	50	11	NA	ND
CYANIDE, TOTAL	NA	ND	NA	ND
PHENOL	50	NA	NA	ND
2-CHLOROPHENOL	10	NA	NA	ND
2-METHYLPHENOL	NA	NA	NA	ND
3&4-METHYLPHENOL	NA	NA	NA	ND
2-NITROPHENOL	NA	NA	NA	ND
2,4-DIMETHYLPHENOL	10	NA	NA	ND
2,4-DICHLOROPHENOL	10	NA	NA	ND
4-CHLORO-3-METHYLPHENOL	100	NA	NA	ND
2,4,6-TRICHLOROPHENOL	10	NA	NA	ND
2,4,5-TRICHLOROPHENOL	50	NA	NA	ND
2,4-DINITROTOLUENE	10	NA	NA	ND
4-NITROPHENOL	NA	NA	NA	ND
4,6-DINITRO-2-METHYLPHENOL	NA	NA	NA	ND
PENTACHLOROPHENOL	100	NA	NA	ND

TABLE 4
GROUNDWATER
SAMPLING PROTOCOL AND AREAS OF CONCERN

Former Russo Ship Bottom Service Station
Ship Bottom, New Jersey

Sample Location	Areas of Concern	Sample Matrix	Sample Analysis
PB-1	2 feet Outside of Excavation	Groundwater	VO+10, MTBE, TBA, Lead, TPH, B/N+15
PB-2	2 feet Outside of Excavation	Groundwater	VO+10, MTBE, TBA, Lead, TPH, B/N+15
PB-5	2 feet Outside of Excavation	Groundwater	VO+10, MTBE, TBA, Lead, TPH, B/N+15
PB-8	2 feet Outside of Excavation	Groundwater	No Sampled
PB-9	2 feet Outside of Excavation	Groundwater	Not Sampled
PB-10	Excavation Area at UST #1	Groundwater	VO+10, MTBE, TBA, Lead, TPH, B/N+15
PB-13	Excavation Area at UST #4	Groundwater	Not Sampled
PB-18	Center of Excavation	Groundwater	VO+10, MTBE, TBA, Lead, TPH, B/N+15
PB-19	2 feet Outside of Excavation	Groundwater	VO+10, MTBE, TBA, Lead, TPH, B/N+15
PB-20	General Site Delineation	Groundwater	VO+10, MTBE, TBA, Lead, TPH, B/N+15
PB-21	General Site Delineation	Groundwater	VO+10, MTBE, TBA, Lead, TPH, B/N+15
PB-22	General Site Delineation	Groundwater	VO+10, MTBE, TBA, Lead, TPH, B/N+15
PB-23	General Site Delineation	Groundwater	VO+10, MTBE, TBA, Lead, TPH, B/N+15
PB-26	550 Gallon Heating Oil UST	Groundwater	VO+10, B/N+15
PB-27	550 Gallon Heating Oil UST	Groundwater	VO+10, B/N+15
PB-28	550 Gallon Heating Oil UST	Groundwater	VO+10, B/N+15
TMW-1	General Site Delineation	Groundwater	VO+10, MTBE, TBA
TMW-2	Tank Field	Groundwater	VO+10, MTBE, TBA
TMW-3	General Site Delineation	Groundwater	VO+10, MTBE, TBA
TMW-4	General Site Delineation	Groundwater	VO+10, MTBE, TBA
TMW-5	General Site Delineation	Groundwater	VO+10, MTBE, TBA
TMW-6	General Site Delineation	Groundwater	VO+10, MTBE, TBA
TMW-7	General Site Delineation	Groundwater	VO+10, MTBE, TBA
TMW-8	General Site Delineation	Groundwater	VO+10, MTBE, TBA
TMW-9	General Site Delineation	Groundwater	VO+10, MTBE, TBA
TMW-10	General Site Delineation	Groundwater	VO+10, MTBE, TBA

TABLE 5A
GROUNDWATER ANALYTICAL DATA - VOLATILE ORGANIC COMPOUNDS

Former Russo Ship Bottom Service Station (A/K/A/ Mr. Big Texaco)
Ship Bottom, New Jersey

Sample ID:	HIGHER	B-1		B-2		B-5	
Lab ID:	OF	L2412682-1		L2412682-2		L2412982-26	
Date Sampled:	PQL or	8/1/2007		8/1/2007		8/2/2007	
Matrix:	GWQC	Groundwater		Groundwater		Groundwater	
Volatile Organic Compounds	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l
1,1,1-TRICHLOROETHANE	30	ND	0.62	ND	0.62	ND	1.24
1,1,2,2-TETRACHLOROETHANE	1(ISM)	ND	0.57	ND	0.57	ND	1.14
1,1,2-TRICHLOROETHANE	3	ND	0.70	ND	0.70	ND	1.40
1,1-DICHLOROETHANE	50(ISM)	ND	0.55	ND	0.55	ND	1.10
1,1-DICHLOROETHENE	2	ND	0.77	ND	0.77	ND	1.54
1,2-DICHLOROBENZENE	600	ND	0.55	ND	0.55	ND	1.10
1,2-DICHLOROETHANE	2	ND	0.71	ND	0.71	ND	1.42
1,2-DICHLOROPROPANE	1	ND	0.58	ND	0.58	ND	1.16
1,3-DICHLOROBENZENE	600	ND	0.43	ND	0.43	ND	0.86
1,4-DICHLOROBENZENE	75	ND	0.59	ND	0.59	ND	1.18
2-CHLOROETHYL VINYL ETHER	100(IGNC)	ND	0.62	ND	0.62	ND	1.24
BENZENE	1	ND	0.61	ND	0.61	ND	1.22
BROMODICHLOROMETHANE	1	ND	0.59	ND	0.59	ND	1.18
BROMOFORM	4	ND	0.70	ND	0.70	ND	1.40
BROMOMETHANE	10	ND	0.83	ND	0.83	ND	1.66
CARBON TETRACHLORIDE	2	ND	0.64	ND	0.64	ND	1.28
CHLOROBENZENE	50(ISM)	ND	0.67	ND	0.67	ND	1.34
CHLOROETHANE	100(IGNC)	ND	1.09	ND	1.09	ND	2.18
CHLOROFORM	6	0.56	0.56	ND	0.56	ND	1.12
CHLOROMETHANE	30	ND	0.64	ND	0.64	ND	1.28
CIS-1,3-DICHLOROPROPENE	(NA)	ND	0.54	ND	0.54	ND	1.08
DIBROMOCHLOROMETHANE	10	ND	0.58	ND	0.58	ND	1.16
ETHYL BENZENE	700	ND	0.53	ND	0.53	ND	1.06
TOTAL XYLENES	1000(ISM)	ND	1.61	ND	1.61	ND	3.22
METHYL TERTIARY BUTYL ETHER	70(ISM)	1.51	0.59	ND	0.59	3.96	1.18
METHYLENE CHLORIDE		ND	0.69	ND	0.69	ND	1.38
TERTIARY BUTYL ALCOHOL	100(IS)	ND	18.20	ND	18.20	37.10	36.40
TETRACHLOROETHENE	1	ND	0.66	ND	0.66	ND	1.32
TOLUENE	1000	ND	0.54	ND	0.54	ND	1.08
TRANS-1,2-DICHLOROETHENE	100	ND	0.56	ND	0.56	ND	1.12
TRANS-1,3-DICHLOROPROPENE	(NA)	ND	0.67	ND	0.67	ND	1.34
TRICHLOROETHENE	1	ND	0.66	ND	0.66	ND	1.32
TRICHLOROFLUOROMETHANE	2000(IS)	ND	0.88	ND	0.88	ND	1.76
VINYL CHLORIDE	5	ND	0.82	ND	0.82	ND	1.64
Tentatively Identified Compounds	500	ND	NA	ND	NA	**608.80**	NA

TABLE 5A
GROUNDWATER ANALYTICAL DATA - VOLATILE ORGANIC COMPOUNDS

Former Russo Ship Bottom Service Station (A/K/A/ Mr. Big Texaco)
Ship Bottom, New Jersey

Sample ID:	HIGHER	B-10		B-18		B-19	
Lab ID:	OF	L2412682-3		L2412682-4		L2412682-5	
Date Sampled:	PQL or	8/1/2007		8/1/2007		8/1/2007	
Matrix:	GWQC	Groundwater		Groundwater		Groundwater	
Volatile Organic Compounds	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l
1,1,1-TRICHLOROETHANE	30	ND	0.62	ND	0.62	ND	0.62
1,1,2,2-TETRACHLOROETHANE	1(ISM)	ND	0.57	ND	0.57	ND	0.57
1,1,2-TRICHLOROETHANE	3	ND	0.70	ND	0.70	ND	0.70
1,1-DICHLOROETHANE	50(ISM)	ND	0.55	ND	0.55	ND	0.55
1,1-DICHLOROETHENE	2	ND	0.77	ND	0.77	ND	0.77
1,2-DICHLOROBENZENE	600	ND	0.55	ND	0.55	ND	0.55
1,2-DICHLOROETHANE	2	ND	0.71	ND	0.71	ND	0.71
1,2-DICHLOROPROPANE	1	ND	0.58	ND	0.58	ND	0.58
1,3-DICHLOROBENZENE	600	ND	0.43	ND	0.43	ND	0.43
1,4-DICHLOROBENZENE	75	ND	0.59	ND	0.59	ND	0.59
2-CHLOROETHYL VINYL ETHER	100(IGNC)	ND	0.62	ND	0.62	ND	0.62
BENZENE	1	ND	0.61	ND	0.61	ND	0.61
BROMODICHLOROMETHANE	1	ND	0.59	ND	0.59	ND	0.59
BROMOFORM	4	ND	0.70	ND	0.70	ND	0.70
BROMOMETHANE	10	ND	0.83	ND	0.83	ND	0.83
CARBON TETRACHLORIDE	2	ND	0.64	ND	0.64	ND	0.64
CHLOROBENZENE	50(ISM)	ND	0.67	ND	0.67	ND	0.67
CHLOROETHANE	100(IGNC)	ND	1.09	ND	1.09	ND	1.09
CHLOROFORM	6	ND	0.56	ND	0.56	ND	0.56
CHLOROMETHANE	30	ND	0.64	ND	0.64	ND	0.64
CIS-1,3-DICHLOROPROPENE	(NA)	ND	0.54	ND	0.54	ND	0.54
DIBROMOCHLOROMETHANE	10	ND	0.58	ND	0.58	ND	0.58
ETHYL BENZENE	700	ND	0.53	ND	0.53	ND	0.53
TOTAL XYLENES	1000(ISM)	ND	1.61	ND	1.61	ND	1.61
METHYL TERTIARY BUTYL ETHER	70(ISM)	ND	0.59	0.70	0.59	ND	0.59
METHYLENE CHLORIDE		ND	0.69	ND	0.69	ND	0.69
TERTIARY BUTYL ALCOHOL	100(IS)	ND	18.20	ND	18.20	ND	18.20
TETRACHLOROETHENE	1	ND	0.66	ND	0.66	ND	0.66
TOLUENE	1000	ND	0.54	ND	0.54	ND	0.54
TRANS-1,2-DICHLOROETHENE	100	ND	0.56	ND	0.56	ND	0.56
TRANS-1,3-DICHLOROPROPENE	(NA)	ND	0.67	ND	0.67	ND	0.67
TRICHLOROETHENE	1	ND	0.66	ND	0.66	ND	0.66
TRICHLOROFLUOROMETHANE	2000(IS)	ND	0.88	ND	0.88	ND	0.88
VINYL CHLORIDE	5	ND	0.82	ND	0.82	ND	0.82
Tentatively Identified Compounds	500	ND	NA	**57.91**	NA	ND	NA

TABLE 5A
GROUNDWATER ANALYTICAL DATA - VOLATILE ORGANIC COMPOUNDS

Former Russo Ship Bottom Service Station (A/K/A/ Mr. Big Texaco)
Ship Bottom, New Jersey

Sample ID:	HIGHER	B-20		B-21		B-22	
Lab ID:	OF	L2412982-27		L2412982-36		L2412982-28	
Date Sampled:	PQL or	8/2/2007		8/2/2007		8/2/2007	
Matrix:	GWQC	Groundwater		Groundwater		Groundwater	
Volatile Organic Compounds	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l
1,1,1-TRICHLOROETHANE	30	ND	0.62	ND	0.62	ND	0.62
1,1,2,2-TETRACHLOROETHANE	1(ISM)	ND	0.57	ND	0.57	ND	0.57
1,1,2-TRICHLOROETHANE	3	ND	0.70	ND	0.70	ND	0.70
1,1-DICHLOROETHANE	50(ISM)	ND	0.55	ND	0.55	ND	0.55
1,1-DICHLOROETHENE	2	ND	0.77	ND	0.77	ND	0.77
1,2-DICHLOROBENZENE	600	ND	0.55	ND	0.55	ND	0.55
1,2-DICHLOROETHANE	2	ND	0.71	ND	0.71	ND	0.71
1,2-DICHLOROPROPANE	1	ND	0.58	ND	0.58	ND	0.58
1,3-DICHLOROBENZENE	600	ND	0.43	ND	0.43	ND	0.43
1,4-DICHLOROBENZENE	75	ND	0.59	ND	0.59	ND	0.59
2-CHLOROETHYL VINYL ETHER	100(IGNC)	ND	0.62	ND	0.62	ND	0.62
BENZENE	1	ND	0.61	ND	0.61	ND	0.61
BROMODICHLOROMETHANE	1	ND	0.59	ND	0.59	ND	0.59
BROMOFORM	4	ND	0.70	ND	0.70	ND	0.70
BROMOMETHANE	10	ND	0.83	ND	0.83	ND	0.83
CARBON TETRACHLORIDE	2	ND	0.64	ND	0.64	ND	0.64
CHLOROBENZENE	50(ISM)	ND	0.67	ND	0.67	ND	0.67
CHLOROETHANE	100(IGNC)	ND	1.09	ND	1.09	ND	1.09
CHLOROFORM	6	ND	0.56	ND	0.56	ND	0.56
CHLOROMETHANE	30	ND	0.64	ND	0.64	ND	0.64
CIS-1,3-DICHLOROPROPENE	(NA)	ND	0.54	ND	0.54	ND	0.54
DIBROMOCHLOROMETHANE	10	ND	0.58	ND	0.58	ND	0.58
ETHYL BENZENE	700	ND	0.53	ND	0.53	ND	0.53
TOTAL XYLENES	1000(ISM)	**2.39**	1.61	ND	1.61	ND	1.61
METHYL TERTIARY BUTYL ETHER	70(ISM)	11.90	0.59	4.10	0.59	ND	0.59
METHYLENE CHLORIDE		ND	0.69	ND	0.69	ND	0.69
TERTIARY BUTYL ALCOHOL	100(IS)	ND	18.20	46.80	18.20	ND	18.20
TETRACHLOROETHENE	1	ND	0.66	ND	0.66	ND	0.66
TOLUENE	1000	ND	0.54	ND	0.54	ND	0.54
TRANS-1,2-DICHLOROETHENE	100	ND	0.56	ND	0.56	ND	0.56
TRANS-1,3-DICHLOROPROPENE	(NA)	ND	0.67	ND	0.67	ND	0.67
TRICHLOROETHENE	1	ND	0.66	ND	0.66	ND	0.66
TRICHLOROFLUOROMETHANE	2000(IS)	ND	0.88	ND	0.88	ND	0.88
VINYL CHLORIDE	5	ND	0.82	ND	0.82	ND	0.82
Tentatively Identified Compounds	500	**78.61**	NA	**100.36**	NA	ND	NA

TABLE 5A
GROUNDWATER ANALYTICAL DATA - VOLATILE ORGANIC COMPOUNDS

Former Russo Ship Bottom Service Station (A/K/A/ Mr. Big Texaco)
Ship Bottom, New Jersey

Sample ID:	HIGHER	B-22 DUP		B-23		B-26	
Lab ID:	OF	L2412982-32		L2412682-6		L2412982-29	
Date Sampled:	PQL or	8/2/2007		8/1/2007		8/2/2007	
Matrix:	GWQC	Groundwater		Groundwater		Groundwater	
Volatile Organic Compounds	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l
1,1,1-TRICHLOROETHANE	30	ND	0.62	ND	0.62	ND	0.62
1,1,2,2-TETRACHLOROETHANE	1(ISM)	ND	0.57	ND	0.57	ND	0.57
1,1,2-TRICHLOROETHANE	3	ND	0.70	ND	0.70	ND	0.70
1,1-DICHLOROETHANE	50(ISM)	ND	0.55	ND	0.55	ND	0.55
1,1-DICHLOROETHENE	2	ND	0.77	ND	0.77	ND	0.77
1,2-DICHLOROBENZENE	600	ND	0.55	ND	0.55	ND	0.55
1,2-DICHLOROETHANE	2	ND	0.71	ND	0.71	ND	0.71
1,2-DICHLOROPROPANE	1	ND	0.58	ND	0.58	ND	0.58
1,3-DICHLOROBENZENE	600	ND	0.43	ND	0.43	ND	0.43
1,4-DICHLOROBENZENE	75	ND	0.59	ND	0.59	ND	0.59
2-CHLOROETHYL VINYL ETHER	100(IGNC)	ND	0.62	ND	0.62	ND	0.62
BENZENE	1	ND	0.61	ND	0.61	ND	0.61
BROMODICHLOROMETHANE	1	ND	0.59	ND	0.59	ND	0.59
BROMOFORM	4	ND	0.70	ND	0.70	ND	0.70
BROMOMETHANE	10	ND	0.83	ND	0.83	ND	0.83
CARBON TETRACHLORIDE	2	ND	0.64	ND	0.64	ND	0.64
CHLOROBENZENE	50(ISM)	ND	0.67	ND	0.67	ND	0.67
CHLOROETHANE	100(IGNC)	ND	1.09	ND	1.09	ND	1.09
CHLOROFORM	6	ND	0.56	ND	0.56	ND	0.56
CHLOROMETHANE	30	ND	0.64	ND	0.64	ND	0.64
CIS-1,3-DICHLOROPROPENE	(NA)	ND	0.54	ND	0.54	ND	0.54
DIBROMOCHLOROMETHANE	10	ND	0.58	ND	0.58	ND	0.58
ETHYL BENZENE	700	ND	0.53	ND	0.53	ND	0.53
TOTAL XYLENES	1000(ISM)	ND	1.61	ND	1.61	ND	1.61
METHYL TERTIARY BUTYL ETHER	70(ISM)	ND	0.59	ND	0.59	2.53	0.59
METHYLENE CHLORIDE		ND	0.69	ND	0.69	ND	0.69
TERTIARY BUTYL ALCOHOL	100(IS)	ND	18.20	ND	18.20	54.70	18.20
TETRACHLOROETHENE	1	ND	0.66	ND	0.66	ND	0.66
TOLUENE	1000	ND	0.54	ND	0.54	ND	0.54
TRANS-1,2-DICHLOROETHENE	100	ND	0.56	ND	0.56	ND	0.56
TRANS-1,3-DICHLOROPROPENE	(NA)	ND	0.67	ND	0.67	ND	0.67
TRICHLOROETHENE	1	ND	0.66	ND	0.66	ND	0.66
TRICHLOROFLUOROMETHANE	2000(IS)	ND	0.88	ND	0.88	ND	0.88
VINYL CHLORIDE	5	ND	0.82	ND	0.82	ND	0.82
Tentatively Identified Compounds	500	ND	NA	ND	NA	**3.40**	NA

TABLE 5A
GROUNDWATER ANALYTICAL DATA - VOLATILE ORGANIC COMPOUNDS

Former Russo Ship Bottom Service Station (A/K/A/ Mr. Big Texaco)
Ship Bottom, New Jersey

Sample ID:	HIGHER	B-27		B-28		TMW-1	
Lab ID:	OF	L2412982-30		L2412982-31		L2639450-1	
Date Sampled:	PQL or	8/2/2007		8/2/2007		5/6/2008	
Matrix:	GWQC	Groundwater		Groundwater		Groundwater	
Volatile Organic Compounds	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l
1,1,1-TRICHLOROETHANE	30	ND	0.62	ND	0.62	ND	0.52
1,1,2,2-TETRACHLOROETHANE	1(ISM)	ND	0.57	ND	0.57	ND	0.61
1,1,2-TRICHLOROETHANE	3	ND	0.70	ND	0.70	ND	0.37
1,1-DICHLOROETHANE	50(ISM)	ND	0.55	ND	0.55	ND	0.48
1,1-DICHLOROETHENE	2	ND	0.77	ND	0.77	ND	0.75
1,2-DICHLOROBENZENE	600	ND	0.55	ND	0.55	ND	0.55
1,2-DICHLOROETHANE	2	ND	0.71	ND	0.71	ND	0.49
1,2-DICHLOROPROPANE	1	ND	0.58	ND	0.58	ND	0.52
1,3-DICHLOROBENZENE	600	ND	0.43	ND	0.43	ND	0.48
1,4-DICHLOROBENZENE	75	ND	0.59	ND	0.59	ND	0.59
2-CHLOROETHYL VINYL ETHER	100(IGNC)	ND	0.62	ND	0.62	ND	0.62
BENZENE	1	ND	0.61	3.82	0.61	**3.48**	0.61
BROMODICHLOROMETHANE	1	ND	0.59	ND	0.59	ND	0.52
BROMOFORM	4	ND	0.70	ND	0.70	ND	0.45
BROMOMETHANE	10	ND	0.83	ND	0.83	ND	1.14
CARBON TETRACHLORIDE	2	ND	0.64	ND	0.64	ND	0.72
CHLOROBENZENE	50(ISM)	ND	0.67	ND	0.67	ND	0.67
CHLOROETHANE	100(IGNC)	ND	1.09	ND	1.09	ND	1.09
CHLOROFORM	6	ND	0.56	ND	0.56	ND	0.56
CHLOROMETHANE	30	ND	0.64	ND	0.64	ND	0.62
CIS-1,3-DICHLOROPROPENE	(NA)	ND	0.54	ND	0.54	ND	0.45
DIBROMOCHLOROMETHANE	10	ND	0.58	ND	0.58	ND	0.46
ETHYL BENZENE	700	ND	0.53	ND	0.53	70	0.53
TOTAL XYLENES	1000(ISM)	ND	1.61	ND	1.61	43.03	1.61
METHYL TERTIARY BUTYL ETHER	70(ISM)	4.73	0.59	12.60	0.59	7.19	0.46
METHYLENE CHLORIDE		ND	0.69	ND	0.69	ND	0.69
TERTIARY BUTYL ALCOHOL	100(IS)	137.00	18.20	107.00	18.20	21.5	7.32
TETRACHLOROETHENE	1	ND	0.66	ND	0.66	ND	0.54
TOLUENE	1000	ND	0.54	1.29	0.54	ND	0.54
TRANS-1,2-DICHLOROETHENE	100	ND	0.56	ND	0.56	ND	0.45
TRANS-1,3-DICHLOROPROPENE	(NA)	ND	0.67	ND	0.67	ND	0.51
TRICHLOROETHENE	1	ND	0.66	ND	0.66	ND	0.66
TRICHLOROFLUOROMETHANE	2000(IS)	ND	0.88	ND	0.88	ND	0.98
VINYL CHLORIDE	5	ND	0.82	ND	0.82	ND	0.65
Tentatively Identified Compounds	500	ND	NA	**153.70**	NA	434	

TABLE 5A
GROUNDWATER ANALYTICAL DATA - VOLATILE ORGANIC COMPOUNDS

Former Russo Ship Bottom Service Station (A/K/A/ Mr. Big Texaco)
Ship Bottom, New Jersey

Sample ID:	HIGHER	TMW-2		TMW-3	
Lab ID:	OF	L2639450-2		L2639450-3	
Date Sampled:	PQL or	39574		39574	
Matrix:	GWQC	Groundwater		Groundwater	
Volatile Organic Compounds	ug/l	ug/l	ug/l	ug/l	ug/l
1,1,1-TRICHLOROETHANE	30	ND	0.52	ND	0.52
1,1,2,2-TETRACHLOROETHANE	1(ISM)	ND	0.61	ND	0.61
1,1,2-TRICHLOROETHANE	3	ND	0.37	ND	0.37
1,1-DICHLOROETHANE	50(ISM)	ND	0.48	ND	0.48
1,1-DICHLOROETHENE	2	ND	0.75	ND	0.75
1,2-DICHLOROBENZENE	600	ND	0.55	ND	0.55
1,2-DICHLOROETHANE	2	ND	0.49	ND	0.49
1,2-DICHLOROPROPANE	1	ND	0.52	ND	0.52
1,3-DICHLOROBENZENE	600	ND	0.48	ND	0.48
1,4-DICHLOROBENZENE	75	ND	0.59	ND	0.59
2-CHLOROETHYL VINYL ETHER	100(IGNC)	ND	0.62	ND	0.62
BENZENE	1	ND	0.61	ND	0.61
BROMODICHLOROMETHANE	1	ND	0.52	ND	0.52
BROMOFORM	4	ND	0.45	ND	0.45
BROMOMETHANE	10	ND	1.14	ND	1.14
CARBON TETRACHLORIDE	2	ND	0.72	ND	0.72
CHLOROBENZENE	50(ISM)	ND	0.67	ND	0.67
CHLOROETHANE	100(IGNC)	ND	1.09	ND	1.09
CHLOROFORM	6	ND	0.56	ND	0.56
CHLOROMETHANE	30	ND	0.62	ND	0.62
CIS-1,3-DICHLOROPROPENE	(NA)	ND	0.45	ND	0.45
DIBROMOCHLOROMETHANE	10	ND	0.46	ND	0.46
ETHYL BENZENE	700	23	0.53	2.54	0.53
TOTAL XYLENES	1000(ISM)	13.55	1.61	ND	1.61
METHYL TERTIARY BUTYL ETHER	70(ISM)	0.63	0.46	28.1	0.46
METHYLENE CHLORIDE		ND	0.69	ND	0.69
TERTIARY BUTYL ALCOHOL	100(IS)	ND	7.32	**120**	7.32
TETRACHLOROETHENE	1	ND	0.54	ND	0.54
TOLUENE	1000	ND	0.54	ND	0.54
TRANS-1,2-DICHLOROETHENE	100	ND	0.45	ND	0.45
TRANS-1,3-DICHLOROPROPENE	(NA)	ND	0.51	ND	0.51
TRICHLOROETHENE	1	ND	0.66	ND	0.66
TRICHLOROFLUOROMETHANE	2000(IS)	ND	0.98	ND	0.98
VINYL CHLORIDE	5	ND	0.65	ND	0.65
Tentatively Identified Compounds	500	372.3		133.9	

TABLE 5A
GROUNDWATER ANALYTICAL DATA - VOLATILE ORGANIC COMPOUNDS

Former Russo Ship Bottom Service Station (A/K/A/ Mr. Big Texaco)
Ship Bottom, New Jersey

Sample ID:	HIGHER	TMW-4		TMW-5		TMW-6	
Lab ID:	OF	L2639450-4		L2639450-5		L2639450-6	
Date Sampled:	PQL or	5/6/2008		39574		39574	
Matrix:	GWQC	Groundwater		Groundwater		Groundwater	
Volatile Organic Compounds	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l
1,1,1-TRICHLOROETHANE	30	ND	0.52	ND	0.52	ND	0.52
1,1,2,2-TETRACHLOROETHANE.	1(ISM)	ND	0.61	ND	0.61	ND	0.61
1,1,2-TRICHLOROETHANE	3	ND	0.37	ND	0.37	ND	0.37
1,1-DICHLOROETHANE	50(ISM)	ND	0.48	ND	0.48	ND	0.48
1,1-DICHLOROETHENE	2	ND	0.75	ND	0.75	ND	0.75
1,2-DICHLOROBENZENE	600	ND	0.55	ND	0.55	ND	0.55
1,2-DICHLOROETHANE	2	ND	0.49	ND	0.49	ND	0.49
1,2-DICHLOROPROPANE	1	ND	0.52	ND	0.52	ND	0.52
1,3-DICHLOROBENZENE	600	ND	0.48	ND	0.48	ND	0.48
1,4-DICHLOROBENZENE	75	ND	0.59	ND	0.59	ND	0.59
2-CHLOROETHYL VINYL ETHER	100(IGNC)	ND	0.62	ND	0.62	ND	0.62
BENZENE	1	**7.6**	0.61	ND	0.61	ND	0.61
BROMODICHLOROMETHANE	1	ND	0.52	ND	0.52	ND	0.52
BROMOFORM	4	ND	0.45	ND	0.45	ND	0.45
BROMOMETHANE	10	ND	1.14	ND	1.14	ND	1.14
CARBON TETRACHLORIDE	2	ND	0.72	ND	0.72	ND	0.72
CHLOROBENZENE	50(ISM)	ND	0.67	ND	0.67	ND	0.67
CHLOROETHANE	100(IGNC)	ND	1.09	ND	1.09	ND	1.09
CHLOROFORM	6	ND	0.56	ND	0.56	ND	0.56
CHLOROMETHANE	30	ND	0.62	ND	0.62	ND	0.62
CIS-1,3-DICHLOROPROPENE	(NA)	ND	0.45	ND	0.45	ND	0.45
DIBROMOCHLOROMETHANE	10	ND	0.46	ND	0.46	ND	0.46
ETHYL BENZENE	700	18.8	0.53	ND	0.53	ND	0.53
TOTAL XYLENES	1000(ISM)	6.44	1.61	ND	1.61	ND	1.61
METHYL TERTIARY BUTYL ETHER	70(ISM)	27.3	0.46	5.38	0.46	4.16	0.46
METHYLENE CHLORIDE		ND	0.69	ND	0.69	ND	0.69
TERTIARY BUTYL ALCOHOL	100(IS)	96.2	7.32	27.5	7.32	31.9	7.32
TETRACHLOROETHENE	1	ND	0.54	ND	0.54	ND	0.54
TOLUENE	1000	0.59	0.54	ND	0.54	ND	0.54
TRANS-1,2-DICHLOROETHENE	100	ND	0.45	ND	0.45	ND	0.45
TRANS-1,3-DICHLOROPROPENE	(NA)	ND	0.51	ND	0.51	ND	0.51
TRICHLOROETHENE	1	ND	0.66	ND	0.66	ND	0.66
TRICHLOROFLUOROMETHANE	2000(IS)	ND	0.98	ND	0.98	ND	0.98
VINYL CHLORIDE	5	ND	0.65	ND	0.65	ND	0.65
Tentatively Identified Compounds	500	157.47		22.44		ND	

TABLE 5A
GROUNDWATER ANALYTICAL DATA - VOLATILE ORGANIC COMPOUNDS

Former Russo Ship Bottom Service Station (A/K/A/ Mr. Big Texaco)
Ship Bottom, New Jersey

Sample ID:	HIGHER	TMW-7		TMW-8		TMW-9	
Lab ID:	OF	L2639450-7		L2639450-8		L2639450-9	
Date Sampled:	PQL or	39574		39574		39574	
Matrix:	GWQC	Groundwater		Groundwater		Groundwater	
Volatile Organic Compounds	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l
1,1,1-TRICHLOROETHANE	30	ND	0.52	ND	0.52	ND	0.52
1,1,2,2-TETRACHLOROETHANE	1(ISM)	ND	0.61	ND	0.61	ND	0.61
1,1,2-TRICHLOROETHANE	3	ND	0.37	ND	0.37	ND	0.37
1,1-DICHLOROETHANE	50(ISM)	ND	0.48	ND	0.48	ND	0.48
1,1-DICHLOROETHENE	2	ND	0.75	ND	0.75	ND	0.75
1,2-DICHLOROBENZENE	600	ND	0.55	ND	0.55	ND	0.55
1,2-DICHLOROETHANE	2	ND	0.49	ND	0.49	ND	0.49
1,2-DICHLOROPROPANE	1	ND	0.52	0.6	0.52	ND	0.52
1,3-DICHLOROBENZENE	600	ND	0.48	ND	0.48	ND	0.48
1,4-DICHLOROBENZENE	75	ND	0.59	ND	0.59	ND	0.59
2-CHLOROETHYL VINYL ETHER	100(IGNC)	ND	0.62	ND	0.62	ND	0.62
BENZENE	1	ND	0.61	ND	0.61	ND	0.61
BROMODICHLOROMETHANE	1	ND	0.52	ND	0.52	ND	0.52
BROMOFORM	4	ND	0.45	ND	0.45	ND	0.45
BROMOMETHANE	10	ND	1.14	ND	1.14	ND	1.14
CARBON TETRACHLORIDE	2	ND	0.72	ND	0.72	ND	0.72
CHLOROBENZENE	50(ISM)	ND	0.67	ND	0.67	ND	0.67
CHLOROETHANE	100(IGNC)	ND	1.09	ND	1.09	ND	1.09
CHLOROFORM	6	ND	0.56	ND	0.56	ND	0.56
CHLOROMETHANE	30	ND	0.62	ND	0.62	ND	0.62
CIS-1,3-DICHLOROPROPENE	(NA)	ND	0.45	ND	0.45	ND	0.45
DIBROMOCHLOROMETHANE	10	ND	0.46	ND	0.46	ND	0.46
ETHYL BENZENE	700	ND	0.53	ND	0.53	ND	0.53
TOTAL XYLENES	1000(ISM)	20.09	1.61	ND	1.61	ND	1.61
METHYL TERTIARY BUTYL ETHER	70(ISM)	24.5	0.46	ND	0.46	3.58	0.46
METHYLENE CHLORIDE		ND	0.69	ND	0.69	ND	0.69
TERTIARY BUTYL ALCOHOL	100(IS)	61.4	7.32	ND	7.32	20.5	7.32
TETRACHLOROETHENE	1	ND	0.54	ND	0.54	ND	0.54
TOLUENE	1000	ND	0.54	ND	0.54	ND	0.54
TRANS-1,2-DICHLOROETHENE	100	ND	0.45	ND	0.45	ND	0.45
TRANS-1,3-DICHLOROPROPENE	(NA)	ND	0.51	ND	0.51	ND	0.51
TRICHLOROETHENE	1	ND	0.66	ND	0.66	ND	0.66
TRICHLOROFLUOROMETHANE	2000(IS)	ND	0.98	ND	0.98	ND	0.98
VINYL CHLORIDE	5	ND	0.65	ND	0.65	ND	0.65
Tentatively Identified Compounds	500	56.34		3.45		ND	

TABLE 5A
GROUNDWATER ANALYTICAL DATA - VOLATILE ORGANIC COMPOUNDS

Former Russo Ship Bottom Service Station (A/K/A/ Mr. Big Texaco)
Ship Bottom, New Jersey

Sample ID:	HIGHER	TMW-10	
Lab ID:	OF	L2639450-10	
Date Sampled:	PQL or	39574	
Matrix:	GWQC	Groundwater	
Volatile Organic Compounds	ug/l	ug/l	ug/l
1,1,1-TRICHLOROETHANE	30	ND	0.52
1,1,2,2-TETRACHLOROETHANE	1(ISM)	ND	0.61
1,1,2-TRICHLOROETHANE	3	ND	0.37
1,1-DICHLOROETHANE	50(ISM)	ND	0.48
1,1-DICHLOROETHENE	2	ND	0.75
1,2-DICHLOROBENZENE	600	ND	0.55
1,2-DICHLOROETHANE	2	ND	0.49
1,2-DICHLOROPROPANE	1	ND	0.52
1,3-DICHLOROBENZENE	600	ND	0.48
1,4-DICHLOROBENZENE	75	ND	0.59
2-CHLOROETHYL VINYL ETHER	100(IGNC)	ND	0.62
BENZENE	1	**10.7**	0.61
BROMODICHLOROMETHANE	1	ND	0.52
BROMOFORM	4	ND	0.45
BROMOMETHANE	10	ND	1.14
CARBON TETRACHLORIDE	2	ND	0.72
CHLOROBENZENE	50(ISM)	ND	0.67
CHLOROETHANE	100(IGNC)	ND	1.09
CHLOROFORM	6	ND	0.56
CHLOROMETHANE	30	ND	0.62
CIS-1,3-DICHLOROPROPENE	(NA)	ND	0.45
DIBROMOCHLOROMETHANE	10	ND	0.46
ETHYL BENZENE	700	ND	0.53
TOTAL XYLENES	1000(ISM)	ND	1.61
METHYL TERTIARY BUTYL ETHER	70(ISM)	14	0.46
METHYLENE CHLORIDE		ND	0.69
TERTIARY BUTYL ALCOHOL	100(IS)	93.2	7.32
TETRACHLOROETHENE	1	ND	0.54
TOLUENE	1000	ND	0.54
TRANS-1,2-DICHLOROETHENE	100	ND	0.45
TRANS-1,3-DICHLOROPROPENE	(NA)	ND	0.51
TRICHLOROETHENE	1	ND	0.66
TRICHLOROFLUOROMETHANE	2000(IS)	ND	0.98
VINYL CHLORIDE	5	ND	0.65
Tentatively Identified Compounds	500	110.05	

TABLE 5B
GROUNDWATER ANALYTICAL DATA - SEMI-VOLATILE ORGANIC COMPOUNDS

Former Russo Ship Bottom Service Station (A/K/A/ Mr. Big Texaco)
Ship Bottom, New Jersey

Sample ID:	HIGHER	B-1		B-2		B-5		B-10	
Lab ID:	OF	L2412682-1		L2412682-2		L2412982-26		L2412682-3	
Date Sampled:	PQL or	8/1/2007		8/1/2007		8/2/2007		8/1/2007	
Matrix:	GWQC	Groundwater		Groundwater		Groundwater		Groundwater	
Semivolatile Organic Compounds	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l
1,2,4-TRICHLOROBENZENE	9	ND	0.66	ND	0.66	ND	0.98	ND	0.66
1,2-DICHLOROBENZENE	(NA)	ND	0.54	ND	0.54	ND	0.36	ND	0.54
1,2-DIPHENYLHYDRAZINE	0.04	ND	0.44	ND	0.44	ND	0.44	ND	0.44
1,3-DICHLOROBENZENE	600	ND	0.56	ND	0.56	ND	0.53	ND	0.56
1,4-DICHLOROBENZENE	75	ND	0.53	ND	0.53	ND	0.54	ND	0.53
2,4-DINITROTOLUENE	10	ND	0.59	ND	0.59	ND	0.59	ND	0.59
2,6-DINITROTOLUENE	(NA)	ND	1.01	ND	1.01	ND	1.01	ND	1.01
2-CHLORONAPHTHALENE	600(IS)	ND	0.50	ND	0.50	ND	0.50	ND	0.50
2-METHYLNAPHTHALENE	100(IGNC)	0.05	0.01	**0.06**	0.01	**0.08**	0.02	0.01	0.01
2-NITROANILINE	(NA)	ND	0.82	ND	0.82	ND	0.82	ND	0.82
3,3'-DICHLOROBENZIDINE	60	ND	0.63	ND	0.63	ND	0.63	ND	0.63
3-NITROANILINE	(NA)	ND	0.92	ND	0.92	ND	0.92	ND	0.92
4-BROMOPHENYL-PHENYLETHER	(NA)	ND	0.42	ND	0.42	ND	0.42	ND	0.42
4-CHLOROANILINE	30(IS)	ND	0.98	ND	0.98	49.20	0.59	ND	0.98
4-CHLOROPHENYL-PHENYLETHER	(NA)	ND	0.61	ND	0.61	ND	0.61	ND	0.61
4-NITROANILINE	(NA)	ND	0.69	ND	0.69	ND	0.69	ND	0.69
ACENAPHTHENE	400	0.53	0.02	0.08	0.02	**1.34**	0.01	ND	0.02
ACENAPHTHYLENE	(NA)	ND	0.02	ND	0.02	1.19	0.02	ND	0.02
ANTHRACENE	2000	ND	0.02	ND	0.02	0.11	0.02	ND	0.02
BENZIDINE	50	ND	1.29	ND	1.29	ND	1.29	ND	1.29
BENZO(A)ANTHRACENE	0.2(IS)	ND	0.02	ND	0.02	ND	0.02	0.09	0.02
BENZO(A)PYRENE	0.2(IS)	ND	0.02	ND	0.02	ND	0.02	0.12	0.02
BENZO(B)FLUORANTHENE	10(IS)	ND	0.02	ND	0.02	ND	0.02	0.11	0.02
BENZO(G,H,I)PERYLENE	100(IGNC)	ND	0.02	ND	0.02	ND	0.62	0.08	0.02
BENZO(K)FLUORANTHENE	1(IS)	ND	0.02	ND	0.02	ND	0.02	0.09	0.02
BENZOIC ACID	30000(IS)	ND	11.10	ND	11.10	ND	0.66	ND	11.10
BENZYL ALCOHOL	2000	ND	0.36	ND	0.36	ND	0.49	ND	0.36
BIS(2-CHLOROETHOXY)METHANE	100(IGNC)	ND	0.63	ND	0.63	ND	11.10	ND	0.63
BIS(2-CHLOROETHYL)ETHER	(NA)	ND	0.62	ND	0.62	ND	0.56	ND	0.62
BIS(2-CHLOROISOPROPYL)ETHER	(NA)	ND	0.49	ND	0.49	ND	0.92	ND	0.49
BIS(2-ETHYLHEXYL)PHTHALATE	(NA)	ND	1.86	ND	1.86	ND	1.86	ND	1.86
BUTYLBENZYLPHTHALATE	(NA)	ND	0.65	ND	0.65	ND	0.65	ND	0.65
CARBAZOLE	(NA)	ND	0.56	ND	0.56	ND	0.56	ND	0.56
CHRYSENE	5(IS)	ND	0.02	ND	0.02	ND	0.02	0.11	0.02
DIBENZ(A,H)ANTHRACENE	0.5(IS)	ND	0.02	ND	0.02	0.02	0.02	0.02	0.02
DIBENZOFURAN	100(IGNC)	ND	0.50	ND	0.50	ND	0.50	ND	0.50
DIETHYLPHTHALATE	(NA)	ND	0.65	1.72	0.65	ND	0.65	ND	0.65
DIMETHYLPHTHALATE	(NA)	ND	0.90	ND	0.90	ND	0.90	ND	0.90
DI-N-BUTYLPHTHALATE	(NA)	ND	0.74	ND	0.74	1.28	0.74	ND	0.74
DI-N-OCTYLPHTHALATE	(NA)	ND	0.46	ND	0.46	ND	0.46	ND	0.46
FLUORANTHENE	300	ND	0.02	ND	0.02	0.05	0.02	0.15	0.02
FLUORENE	300	0.15	0.01	0.03	0.01	ND	0.02	0.01	0.01
HEXACHLOROBENZENE	10	ND	0.02	ND	0.02	1.02	0.01	ND	0.02
HEXACHLOROBUTADIENE	1	ND	0.02	ND	0.02	ND	0.02	ND	0.02
HEXACHLOROCYCLOPENTADIENE	50	ND	0.76	ND	0.76	ND	0.76	ND	0.76
HEXACHLOROETHANE	10	ND	0.92	ND	0.92	ND	0.57	ND	0.92
INDENO(1,2,3-CD)PYRENE	10(IS)	ND	0.02	ND	0.02	ND	0.02	0.07	0.02
ISOPHORONE	100	ND	0.61	ND	0.61	ND	0.63	ND	0.61
NAPHTHALENE	300(ISM)	0.11	0.02	0.08	0.02	**1.91**	0.02	0.02	0.02
NITROBENZENE	10	ND	0.46	ND	0.46	ND	0.61	ND	0.46
N-NITROSODIMETHYLAMINE	20	ND	0.04	ND	0.04	ND	0.04	ND	0.04
N-NITROSO-DI-N-PROPYLAMINE	(NA)	ND	0.57	ND	0.57	ND	0.46	ND	0.57
N-NITROSODIPHENYLAMINE	20	ND	0.51	ND	0.51	ND	0.51	ND	0.51
PHENANTHRENE	100(IGNC)	ND	0.01	0.03	0.01	0.14	0.02	0.06	0.01
PYRENE	200	ND	0.02	ND	0.02	ND	0.02	0.23	0.02
Tentatively Identified Compounds		ND	NA	ND	NA	749.40	NA	ND	NA

TABLE 5B
GROUNDWATER ANALYTICAL DATA - SEMI-VOLATILE ORGANIC COMPOUNDS

Former Russo Ship Bottom Service Station (A/K/A/ Mr. Big Texaco)
Ship Bottom, New Jersey

Sample ID:	HIGHER	B-18		B-19		B-20		B-21	
Lab ID:	OF	L2412682-4		L2412682-5		L2412982-27		L2412982-36	
Date Sampled:	PQL or	8/1/2007		8/1/2007		8/2/2007		8/2/2007	
Matrix:	GWQC	Groundwater		Groundwater		Groundwater		Groundwater	
Semivolatile Organic Compounds	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l
1,2,4-TRICHLOROBENZENE	9	ND	0.66	ND	0.66	ND	0.66	ND	0.66
1,2-DICHLOROBENZENE	(NA)	ND	0.54	ND	0.54	ND	0.54	ND	0.54
1,2-DIPHENYLHYDRAZINE	0.04	ND	0.44	ND	0.44	ND	0.44	ND	0.44
1,3-DICHLOROBENZENE	600	ND	0.56	ND	0.56	ND	0.56	ND	0.56
1,4-DICHLOROBENZENE	75	ND	0.53	ND	0.53	ND	0.53	ND	0.53
2,4-DINITROTOLUENE	10	ND	0.59	ND	0.59	ND	0.59	ND	0.59
2,6-DINITROTOLUENE	(NA)	ND	1.01	ND	1.01	ND	1.01	ND	1.01
2-CHLORONAPHTHALENE	600(IS)	ND	0.50	ND	0.50	ND	0.50	ND	0.50
2-METHYLNAPHTHALENE	100(IGNC)	0.03	0.01	0.03	0.01	0.47	0.01	0.01	0.01
2-NITROANILINE	(NA)	ND	0.82	ND	0.82	ND	0.82	ND	0.82
3,3'-DICHLOROBENZIDINE	60	ND	0.63	ND	0.63	ND	0.63	ND	0.63
3-NITROANILINE	(NA)	ND	0.92	ND	0.92	ND	0.92	ND	0.92
4-BROMOPHENYL-PHENYLETHER	(NA)	ND	0.42	ND	0.42	ND	0.42	ND	0.42
4-CHLOROANILINE	30(IS)	ND	0.98	ND	0.98	ND	0.98	ND	0.98
4-CHLOROPHENYL-PHENYLETHER	(NA)	ND	0.61	ND	0.61	ND	0.61	ND	0.61
4-NITROANILINE	(NA)	ND	0.69	ND	0.69	ND	0.69	ND	0.69
ACENAPHTHENE	400	0.10	0.02	0.02	0.02	0.04	0.02	0.08	0.02
ACENAPHTHYLENE	(NA)	ND	0.02	ND	0.02	ND	0.02	ND	0.02
ANTHRACENE	2000	ND	0.02	ND	0.02	ND	0.02	ND	0.02
BENZIDINE	50	ND	1.29	ND	1.29	ND	1.29	ND	1.29
BENZO(A)ANTHRACENE	0.2(IS)	ND	0.02	ND	0.02	ND	0.02	0.02	0.02
BENZO(A)PYRENE	0.2(IS)	ND	0.02	ND	0.02	ND	0.02	ND	0.02
BENZO(B)FLUORANTHENE	10(IS)	ND	0.02	ND	0.02	ND	0.02	ND	0.02
BENZO(G,H,I)PERYLENE	100(IGNC)	ND	0.02	ND	0.02	ND	0.02	ND	0.02
BENZO(K)FLUORANTHENE	1(IS)	ND	0.02	ND	0.02	ND	0.02	ND	0.02
BENZOIC ACID	30000(IS)	ND	11.10	ND	11.10	ND	11.10	ND	11.10
BENZYL ALCOHOL	2000	ND	0.36	ND	0.36	ND	0.36	ND	0.36
BIS(2-CHLOROETHOXY)METHANE	100(IGNC)	ND	0.63	ND	0.63	ND	0.63	ND	0.63
BIS(2-CHLOROETHYL)ETHER	(NA)	ND	0.62	ND	0.62	ND	0.62	ND	0.62
BIS(2-CHLOROISOPROPYL)ETHER	(NA)	ND	0.49	ND	0.49	ND	0.49	ND	0.49
BIS(2-ETHYLHEXYL)PHTHALATE	(NA)	ND	1.86	ND	1.86	ND	1.86	ND	1.86
BUTYLBENZYLPHTHALATE	(NA)	ND	0.65	ND	0.65	ND	0.65	ND	0.65
CARBAZOLE	(NA)	ND	0.56	ND	0.56	ND	0.56	ND	0.56
CHRYSENE	5(IS)	ND	0.02	ND	0.02	ND	0.02	0.02	0.02
DIBENZ(A,H)ANTHRACENE	0.5(IS)	ND	0.02	ND	0.02	ND	0.02	ND	0.02
DIBENZOFURAN	100(IGNC)	ND	0.50	ND	0.50	ND	0.50	ND	0.50
DIETHYLPHTHALATE	(NA)	ND	0.65	ND	0.65	ND	0.65	ND	0.65
DIMETHYLPHTHALATE	(NA)	ND	0.90	ND	0.90	ND	0.90	ND	0.90
DI-N-BUTYLPHTHALATE	(NA)	ND	0.74	ND	0.74	ND	0.74	ND	0.74
DI-N-OCTYLPHTHALATE	(NA)	ND	0.46	ND	0.46	ND	0.46	ND	0.46
FLUORANTHENE	300	0.20	0.02	ND	0.02	ND	0.02	0.07	0.02
FLUORENE	300	0.13	0.01	0.01	0.01	0.03	0.01	ND	0.01
HEXACHLOROBENZENE	10	ND	0.02	ND	0.02	ND	0.02	ND	0.02
HEXACHLOROBUTADIENE	1	ND	0.02	ND	0.02	ND	0.02	ND	0.02
HEXACHLOROCYCLOPENTADIENE	50	ND	0.76	ND	0.76	ND	0.76	ND	0.76
HEXACHLOROETHANE	10	ND	0.92	ND	0.92	ND	0.92	ND	0.92
INDENO(1,2,3-CD)PYRENE	10(IS)	ND	0.02	ND	0.02	ND	0.02	ND	0.02
ISOPHORONE	100	ND	0.61	ND	0.61	ND	0.61	ND	0.61
NAPHTHALENE	300(ISM)	0.16	0.02	0.04	0.02	1.60	0.02	0.05	0.02
NITROBENZENE	10	ND	0.46	ND	0.46	ND	0.46	ND	0.46
N-NITROSODIMETHYLAMINE	20	ND	0.04	ND	0.04	ND	0.04	ND	0.04
N-NITROSO-DI-N-PROPYLAMINE	(NA)	ND	0.57	ND	0.57	ND	0.57	ND	0.57
N-NITROSODIPHENYLAMINE	20	ND	0.51	ND	0.51	ND	0.51	ND	0.51
PHENANTHRENE	100(IGNC)	ND	0.01	0.01	0.01	0.02	0.01	ND	0.01
PYRENE	200	0.13	0.02	ND	0.02	ND	0.02	0.12	0.02
Tentatively Identified Compounds		ND	NA	ND	NA	115.09	NA	15.72	NA

TABLE 5B
GROUNDWATER ANALYTICAL DATA - SEMI-VOLATILE ORGANIC COMPOUNDS

Former Russo Ship Bottom Service Station (A/K/A/ Mr. Big Texaco)
Ship Bottom, New Jersey

Sample ID:	HIGHER	B-22		B-22 DUP		B-23		B-26	
Lab ID:	OF	L2412982-28		L2412982-32		L2412682-6		L2412982-29	
Date Sampled:	PQL or	8/2/2007		8/2/2007		8/1/2007		8/2/2007	
Matrix:	GWQC	Groundwater		Groundwater		Groundwater		Groundwater	
Semivolatile Organic Compounds	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l
1,2,4-TRICHLOROBENZENE	9	ND	0.66	NA	NA	ND	0.66	ND	0.66
1,2-DICHLOROBENZENE	(NA)	ND	0.54	NA	NA	ND	0.54	ND	0.54
1,2-DIPHENYLHYDRAZINE	0.04	ND	0.44	NA	NA	ND	0.44	ND	0.44
1,3-DICHLOROBENZENE	600	ND	0.56	NA	NA	ND	0.56	ND	0.56
1,4-DICHLOROBENZENE	75	ND	0.53	NA	NA	ND	0.53	ND	0.53
2,4-DINITROTOLUENE	10	ND	0.59	NA	NA	ND	0.59	ND	0.59
2,6-DINITROTOLUENE	(NA)	ND	1.01	NA	NA	ND	1.01	ND	1.01
2-CHLORONAPHTHALENE	600(IS)	ND	0.50	NA	NA	ND	0.50	ND	0.50
2-METHYLNAPHTHALENE	100(IGNC)	**0.06**	0.01	NA	NA	0.04	0.01	**1.17**	0.01
2-NITROANILINE	(NA)	ND	0.82	NA	NA	ND	0.82	ND	0.82
3,3'-DICHLOROBENZIDINE	60	ND	0.63	NA	NA	ND	0.63	ND	0.63
3-NITROANILINE	(NA)	ND	0.92	NA	NA	ND	0.92	ND	0.92
4-BROMOPHENYL-PHENYLETHER	(NA)	ND	0.42	NA	NA	ND	0.42	ND	0.42
4-CHLOROANILINE	30(IS)	ND	0.98	NA	NA	ND	0.98	ND	0.98
4-CHLOROPHENYL-PHENYLETHER	(NA)	ND	0.61	NA	NA	ND	0.61	ND	0.61
4-NITROANILINE	(NA)	ND	0.69	NA	NA	ND	0.69	ND	0.69
ACENAPHTHENE	400	0.11	0.02	NA	NA	0.11	0.02	**5.18**	0.02
ACENAPHTHYLENE	(NA)	ND	0.02	NA	NA	ND	0.02	0.10	0.02
ANTHRACENE	2000	ND	0.02	NA	NA	0.02	0.02	1.31	0.02
BENZIDINE	50	ND	1.29	NA	NA	ND	1.29	ND	1.29
BENZO(A)ANTHRACENE	0.2(IS)	ND	0.02	NA	NA	0.02	0.02	0.03	0.02
BENZO(A)PYRENE	0.2(IS)	ND	0.02	NA	NA	0.02	0.02	ND	0.02
BENZO(B)FLUORANTHENE	10(IS)	ND	0.02	NA	NA	0.02	0.02	ND	0.02
BENZO(G,H,I)PERYLENE	100(IGNC)	ND	0.02	NA	NA	ND	0.02	ND	0.02
BENZO(K)FLUORANTHENE	1(IS)	ND	0.02	NA	NA	0.02	0.02	ND	0.02
BENZOIC ACID	30000(IS)	ND	11.10	NA	NA	ND	11.10	ND	11.10
BENZYL ALCOHOL	2000	ND	0.36	NA	NA	ND	0.36	ND	0.36
BIS(2-CHLOROETHOXY)METHANE	100(IGNC)	ND	0.63	NA	NA	ND	0.63	ND	0.63
BIS(2-CHLOROETHYL)ETHER	(NA)	ND	0.62	NA	NA	ND	0.62	ND	0.62
BIS(2-CHLOROISOPROPYL)ETHER	(NA)	ND	0.49	NA	NA	ND	0.49	ND	0.49
BIS(2-ETHYLHEXYL)PHTHALATE	(NA)	ND	1.86	NA	NA	ND	1.86	ND	1.86
BUTYLBENZYLPHTHALATE	(NA)	ND	0.65	NA	NA	ND	0.65	ND	0.65
CARBAZOLE	(NA)	ND	0.56	NA	NA	ND	0.56	ND	0.56
CHRYSENE	5(IS)	ND	0.02	NA	NA	0.04	0.02	0.03	0.02
DIBENZ(A,H)ANTHRACENE	0.5(IS)	ND	0.02	NA	NA	ND	0.02	ND	0.02
DIBENZOFURAN	100(IGNC)	ND	0.50	NA	NA	ND	0.50	ND	0.50
DIETHYLPHTHALATE	(NA)	ND	0.65	NA	NA	ND	0.65	ND	0.65
DIMETHYLPHTHALATE	(NA)	ND	0.90	NA	NA	ND	0.90	ND	0.90
DI-N-BUTYLPHTHALATE	(NA)	ND	0.74	NA	NA	ND	0.74	2.56	0.74
DI-N-OCTYLPHTHALATE	(NA)	ND	0.46	NA	NA	ND	0.46	ND	0.46
FLUORANTHENE	300	0.02	0.02	NA	NA	0.08	0.02	0.88	0.02
FLUORENE	300	0.11	0.01	NA	NA	0.15	0.01	**7.70**	0.01
HEXACHLOROBENZENE	10	ND	0.02	NA	NA	ND	0.02	ND	0.02
HEXACHLOROBUTADIENE	1	ND	0.02	NA	NA	ND	0.02	ND	0.02
HEXACHLOROCYCLOPENTADIENE	50	ND	0.76	NA	NA	ND	0.76	ND	0.76
HEXACHLOROETHANE	10	ND	0.92	NA	NA	ND	0.92	ND	0.92
INDENO(1,2,3-CD)PYRENE	10(IS)	ND	0.02	NA	NA	ND	0.02	ND	0.02
ISOPHORONE	100	ND	0.61	NA	NA	ND	0.61	ND	0.61
NAPHTHALENE	300(ISM)	0.06	0.02	NA	NA	0.08	0.02	**0.12**	0.02
NITROBENZENE	10	ND	0.46	NA	NA	ND	0.46	ND	0.46
N-NITROSODIMETHYLAMINE	20	ND	0.04	NA	NA	ND	0.04	ND	0.04
N-NITROSO-DI-N-PROPYLAMINE	(NA)	ND	0.57	NA	NA	ND	0.57	ND	0.57
N-NITROSODIPHENYLAMINE	20	ND	0.51	NA	NA	ND	0.51	ND	0.51
PHENANTHRENE	100(IGNC)	0.04	0.01	NA	NA	0.06	0.01	7.71	0.01
PYRENE	200	0.02	0.02	NA	NA	0.08	0.02	0.40	0.02
Tentatively Identified Compounds		ND	NA	NA	NA	5.09	NA	4.64	NA

TABLE 5B
GROUNDWATER ANALYTICAL DATA - SEMI-VOLATILE ORGANIC COMPOUNDS

Former Russo Ship Bottom Service Station (A/K/A/ Mr. Big Texaco)
Ship Bottom, New Jersey

Sample ID:	HIGHER	B-27		B-28		TMW-1		TMW-2	
Lab ID:	OF	L2412982-30		L2412982-31		L2639450-1		L2639450-2	
Date Sampled:	PQL or	8/2/2007		8/2/2007		39574		39574	
Matrix:	GWQC	Groundwater		Groundwater		Groundwater		Groundwater	
Semivolatile Organic Compounds	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l
1,2,4-TRICHLOROBENZENE	9	ND	0.66	ND	0.66	ND	0.2	ND	0.4
1,2-DICHLOROBENZENE	(NA)	ND	0.54	ND	0.54	1.55	0.1	70.4	2.48
1,2-DIPHENYLHYDRAZINE	0.04	ND	0.44	ND	0.44	ND	0.1	ND	0.2
1,3-DICHLOROBENZENE	600	ND	0.56	ND	0.56	3.2	0.05	248	2.22
1,4-DICHLOROBENZENE	75	ND	0.53	ND	0.53	ND	0.1	ND	0.2
2,4-DINITROTOLUENE	10	ND	0.59	ND	0.59	1.35	0.1	13	0.2
2,6-DINITROTOLUENE	(NA)	ND	1.01	ND	1.01	1.25	0.05	7.6	0.1
2-CHLORONAPHTHALENE	600(IS)	ND	0.50	ND	0.50	ND	0.1	ND	0.2
2-METHYLNAPHTHALENE	100(IGNC)	**0.67**	0.01	**2.29**	0.01	2.2	0.05	11.3	0.1
2-NITROANILINE	(NA)	ND	0.82	ND	0.82	1.05	0.1	7.7	0.2
3,3'-DICHLOROBENZIDINE	60	ND	0.63	ND	0.63	1.15	0.1	11.6	0.2
3-NITROANILINE	(NA)	ND	0.92	ND	0.92	1.85	0.1	16.5	0.2
4-BROMOPHENYL-PHENYLETHER	(NA)	ND	0.42	ND	0.42	0.3	0.1	6.9	0.2
4-CHLOROANILINE	30(IS)	ND	0.98	ND	0.98	0.35	0.1	7	0.2
4-CHLOROPHENYL-PHENYLETHER	(NA)	ND	0.61	ND	0.61	0.3	0.1	6.6	0.2
4-NITROANILINE	(NA)	ND	0.69	ND	0.69	0.25	0.1	4.9	0.2
ACENAPHTHENE	400	**1.07**	0.02	**1.96**	0.02	0.3	0.1	6.4	0.2
ACENAPHTHYLENE	(NA)	ND	0.02	0.24	0.02	0.2	0.1	3	0.2
ANTHRACENE	2000	ND	0.02	0.05	0.02	ND	0.1	1.1	0.2
BENZIDINE	50	ND	1.29	ND	1.29	0.2	0.1	3.8	0.2
BENZO(A)ANTHRACENE	0.2(IS)	ND	0.02	0.12	0.02	ND	1.22	ND	3.05
BENZO(A)PYRENE	0.2(IS)	ND	0.02	0.15	0.02	ND	0.88	ND	2.2
BENZO(B)FLUORANTHENE	10(IS)	ND	0.02	0.17	0.02	ND	0.84	ND	2.1
BENZO(G,H,I)PERYLENE	100(IGNC)	ND	0.02	ND	0.02	ND	0.98	ND	2.45
BENZO(K)FLUORANTHENE	1(IS)	ND	0.02	0.12	0.02	ND	0.92	ND	2.31
BENZOIC ACID	30000(IS)	ND	11.10	ND	11.10	ND	1.03	ND	2.58
BENZYL ALCOHOL	2000	ND	0.36	ND	0.36	ND	0.96	ND	2.4
BIS(2-CHLOROETHOXY)METHANE	100(IGNC)	ND	0.63	ND	0.63	ND	1.12	ND	2.8
BIS(2-CHLOROETHYL)ETHER	(NA)	ND	0.62	ND	0.62	ND	1.16	ND	2.9
BIS(2-CHLOROISOPROPYL)ETHER	(NA)	ND	0.49	ND	0.49	ND	0.97	ND	2.43
BIS(2-ETHYLHEXYL)PHTHALATE	(NA)	ND	1.86	ND	1.86	ND	1.2	ND	3
BUTYLBENZYLPHTHALATE	(NA)	ND	0.65	ND	0.65	ND	15	ND	37.4
CARBAZOLE	(NA)	ND	0.56	ND	0.56	ND	1.01	ND	2.52
CHRYSENE	5(IS)	ND	0.02	0.18	0.02	ND	1.81	ND	4.53
DIBENZ(A,H)ANTHRACENE	0.5(IS)	ND	0.02	0.04	0.02	ND	0.92	ND	2.3
DIBENZOFURAN	100(IGNC)	ND	0.50	ND	0.50	ND	0.96	ND	2.41
DIETHYLPHTHALATE	(NA)	ND	0.65	ND	0.65	ND	1.26	ND	3.16
DIMETHYLPHTHALATE	(NA)	ND	0.90	ND	0.90	ND	2.16	ND	5.4
DI-N-BUTYLPHTHALATE	(NA)	ND	0.74	ND	0.74	ND	1.02	ND	2.55
DI-N-OCTYLPHTHALATE	(NA)	ND	0.46	ND	0.46	ND	1.68	ND	4.2
FLUORANTHENE	300	ND	0.02	0.33	0.02	ND	1.06	ND	2.64
FLUORENE	300	**0.91**	0.01	**1.62**	0.01	ND	0.95	ND	2.38
HEXACHLOROBENZENE	10	ND	0.02	ND	0.02	ND	0.84	ND	2.1
HEXACHLOROBUTADIENE	1	ND	0.02	ND	0.02	ND	1.52	ND	3.8
HEXACHLOROCYCLOPENTADIENE	50	ND	0.76	ND	0.76	ND	0.91	ND	2.28
HEXACHLOROETHANE	10	ND	0.92	ND	0.92	ND	1.05	ND	2.62
INDENO(1,2,3-CD)PYRENE	10(IS)	ND	0.02	0.10	0.02	ND	0.92	ND	2.3
ISOPHORONE	100	ND	0.61	ND	0.61	ND	1.18	ND	2.95
NAPHTHALENE	300(ISM)	0.07	0.02	**0.71**	0.02	ND	2.48	ND	6.2
NITROBENZENE	10	ND	0.46	ND	0.46	ND	4.12	ND	10.3
N-NITROSODIMETHYLAMINE	20	ND	0.04	ND	0.04	ND	0.82	ND	2.05
N-NITROSO-DI-N-PROPYLAMINE	(NA)	ND	0.57	ND	0.57	ND	2.78	ND	6.95
N-NITROSODIPHENYLAMINE	20	ND	0.51	ND	0.51	ND	2.24	ND	5.6
PHENANTHRENE	100(IGNC)	0.02	0.01	0.30	0.01	ND	2.82	28.8	7.05
PYRENE	200	ND	0.02	0.28	0.02	ND	1.08	ND	2.7
Tentatively Identified Compounds		ND	NA	121.64	NA	374.7		**5096**	

TABLE 5B
GROUNDWATER ANALYTICAL DATA - SEMI-VOLATILE ORGANIC COMPOUNDS

Former Russo Ship Bottom Service Station (A/K/A/ Mr. Big Texaco)
Ship Bottom, New Jersey

Sample ID:	HIGHER	TMW-3		TMW-4		TMW-5		TMW-6	
Lab ID:	OF	L2639450-3		L2639450-4		L2639450-5		L2639450-6	
Date Sampled:	PQL or	39574		39574		39574		39574	
Matrix:	GWQC	Groundwater		Groundwater		Groundwater		Groundwater	
Semivolatile Organic Compounds	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l
1,2,4-TRICHLOROBENZENE	9	ND	0.08	ND	2	ND	0.12	ND	2.22
1,2-DICHLOROBENZENE	(NA)	1.62	0.04	7.5	1	2.37	0.06	ND	1.11
1,2-DIPHENYLHYDRAZINE	0.04	ND	0.04	ND	1	ND	0.06	ND	1.11
1,3-DICHLOROBENZENE	600	3.66	0.02	3.5	0.5	0.63	0.03	ND	0.56
1,4-DICHLOROBENZENE	75	ND	0.04	3	1	ND	0.06	ND	1.11
2,4-DINITROTOLUENE	10	1.16	0.04	13	1	1.17	0.06	ND	1.11
2,6-DINITROTOLUENE	(NA)	0.96	0.02	7	0.5	1.62	0.03	2.22	0.56
2-CHLORONAPHTHALENE	600(IS)	ND	0.04	ND	1	ND	0.06	ND	1.11
2-METHYLNAPHTHALENE	100(IGNC)	1.46	0.02	26.5	0.5	0.39	0.03	1.11	0.56
2-NITROANILINE	(NA)	0.56	0.04	9	1	0.24	0.06	ND	1.11
3,3'-DICHLOROBENZIDINE	60	0.4	0.04	20.5	1	0.66	0.06	1.11	1.11
3-NITROANILINE	(NA)	0.88	0.04	29.5	1	0.78	0.06	1.67	1.11
4-BROMOPHENYL-PHENYLETHER	(NA)	0.18	0.04	10	1	0.33	0.06	ND	1.11
4-CHLOROANILINE	30(IS)	0.2	0.04	12	1	0.36	0.06	1.11	1.11
4-CHLOROPHENYL-PHENYLETHER	(NA)	0.16	0.04	10	1	0.27	0.06	1.11	1.11
4-NITROANILINE	(NA)	0.14	0.04	10	1	0.3	0.06	ND	1.11
ACENAPHTHENE	400	0.18	0.04	11.5	1	0.36	0.06	1.11	1.11
ACENAPHTHYLENE	(NA)	0.1	0.04	4.5	1	0.12	0.06	ND	1.11
ANTHRACENE	2000	ND	0.04	ND	1	ND	0.06	ND	1.11
BENZIDINE	50	0.12	0.04	6	1	0.15	0.06	1.11	1.11
BENZO(A)ANTHRACENE	0.2(IS)	ND	1.22	ND	30.5	ND	1.83	ND	33.9
BENZO(A)PYRENE	0.2(IS)	ND	0.88	ND	22	ND	1.32	ND	24.4
BENZO(B)FLUORANTHENE	10(IS)	ND	0.84	ND	21	ND	1.26	ND	23.4
BENZO(G,H,I)PERYLENE	100(IGNC)	ND	0.98	ND	24.5	ND	1.47	ND	27.2
BENZO(K)FLUORANTHENE	1(IS)	ND	0.92	ND	23.1	ND	1.39	ND	25.7
BENZOIC ACID	30000(IS)	ND	1.03	ND	25.8	ND	1.55	ND	28.7
BENZYL ALCOHOL	2000	ND	0.96	ND	24	ND	1.44	ND	26.7
BIS(2-CHLOROETHOXY)METHANE	100(IGNC)	ND	1.12	ND	28	ND	1.68	ND	31.1
BIS(2-CHLOROETHYL)ETHER	(NA)	ND	1.16	ND	29	ND	1.74	ND	32.2
BIS(2-CHLOROISOPROPYL)ETHER	(NA)	ND	0.97	ND	24.3	ND	1.46	ND	27
BIS(2-ETHYLHEXYL)PHTHALATE	(NA)	ND	1.2	ND	30	ND	1.8	ND	33.3
BUTYLBENZYLPHTHALATE	(NA)	ND	15	ND	374	ND	22.5	ND	416
CARBAZOLE	(NA)	ND	1.01	ND	25.2	ND	1.52	ND	28.1
CHRYSENE	5(IS)	ND	1.81	ND	45.3	ND	2.72	ND	50.3
DIBENZ(A,H)ANTHRACENE	0.5(IS)	ND	0.92	ND	23	ND	1.38	ND	25.6
DIBENZOFURAN	100(IGNC)	ND	0.96	ND	24.1	ND	1.45	ND	26.8
DIETHYLPHTHALATE	(NA)	ND	1.26	ND	31.6	ND	1.9	ND	35.1
DIMETHYLPHTHALATE	(NA)	ND	2.16	ND	54	ND	3.24	ND	60
DI-N-BUTYLPHTHALATE	(NA)	ND	1.02	ND	25.5	ND	1.53	ND	28.3
DI-N-OCTYLPHTHALATE	(NA)	ND	1.68	ND	42	ND	2.52	ND	46.7
FLUORANTHENE	300	ND	1.06	ND	26.4	ND	1.58	ND	29.3
FLUORENE	300	ND	0.95	ND	23.8	ND	1.42	ND	26.4
HEXACHLOROBENZENE	10	ND	0.84	ND	21	ND	1.26	ND	23.3
HEXACHLOROBUTADIENE	1	ND	1.52	ND	38	ND	2.28	ND	42.2
HEXACHLOROCYCLOPENTADIENE	50	ND	0.91	ND	22.8	ND	1.37	ND	25.3
HEXACHLOROETHANE	10	ND	1.05	ND	26.2	ND	1.57	ND	29.1
INDENO(1,2,3-CD)PYRENE	10(IS)	ND	0.92	ND	23	ND	1.38	ND	25.5
ISOPHORONE	100	ND	1.18	ND	29.5	ND	1.77	ND	32.8
NAPHTHALENE	300(ISM)	ND	2.48	ND	62	ND	3.72	ND	68.9
NITROBENZENE	10	ND	4.12	ND	103	ND	6.18	ND	114
N-NITROSODIMETHYLAMINE	20	ND	0.82	ND	20.5	ND	1.23	ND	22.8
N-NITROSO-DI-N-PROPYLAMINE	(NA)	ND	2.78	ND	69.5	ND	4.17	ND	77.2
N-NITROSODIPHENYLAMINE	20	ND	2.24	ND	56	ND	3.36	ND	62.2
PHENANTHRENE	100(IGNC)	ND	2.82	ND	70.5	7.2	4.23	ND	78.3
PYRENE	200	ND	1.08	ND	27	ND	1.62	ND	30
Tentatively Identified Compounds		232.65		1502		14.9		ND	

TABLE 5B
GROUNDWATER ANALYTICAL DATA - SEMI-VOLATILE ORGANIC COMPOUNDS

Former Russo Ship Bottom Service Station (A/K/A/ Mr. Big Texaco)
Ship Bottom, New Jersey

Sample ID:	HIGHER	TMW-7		TMW-8		TMW-9		TMW-10	
Lab ID:	OF	L2639450-7		L2639450-8		L2639450-9		L2639450-10	
Date Sampled:	PQL or	39574		39574		39574		39574	
Matrix:	GWQC	Groundwater		Groundwater		Groundwater		Groundwater	
Semivolatile Organic Compounds	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l
1,2,4-TRICHLOROBENZENE	9	ND	0.12	ND	0.27	ND	0.23	ND	0.2
1,2-DICHLOROBENZENE	(NA)	2.67	0.06	0.13	0.13	0.46	0.11	0.4	0.1
1,2-DIPHENYLHYDRAZINE	0.04	ND	0.06	ND	0.13	ND	0.11	ND	0.1
1,3-DICHLOROBENZENE	600	2.82	0.03	0.13	0.07	0.51	0.06	1.15	0.05
1,4-DICHLOROBENZENE	75	ND	0.06	ND	0.13	1.31	0.11	ND	0.1
2,4-DINITROTOLUENE	10	2.04	0.06	0.27	0.13	3.47	0.11	5.15	0.1
2,6-DINITROTOLUENE	(NA)	3.3	0.03	0.6	0.07	6.36	0.06	5.3	0.05
2-CHLORONAPHTHALENE	600(IS)	ND	0.06	ND	0.13	ND	0.11	ND	0.1
2-METHYLNAPHTHALENE	100(IGNC)	5.52	0.03	2.13	0.07	21.2	0.06	21.9	0.05
2-NITROANILINE	(NA)	1.14	0.06	0.33	0.13	1.93	0.11	3.75	0.1
3,3'-DICHLOROBENZIDINE	60	3.78	0.06	2.27	0.13	22.7	0.11	12.2	0.1
3-NITROANILINE	(NA)	2.37	0.06	2.2	0.13	24.5	0.11	10.7	0.1
4-BROMOPHENYL-PHENYLETHER	(NA)	0.24	0.06	0.73	0.13	6.25	0.11	3.2	0.1
4-CHLOROANILINE	30(IS)	0.21	0.06	0.93	0.13	9.38	0.11	3.3	0.1
4-CHLOROPHENYL-PHENYLETHER	(NA)	0.15	0.06	0.87	0.13	7.44	0.11	3.6	0.1
4-NITROANILINE	(NA)	0.09	0.06	0.73	0.13	6.36	0.11	3	0.1
ACENAPHTHENE	400	0.15	0.06	0.93	0.13	7.67	0.11	4.25	0.1
ACENAPHTHYLENE	(NA)	0.06	0.06	0.4	0.13	3.24	0.11	1.9	0.1
ANTHRACENE	2000	ND	0.06	ND	0.13	1.19	0.11	0.6	0.1
BENZIDINE	50	0.06	0.06	0.53	0.13	3.58	0.11	2.3	0.1
BENZO(A)ANTHRACENE	0.2(IS)	ND	1.22	ND	3.39	ND	2.08	ND	3.05
BENZO(A)PYRENE	0.2(IS)	ND	0.88	ND	2.44	ND	1.5	ND	2.2
BENZO(B)FLUORANTHENE	10(IS)	ND	0.84	ND	2.34	ND	1.44	ND	2.1
BENZO(G,H,I)PERYLENE	100(IGNC)	ND	0.98	ND	2.72	ND	1.67	ND	2.45
BENZO(K)FLUORANTHENE	1(IS)	ND	0.92	ND	2.57	ND	1.58	ND	2.31
BENZOIC ACID	30000(IS)	ND	1.03	ND	2.87	ND	1.76	ND	2.58
BENZYL ALCOHOL	2000	ND	0.96	ND	2.67	ND	1.64	ND	2.4
BIS(2-CHLOROETHOXY)METHANE	100(IGNC)	ND	1.12	ND	3.11	ND	1.91	ND	2.8
BIS(2-CHLOROETHYL)ETHER	(NA)	ND	1.16	ND	3.22	ND	1.98	ND	2.9
BIS(2-CHLOROISOPROPYL)ETHER	(NA)	ND	0.97	ND	2.7	ND	1.66	ND	2.43
BIS(2-ETHYLHEXYL)PHTHALATE	(NA)	ND	1.2	ND	3.33	ND	2.05	ND	3
BUTYLBENZYLPHTHALATE	(NA)	ND	15	ND	41.6	ND	25.5	ND	37.4
CARBAZOLE	(NA)	ND	1.01	ND	2.81	ND	1.72	ND	2.52
CHRYSENE	5(IS)	ND	1.81	ND	5.03	ND	3.09	ND	4.53
DIBENZ(A,H)ANTHRACENE	0.5(IS)	ND	0.92	ND	2.56	ND	1.57	ND	2.3
DIBENZOFURAN	100(IGNC)	ND	0.96	ND	2.68	ND	1.64	ND	2.41
DIETHYLPHTHALATE	(NA)	ND	1.26	ND	3.51	ND	2.15	ND	3.16
DIMETHYLPHTHALATE	(NA)	ND	2.16	ND	6	ND	3.68	ND	5.4
DI-N-BUTYLPHTHALATE	(NA)	ND	1.02	ND	2.83	ND	1.74	ND	2.55
DI-N-OCTYLPHTHALATE	(NA)	ND	1.68	ND	4.67	ND	2.86	ND	4.2
FLUORANTHENE	300	ND	1.06	ND	2.93	ND	1.8	ND	2.64
FLUORENE	300	ND	0.95	ND	2.64	ND	1.62	ND	2.38
HEXACHLOROBENZENE	10	ND	0.84	ND	2.33	ND	1.43	ND	2.1
HEXACHLOROBUTADIENE	1	ND	1.52	ND	4.22	ND	2.59	ND	3.8
HEXACHLOROCYCLOPENTADIENE	50	ND	0.91	ND	2.53	ND	1.55	ND	2.28
HEXACHLOROETHANE	10	ND	1.05	ND	2.91	ND	1.78	ND	2.62
INDENO(1,2,3-CD)PYRENE	10(IS)	ND	0.92	ND	2.55	ND	1.56	ND	2.3
ISOPHORONE	100	ND	1.18	ND	3.28	ND	2.01	ND	2.95
NAPHTHALENE	300(ISM)	ND	2.48	ND	6.89	ND	4.23	ND	6.2
NITROBENZENE	10	ND	4.12	ND	11.4	ND	7.02	ND	10.3
N-NITROSODIMETHYLAMINE	20	ND	0.82	ND	2.28	ND	1.4	ND	2.05
N-NITROSO-DI-N-PROPYLAMINE	(NA)	ND	2.78	ND	7.72	ND	4.74	ND	6.95
N-NITROSODIPHENYLAMINE	20	ND	2.24	ND	6.22	ND	3.82	ND	5.6
PHENANTHRENE	100(IGNC)	9.18	2.82	13.8	7.83	21.1	4.81	ND	7.05
PYRENE	200	ND	1.08	ND	3	ND	1.84	ND	2.7
Tentatively Identified Compounds		315.9		27		244.1		ND	

TABLE 5C
GROUNDWATER ANALYTICAL DATA - TPHC and LEAD

Former Russo Ship Bottom Service Station (A/K/A/ Mr. Big Texaco)
Ship Bottom, New Jersey

Sample ID:	B-1		B-2		B-5		B-10		B-18		B-19	
Lab ID:	L2412682-1		L2412682-2		L2412982-26		L2412682-3		L2412682-4		L2412682-5	
Date Sampled:	8/1/2007		8/1/2007		8/2/2007		8/1/2007		8/1/2007		8/1/2007	
Matrix:	Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		Groundwater	
Metals	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
Lead	ND	0.00	ND	0.00	ND	0.00	0.02	0.00	0.0020	0.00	ND	0.01
Total Petroleum Hydrocarbons	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
Petroleum Hydrocarbons	0.95	0.50	0.95	0.50	0.74	0.50	0.68	0.50	2.30	0.50	1.10	0.50

TABLE 5C
GROUNDWATER ANALYTICAL DATA - TPHC and LEAD

Former Russo Ship Bottom Service Station (A/K/A/ Mr. Big Texaco)
Ship Bottom, New Jersey

Sample ID:	B-20		B-21		B-22		B-22 DUP		B-23		B-26	
Lab ID:	L2412982-27		L2412982-36		L2412982-28		L2412982-32		L2412682-6		L2412982-29	
Date Sampled:	8/2/2007		8/2/2007		8/2/2007		8/2/2007		8/1/2007		8/2/2007	
Matrix:	Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		Groundwater	
Metals	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
Lead	ND	0.00	0.01	0.00	ND	0.00	NA	NA	ND	0.01	NA	NA
Total Petroleum Hydrocarbons	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
Petroleum Hydrocarbons	ND	0.50	ND	0.50	ND	0.50	NA	NA	1.10	0.50	NA	NA

TABLE 5C
GROUNDWATER ANALYTICAL DATA - TPHC and LEAD

Former Russo Ship Bottom Service Station (A/K/A/ Mr. Big Texaco)
Ship Bottom, New Jersey

Sample ID:	B-27		B-28		TMW-1		TMW-2		TMW-3		TMW-4	
Lab ID:	L2412982-30		L2412982-31		L2639450-1		L2639450-2		L2639450-3		L2639450-4	
Date Sampled:	8/2/2007		8/2/2007		39574		39574		39574		39574	
Matrix:	Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		Groundwater	
Metals	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
Lead	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Petroleum Hydrocarbons	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
Petroleum Hydrocarbons	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

TABLE 5C
GROUNDWATER ANALYTICAL DATA - TPHC and LEAD

Former Russo Ship Bottom Service Station (A/K/A/ Mr. Big Texaco)
Ship Bottom, New Jersey

Sample ID:	TMW-5		TMW-6		TMW-7		TMW-8		TMW-9		TMW-10	
Lab ID:	L2639450-5		L2639450-6		L2639450-7		L2639450-8		L2639450-9		L2639450-10	
Date Sampled:	39574		39574		39574		39574		39574		39574	
Matrix:	Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		Groundwater	
Metals	**mg/l**	**mg/l**	**mg/l**	**mg/l**	**mg/l**	**mg/l**	**mg/l**	**mg/l**	**mg/l**	**mg/l**	**mg/l**	**mg/l**
Lead	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Petroleum Hydrocarbons	**mg/l**	**mg/l**	**mg/l**	**mg/l**	**mg/l**	**mg/l**	**mg/l**	**mg/l**	**mg/l**	**mg/l**	**mg/l**	**mg/l**
Petroleum Hydrocarbons	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

BROWNFIELD
ASSOCIATES, INC.

July 6, 2007

Mr. David Miele
Bureau of Underground Storage Tanks
P. O. Box 433
401 East State Street
Trenton, New Jersey 08625

Via: Electronic Mail and Certified Mail # 7006 2150 0000 9176 2543
Return Receipt Requested

Re: Remedial Investigation Workplan (Revised July 6, 2007)
Former Ship Bottom Service Station (a/k/a Russo Ship Bottom, a/k/a Mr. Big Texaco)
379 West 8th Street
Ship Bottom Borough, Ocean County, New Jersey
Case 03-02-25-1646 a/k/a 03-03-24-1404-46
Closure # N04-3232
SRP PI# 0226271

JUL 10 2007

Dear Mr. Miele:

On behalf of Ewing Oil II, LLC (Ewing Oil), Brownfield Associates, Inc. (Brownfield) has completed a review of available files regarding outstanding remedial investigation activities required for the Former Ship Bottom Service Station (Site). The proposed Remedial Investigation Workplan (RIW) has been prepared in accordance with comments offered by the New Jersey Department of Environmental Protection (NJDEP) during the telephone conversation between Jonathan Lisko and Mr. David Miele on April 24, 2007, comments offered by Mr. Miele in the electronic mail dated June 8, 2007, and follow-up communications.

Background

The referenced property was formerly operated by Russo Fuels, Inc. (Russo Fuels). Gas station operations ceased on or about December 2004 when Underground Storage Tank (UST) closure activities commenced. During the UST closure activities, Russo Fuels went out of business and the property was reclaimed through foreclosure. Ewing Oil purchased the site through the public auction process.

In order to prepare the RIW, Ewing Oil completed a review of records made available for the site. The review included an OPRA records search for the facility, several discussions with the NJDEP and a review of select files from the attorney for the foreclosure Trustee. Based on this review, it appears that limited records were generated by Russo Fuels regarding the UST closure activities and for the gas station in general.

In October 2006, Ewing Oil contacted CDV Environmental Consultants, Inc. (CDV), the former environmental consultant for the site, to conduct the outstanding UST closure activities. The former consultant provided a proposal for environmental services and collected a deposit for proposed work. Since then, Ewing Oil made several attempts (including certified mail) to contact the former consultant. Despite several attempts, Ewing Oil cannot reach the former consultant for comment.

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The bulk of available data for the site was gathered by the NJDEP during field inspections, in compliance/enforcement letters to Russo Fuels, and/or oral communication from the former environmental consultant on the project. In an effort to find additional data related to the site, Ewing Oil contacted the laboratory reportedly used by the former consultant for work. Based on comments made during a telephone interview with laboratory personnel, it appears that the former consultant collected several groundwater samples from the site.

The laboratory analyzed two groups of groundwater samples reportedly collected from the site. The first set, labeled MW-1 through MW-4, was collected in July 2004. The results of these samples were reported in table format in a letter dated June 21, 2006 prepared by CDV regarding *Executive Summary of Environmental Matters*. A copy of this letter is available in the NJDEP files.

The second set of groundwater samples, labeled MW-2 through MW-7, was analyzed for volatile organic compounds (VOCs) only and reportedly collected in December 2004. The laboratory indicated that the results of the analysis will not be provided to Ewing Oil unless CDV gave authorized distribution of the results *and* the outstanding invoices for the sample analyses are paid in full.

Since the former consult cannot be contacted through reasonable attempts, the location, quality and conformance of the second sample set cannot be verified. Accordingly, the data provides no value in preparation of the RIW or attempting to document historic UST activities at the site. For the purposes of this remedial investigation, copies of all available data for the site have been copied to the NJDEP file.

Proposed Activities

Figure 1 presents Brownfield's understanding of the location of the former UST system and the general locations of site features. Proposed activities reference this figure. A scaled site map identifying site features (to the best of our knowledge) will be submitted with the Remedial Investigation Report. The following text presents a summary of anticipated issues and/or specific NJDEP Requirements in italics. Proposed activities are presented in plain text.

> ***Requirement, NJDEP letter dated June 23, 2005, Paragraph 11***
> *... during what was supposed to have been a tank removal activity, soil samples were to have been collected... Since the excavation remained open from April 25, 2005 until June 14, 2005...*
> *...Russo may deploy alternative sampling techniques to collect soil samples at a horizontal distance of one (1) to two (2) feet outwards from the excavation extent...*
>
> **Proposed Activity**
> Ewing Oil proposes to collect approximately nine (9) sidewall soil samples at locations PB-1 through PB-9 from each side of the perimeter of the suspected UST excavation. Additional sample locations will be added as necessary based on field observations of the apparent excavation limits. **Figure 2** presents the anticipated side-wall sample locations. The soil samples will be collected at a horizontal distance of one to two feet outwards from the apparent excavation extent and collected and analyzed as if they were side-wall samples in accordance with the *Technical Regulations for Site Remediation* (*Tech Regs*). **Table 1A and Table 1B** present a summary of the sampling protocol.
>
> Per the NJDEP requirements discussed during the July 5, 2007 telephone conversation between Jonathan Lisko and Mr. David Miele (NJDEP), Ewing Oil proposes to collect eight (8) additional soil samples at locations PB-10 through PB-17. The referenced samples will be

collected at the tank invert for each of the regulated USTs (i.e. UST #1 through UST #8). The depth of the samples (i.e. bottom of tank/tank invert) will be determined by standard UST diameter specifications and UST sizes (as determined by the NJDEP). Each soil sample will be analyzed for VO+10, MTBE, TBA, lead TPH and B/N+15.

Post Excavation Sampling – UST #6 & UST #7
Based on a review of available records, it appears that no post excavation samples were collected after the excavation and/or removal of underground storage tanks designated as UST #6 UST #7. Apparently, the USTs were pulled from beneath the concrete pad and it is suspected that no specific efforts were taken to sample and/or backfill the UST void.

Proposed Activity
As discussed above, Ewing Oil proposes to collect one soil sample at the suspected tank invert for each of the regulated USTs (UST #1 through UST #8).

UST Closure Activity – Investigation and/or closure of suspected UST #8
Based on a review of available records, it appears that an additional, unregistered UST may be present at the site in the area located on the figure.

Proposed Activity
Ewing Oil proposes to conduct a magnetometer survey of the area beneath the station canopy in and around the area where UST #8 had been suspected to be located until its reported removal on 04/27/07. Note that a verbal report of the removal of the UST was obtained by the NJDEP representative from the former consultant on 05/14/07 and this UST was reportedly a 2,000 gallon UST containing a mixture of waste oil and water. The survey will be conducted in conjunction with the soil/groundwater investigation activities referenced above.

Data from the survey will be used to ascertain whether or not there are any additional suspected UST's and to prepare for the UST piping closure activities. The closure activities will be completed in accordance with applicable regulations and include registration of the UST as necessary.

As discussed above, one soil sample will be collected from each of the tank inverts of the regulated USTs (UST #1 through UST #8). Post-remedial samples for the removed UST (if impacted soil is found and is to be removed) will be conducted in accordance with the Tech Regs and any UST piping closure activities will be conducted in accordance with the Tech Regs as well.

Per a discussion with the NJDEP, anticipated UST closure activities will be completed in accordance with the authorization for UST Closure #N04-3232.

Requirement, NJDEP letter dated June 23, 2005, Paragraph 12
Additionally, recall that the required post excavation soil sampling along the product piping must still be collected in accordance with the Technical Requirements for Site Remediation.

Proposed Activity
Based on a review of available information, product piping from within the excavation area has been removed and the area has been backfilled with either new or native soils. Accordingly, product piping samples from within the former UST excavation area will not be representative of soils which were previously located beneath the former product piping.

Ewing Oil requests a variance from the requirement to collect post excavation soil samples along the *former* product piping and has proposed sampling from with the excavation area at each of the former regulated UST locations (UST #1 through UST #8).

Closure activities related to *existing* product piping will be completed in accordance with the *Tech Regs* and are discussed below.

Requirement, NJDEP letter dated June 23, 2005, Paragraph 12
At one soil sampling location on each of the four (4) sides of the excavation, a grab groundwater sample shall be collected and analyzed...

Proposed Activity
Ewing Oil proposes to collect a minimum of five (5) groundwater samples as required at boring locations PB-1, PB-2, PB-5, PB-8 and PB-9 (and additional locations as determined necessary by onsite observations). The samples will be collected via temporary drilling techniques such as Geo-Probe/Hydro-punch and will be analyzed for volatile organic compounds with a forward library search (VO+10), MTBE, TBA, lead, and base neutral acid extractable compounds with a library search (B/N+15).

UST Closure Activity – Removal of dispenser island and remaining product piping
Based on a review of available records, it appears that a portion of the dispensers and product piping are present beneath the concrete pad.

Proposed Activity
Ewing Oil proposes to remove the dispenser island above the suspected product piping and excavate the remaining apurtances of the former UST system. The closure activities for product piping and/or dispensers will be completed in accordance with applicable regulations. Post excavation samples will be collected in accordance with the *Tech Regs*. Per a discussion with the NJDEP, product piping closure activities will be completed in accordance with the authorization for UST Closure #N04-3232.

Requirement, NJDEP letter dated June 23, 2005, NJPDES/DGW Permit by Rule requirements
The NJDEP issued a NJPDES/DGW Permit by Rule for the discharge of treated groundwater collected in onsite storage tank(s) during UST closure activities completed on behalf off Russo. The Permit by Rule required Russo to meet several permit conditions including treatment of the water by activated carbon and analysis of the water prior to discharge.

The collected water, above ground water storage tanks and/or activated carbon vessels are no longer present at the site. Documentation of NJPDES/DGW compliance activities cannot be located. At this time it does not appear that any documentation regarding this matter will be possible in the upcoming Remedial Investigation Report.

Proposed Activity
Ewing Oil requests a variance from the requirements related to the NJPDES/DGW Permit by Rule for discharge of collected groundwater. The former water collection and/or treatment devices are no longer present at the site. No documentation is available for the purposes of satisfying this requirement. Russo Fuels is no longer in business and the former consultant for the site cannot be reached for comment.

Ewing Oil proposes to conduct a groundwater investigation of the site. As noted above, groundwater samples will be collected from locations PB-1, PB-2, PB-5, PB-8 and PB-9. In addition, Ewing Oil will collect groundwater samples from boring locations PB-10, PB-13 and PB-18 through PB-23. Groundwater samples will be analyzed for VO+10, MTBE, TBA, lead and B/N+15.

General Requirement – Excavation of soils impacted by the release of #2 fuel oil from the unregulated 550 gallon heating oil UST
Based on a review of available records, it appears that soils impacted by the unregulated 550 gallon heating oil UST release have not been investigated or remediated.

Proposed Activity
Ewing Oil proposes to collect a minimum of five (5) soil samples and a minimum of three (3) groundwater samples at locations PB-24 through PB-28 from the area proximal – is proximal the same as "in close proximity to"? to the unregulated 550 gallon heating oil UST release. The samples will be collected in accordance with the *Tech Regs* in an attempt to delineate heating oil impact in the soil and/or groundwater. The soil samples at locations PB-24 through PB-28 will be collected at a horizontal distance of one to two feet outwards from the apparent excavation extent. The soil sample from PB-28 will be collected from within the former excavation area. The soil and groundwater samples will be collected and analyzed in accordance with the *Tech Regs*.

If warranted, impacted soils will be excavated in conjunction with upcoming UST closure activities discussed in this RIW. Excavation activities (soil disposal, groundwater disposal, etc.) will be completed in accordance with applicable regulations and/or the *Tech Regs*.

Documentation of Historic Activities – Clean Fill Certification
The bulk of the former excavation area has been backfilled; however, documentation of clean fill certification cannot be located. At this time it does not appear that fill will be certified as clean in the upcoming Remedial Investigation Report.

Proposed Activity
Ewing Oil requests a variance from the requirement to provide certification of clean fill. The former excavation has been backfilled. No documentation is available for the purposes of satisfying this requirement. Russo Fuels is no longer in business and the former consultant for the site cannot be reached for comment.

Ewing Oil proposes to conduct sampling and a visual comparison of the site soils to determine whether typical construction type fill (i.e. non-native soil, yellow construction sand) was utilized to backfill the excavation area. Accordingly, Ewing Oil proposes to collect two (2) soil samples from within the backfilled area at locations PB-16 and PB-18. The soil samples will be analyzed for PP+40 (in addition to VO+10, TPH, lead and B/N+15) for waste classification purposes. Soils at boring locations outside the excavation area (PB-1through PB-9 and PB-19 through PB-23) will be compared to soils at boring locations inside the excavation area (PB-10 through PB-18).

If the results of the sampling and visual comparison indicate that "clean" non-native soils are present in the excavation area, then this will be documented in the upcoming Remedial Investigation Report and presented in lieu of clean fill certification. If the results of the sampling and visual comparison indicate that the soil is not "clean" then the area will be identified as an Area of Concern (AOC).

Documentation of Historic Activities – Soil Disposal Documentation
Based on a review of the letter dated June 21, 2006 prepared by CDV regarding *Executive Summary of Environmental Matter Proposal for Environmental Services, approximately 60 tons of excavated soils were staged at the Site in anticipation of offsite disposal The fate of the staged soil is unknown and at this time it does not appear that documentation will be possible in the upcoming Remedial Investigation Report.*

Proposed Activity
Ewing Oil requests a variance from the requirement to document disposal of previously excavated soil. The bulk of the staged soil has either been transported offsite to an unknown location or it has been used to backfill the excavation area. No documentation is available for the purposes of satisfying this requirement. Russo Fuels is no longer in business and the former consultant for the site cannot be reached for comment.

The volume and location of existing soil piles will be documented and will be sampled for waste classification purposes. The soil will be transported offsite to an EPA approved facility for recycling or disposal as necessary and documented in accordance with the *Tech Regs*.

Documentation of Historic Activities – UST Disposal Certification
Documentation of the disposal of the previously excavated USTs cannot be located. At this time it does not appear that it will be possible to document the disposal of the USTs in the upcoming Remedial Investigation Report.

Proposed Activity
Ewing Oil requests a variance from the requirement to document disposal of the previously excavated USTs. The USTs have been transported off site to an unknown location. No photos or other documentation is available for the purposes of satisfying this requirement. Russo Fuels is no longer in business and the former consultant for the site cannot be reached for comment.

General Requirement – Site Specific Health and Safety Plan
The NJDEP requires Ewing Oil to submit a copy of the site specific Health and Safety Plan for the site.

Proposed Activity
Ewing Oil will submit the site-specific Health and Safety Plan to the NJDEP under separate cover.

General Requirement – Baseline Ecological Evaluation
The NJDEP requires Ewing Oil perform a Baseline Ecological Evaluation in accordance with the Technical Regulations for Site Remediation and submit results of the evaluation in the upcoming Remedial Investigation Report.

Proposed Activity
Ewing Oil will perform a Baseline Ecological Evaluation (BEE) as required and submit the results of the BEE in the upcoming Remedial Investigation Report.

General Requirement- Potable Well and Septic Field Survey
No documentation regarding the presence or absence of a potable well and/or septic system has been submitted to the NJDEP.

Proposed Activity
Ewing Oil proposes to conduct a survey at the site to verify the presence or absence of potable well(s) and/or septic system at the site. If either a potable well or septic system is identified at the site, it will be investigated in accordance with the *Tech Regs.*

General Requirement – Well Search
The NJDEP requires Ewing Oil perform a Well Search in accordance with the Technical Regulations for Site Remediation and submit results of the evaluation in the upcoming Remedial Investigation Report.

Proposed Activity
Ewing Oil will perform a well search as required and submit the results of the search in the upcoming Remedial Investigation Report.

Ewing Oil will submit the results of the above referenced investigation activities within a Remedial Investigation Report (RIR) A Remedial Investigation Workplan (RIW), Remedial Action Workplan (RAW) and/or request for No Further Action (NFA) will be submitted in conjunction with the RIR as required.

NJDEP Review of Remedial Investigation Workplan

Ewing Oil recognizes that the unique circumstances of this site require careful review; however, Ewing Oil is prepared to conduct the proposed activities on an expedited schedule. If the variance requests presented in this document prevent the NJDEP from reviewing/approving the RIW in its entirety, Ewing Oil is prepared to conduct the physical investigation and/or UST closure activities if the NJDEP offers partial RIW approval for these activities.

Implementation Schedule

The following presents the implementation schedule for the above activities. The implementation schedule is based on typical availability of resources. Actual dates of work may vary.

As required, The NJDEP shall be notified within seven (7) days of the actual field work so that the Case Manager/Inspector may be present. The Case Manager/Inspector's presence will facilitate the agreement to adjustments, if necessary, in the proposed soil and ground water sample locations or number of samples based upon field observations.

Proposed Activity	Schedule
NJDEP Approval of RIW	Day 0
Soil/Groundwater Sample Collection	Day 10
Investigation of Suspected USTs via Magnetometer	Day 10
Potable Well/Septic Field Survey	Day 10
Apply for Necessary Permits	Day 15
Approval of Necessary Permits	Day 45 (estimated)
UST Closure Activities	Day 60 – 65
Soil Excavation Activities	Day 60 – 65
Well Search	Day 60 - 65
Baseline Ecological Evaluation	Day 60 - 65
Remedial Investigation Report with RIW/RAW and/or NFA request as required.	Day 125

Contact Information

Per the NJDEP's request, below is contact information for the property owner, site contact and current environmental consultant.

Property Owner & Site Contact
Ewing Oil, LLC.
Patrick Moeller
2815 Long Beach Blvd.
Beach Haven Gardens, NJ 08008
Phone: (609) 492 – 1102

Current Environmental Consultant
Jonathan Lisko
Brownfield Associates, Inc.
P. O. Box 600
Belmar, NJ 07719
Phone: (732) 280 - 1420

UST Report Certification

Enclosed is a UST Report Certification Form. The form has been signed by Jonathan Lisko of Brownfield Associates, Inc. and Patrick Moeller of Ewing Oil.

Ewing Oil will commence with the proposed activities once NJDEP approval is received. It is acceptable to Ewing Oil if the NJDEP faxes the RIW approval/comments to Jonathan Lisko at (732) 280 – 1421. If you have any questions or comments, please contact me via telephone at (732) 280 – 1420 or via electronic mail at jlisko@brownfield-assoc.com

Sincerely,
Brownfield Associates, Inc.

Jon Lisko

Jonathan Lisko
Project Manager

Enclosures: Attachment A – UST Report Certification Form
Attachment B - Figures
Attachment C - Table

Cc: Nadine Drake, NJDEP
Patrick Moeller
Harry Drexler, Wilson Drexler
Paulo Heyman, Renova Environmental Services, LLC

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF EMERGENCY RESPONSE
REGION II

INVESTIGATION

CASE#:87-03-31-ERII-1720

INVESTIGATOR: R. Schrader
DATE: 06 April 1987
LOCATION: Mr. Big Texaco
ADDRESS: 379 W. 8th Street
Ship Bottom, NJ 08006
PROPERTY OWNER: Russo Fuel Co.
82 East Bay Ave
Manahawkin, NJ
(609)597-4443

Local Health Rep: Long Beach Twp Notified, No response.
ORIGIN OF COMPLAINT: Tracy Armenllino, (609 494-7382
NATURE OF COMPLAINT: Delivery overflow at Mr Big Texaco, Ship Bottom NJ.

ON SCENE WEATHER:		
	Winds Speed:	calm
	Wind	calm
	Direction:	000
	Temperature:	51F

Findings:

1810 O/S at Mr Big TEXACO. The establishment is a gasoline station located on the west side of Long Beach Island, at the approach to the RT 72 causeway.
I met with Ship Bottom Police Patrolman Michael Opalenik, Mr and Mrs Lehman, local OEM. At the service station was the attendant Jackie Fagen and the notifier, Tracy Armenllino.

A survey of the area revealed that the entire asphalt area of the service station had a film of oil on the surface. There were numerous small puddles of oil scattered about the station. The roadway, (Rt 72 or 8th St.) adjacent to the station was also covered due to the vehicle traffic after the spill. The gutter along 8th street also had a film of oil on it. The storm sewers had a odor of oil in them. I could not trace a outlet to the Manahawkin Bay. It is suspected that the last drain was a catch basin or french Drain.

Jackie and Tracy told me that at 1300 when Tracy dropped her off for work, the entire area of the service station was covered with oil. Jackie stated that it had been raining quite heavily all day and that the spill occurred at approximately 1230 while the driver, Jerry Koble, was inside the station keeping dry.

1820 Requested MS Fagen contact Mr Russo and tell him that I wanted to see him at the station as soon as possible.
Requested Ship Bottom, PD slow traffic down until State DOT arrive to sand area.

1845 Met with Mr. Russo. Explained to him that the street, storm drains, his service station, and any other area that was contaminated by the oil must be cleaned. Suggested that he contact some employees to start work.
Mr Russo explained to me that the driver and attendant had

Mr Russo explained to me that the driver and attendant had contacted him earlier about the spill and told him that they spilled very little and that there was no need for alarm. the following violations of the "Spill Compensation and Control Act. " were noted:

58:10-23.11c The discharge of a hazardous substance; to wit Diesel fuel; onto the lands of the State of New Jersey.
58:10-23.11e No-notification of the discharge by the driver, Jerry Koble, and Robert Russo, Owner.

I instructed Mr Russo on the regulations governing the notification of a discharge and on the disposal procedures of the sand and other contaminated debris.

1850 U.S. Coast Guard Rep, Petty Officer Shawn Mass O/S.

1915 DOT sand crew O/S. Sanding of the roadway and station begins. Work crews from Russo Fuel Co. begin sweeping sand over the entire area.

2130 Clean up complete.

CONCLUSION:

1. The discharge happened at approx 1245.
2. The service station is owned by Russo Fuel Co.
3. No containment measures were taken by the attendant or driver at the time of the discharge.
4. Non-notification by all Russo personnel.
5. No oil escaped into the Manahawkin Bay.
6. No Remedial instruction on state regulations governing the notification and discharge of a hazardous substance should have been needed due to Mr Russo's line of work.

RECOMMENDATIONS:

1. Disposal of the contaminated soil be monitored by DHWM-C
2. Case be closed this office.
2. Enforcement referral.

COMMENTS:

Robert J. Schrader
Emergency Responder IV

Bruce Comfort
Supervisor,(acting)
Emergency Responder II

Form DWM-005
2/83

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WASTE MANAGEMENT
BUREAU OF FIELD OPERATIONS

15/28

ENFORCEMENT REFERRAL

TO: Vince Krisak Region Chief DATE: April 25 1987

FROM: Bruce Comfort Supervisor REGION: Central

RE: Mr. B.'s Texaco (Name of Facility) 87-3-31-ERII-1720 (ID Number) 379 W. 8th St. (Location Address)

N/A (Lot and Block) Shin Bottom (Township) Ocean (County)

82 East Bay Ave Manahawkin N.J. (Mailing Address) Russo Fuel Co. (Responsible Party)

The attached inspection/investigation report(s) dated April 6 1987 is being referred and it is recommended a NOV-DOS be issued for violations of:

NJAC 7:26–

NJSA 58:10– 23.11c Discharge of a Hazardous Substance
23.11e Failure to Notify

Suggested penalty: ~~Minimum~~ Max as per Schedule

ADDITIONAL COMMENTS:

Heavy rains washed spilled product into storm drains and the Bay making clean up impossible.

REVIEWED AND APPROVED BY:

B. Comfort

White — Enforcement and Compliance Copy
Yellow — Region Copy

Let's protect our earth

State of New Jersey

DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF ENVIRONMENTAL QUALITY
CN 027
TRENTON, N.J. 08625

M E M O R A N D U M

TO: Vince Krisak, Chief DATE: April 25, 1987
Bureau of Field Operations, DHWM

FROM: Michael S. Zachowski, Chief
Bureau of Emergency Response

SUBJECT: Bureau of Emergency Response Referral
87-03-31-ERII-1720

Please find enclosed a referral from the Bureau of Emergency Response for enforcement and/or other followup. The contact person is Rob Schrader who can be reached at (609) 426-0799, for any additional information you may require. At your convenience, please sign and return the enclosed Acknowledgement of Receipt to indicate same.

Enclosure

cc: Neil P. Mulvey, Assistant Director
Charles Krauss, Chief

Let's protect our earth

State of New Jersey

DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF ENVIRONMENTAL QUALITY
CN 027
TRENTON, N.J. 08625

BUREAU OF EMERGENCY RESPONSE

Acknowledgement of Receipt

This is to certify that I, Vince Krisak, of the Division of Hazardous Waste Management, have received Referral Case No. 87-03-31-ERII-1720 generated by the Bureau of Emergency Response.

_____
Signature

_____
Date

Please sign where indicated and return to:

Michael Zachowski, Chief
Bureau of Emergency Response
Division of Environmental Quality
401 E. State Street
Trenton, New Jersey 08625

Let's protect our earth

State of New Jersey

DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF ENVIRONMENTAL QUALITY
CN 027
TRENTON, N.J. 08625

M E M O R A N D U M

TO: Steven Herb, Chief DATE: April 25, 1987
Bureau of Law Enforcement, DFG&W

FROM: Michael S. Zachowski, Chief
Bureau of Emergency Response

SUBJECT: Bureau of Emergency Response Referral
87-03-31-ERII-1720

Please find enclosed a referral from the Bureau of Emergency Response for enforcement and/or other followup. The contact person is Rob Schrader who can be reached at (609) 426-0799, for any additional information you may require. At your convenience, please sign and return the enclosed Acknowledgement of Receipt to indicate same.

Enclosure

cc: Neil P. Mulvey, Assistant Director
Charles Krauss, Chief

let's protect our earth

State of New Jersey

DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF ENVIRONMENTAL QUALITY
CN 027
TRENTON, N.J. 08625

BUREAU OF EMERGENCY RESPONSE

Acknowledgement of Receipt

This is to certify that I, Steven Herb, of the Division of Fish, Game & Wildlife, have received Referral Case No. 87-03-31-ERII-1720 generated by the Bureau of Emergency Response.

_____
Signature

_____
Date

Please sign where indicated and return to:

Michael Zachowski, Chief
Bureau of Emergency Response
Division of Environmental Quality
401 E. State Street
Trenton, New Jersey 08625

DeMaio's Incorporated
543 COLUMBIA ROAD, EGG HARBOR, NEW JERSEY 08215 • (609) 965-4094 • Fax (609) 965-7422

June 2, 1999

JUN - 4 1999

New Jersey Department of Environmental Protection
Division of Responsible Party Site Remediation
Bureau of Applicability and Compliance
Registration and Billing Unit
CN 028
Trenton, New Jersey 08625-0028

Att.: Ms. Nancy O'Dennis

RE: Underground Storage Tank Registration Application -
Hochstrasser Marina, Inc., 401 W. 8th Street, Ship Bottom, New Jersey
Registration Number #0000451
Ocean County

Dear Nancy:

Enclosed, please find the Underground Storage Tank Facility Questionnaire for the above referenced client. Please be advised that the customer has indicated that the tanks were taken out of service on December 19, 1998. Could you please update the information in the system with the department. I have also re-submitted the 30-day notice to the department for review and issuance. The 4000 gallon storage tank is in the process of being modified, substantial modification applications are being completed.

Should you have any questions, please do not hesitate to contact our office. Thank you so much for your help and attention in this matter.

Very truly yours,

DEMAIO'S INCORPORATED

Michele

Michele L. DeMaio
Vice President

Complete 3/28/2000
MAR 28 2000

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF RESPONSIBLE PARTY SITE REMEDIATION
Underground Storage Tanks
Registration and Billing Unit
PO Box 028, Trenton, N.J. 08625-0028
1-609-633-0719

FOR STATE USE ONLY
Check In ☐ Yes ☐ No
STATUS: Active ☐ Inactive ☐
COMCODE ☐☐☐☐

UNDERGROUND STORAGE TANK FACILITY CERTIFICATION QUESTIONNAIRE

FACILITY UST # 0000451

Completion of this Registration Questionnaire will satisfy the registration requirements of the Underground Storage of Hazardous Substances Act, N.J.S.A. 58:10A-21, and the Registration and Billing Regulations N.J.A.C. 7:14B-2.

Check appropriate box

A. ☐ This is a registration of a proposed or newly installed underground storage tank. (This form must be filed at least 30 days prior to operation)
B. ☐ This is a registration of an existing underground storage tank not presently registered.
C. ☒ This is a correction or amendment to an existing facility registration.
D. ☐ There have been no changes to the facility registration since last submittal. (Go to certification page for signature)

If "C" is checked above, please check the appropriate type of change(s) below

☐ Facility Name and/or Address Change
☐ Owner Name and/or Address Change
☐ Facility Operator and/or Address Change
☐ Owner Contact Person Change
☐ Type of Product(s) Stored
☐ Substantial Modification(s)
☐ Tank(s) and/or Piping Changes
☒ Closure (Complete Section B Questions 1,4,5,11,12)
☐ Financial Responsibility Change
☐ Sale or Transfer (Complete Section A, Questions 4,5,6 & Section B, 12D)
☐ Other *(please specify)* _____

SECTION A - GENERAL FACILITY INFORMATION

1. Facility Name: Hochstrassers Marina Inc.
2. Facility Location: 401 W. 8th Street (NUMBER AND STREET)
Ship Bottom (CITY OR MUNICIPALITY)
Ocean (COUNTY) NJ (STATE) 08008- (ZIP CODE) BLOCK LOT
3. Facility Operator: Louis Hochstrasser (PERSON OR TITLE) Contact Tele. No. 609 494 5340 (Area Code) (Extension)
Operator Address (if different than #2): Same as above (NUMBER AND STREET)
CITY OR MUNICIPALITY
STATE ZIP CODE -
4. Tank Owner: Same
5. Tank Owner Address: NUMBER AND STREET
CITY OR MUNICIPALITY
STATE ZIP CODE -
6. Contact Person (Tank Owner): Louis Hochstrasser Contact Tele. No. 609 494 5340 (Area Code) (Extension)
7. EPA ID#
8. Total number of regulated underground storage tanks at facility 02 (Complete Section B for each tank)

9. Total regulated underground storage tank capacity at facility (gallons) 5000

10. Facility Type:
- A [ ] State
- B [X] Commerical/ Industrial
- C [ ] County/Municipal
- D [ ] Federal
- E [ ] Charitable / Public School
- F [ ] Residential
- G [ ] Other
- H [ ] Farm (as defined in N.J.S.A. 54:4-23.1 et seq.)

NOTE: The facility site plan must be submitted when registering any underground storage tank pursuant to N.J.A.C. 7:14B 2.2.

SECTION B - SPECIFIC TANK INFORMATION

ALL underground tanks, including those taken out of operation (UNLESS THE TANK WAS REMOVED FROM THE GROUND PRIOR TO 9/3/86) must be registered. Report all tank/piping status changes.

	TANK NO.		TANK NO.		TANK NO.		TANK NO.		TANK NO.	
1. Tank Identification Number	E1									
2. CAS Number (hazardous substances only)										
3. Date Tank Installed (Month/Day/Year)	Mo. Day Year 01 01 1983		Mo. Day Year		Mo. Day Year		Mo. Day Year		Mo. Day Year	
4. Tank Size (gallons)	1000									
5. Tank Contents (Mark one "X" for each tank)										
A. Leaded gasoline										
B. Unleaded gasoline	✓									
C. Alcohol enriched gasoline										
D. Light diesel fuel (No. 1-D)										
E. Medium diesel fuel (No. 2-D)										
F. Waste oil										
G. Kerosene (No. 1)										
H. Home heating oil (No. 2)										
J. Heating oil (No. 4)										
K. Heavy heating oil (No. 6)										
L. Aviation fuel										
M. Motor oil										
N. Lubricating oil										
P. Other hazardous substances (specify)										
Q. Hazardous waste (specify ID number)										
R. Mixtures (please specify)										
S. Emergency spill tank (specify substance)										
T. Other petroleum products (please specify)										
U. Other (please specify)										
6. Tank & Piping Construction (Mark one each for tank and piping)	Tank	Piping	Tank	Piping	Tank	Piping	Tank	Piping	Tank	Piping
A. Bare steel	✓	✓								
B. Cathodically protected metal										
1. Sacrificial anode										
2. Impressed current										
C. Fiberglass-coated steel										
D. Fiberglass-reinforced plastic										
E. Internally lined										
F. Pressurized piping										
G. Suction piping										
H. Other (please specify)										
7. Tank & Piping Structure (Mark one each for tank & piping)										
A. Single wall	✓	✓								
B. Double wall										
C. Other (please specify)										
8. Type of Monitoring/Detection (Mark all that apply for tank & piping)										
A. Statistical inventory reconciliation										
B. Manual tank gauging										
C. Inventory control										
D. Interstitial										
E. Tightness test										
F. Ground water observation wells										
G. Vapor observation wells										
H. In-tank (automatic monitoring gauge)										
J. "Safe" suction piping (piping only) see definition page 4										
K. In-line electronic pressure monitor (piping only) see definition page 4										
L. Automatic line leak detector (piping only)										
M. None (tank & piping)		✓								
N. Other (please specify)										

Tank Identification Number	TANK NO. E1	TANK NO.	TANK NO.	TANK NO.	TANK NO.
9. Overfill protection (tank only) (Mark one X for each tank)	Tank	Tank	Tank	Tank	Tank
A. Yes					
B. No	✓				
10. Spill containment around fill pipe (Mark one X for each tank)					
A. Yes					
B. No	✓				
11. Tank status (Mark one X for each tank system)					
A. In-use					
B. Empty less than 12 mos. (complete 12B)					
C. Empty 12 mos. or more (complete 12B)	✓				
D. Sump (contains products no more than 48 hours)					
E. Emergency back-up generator tank					
F. Abandoned in place					
G. Removed	✓				
H. Other (Please specify)					
12. Closure Information - Tank ID No.	TANK NO. E1	TANK NO.	TANK NO.	TANK NO.	TANK NO.
	Mo. Day Year	Mo. Day Year	Mo. Day Year	Mo. Day Year	Mo. Day Year
A. Date abandoned in place					
B. Date taken out of service					
C. Date removed	01 16 2010				
D. Date of sale or transfer					
E. Closure # (if applicable)	N99-0765				
F. ISRA # (if applicable)					
13. Is the tank within wellhead protection area as defined on pg. 4 (Mark one X for each tank)					
A. Yes					
B. No	✓				

SECTION C - FINANCIAL RESPONSIBILITY

Does this facility have a Financial Responsibility Assurance Mechanism as required in 40 CFR 280? ☐ YES ☐ NO
Please list the appropriate financial information below:

Type _____ Carrier/Issuing Agency _____

Effective Date ____/____/____ Expiration Date ____/____/____ Policy Number _____ Amount $_____

SECTION D - MONITORING SYSTEMS

Does this facility have a release detection monitoring system which is in compliance with N.J.A.C. 7:14B-6? ☐ YES ☐ NO
If "No", please be aware that the facility must meet the appropriate deadline. (See "Dates to Know" on Page 4)

SECTION E - RECORD KEEPING / COMPLIANCE

Please answer all the questions in this section on a facility basis. Any one tank not in compliance requires a "NO" answer for the entire facility.

1. Does this facility have cathodic protection systems for all steel tanks and piping? ☐ YES ☐ NO
   If "Yes", are the systems properly operated and maintained pursuant to N.J.A.C. 7:14B-5.2? ☐ YES ☐ NO
2. Are the performance claims and documentation of monitoring systems maintained by the owner or operator pursuant to N.J.A.C. 7:14B-6.7? ☐ YES ☐ NO
3. Are the proper monitoring, testing, sampling, repair and inventory records kept on-site pursuant to N.J.A.C. 7:14B-5 and 6? ☐ YES ☐ NO
4. Is the proper Release Response Plan kept on-site pursuant to N.J.A.C. 7:14B-5.5? ☐ YES ☐ NO
5. Does the facility have spill and overfill protection systems pursuant to N.J.A.C. 7:14B-4? ☐ YES ☐ NO
6. Have all Fill Ports been permanently marked per API #1637 pursuant to N.J.A.C. 7:14B-5.8? ☐ YES ☐ NO

IMPORTANT INFORMATION

FEE: Please make checks payable to: "Treasurer, State of New Jersey". Use of the enclosed return envelope will expedite processing. Registration and Billing Schedule can be found in N.J.A.C. 7:14B-3. All Initial Registration fees are $100 per facility. (See N.J.A.C. 7:14B-3.1 and 3.2(c).

PENALTY: Failure by owner or operator of a regulated underground storage tank to comply with any requirement of the State UST Act or regulations may result in the penalties set forth in N.J.S.A. 58:10A-12.

EMERGENCY: If a discharge or spill occurs, the NJDEP Hotline at (609) 292-7172 must be called **IMMEDIATELY** - 24 hours a day.

EXEMPTION: Residential heating oil underground storage tanks are exempt from all underground storage tank requirements.

DATES TO KNOW (critical deadlines)

December 22, 1988 - All new federally regulated tank systems must have corrosion protection and spill/overfill protection.
September 4, 1990 - All new state-only regulated tank systems must have corrosion protection and spill/overfill protection.
February 19, 1993 - All federally regulated tank systems must maintain financial responsibility assurance.
December 22, 1993 - All federally regulated tank systems must have begun leak detection.
December 22, 1998 - All regulated tanks shall have corrosion protection and spill/overfill protection.
December 22, 1998 - All state regulated tanks need leak detection.

CERTIFICATION

Must be signed as follows:

- For a corporation, by a person authorized by resolution of the Board of Directors to sign the document.
- For a partnership or sole proprietorship, by a general partner or the proprietor, respectively.
- For a municipality, State, Federal or other public agency, by either a principal executive officer or ranking elected official.
- For persons other than indicated above, by the person with legal responsibility for the site.

"I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attached documents, and that based on my inquiry of those individuals responsible for obtaining the information. I believe that the submitted information is true, accurate and complete. I am aware that there are significant civil penalties for knowingly submitting false, inaccurate or incomplete information and that I am committing a crime of the fourth degree if I make a written false statement which I do not believe to be true. I am also aware that if I knowingly direct or authorize the violation of any statute, I am personally liable for the penalties."

Louis R. Hochstrasser
(Typed / Printed Name)

Louis R. Hochstrasser
(Signature)

V.P.
(Title)

3-21-00
(Date)

DEFINITIONS

Section B8 J. "Safe" Suction Piping - Suction Piping which has enough slope so that the product in the pipe can drain back into the tank when the suction is released, and which has only one check valve, located directly beneath the pump in the dispensing unit.

Section B8 K. In-Line Electronic Pressure Monitor - (Used with pressurized piping only) A monitor which checks for loss of pressure in piping when no product is dispensed. This method may be used once every 30 days or every time the dispenser turns off.

Section B8 L. Automatic Line Leak Detectors - (Required with pressurized piping - Must be able to detect a 3 gph leak within 1 hour of its occurence)

1. Flow restrictors and flow shut offs which monitor pressure within piping and when a suspected leak is detected, either restricts the flow of product through the piping well below the 3 gph leak rate it detects, or completely cuts off product flow and shuts down the pump.
2. Continuous alarm systems constantly monitor piping conditions and trigger an audible or visual alarm if a leak is suspected.

Section B13 Wellhead Protection Area -

1. The area within a 2,000 ft. radius surrounding a public community or public non-community water system well when there is an underground storage tank containing gasoline or non-petroleum hazardous substances located within that area.

2. The area within a 750 ft. radius surrounding a public community or public non-community water system well when there is an underground storage tank containing petroleum products other than gasoline located within that area.

let's protect our earth

State of New Jersey
DEPARTMENT OF ENVIRONMENTAL PROTECTION
Division of Water Resources
CN-029
Trenton, New Jersey 08625

0256386

AUTH.	☐
SP. ROUTE	☐
SITE PLN.	☑
SIGN.	☑
COMCODE	151

5.

AUG 29 1987

UNDERGROUND STORAGE TANK REGISTRATION QUESTIONNAIRE

Bureau of Underground Storage Tanks
Registration Section
1-800-722-TANK

COMPLIANCE WITH THIS REGISTRATION WILL MEET ALL REQUIREMENTS OF STATE LAW, P.L. 1986, c. 102, THE UNDERGROUND STORAGE OF HAZARDOUS SUBSTANCES ACT, N.J.S.A. 58:10A-21. 8/3

General Facility Information

1. Facility name: Margo's Inn, Inc. Ashton Jo. V
2. Facility location: 1432 East Bay Avenue (NUMBER AND STREET)
   Manahawkin (CITY OR MUNICIPALITY)
   Ocean (COUNTY) NJ (STATE) 08050 (ZIP CODE)
3. Owner's mailing address: 1432 East Bay Avenue (NUMBER AND STREET)
   Manahawkin (CITY OR MUNICIPALITY)
   Ocean (COUNTY) NJ (STATE) 08050 (ZIP CODE)
4. Owner's name: Margo's Inn, Inc.
5. Contact person (Facility Operator) F. Freeseley, Pres. (PERSON OR TITLE)
6. Contact telephone number: 609 (AREA CODE) 597 (EXCHANGE) 8909 (NUMBER)
7. Total number of facility underground storage tanks: 003 (Complete Questions 12 thru 33) for each tank
8. Total facility underground storage tank capacity (gallons): 005000
9. Status of owner: (mark one) A. ☒ CURRENT B. ☐ FORMER
10. Type of owner: (mark one) A. ☐ STATE OR LOCAL GOVERNMENT B. ☒ PRIVATE OR CORPORATE C. ☐ OWNERSHIP UNCERTAIN D. ☐ FEDERAL GOVT. (GSA FACILITY I.D. NUMBER)
11. Two copies of a site plan are submitted with this registration. A. ☑ YES B. ☐ NO

Submit two (2) copies of SITE PLAN showing facility or property boundary, buildings and the location of ALL underground storage tanks. EITHER, an existing engineering site plan, if available, OR a neat and legible hand-drawn sketch of the site may be submitted. In either case the site plan or sketch MUST show the location and distances that tanks, buildings, and dispensers are from the facility's property boundary. Include all tanks that are operating or existing, (E); abandoned, (A); or out of service, (C). Each underground tank on the site plan or sketch shall be numbered in accordance with the instructions for question 12. The number assigned to a tank on the site plan or sketch MUST match and be identical to the tank identification number assigned to that tank on this form.

INCLUDE FACILITY NAME, OWNER'S NAME, FACILITY ADDRESS AND TELEPHONE NUMBER ON ALL SITE PLANS.

ALL underground tanks, including those taken out of operation. **(UNLESS T**
GROUND) must be included in this registration. All in-ground tanks shall be
questionnaire regardless of their current status; Existing, E; Abandoned, A

0256386

SPECIFIC TANK INFORMATION

	TANK NO.	TANK NO.	TANK NO.	TANK NO.	TANK NO.
12. Tank Identification Number	✓ 212	✓ 234	209		
13. CASRN Number (Hazardous Substances Only)					
14. Tank Age (Years)	018	018	08		
15. Tank Size (gallons)	002000	002000	001000		
16. Tank Contents (MARK ONE X)					
A. Leaded gasoline	☐	☐	☐	☐	☐
B. Unleaded gasoline	☒	☒	☒	☐	☐
C. Alcohol enriched gasoline	☐	☐	☐	☐	☐
D. Light diesel fuel (No. 1-D)	☐	☐	☐	☐	☐
E. Medium diesel fuel (No. 2-D)	☐	☐	☐	☐	☐
F. Waste oil	☐	☐	☐	☐	☐
G. Kerosene (No. 1)	☐	☐	☐	☐	☐
H. Home heating oil (No. 2)	☐	☐	☐	☐	☐
J. Heating oil (No. 4)	☐	☐	☐	☐	☐
K. Heavy heating oil (No. 6)	☐	☐	☐	☐	☐
L. Aviation fuel	☐	☐	☐	☐	☐
M. Hazardous substances (per Fact Sheet)	☐	☐	☐	☐	☐
N. Other; Please Specify					

17. Tank and Piping Construction (MARK ALL THAT APPLY X)	Tank	Piping	Tank	Piping	Tank	Piping	Tank	Piping	Tank	Piping
A. Bare steel	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
B. Carbon steel	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
C. Stainless steel	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
D. Aluminum	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
E. Polyvinyl chloride	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
F. Concrete	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
G. Bronze	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
H. Earthen walls	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
J. Fiberglass reinforced plastic	☒	■	☒	☐	☒	☐	☐	☐	☐	☐
K. Fiberglas-clad steel	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
L. Painted/asphalt steel	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
M. Vaulted	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
N. Composite	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
P. Iron (cast or ductile)	☐	☒	☐	☒	☐	☒	☐	☐	☐	☐
R. Non-metallic	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
S. Other; Please Specify										

18. Tank and Piping Structure (MARK ALL THAT APPLY X)	Tank	Piping	Tank	Piping	Tank	Piping	Tank	Piping	Tank	Piping
A. Single wall	☒	☒	☒	☒	☒	☒	☐	☐	☐	☐
B. Double wall	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
C. Manway in tank	☐		☐		☐		☐		☐	

19. Internal Tank and Piping Lining (MARK ALL THAT APPLY X)	Tank	Piping	Tank	Piping	Tank	Piping	Tank	Piping	Tank	Piping
A. Rubber	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
B. Epoxy	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
C. Alklyd	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
D. Phenolic	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
E. Glass	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
F. Clay	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
G. None	☒	☒	☒	☒	☒	☒	☐	☐	☐	☐
H. Other, Please Specify										

UST NO.

Tank I.D. No.	TANK NO.		TANK NO.		TANK NO.		TANK NO.		TANK NO.	
20. Tank and Piping Lining installed (MARK ALL THAT APPLY X)	Tank	Piping	Tank	Piping	Tank	Piping	Tank	Piping	Tank	Piping
A. At purchase of tank	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
B. Retrofitted	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
C. None	☒	☒	☒	☒	☒	☒	☐	☐	☐	☐
21. Secondary containment (MARK ALL THAT APPLY X)	Tank	Piping	Tank	Piping	Tank	Piping	Tank	Piping	Tank	Piping
A. Liner	☒	☒	☒	☒	☒	☒	☐	☐	☐	☐
B. Vault	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
C. Double wall	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
D. None	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
E. Other, Please Specify										
22. External Type/Application of Cathodic Protection (MARK ALL THAT APPLY X)	Tank	Piping	Tank	Piping	Tank	Piping	Tank	Piping	Tank	Piping
A. Wrapped	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
B. Sprayed	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
C. Sacrificial anode	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
D. Impressed current	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
E. None	☒	☒	☒	☒	☒	☒	☐	☐	☐	☐
F. Other, Please Specify										
23. Monitoring/detection method (MARK ALL THAT APPLY X)	Tank	Piping	Tank	Piping	Tank	Piping	Tank	Piping	Tank	Piping
A. Automatic sampling	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
B. Manual sampling	☒	☒	☒	☒	☒	☒	☐	☐	☐	☐
C. Ground water monitoring	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
D. System in secondary containment	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
E. System outside backfill	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
F. System within piping (piping leak detector)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
G. None	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
24. Type of monitoring/detection system (MARK ALL THAT APPLY X)	Tank	Piping	Tank	Piping	Tank	Piping	Tank	Piping	Tank	Piping
A. Continuous	☒	☒	☒	☒	☒	☒	☐	☐	☐	☐
B. Event activated	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
C. Audio	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
D. Visual	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
E. Electric sensor	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
F. Stock/inventory control (manual)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
G. Stock/inventory control (electronic)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
H. Tile drain	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
J. Vapor sniff wells	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
K. Internal inspection	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
L. Other, Please Specify										
M. None	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
25. Tank/piping tested (any type) (MARK ALL THAT APPLY X)										
A. Yes	☒	☒	☒	☒	☒	☒	☐	☐	☐	☐
B. No	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
C. Test positive (MARK IF LEAK WAS DISCOVERED)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
D. None (Never tested)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
26. Leak/spill occurrence (MARK ALL THAT APPLY X)										
A. Within the past 1 year	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
B. Within the past 1 to 5 years	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
C. More than 5 years ago	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
D. No Records	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
E. None	☒	☒	☒	☒	☒	☒	☐	☐	☐	☐

025638

Tank I.D. No.	TANK NO. 212	TANK NO. 234	TANK NO. 2C5	TANK NO.	TANK NO.
27. Tank Status (MARK ONE X) A. Operational	☒	☒	☒	☐	☐
(+) B. Temporarily out of service (Less than 90 days)	☐	☐	☐	☐	☐
(+) C. Extended out of service (90 days to 2 years)	☐	☐	☐	☐	☐
D. Long term out of service (Greater than 2 years)	☐	☐	☐	☐	☐
* SEE BELOW E. Abandoned, in place	☐	☐	☐	☐	☐
F. Abandoned, in place, filled only	☐	☐	☐	☐	☐
G. Abandoned, in place, sealed only	☐	☐	☐	☐	☐
H. Abandoned, in place, filled and sealed	☐	☐	☐	☐	☐
* (+) J. Seasonal (Answer only for motor fuel uses)	☐	☐	☐	☐	☐
K. Prior retrofitting work, Please Specify					
L. Other, Please Specify					
28. Spill recovery system on-site (MARK ONE X) A. Yes	☒	☒	☒	☐	☐
B. No	☐	☐	☐	☐	☐
29. Overfill protection (tank only) (MARK ONE X) A. Yes	☒	☒	☒	☐	☐
B. No	☐	☐	☐	☐	☐
30. Emergency shut-off mechanisms (dispensers) (MARK ONE X) A. Yes	☒	☒	☒	☐	☐
B. No	☐	☐	☐	☐	☐

* If boxes 27 E, F, G or H above have been answered - answer questions 31, 32 and 33 below.

31. Substance last used in tank (MARK ONE X) A. Leaded gasoline	☐	☐	☐	☐	☐
B. Unleaded gasoline	☐	☐	☐	☐	☐
C. Alcohol enriched gasoline	☐	☐	☐	☐	☐
D. Light diesel fuel (No. 1-D)	☐	☐	☐	☐	☐
E. Medium diesel fuel (No. 2-D)	☐	☐	☐	☐	☐
F. Waste oil	☐	☐	☐	☐	☐
G. Kerosene (No. 1)	☐	☐	☐	☐	☐
H. Home heating oil (No. 2)	☐	☐	☐	☐	☐
I. Heating oil (No. 4)	☐	☐	☐	☐	☐
J. Heavy heating oil (No. 6)	☐	☐	☐	☐	☐
K. Aviation fuel	☐	☐	☐	☐	☐
L. Hazardous substances (per Fact Sheet)	☐	☐	☐	☐	☐
M. Other, Please Specify					
32. Estimated date last used (month/year)	Mo. Yr.	Mo. Yr.	Mo. Yr.	Mo. Yr.	Mo. Yr.
33. Estimated quantity (gallons) left in tank					

OWNER OR OWNER'S AGENT CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete.

x F. Freese
(SIGNATURE)

F. Freese
(PRINT OR TYPE NAME)

Pres.
(TITLE)

Let's protect our earth

State of New Jersey
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES
BUREAU OF UNDERGROUND STORAGE TANKS
Registration and Billing Section
CN-029
TRENTON, NEW JERSEY 08625
1-800-722-TANK

Let's protect our earth

For State Use Only

	Yes	N
Ck.	✓	
A/C	✓	
Inv.	✓	
R/F		
Sp. Hnd.		
Staff		

UST No. 025637

FEB 9 19

ANNUAL CERTIFICATION QUESTIONNAIRE

SECTION A:

Have there been any changes in this facility's registration status during the past twelve months that have not already been reported to the Bureau of Underground Storage Tanks on a Standard Reporting Form?

☒ NO ☐ YES

If NO, please complete Sections B, D, E and return this form with the top half of the billing invoice and the appropriate fee.

If YES, please check the appropriate type of change (s) below that occurred and complete the enclosed Registration Questionnaire with the NEW information ONLY. Also, please complete Sections B,D, and E on the reverse side and sign where indicated. Return this form along with the top half of the billing invoice, registration form(if appropriate) and the correct fee.

TYPES OF CHANGES:

____ Facility

____ Facility location

____ Owner's name and/or address (circle which)

____ Contact Person(s) and/or phone number (circle which)

____ Type of product(s) stored

____ Spills, accidents or leaks

____ Other (explain)

*** Use enclosed REGISTRATION FORM for changes checked above ***

(OVER)

SECTION B:

Are inventory records maintained on-site?

☐ NO ☒ YES

Have any unaccountable losses been discovered at your facility?

☒ NO ☐ YES

NOTE It is required that all leaks be reported to the NJDEP within 24 hours of discovery by contacting the NJDEP Hotline telephone number (609) 292-7172.

SECTION C:

Failure by owner or operator of an underground storage tank to comply with any requirement of the State Act or this chapter may result in the penalties set forth in N.J.S.A. 58:10A-10.

SECTION D:

CERTIFICATION

*** This registration form shall be signed by the highest ranking individual at the facility with overall responsibility for that facility. (7:14B-2.3 (a) 1). ***

"I certify under penalty of law that the information provided in this document is true, accurate and complete. I am aware that there are significant civil and criminal penalties for submitting false, inaccurate or incomplete information, including fines and/or imprisonment.

F. Freese
(Signature)

2/7/89
(Date)

F. Freese
(Name - print or type)

Pres.
(Title)

***UST NO. 0256386.
(Use the UST Number from you invoice)

Margo's Inn, Inc
(Facility Name)

432 East Bay Ave
Manahawkin, N.J. 08050
(Facility Address)

SECTION E

The Fee Schedule is printed on the reverse side of the billing invoice. Please make your payment instrument payable to: "Treasurer", State of New Jersey. Use of the enclosed return envelope will expedite the processing of your certification.

ACQ - 6(11/88)

State of New Jersey
DEPARTMENT OF ENVIRONMENTAL PROTECTION AND ENERGY
DIVISION OF RESPONSIBLE PARTY SITE REMEDIATION
BUREAU OF APPLICABILITY AND COMPLIANCE
Registration and Billing Section
CN 028
Trenton, N.J. 08625-0028
1-800-722-TANK

For State Use Only	YES	NO
Ck.	X	
A/C		
Inv.		
R/F		
Sp. Hnd.		
Staff		

0256386

Annual Certification Questionnaire

Compliance with this Annual Certification will meet all requirements of State Law P.L. 1986, c. 102, The Underground Storage of Hazardous Substances Act (N.J.S.A. 58:10A-21) and the Underground Storage Tank Regulations (N.J.A.C. 7:14B-1 through 15).

IMPORTANT INFORMATION

FEE: The Fee Schedule is printed on the reverse side of the billing invoice. Please make your payment instrument payble to: "Treasurer", State of New Jersey. Use of the enclosed return envelope will expedite processing.

PENALTY: Failure by onwer or operator of a regulated underground storage tank to comply with any requirement of the State UST Act or regulations may result in the penalties set forth in N.J..S.A. 58:10A-10.

EMERGENCY: If a discharge or spill occurs, the NJDEPE Hotline at (609) 292-7172 must be called IMMEDIATELY - 24 hours a day.

UPGRADE EXEMPTION: Residential heating oil underground storage tanks are exempt from all upgrade requirements.

DATES TO KNOW (critical deadlines)

December 22, 1989 - All federally regulated tank systems installed before 1965 (or of unknown age) must have installed leak detection.
December 22, 1990 - All federally regulated tank systems installed between 1965-1969 must have installed leak detection.
December 22, 1991 - All federally regulated tank systems installed between 1969-1974 must have installed leak detection.
December 22, 1992 - All federallly regulated tank systems installed between 1974-1979 must have installed leak detection.
December 22, 1993 - All regulated tanks must install cathodic protection, monitoring systems and, spill/overfill protection (non-residential heating oil tanks exluded).
August 6, 1994 - All non-residential heating oil tanks installed prior to August 6, 1974 must install cathodic protection, monitoring systems, and spill/overfill protection.
August 6, 1995 - All non-residential heating oil tanks installed on or after August 6, 1974 must install cathodic protection, monitoring systems, and spill/overfill protection.
December 22, 1998 - All regulated hazardous waste substance systems must have secondary containment (petroleum products and waste oil tank systems excluded).

SECTION A — REGISTRATION & BILLING

Have there been any changes to this facility's registration status during the last twelve months that have not been reported to this office?
☐ YES ☒ NO

If YES, please check the appropriate type of change(s) below and complete the enclosed REGISTRATION QUESTIONNAIRE (black bar on face of the form) with NEW information ONLY. Then, complete the remainder of this form and submit to this office.

_____ Company Name and Address
_____ Facility Location
_____ Operator
_____ Contact Person
_____ Type of Product(s) Stored
_____ Spills, accidents, leaks or releases
_____ Substantial Modificattion(s)

PLEASE USE REGISTRATION FORM WITH BLACK BAR AT THE TOP FOR REPORTING THIS INFORMATION

_____ Other (please specify)
_____

If NO, please complete the remainder of this form and return to this office.

SECTION B — MONITORING SYSTEMS

1. Does this facility have a secondary containment system which was installed before the effective date of the UST Technical regulations?
☒ YES ☐ NO
If Yes, does the secondary containment system comply with all provisions of these regulations?
☒ YES ☐ NO
2. Does this facility have a monitoring system which is in compliance with N.J.A.C. 7:14B-4.5(e) (for systems installed prior to the effective date of these regulations) or N.J.A.C. 7:14B-6 (for systems installed after the effective date of these regulations)?
☒ YES ☐ NO
If No, please be aware that the facility must meet the appropriate deadline. (See Dates to Know at top of this page).
3. Does this facility have an UST system installed prior to 1965 or of unknown age? ☐ YES ☒ NO
If Yes, has the facility installed a leak detection system that complies with all provisions of the Federal UST Technical Regulations 40 CFR 280.40? ☐ YES ☐ NO
If No, were the closure procedures completed as required by the Federal UST Technical Regulations 40 CFR 280.71, 72? ☐ YES ☐ NO

SECTION C

RECORDKEEPING/COMPLIANCE

Please answer all the questions in this Section on a facility basis. Any one tank not in compliance requires a "NO" answer for the entire facility.

1. Does this facility have cathodic protection systems? ☐ YES ☒ NO
   If Yes, are the systems properly operated and maintained as required by the UST Technical Regulations Subchapter 6? ☐ YES ☐ NO
2. Are the performance claims and documentation of monitoring systems maintained by the owner or operator as required by Subchapter 6.6? ☒ YES ☐ NO
3. Are the proper monitoring, testing, sampling, repair and inventory records kept on-site as required by Subchapter 6.6? ☒ YES ☐ NO
4. Is the proper Release Response Plan kept on-site per Subchapter 5.5? ☒ YES ☐ NO
5. Does the facility have spill and overfill protection systems per Subchapter 5.2(a) (5)? ☒ YES ☐ NO
   If yes, are they properly operated and maintained as required by the UST Technical Regulations? ☒ YES ☐ NO
6. Have all Fill Ports been permanently marked as per API #1637 as stated in Subchapter 4.5(h)? ☒ YES ☐ NO

SECTION D

FINANCIAL RESPONSIBILITY

All facilities are required to obtain financial responsibility assurance by the deadlines listed in Subchapter 14. Please list the appropriate financial information below:

Ins	MIP Inc / KAUFMAN WIMBERG AGENCY	
Type	Carrier/Issuing agency	
9 / 4 / 91	H08760K671A	$ ONE MILLION
Date Effective	Policy Number	Amount

CERTIFICATIONS

Who must sign?

CERTIFICATION NO. 1:

Must be signed by the highest ranking individual at the facility with overall responsibility

CERTIFICATION NO. 2:

Must be signed as follows
: For corporations, by the vice president or higher
: For sole proprietorships, by the proprietor
: For partnerships, by the general partner
: For government or public agency, by the principal executive officer or ranking official

NOTE: IF THE PERSON SIGNING CERTIFICATION No. 2 IS THE SAME AS THE PERSON SIGNING CERTIFICATION No. 1, THEN CERTIFICATION No. 1 ONLY NEEDS TO BE SIGNED. (If different persons are required to sign No. 1 and No. 2, then they must do so.)

No. 1

"I certify under penalty of law that the information provided in this document is true, accurate and complete. I am aware that there are significant civil and criminal penalties for submitting false, incaccurate or incomplete information, including fines and/or imprisonment."

F. Freese
(Signature)

F. FREESE
(Typed/Printed Name)

PRESIDENT
(Title)

2/9/92
(Date Signed)

No. 2

"I certify under penalty of law that I have personally examined and am familiar with the information submitted in this transmittal and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate and complete. I am aware that there are significant civil and criminal penalties for submitting false, inaccurate or incomplete information, including the possibility of fines and/or imprisonment."

(Signature)

(Typed/Printed Name)

(Title)

(Date Signed)

0256386
(UST Number)

State of New Jersey
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

BUREAU OF UNDERGROUND STORAGE TANKS
Registration and Billing Section
CN-029
TRENTON, NEW JERSEY 08625
1-800-722-TANK

	YES	NO
Ck.	✓	
A/C	✓	
Inv.		
R/F		
Sp. Hnd.		
Staff	0256386	

FEB 06 1990

Annual Certification Questionnaire

SECTION A:

Have there been any changes in this facility's registration status during the past twelve months that have not already been reported to the Bureau of Underground Storage Tanks on a Standard Reporting Form?

☒ NO ☐ YES

If NO, please complete Sections B, D, E, and return the form with the top half of the billing invoice and the appropriate fee.

If YES, please check below the appropriate type of change(s) that occurred and complete the enclosed Registration Questionnaire with the NEW information ONLY. Also, please complete Sections B,D, and E on the reverse side and sign where indicated. Return this form along with the top half of the billing invoice, registration form (if appropriate) and the correct fee.

TYPES OF CHANGES

_____ Facility

_____ Facility location

_____ Owner's name and/or address (circle which)

_____ Contact Person(s) and/or phone number (circle which)

_____ Type of product(s) stored

_____ Spills, accidents or leaks

_____ Other (explain and document as needed)

*** Use enclosed REGISTRATION FORM for changes checked above ***

SECTION B:

Are inventory records maintained on-site?

☐ NO ☒ YES

Have any unaccountable losses been discovered at your facility?

☒ NO ☐ YES

NOTE It is required that all leaks be reported to the NJDEP within 24 hours of discovery by contacting the NJDEP Hotline telephone number (609) 292-7172.

SECTION C:

Failure by the owner or operator of an underground storage tank to comply with any requirement of the State Act or this chapter may result in the penalties set forth in N.J.S.A. 58:10A-10.

SECTION D:

CERTIFICATION

This Annual Certification shall be signed by the highest ranking individual at the facility with overall responsibility for that facility. (7:14B-2.3(a)1).

"I certify under penalty of law that the information provided in this document is true, accurate and complete. I am aware that there are significant civil and criminal penalties for submitting false, inaccurate or incomplete information, including fines and/or imprisonment.

x F. Freese
(Signature)

1/25/90
(Date signed)

F. Freese
(Name - print or type)

Pres.
(Title)

UST NO. _____

Margo's Inn, Inc.
(Facility Name)

1432 East Bay Ave.
Manahawkin, N.J. 08050
(Facility Address)

SECTION E:

The Fee Schedule is printed on the reverse side of the billing invoice. Please make your payment instrument payable to: "Treasurer, State of New Jersey". Use of the enclosed return envelope will expedite processing of your certification.

Let's protect our earth

Let's protect our earth

State of New Jersey
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

BUREAU OF UNDERGROUND STORAGE TANKS
Registration and Billing Section
CN-029
TRENTON, NEW JERSEY 08625
1-800-722-TANK

For State Use Or	YES
Ck.	
A/C	
Inv.	
R/F	
Sp. Hnd.	
Staff	CM

#02563860

Annual Certification Questionnaire

Compliance with this Annual Certification will meet all requirements of State Law P.L. 1986, c. 102, The Underground Storage of Hazardous Substances Act (N.J.S.A. 58:10A-21) and The Underground Storage Tank Regulations (N.J.A.C. 7:14B-1 through 15).

IMPORTANT INFORMATION

FEE	The Fee Schedule is printed on the reverse side of the billing invoice. Please make your payment instrument payable to: "Treasurer", State of New Jersey. Use of the enclosed return envelope will expedite processing of your certification.
PENALTY	Failure by owner or operator of a regulated underground storage tank to comply with any requirement of the State UST Act of regulations may result in the penalties set forth in N.J.S.A. 58:10A-10.
EMERGENCY	If a discharge or spill occurs, the NJDEP Hotline at (609) 292-7172 must be called IMMEDIATELY - 24 hours a day.

DATES TO KNOW (critical deadlines)

December 22, 1989 -	All tank systems installed before 1965 (or of unknown age) must have installed leak detection (federally regulated tanks only).
December 22, 1990 -	All tank systems installed between 1965-1969 must have leak detection (federally regulated tanks only).
December 22, 1990 -	All pressure piping must have line leak detection and have done a precision test if tank system lacks a monitoring system (federally regulated tanks only).
September 3, 1991 -	All regulated tanks must install cathodic protection, monitoring systems, and spill/overfill protection (except residential heating oil).
December 22, 1993 -	All agricultural tanks installed before September 3, 1986 must install cathodic protection, monitoring systems, and spill/overfill protection.
December 22, 1998 -	All regulated hazardous waste substance systems must have secondary containment (petroleum products and waste oil tank systems excluded).

SECTION A — REGISTRATION & BILLING

Have there been any changes to this facility's registration status during the last twelve months that have not been reported to this office?

☐ YES ☒ NO

If YES, please check the appropriate type of change(s) below and complete the enclosed REGISTRATION QUESTIONNAIRE (black bar on face of the form) with NEW information ONLY. Then, complete the remainder of this form and submit to this office.

_____ Company Name and Address
_____ Facility Location
_____ Operator
_____ Contact Person
_____ Type of Product(s) Stored
_____ Spills, accidents, leaks or releases
_____ Substantial Modificattion(s)

PLEASE USE REGISTRATION FORM WITH BLACK BAR AT THE TOP FOR REPORTING THIS INFORMATION

_____ Other (please specify) _____

If NO, please complete the remainder of this form and return to this office.

SECTION B — MONITORING SYSTEMS

1. Does this facility have a secondary containment system which was installed before the effective date of the UST Technical regulations?

   ☒ YES ☐ NO

   If Yes, does the secondary containment system comply with all provisions of these regulations?

   ☒ YES ☐ NO

2. Does this facility have a monitoring system which is in compliance with N.J.A.C. 7:14B-4.5(e) (for systems installed prior to the effective date of these regulations) or N.J.A.C. 7:14B-6 (for systems installed after the effective date of these regulations)?

   ☒ YES ☐ NO

   If No, please be aware that the facility must meet the appropriate deadline. (See Dates to Know at top of this page).

3. Does this facility have an UST system installed prior to 1965 or of unknown age? ☐ YES ☒ NO

   If Yes, has the facility installed a leak detection system that complies with all provisions of the Federal UST Technical Regulations 40 CFR 280.40? ☐ YES ☐ NO

   If No, were the closure procedures completed as required by the Federal UST Technical Regulations 40 CFR 280.71, 72? ☐ YES ☐ NO

SECTION C

RECORDKEEPING/COMPLIANCE

Please answer all the questions in this Section on a facility basis. Any one tank not in compliance requires a "NO" answer for the entire facility.

1. Does this facility have cathodic protection systems? ☐ YES ☒ NO
   If Yes, are the systems properly operated and maintained as required by the UST Technical Regulations Subchapter 6. ☐ YES ☐ NO
2. Are the performance claims and documentation of monitoring systems maintained by the owner or operator as required by Subchapter 6.6? ☒ YES ☐ NO
3. Are the proper monitoring, testing, sampling, repair and inventory records kept on-site as required by Subchapter 6.6? ☒ YES ☐ NO
4. Is the proper Release Response Plan kept on-site per Subchapter 5.5? ☒ YES ☐ NO
5. Does the facility have spill and overfill protection systems per Subchapter 5.2(a) (5)? ☒ YES ☐ NO
   If yes, are they properly operated and maintained as required by the UST Technical Regulations? ☒ YES ☐ NO
6. Have all Fill Ports been permanently marked as per API #1637 as stated in Subchapter 4.5(h)? ☒ YES ☐ NO

SECTION D

FINANCIAL RESPONSIBILITY

All facilities are required to obtain financial responsibility assurance by the deadlines listed in Subchapter 14. Please list the appropriate financial information below:

Type	Carrier/Issuing agency	
Ins	MIP Inc / Kaufman Wimberg Agency	
Date Effective	Policy Number	Amount
9 / 14 / 90	H08760J671	$ One million

CERTIFICATIONS

Who must sign?

CERTIFICATION NO. 1:

Must be signed by the highest ranking individual at the facility with overall responsibility

CERTIFICATION NO. 2:

Must be signed as follows
: For corporations, by the vice president or higher
: For sole proprietorships, by the proprietor
: For partnerships, by the general partner
: For government or public agency, by the principal executive officer or ranking official

NOTE: IF THE PERSON SIGNING CERTIFICATION No. 2 IS THE SAME AS THE PERSON SIGNING CERTIFICATION No. 1, THEN CERTIFICATION No. 1 ONLY NEEDS TO BE SIGNED. (If different persons are required to sign No. 1 and No. 2, then they must do so.)

No. 1

"I certify under penalty of law that the information provided in this document is true, accurate and complete. I am aware that there are significant civil and criminal penalties for submitting false, incaccurate or incomplete information, including fines and/or imprisonment."

F. Freese
(Signature)

F. FREESE
(Typed/Printed Name)

PRESIDENT
(Title)

2/9/91
(Date Signed)

No. 2

"I certify under penalty of law that I have personally examined and am familiar with the information submitted in this transmittal and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate and complete. I am aware that there are significant civil and criminal penalties for submitting false, inaccurate or incomplete information, including the possibility of fines and/or imprisonment."

(Signature)

(Typed/Printed Name)

(Title)

(Date Signed)

0256386
(UST Number)

ACQ-6/90

NJDOT ROUTE 72
MANAHAWKIN BAY BRIDGES

DOCUMENTS RECEIVED FROM
STAFFORD TOWNSHIP

xerxes@prestige-environmental.com

From: Bernadette Park [clerk@twp.stafford.nj.us]
Sent: Wednesday, February 03, 2010 2:02 PM
To: xerxes@prestige-environmental.com
Subject: RE: Route 72 Manahawkin Bay Bridges

just received a reply from the Township's Construction Official - Robert Gaestel - his reply is as follows:

I have determined that a permit to install a fuel tank was issued in 1991 for 1432 E. Bay Ave. a/k/a Block 185, Lot 2. However, all environmental problems were rectified by the present owner before the newly present structure was built in 2006. Furthermore, I am not aware of any hazardous material incidents of any properties on the attached list provided by Prestige Environmental. A review of the DEP web site does not list any of the properties as a known contaminated site.

This should conclude your OPRA request for findings.

>>> <xerxes@prestige-environmental.com> 2/3/2010 11:13 AM >>>
Thanks again

Xerxes Antia
Prestige Environmental, Inc
27 Progress Street
Edison, New Jersey 08820-1645
Tel: 908 757-9700
Fax: 908 757-5050
Cell: 908 875-9873

From: Bernadette Park [mailto:clerk@twp.stafford.nj.us]
Sent: Wednesday, February 03, 2010 10:46 AM
To: xerxes@prestige-environmental.com
Subject: Re: Route 72 Manahawkin Bay Bridges

Hello,

I received a response from our Zoning Officer today - the Zoning Office reported to me that they do not posses any records pertaining to your request

I am still waiting for the Township's Construction Official reply.

I will notify you when I receive his response.

>>> <xerxes@prestige-environmental.com> 2/3/2010 10:40 AM >>>
Ms. Parks
Thank you for your response to our queries. My contact details are provided below.
Thanks and regards

Xerxes Antia
Prestige Environmental, Inc
27 Progress Street
Edison, New Jersey 08820-1645
Tel: 908 757-9700
Fax: 908 757-5050
Cell: 908 875-9873

NJDOT ROUTE 72
MANAHAWKIN BAY BRIDGES

DOCUMENTS RECEIVED FROM
SHIP BOTTOM BOROUGH

UST-N13, 12/97

COPY

FOR NJDEP USE ONLY

RECEIVED DATE JUN 14 1999

NOTIFICATION # 1999-0765

NJDEP APPROVAL: [signature]

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF FIELD OPERATIONS
401 EAST STATE STREET
P.O. Box 435
TRENTON, NEW JERSEY 08625-0435

30 DAY NOTICE OF INTENT TO CLOSE AN UNDERGROUND STORAGE *TANK SYSTEM*

Submission of this notification satisfies the requirements of N.J.A.C. 7:14B-9.2. An Underground Storage Tank Facility Questionnaire must be completed and submitted to the Department upon completion of the closure activities.

Do not use this form to notify the Department of a request for a variance from the Technical Requirements of Site Remediation, N.J.A.C. 7:26E. Instead, use a Closure Plan Approval Application, UST-013, 02/95.

- **Please type or print legibly in ink.** Call 609/633-0708 for help in completing this notification.
- Please sign and return one original of this form to the address above.
- The UST system must be registered. If the UST system is not registered this form will not be processed.

Facility Registration # 000451

Date Underground Storage Tank(s) and/or piping will be removed July 15, 1999 Approx.

A. FACILITY NAME Hochstrasser's Marina Inc.

FACILITY STREET ADDRESS 401 W. 8th Street

MUNICIPALITY Ship Bottom County Ocean

TELEPHONE NUMBER (609) 494-5340

B. OWNER'S NAME Same as above

STREET ADDRESS _____ CITY _____

STATE _____ ZIP _____ TELEPHONE NUMBER _____

C. OPERATOR'S NAME Louis Hochstrasser

STREET ADDRESS _____ CITY _____

STATE _____ ZIP _____ TELEPHONE NUMBER _____

D. Indicate below name and certification number of the firm performing the UST service:

1. FOR UST CLOSURE (PHYSICAL REMOVAL OR ABANDONMENT) ACTIVITIES.

Name of Certified Firm DeMaio's INC. CERTIFICATION# US00165

2. FOR SUBSURFACE (SITE INVESTIGATION, CORRECTIVE ACTION ETC.) ACTIVITIES.

Name of Certified Firm DeMaio's INC. CERTIFICATION # US00165

E. Check Proposed Activity

X 1. Closure of Underground Storage Tank System

Complete the following information concerning UST system to be removed or abandoned-in-place. Check here and attach additional page(s) if needed. ___If piping only please enter NA in Number of Tanks field and Tank Capacity field.

Number of Tanks	length of appurtenant piping (ft)	Tank Capacity (gallons)	SUBSTANCE Stored*	Closure Type (circle one)
1		1000	gasoline	(REMOVAL) / ABANDONMENT
				REMOVAL / ABANDONMENT
				REMOVAL / ABANDONMENT
				REMOVAL / ABANDONMENT
				REMOVAL / ABANDONMENT
				REMOVAL / ABANDONMENT

* If material is not a petroleum product, use chemical name and CAS number to identify tank's content. (Brand or trade names are unacceptable.)

_____ 2. Change in Service from a Regulated to a Nonregulated Substance

The owner or operator must submit to the Department (1) documentation that the owner/operator of the underground storage tank (UST) system has emptied and cleaned the UST system by removing all liquid and accumulated sludge prior to the change in storage in accordance with N.J.A.C. 7:14B-9.4(a) and (2) the results of a site investigation or a remedial investigation conducted in accordance with N.J.A.C. 7:14B-9.4(a) or 7:14B-9.4(b), whichever is appropriate. Additionally, the owner/operator must submit a Facility Questionnaire indicating the change to the Bureau of State Case Management, Registration & Billing Section.

BOROUGH OF SHIP BOTTOM
1621 BLVD. BUILDING DEPT.
SHIP BOTTOM NJ 08008

Date Issued 03/14/2000
Control #
Permit # 99-211

UCC NEW JERSEY
CERTIFICATE

IDENTIFICATION

Block 111 Lot 1 Qual
Work Site Location 401 W 8TH ST

Owner in Fee/Occupant HOCHSTRASSER, ESTER
Address 401 W 8TH ST
SHIP BOTTOM, NJ 08008-
Telephone (609)494-5340
Contractor DEMAIO'S INC.
Address 543 COLUMBIA RD
EGG HARBOR CITY, NJ 08008-
Telephone ( ) Fax ( )
Lic. No. or Bldrs. Reg. No.
Federal Emp. No. 22-3038197

Home Warranty No.
Type of Warranty Plan: [ ] State [ ] Private
Use Group U
Maximum Live Load 0
Construction Classification
Maximum Occupancy Load 0
Description of Work/Use:

TANK REMOVAL

[ ] CERTIFICATE OF OCCUPANCY
This serves notice that said building or structure has been constructed in accordance with the New Jersey Uniform Construction Code and is approved for occupancy.

[X] CERTIFICATE OF APPROVAL
This serves notice that the work completed has been constructed or installed in accordance with the New Jersey Uniform Construction Code and is approved. If the permit was issued for minor work, this certificate was based upon what was visible at the time of inspection.

[ ] TEMPORARY CERTIFICATE OF OCCUPANCY/COMPLIANCE
If this is a Temporary Certificate of Occupancy or Compliance, the following conditions must be met no later than _____, ___ or the owner will be subject to fine or order to vacate:

[ ] CERTIFICATE OF CLEARANCE - LEAD ABATEMENT 5:17
This serves notice that based on written certification, lead abatement was performed as per NJAC 5:17, to the following extent:
[ ] Total removal of lead-based paint hazards in scope of work
[ ] Partial or limited time period (___ years); see file

[ ] CERTIFICATE OF CONTINUED OCCUPANCY
This serves notice that based on a general inspection of the visible parts of the building there are no imminent hazards and the building is approved for continued occupancy.

[ ] CERTIFICATE OF COMPLIANCE
This serves notice that said potentially hazardous equipment has been installed and/or maintained in accordance with the New Jersey Uniform Construction Code and is approved for use until _____, ___.

Fee $ 0
Paid [X] Check No. 5025
Collected by: PAG

CONSTRUCTION OFFICIAL
U.C.C. F260 (rev. 3/96)

COPY

UNDERGROUND STORAGE TANK SYSTEM PERMIT

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION

DIVISION OF RESPONSIBLE PARTY SITE REMEDIATION
BUREAU OF FIELD OPERATIONS
CN-028, TRENTON, NJ 08625-0028

TMS # S99-0965 UST # 0000451

HOCHSTRASSERS MARINA INC
401 WEST 8TH STREET
SHIP BOTTOM

OCEAN County

THE ABOVE LISTED FACILITY IS HEREBY GRANTED A PERMIT TO PERFORM THE FOLLOWING ACTIVITY IN ACCORDANCE WITH 40 CFR PART 280:

SUBSTANTIAL MODIFICATION OF: one-4,000 gallon gasoline UST and appurtenant piping with an european (safe) suction dispensing system

The substantial modification shall include the installation of a (1) galvanic cathodic protection system for the tank, (2) the installation of methods of spill prevention and methods of overfill prevention, (3) Veeder Root TLS 300I and probes for automatic tank gauging, and (4) ENVIRON piping.

Pursuant to N.J.A.C. 7:14B-6.2(a)2ii(5), the european (safe) suction piping shall be constructed so that a method is provided that allows compliance with N.J.A.C. 7:14B-6.2(a)2ii(1) through (4).

The monitoring system must comply with the performance requirements set forth in 40 CFR 280.43 and 40 CFR 280.44.

CONTACT PERSON: GEORGE V. DEMAIO

TELEPHONE: 609-965-4094

EFFECTIVE DATE: 10/01/99

EXPIRATION DATE: 09/30/00

THIS FORM MUST BE DISPLAYED AT THE SITE DURING THE APPROVED ACTIVITY AND MUST BE MADE AVAILABLE FOR INSPECTIONS AT ALL TIMES.

Gregory Cunningham for
JOSH GRADWOHL, SUPERVISOR
BUREAU OF FIELD OPERATIONS

** TOTAL PAGE.01 **

RENOVA
environmental services

September 22, 2007

Borough of Ship Bottom
Attn: Building Department, Patty
1621 Long Beach Blvd.
Ship Bottom, NJ 08008
Re: Permit # 07-178

Re: Underground #2 Heating Oil Tank Removed
379 West 8th Street, Ship Bottom, NJ 08008.
Permit # 07-178

Borough of Ship Bottom Building Department:

Renova Environmental Services (Renova) has removed the 550-gallon underground #2 heating oil tank at the above referenced address. Upon removal of the tank, there was no evidence of a discharge of heating oil to the surrounding soil and groundwater. The township inspector issued an approval sticker after inspection of the tank. The removed tank and liquid contents were disposed of at proper recycling facilities. *Please refer to attached manifests.*

At this time, Renova respectfully requests the Borough of Ship Bottom to properly close Permit # 07-178. Should you have any questions regarding this case, or would like to discuss this information further, please feel free to contact us at (609) 207-7000.

For the Firm,
Renova Environmental Services

Paulo Heyman

Paulo Heyman, President

cc: Mr. Patrick Moeller, *property owner*

256 Morris Boulevard, Manahawkin, NJ 08050 / 800.414.3046 / 609.207.7000 / fax 609.207.7037

VEM-032A
1/88

New Jersey Department of Environmental Protection
Bureau of New Source Review

Let's protect our earth

APPLICATION FOR PERMIT TO CONSTRUCT, INSTALL OR ALTER STAGE II VAPOR CONTROLS FOR TRANSFER OF SERVICE STATION FUELS AT INDIVIDUAL FACILITIES

(Use VEM-032B for Multiple Locations)

RECEIVED
FEB 4 2 07 PM '88
N.J. DEPT. OF ENVIRONMENTAL PROTECTION AND ENERGY
AIR QUALITY

Instructions: •Print all information carefully in ink. •Illegible applications will be denied. •Complete both sides of the application. For assistance call (609) 292-6716 & ask for the Stage II Coordinator.

Section A - Applicant Information

RUSSO FUEL INC ← Applicant's Name

82 E. BAY AVE. ← Mailing Address - No. & Street

MANAHAWKIN N.J. 08050 ← City State Zip Code

NOTE: *The above information will be used to mail your approval or denial directly to you in a window envelope, please print or type on the lines.*

Section B - Gasoline Dispensing Facility Information

Full Legal Business Name RUSSO FUEL INC. T/A. MR. BIG TEXACO

Facility Location 379 W. 8TH. ST. (Street) SHIP BOTTOM, (City) OCEAN (County)

Contact Person ROBERT M. RUSSO Telephone No. 609-597-4443

Current DEP ID # ? Facility's Local Name MR. BIG TEXACO

Section C

The information supplied on this application VEM-032A is to the best of my knowledge true and correct.

NOTE: This application must be submitted with a **$250 application fee** pursuant to N.J.A.C. 7:27-8.6(a).

PRES 2/1/88
Signature of Authorized Officer *Date*

ROBERT M. RUSSO PRES.
Name (Print or Type) *Title*

Return application in pre-printed, blue envelope that was provided to: **NJDEP**
Bureau of New Source Review
CN 027
Trenton, N.J. 08625

NOTE: This form is to be used for Stage II Vapor Recovery Only.

(over)

For DEP Use Only

Fee	Log No.	Eval.
$250	9 8 8 0 9 1 9	DMD

UST-N13, 12/97

FOR NJDEP USE ONLY

RECEIVED DATE_____

NOTIFICATION #_____

NJDEP APPROVAL:

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF FIELD OPERATIONS
401 EAST STATE STREET
P.O. Box 435
TRENTON, NEW JERSEY 08625-0435

30 DAY NOTICE OF INTENT TO CLOSE AN UNDERGROUND STORAGE *TANK SYSTEM*

Submission of this notification satisfies the requirements of N.J.A.C. 7:14B-9.2. An Underground Storage Tank Facility Questionnaire must be completed and submitted to the Department upon completion of the closure activities.

Do not use this form to notify the Department of a request for a variance from the Technical Requirements of Site Remediation, N.J.A.C. 7:26E. Instead, use a Closure Plan Approval Application, UST-013, 02/95.

- Please type or print legibly in ink. Call 609/633-0708 for help in completing this notification.
- Please sign and return one original of this form to the address above.
- The UST system must be registered. If the UST system is not registered this form will not be processed.

Facility Registration # 0 3 3 0 7 9 8

Date Underground Storage Tank(s) and/or piping will be removed 1/28/00

A. FACILITY NAME Woolley Property

FACILITY STREET ADDRESS 342 West Ninth St

MUNICIPALITY Ship Bottom County Ocean

TELEPHONE NUMBER ( )

B. OWNER'S NAME John A. Woolley

STREET ADDRESS 351 West Ninth St CITY Ship Bottom

STATE NJ ZIP 08008 TELEPHONE NUMBER 609-494-9055

C. OPERATOR'S NAME SAME

STREET ADDRESS_____ CITY_____

STATE_____ ZIP_____ TELEPHONE NUMBER_____

D. Indicate below name and certification number of the firm performing the UST service:

1. FOR UST CLOSURE (PHYSICAL REMOVAL OR ABANDONMENT) ACTIVITIES.

Name of Certified Firm Environmental Evaluation Group CERTIFICATION# US00587

2. FOR SUBSURFACE (SITE INVESTIGATION, CORRECTIVE ACTION ETC.) ACTIVITIES.

Name of Certified Firm Environmental Evaluation Group CERTIFICATION # US00587

E. Check Proposed Activity

✓ 1. Closure of Underground Storage Tank System

Complete the following information concerning UST system to be removed or abandoned-in-place. Check here and attach additional page(s) if needed. ___If piping only please enter NA in Number of Tanks field and Tank Capacity field.

Number of Tanks	length of appurtenant piping (ft)	Tank Capacity (gallons)	SUBSTANCE Stored*	Closure Type (circle one)
1	5	2,000	Leaded Gasoline	(REMOVAL) / ABANDONMENT
				REMOVAL / ABANDONMENT
				REMOVAL / ABANDONMENT
				REMOVAL / ABANDONMENT
				REMOVAL / ABANDONMENT
				REMOVAL / ABANDONMENT

* If material is not a petroleum product, use chemical name and CAS number to identify tank's content. (Brand or trade names are unacceptable.)

___ 2. Change in Service from a Regulated to a Nonregulated Substance

The owner or operator must submit to the Department (1) documentation that the owner/operator of the underground storage tank (UST) system has emptied and cleaned the UST system by removing all liquid and accumulated sludge prior to the change in storage in accordance with N.J.A.C. 7:14B-9.4(a) and (2) the results of a site investigation or a remedial investigation conducted in accordance with N.J.A.C. 7:14B-9.4(a) or 7:14B-9.4(b), whichever is appropriate. Additionally, the owner/operator must submit a Facility Questionnaire indicating the change to the Bureau of State Case Management, Registration & Billing Section.

BOROUGH OF SHIP BOTTOM
1621 BLVD. BUILDING DEPT.
SHIP BOTTOM NJ 08008

Date Issued 12/31/98
Control #
Permit # 98-197

UCC NEW JERSEY

CERTIFICATE

IDENTIFICATION

Block 103 Lot 1,2 & 3 Qual
Work Site Location 8TH & 9TH STS BETWEEN

Owner in Fee/Occupant WOOLLEY, JOHN
Address 8TH & 9TH ST
SHIP BOTTOM, NJ 08008-
Telephone ( )
Contractor
Address

Telephone ( ) Fax ( )
Lic. No. or Bldrs. Reg. No.
Federal Emp. No.

Home Warranty No.
Type of Warranty Plan: [ ] State [ ] Private
Use Group U
Maximum Live Load 0
Construction Classification
Maximum Occupancy Load 0
Description of Work/Use:

PULL TANK

[ ] CERTIFICATE OF OCCUPANCY
This serves notice that said building or structure has been constructed in accordance with the New Jersey Uniform Construction Code and is approved for occupancy.

[X] CERTIFICATE OF APPROVAL
This serves notice that the work completed has been constructed or installed in accordance with the New Jersey Uniform Construction Code and is approved. If the permit was issued for minor work, this certificate was based upon what was visible at the time of inspection.

[ ] TEMPORARY CERTIFICATE OF OCCUPANCY/COMPLIANCE
If this is a Temporary Certificate of Occupancy or Compliance, the following conditions must be met no later than _____, ___ or the owner will be subject to fine or order to vacate:

[ ] CERTIFICATE OF CLEARANCE - LEAD ABATEMENT 5:17
This serves notice that based on written certification, lead abatement was performed as per NJAC 5:17, to the following extent:
[ ] Total removal of lead-based paint hazards in scope of work
[ ] Partial or limited time period (___ years); see file

[ ] CERTIFICATE OF CONTINUED OCCUPANCY
This serves notice that based on a general inspection of the visible parts of the building there are no imminent hazards and the building is approved for continued occupancy.

[ ] CERTIFICATE OF COMPLIANCE
This serves notice that said potentially hazardous equipment has been installed and/or maintained in accordance with the New Jersey Uniform Construction Code and is approved for use until _____, ___.

Fee $ 0
Paid [X] Check No. 6365
Collected by: PAG

CONSTRUCTION OFFICIAL

APPLICATION FOR CERTIFICATE

Date Received
Date Permit Issued
Control #
Permit #
Date Issued

IDENTIFICATION

Block #110 Lot #1 (6,7,8,9,10)
Work Site Location 305 8th Ave. & Rt. 73
Borough of Shinbottom - LBI
Owner in Fee Sun Company, Inc.
Address Tea Penn Center 1801 Market St.
Philadelphia, PA 19103
Tele. ( )

Contractor R. Fuessel Pump & Tank Inc.
Address 135 Stack Ave.
Trenton, NJ 08648
Tele. (609) 393-0838
Lic. No. 1100261
Federal Emp. No. 222360971
or Social Security No.

ACTION

☐ CERTIFICATE OF OCCUPANCY
☐ CERTIFICATE OF CONTINUED OCCUPANCY
☐ CERTIFICATE OF APPROVAL
☑ TEMPORARY CERTIFICATE OF OCCUPANCY

USE GROUP _____ Previous _____ Current

FINAL COST OF CONSTRUCTION: $ 5,850.00
(Include value of any new structure, all on-site improvements, built in furnishings and fixtures and all integral equipment exclusive of process or manufacturing equipment.)

A set of "As-Built" or amended drawings is required if the building or structure deviates from the approved plans filed with the construction permit. Use space below to describe any deviations from approved plans:

If you are requesting a Temporary Certificate of Occupancy, please explain why in the space below.

DESCRIPTION OF WORK/USE:
Reinstall Pumps on existing Islands;
Reinstall Island Lights on existing Islands;
Reinstall Sunoco Sign on existing Base.

I hereby attest, that to the best of my knowledge, all work has been completed in accordance with the approved plans, permit and Regulations. Incomplete items listed on a Temporary Certificate of Occupancy will be completed by the date on the Certificate.

SIGNED: Rudolf A. Fuessel
☐ Owner
☑ Agent
OWNER/AGENT

BUILDING SUBCODE TECHNICAL SECTION

Date Received 6-6-97
Date Issued
Control #
Permit # 97-080

A. IDENTIFICATION—APPLICANT: COMPLETE ALL APPLICABLE INFORMATION. WHEN CHANGING CONTRACTORS, NOTIFY THIS OFFICE. CALL UTILITY DIG NO: 1-800-272-1000.

Block 000 110 Lot 00001
Work Site Location 301 W 8th St. Ship Bottom
Owner in Fee JOHN P BRENNAN
Address 338 E main St Tuckerton NJ08087
Tele. (609) 296-1055
Contractor BRENNAN OIL COM
Address PO Box 437 WEST CREEK NJ08092
Tele. (609) 296-1183
Lic. No. or Bldrs. Reg. No.
Federal Emp. No. 222-285-023 or Social Security No.

C. CERTIFICATION IN LIEU OF OATH

I hereby certify that I am the (agent of) owner of record and am authorized to make this application.

Signature

D. TECHNICAL SITE DATA

DESCRIPTION OF WORK

Install LP Gas tank filling station

JOB SUMMARY (Office Use Only)

PLAN REVIEW	Date	Initial	INSPECTIONS	Dates (Month/Day) Failure	Failure	Approval	Initial
[ ] No Plans Req.			Type:				
[✓] All	6/6/97		Footing			6/11/97	
[ ] Footing			Foundation				
[ ] Foundation			Slab				
[ ] Frame			Frame				
[ ] Other			Insulation				
Joint Plan Review Required:			Finishes:				
[ ] Elec. [ ] Plumb. [ ] Fire			Energy				
SUBCODE APPROVAL			Mechanical				
[ ] CO [ ] CCO [✓] CA			TCO				
Date: 8-14-08			Other				
Approved By:			Final			8-14-08	

08/1/08 Remove Signs and Install Signs Storage

TYPE OF WORK:
[ ] New Building
[✓] Addition
[ ] Alteration
[ ] Roofing
[ ] Siding
[ ] Fence _____ Height (6' or over)
[ ] Sign _____ Sq. Ft.
[ ] Pool
[ ] Asbestos Abatement
[✓] Other L.P GAS TANK
[ ] Other
[ ] Demolition

(Office Use Only) FEE
$ 49—

B. BUILDING CHARACTERISTICS

Use Group Present _____ Proposed _____
Constr. Class Present _____ Proposed _____
No. of Stories 1
Height of Structure 14' Ft.
Area—Largest Floor _____ Sq. Ft.
New Bldg. Area/All Floors _____ Sq. Ft.
Volume of New Structure _____ Cu. Ft.
Total Land Area Disturbed 400'' Sq. Ft.

Est. Cost of Bldg. Work:
1. New Bldg. $
2. Alteration $
3. Total (1+2) $ 600.00

Paid [✓] Check # 561
Collected by: PJG

Administrative Surcharge $
Minimum Fee $
DCA TRAINING FEE $ 3—
TOTAL FEE $

U.C.C. Form F-110B

1 White = Inspector Copy
2 Canary = Office Copy
3 Pink = Office Copy
4 Gold = Applicant Copy

C.O.

State of New Jersey

DEPARTMENT OF ENVIRONMENTAL PROTECTION

DIVISION OF COASTAL RESOURCES

CN 401
TRENTON, N.J. 08625

PLEASE ADDRESS REPLY TO
1433 HOOPER AVENUE
TOMS RIVER, N.J. 08753
201-286-6447

4/9/90

Mr. Joseph J. Staiger PE
Po Box 297, 492 Main St
Chatham, NJ 07928

Subject: Bureau File # 1528-90-0004 Sun Oil Company
Rt 72 and Barnegat Ave, Ship Bottom
Ocean County, New Jersey

Dear Mr Staiger:

This letter is in response to your recent inquiry concerning the New Jersey Department of Environmental Protection (NJDEP), Division of Coastal Resources, coastal permit jurisdiction on the subject site. This letter will address jurisdiction under the Coastal Area Facility Review Act (CAFRA), the Wetlands Act of 1970 (tidal wetlands), and the Waterfront Development Statutes including Rule Amendments.

The project entails the following activity: Proposed improvement to the existing service station

Based upon a review of the submitted information and site plans entitled "Grading Plan", drawing # 10-0230-G dated 10/5/89 the following has been determined: {a check in the box indicates that the item applies}

[ ] The proposed project is located within the New Jersey Coastal Area and is defined as a facility pursuant to the Coastal Area Facility Review Act (CAFRA) N.J.S.A. 13:19-3 and N.J.A.C. 7:7-2.1 and will require a CAFRA Permit.

[ ] The proposed project is located within the defined waterfront area and is a regulated activity pursuant to the Waterfront Development Statutes N.J.S.A. 12:5-3 and Rules N.J.A.C 7:7-2.3, requiring a Waterfront Development Permit.

MITCHELL
Box 944
ORKED RIVER

BUILDING SUBCODE TECHNICAL SECTION

NEW JERSEY UNIFORM CONSTRUCTION CODE

PERMIT NO. 40 26
DATE ISSUED 12/5/84
REVISION DATE / / /
Block 110 Lot 1
Subdivision

A. IDENTIFICATION

APPLICANT — *Complete unshaded areas only* When changing contractors, notify this office

Owner: Sun Oil Company
Address: 440 Sugartown Road
Wayne, Pa.
Tel. (215) MU-8-8200
Work Site Address: 308 Eighth St.
Ship Bottom, N.J.

Contractor: M.L. Ruberton Constr. Co. Inc
Address: P.O. Box 564
Hammonton, NJ
Tel. (609) 561-3800
Lic. No.
Federal Emp. No. 210697799

CERTIFICATION IN LIEU OF OATH:
(Complete for Minor Work and Small Job Only)

I hereby certify that the proposed work is authorized by the owner of record and I have been authorized by the owner to make this application as his agent.

Andrew H. Burnett
AGENT SIGNATURE

B. TECHNICAL SITE DATA

DESCRIPTION OF WORK
Give detail description including materials used, dimensions, etc.

Install 3-8000 gal F-Glass tanks with sub pumps & vapor recovery
Replace existing suction pumps with dispensers & all new fiberglass piping from tanks to islands
Fill old storage with concrete slurry

See Plans

TYPE OF WORK:
- ☐ New Building
- ☐ Addition
- ☐ Alteration/Renovation
  - ☐ Roofing
  - ☐ Siding
  - ☐ Other
- ☐ Demolition
- ☑ Miscellaneous
  - ☐ Fence
  - ☐ Sign
  - ☐ Pool
  - ☐ Elevator
  - ☑ Other Tank installation & dispensers

Fee Basis	Fee
	$
	20
SUBTOTAL	$
Minimum Building Fee (if applicable)	$
Total Building Fee (Greater of Minimum or Subtotal)	$

20 MIL
10 FIRE
10 CO
40

C. BUILDING CHARACTERISTICS

GROUP: Factory Service Station Present _____ Proposed

of Stories _____ Total Building Area—All Floors _____ Sq. Ft.

ht of Structure _____ Ft. Volume of Structure _____ Cu. Ft.

—Largest Floor _____ Sq. Ft. Total Land Area Disturbed _____ Sq. Ft.

nated Cost of Building Work: $ 15,000.

D. COMMENTS

☐ Partial Releases ☐ Prototype Processing

Form F-110 (8/83) Green = Office Copy White = Applicant Copy Beige = Inspector Copy

FIRE SUBCODE TECHNICAL SECTION

Date Received 5-3-96
Date Issued
Control #
Permit # 96-063

A. IDENTIFICATION—APPLICANT: COMPLETE ALL APPLICABLE INFORMATION. WHEN CHANGING CONTRACTORS, NOTIFY THIS OFFICE. CALL UTILITY DIG NO: 1-800-272-1000.

Block 110 Lot 25
Work Site Location Sunoco Service Station
305 East 8th St.
Owner in Fee Sun Oil Co.
Address 70 East Ave
Lawrence, NY
Tele. ( )
Contractor Handex of NJ
Address 500 Campus Dr.
Morganville NJ
Tele. (908) 536-8500
Lic. No.
Federal Emp. No. 22-2764762 or Social Security No.

B. FIRE PROTECTION CHARACTERISTICS

Use Group Present Proposed
Constr. Class. Present Proposed
Heating Systems [ ] New [ ] Existing
Type: [ ] Gas [ ] Oil [ ] Electrical [ ] Solar
[ ] Other
Location:
Total Est. Cost of Fire Prot. Work $ $2,000.00 [X] Other UST Removal Demolition

JOB SUMMARY (Office Use Only)

PLAN REVIEW:
[ ] No Plans Required
Joint Plan Review Required:
[ ] Bldg. [ ] Plumb.
[ ] Elec. [ ] Elevator
[✓] Fire Plans Approved
Date: 4-30-96
Approved by:
SUBCODE APPROVAL:
[✓] CO [ ] CCO [ ] CA
Date: 6-13-96
Approved by:

INSPECTIONS:

Type:	Failure	Failure	Approval	Initial
	Dates (Month/Day)			
Suppression Test				
Fire Alarm Test				
Smoke Test				
Mechanical				
TCO				
Other				
Other				
Other				

C. CERTIFICATION IN LIEU OF OATH

I hereby certify that I am the (agent of) ~~owner of~~ record and am authorized to make this application.

SIGNATURE

D. TECHNICAL SITE DATA

Description of Work Removal of 1 - ~~550~~ w/o TANK 275 GAL.

Water Supply Source
Method of Valve Supervision
Local Alarm Supervision
Central Supervision
Proprietary Supervision

Flammable Liquid Storage Tanks ( ) Capacity Fuel
Combustible Liquid Storage Tanks ( ) Capacity Fuel
L.P.G. Storage Tanks ( ) Capacity Fuel
L.N.G. Storage Tanks ( ) Capacity Fuel

	Number	FEE (Office Use Only)
Wet Sprinkler Heads		
Dry Sprinkler Heads		
TOTAL		
Smoke Detectors		
Heat Detectors		
TOTAL		
Stand Pipes		
Kitchen Hood Exhaust Systems		
Pre-Engineered Systems		
CO_2 Suppression		
Halon Suppression		
Foam Suppression		
Dry Chemical		
Wet Chemical		
Gas or Oil Fired Appliance		
OTHER TANK REMOVAL		345

Paid [✓] Check # 141574
Collected by: PAC

Administrative Surcharge $
Minimum Fee $
DCA Training Fee $ 2
TOTAL FEE $

UCC FORM F-140 B — 1 White = Inspector Copy, 2 Canary = Office Copy, 3 Pink = Office Copy, 4 Gold = Applicant Copy — PRO 205 B

CONSTRUCTION PERMIT

NEW JERSEY UNIFORM CONSTRUCTION CODE

Date Issued 5-11-95
Control #
Permit # 95-067

IDENTIFICATION Block 110 Lot 25

Work Site Location Sunoco S/S
305 East 8th Street

Owner in Fee Sun Company, Inc.
Address 4041 Market Street
Aston, PA 19014-3197
Tele. (____) ____

Contractor Hanlon of NJ Inc.
Address 500 Campus Drive
Morganville, NJ
Tele. (908) 536-8500
Lic. No. or Bldrs. Reg. No. ____ Exp. Date ____
Federal Emp. No. 22-2764762
or Social Security No. ____

is hereby granted permission to perform the following work:

[ ] BUILDING [ ] PLUMBING [✓] OTHER Demo.
[ ] ELECTRICAL [ ] FIRE PROTECTION
[ ] ELEVATOR DEVICES

DESCRIPTION OF WORK: Removal of three previously closed in place underground storage tanks.

PAYMENTS (Office Use Only)	
Building	
Electrical	
Plumbing	
Fire Protection	374
Elevator Devices	
Other	
DCA Training Fee	16 —
Cert. of Occ.	20 —
Other	
Total	412 —
Check No.	2057
Cash	
Collected By:	PAG

NOTE: If construction does not commence within one (1) year of date of issuance, or if construction ceases for a period of six (6) months, this permit is void.

Estimated Cost of Work $ 22,000 —

CONSTRUCTION OFFICIAL

(see reverse side)

UCC FORM F-170C 1 WHITE—INSPECTOR 2 CANARY—OFFICE 3 PINK—OFFICE 4 GOLD—APPLICANT PRO 208 B

NJDOT ROUTE 72
MANAHAWKIN BAY BRIDGES

DOCUMENTS RECEIVED FROM
OCEAN COUNTY

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Robert Singer, *Vice Chairman*
Arlyne J. Rehak, *Secretary-Treasurer*
Carmen Amato, Jr.
Anthony Depaola
Veronica Laureigh
William T. Ritchings
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OCEAN COUNTY BOARD OF HEALTH
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Toms River, NJ 08754-2191
(732) 341-9700
(800) 342-9738
http://www.ochd.org

Public Health
Prevent. Promote. Protect.

Ella Boyd, VMD
Public Health Coordinator

February 8, 2010

Xerxes Antia
Prestige Environmental
27 Progress Street
Edison, NJ 08820

RE: Block 305 Lots 3, 6.01, 6.02; Block 306 Lot 1
Stafford Township NJ

Dear Mr. Antia:

After review of your request for information on the above noted parcel this department reports no major contamination data in our files.

If you have any questions please feel free to contact this office.

Sincerely,

John Protonentis
Supervisor REHS

JP/cal

THE OCEAN COUNTY BOARD OF HEALTH PROVIDES THIS INFORMATION AS A PUBLIC SERVICE AND DOES NOT GUARANTEE OR WARRANT THE ACCURACY OF THIS INFORMATION. AN APPOINTMENT CAN BE MADE FOR A THOROUGH SEARCH OF THE HEALTH DEPARTMENT RECORDS BY INTERESTED INDIVIDUALS.

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Ella Boyd, VMD
Public Health Coordinator

February 8, 2010

Xerxes Antia
Prestige Environmental
27 Progress Street
Edison, NJ 08820

RE: Block 158.01 Lot 21.01, Block 158.01 Lot 21.02
Stafford Township NJ

Dear Mr. Antia:

After review of your request for information on the above noted parcel this department reports no major contamination data in our files.

If you have any questions please feel free to contact this office.

Sincerely,

John Protonentis
Supervisor REHS

JP/cal

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Ella Boyd, VMD
Public Health Coordinator

February 8, 2010

Xerxes Antia
Prestige Environmental
27 Progress Street
Edison, NJ 08820

RE: Block 185 Lot 68
Stafford Township NJ

Dear Mr. Antia:

After review of your request for information on the above noted parcel this department reports no major contamination data in our files.

If you have any questions please feel free to contact this office.

Sincerely,

John Protonentis
Supervisor REHS

JP/cal

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Public Health Coordinator

February 8, 2010

Xerxes Antia
Prestige Environmental
27 Progress Street
Edison, NJ 08820

RE: Block 222 Lot 9
Stafford Township NJ

Dear Mr. Antia:

After review of your request for information on the above noted parcel this department reports no major contamination data in our files.

If you have any questions please feel free to contact this office.

Sincerely,

John Protonentis
Supervisor REHS

JP/cal

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Public Health Coordinator

February 8, 2010

Xerxes Antia
Prestige Environmental
27 Progress Street
Edison, NJ 08820

RE: Block 303 Lots 1, 2; Block 304 Lots 1, 2; Block 307 Lot 2
Stafford Township NJ

Dear Mr. Antia:

After review of your request for information on the above noted parcel this department reports no major contamination data in our files.

If you have any questions please feel free to contact this office.

Sincerely,

John Protonentis
Supervisor REHS

JP/cal

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Ella Boyd, VMD
Public Health Coordinator

February 8, 2010

Xerxes Antia
Prestige Environmental
27 Progress Street
Edison, NJ 08820

RE: Block 298 Lots 1, 2, 4, 4.01
Stafford Township NJ

Dear Mr. Antia:

After review of your request for information on the above noted parcel this department reports no major contamination data in our files.

If you have any questions please feel free to contact this office.

Sincerely,

John Protonentis
Supervisor REHS

JP/cal

THE OCEAN COUNTY BOARD OF HEALTH PROVIDES THIS INFORMATION AS A PUBLIC SERVICE AND DOES NOT GUARANTEE OR WARRANT THE ACCURACY OF THIS INFORMATION. AN APPOINTMENT CAN BE MADE FOR A THOROUGH SEARCH OF THE HEALTH DEPARTMENT RECORDS BY INTERESTED INDIVIDUALS.

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Ella Boyd, VMD
Public Health Coordinator

February 8, 2010

Xerxes Antia
Prestige Environmental
27 Progress Street
Edison, NJ 08820

RE: Block 158 Lot 21
Stafford Township NJ

Dear Mr. Antia:

After review of your request for information on the above noted parcel this department reports no major contamination data in our files.

If you have any questions please feel free to contact this office.

Sincerely,

John Protonentis
Supervisor REHS

JP/cal

THE OCEAN COUNTY BOARD OF HEALTH PROVIDES THIS INFORMATION AS A PUBLIC SERVICE AND DOES NOT GUARANTEE OR WARRANT THE ACCURACY OF THIS INFORMATION. AN APPOINTMENT CAN BE MADE FOR A THOROUGH SEARCH OF THE HEALTH DEPARTMENT RECORDS BY INTERESTED INDIVIDUALS.

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PublicHealth
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Ella Boyd, VMD
Public Health Coordinator

February 8, 2010

Xerxes Antia
Prestige Environmental
27 Progress Street
Edison, NJ 08820

RE: Block 300 Lots 2, 3, 5, 31; Block 302 Lots 1, 4, 6.01, 6, 8, 11
Stafford Township NJ

Dear Mr. Antia:

After review of your request for information on the above noted parcel this department reports no major contamination data in our files.

If you have any questions please feel free to contact this office.

Sincerely,

John Protonentis
Supervisor REHS

JP/cal

THE OCEAN COUNTY BOARD OF HEALTH PROVIDES THIS INFORMATION AS A PUBLIC SERVICE AND DOES NOT GUARANTEE OR WARRANT THE ACCURACY OF THIS INFORMATION. AN APPOINTMENT CAN BE MADE FOR A THOROUGH SEARCH OF THE HEALTH DEPARTMENT RECORDS BY INTERESTED INDIVIDUALS.

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Public Health
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Ella Boyd, VMD
Public Health Coordinator

February 8, 2010

Xerxes Antia
Prestige Environmental
27 Progress Street
Edison, NJ 08820

RE: Block 185 Lot 52
Stafford Township NJ

Dear Mr. Antia:

After review of your request for information on the above noted parcel this department reports no major contamination data in our files. We do note an NJDEP Closed Case PI# 025638, BUST, Unrestricted NFA-A 11/30/2005 at Margo's Marina. You may wish to contact the NJDEP for further information

If you have any questions please feel free to contact this office.

Sincerely,

John Protonentis
Supervisor REHS

JP/cal

THE OCEAN COUNTY BOARD OF HEALTH PROVIDES THIS INFORMATION AS A PUBLIC SERVICE AND DOES NOT GUARANTEE OR WARRANT THE ACCURACY OF THIS INFORMATION. AN APPOINTMENT CAN BE MADE FOR A THOROUGH SEARCH OF THE HEALTH DEPARTMENT RECORDS BY INTERESTED INDIVIDUALS.

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Ella Boyd, VMD
Public Health Coordinator

February 8, 2010

Xerxes Antia
Prestige Environmental
27 Progress Street
Edison, NJ 08820

RE: Block 158.01 Lot 114
Stafford Township NJ

Dear Mr. Antia:

After review of your request for information on the above noted parcel this department reports no major contamination data in our files.

If you have any questions please feel free to contact this office.

Sincerely,

John Protonentis
Supervisor REHS

JP/cal

THE OCEAN COUNTY BOARD OF HEALTH PROVIDES THIS INFORMATION AS A PUBLIC SERVICE AND DOES NOT GUARANTEE OR WARRANT THE ACCURACY OF THIS INFORMATION. AN APPOINTMENT CAN BE MADE FOR A THOROUGH SEARCH OF THE HEALTH DEPARTMENT RECORDS BY INTERESTED INDIVIDUALS.

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Ella Boyd, VMD
Public Health Coordinator

February 8, 2010

Xerxes Antia
Prestige Environmental
27 Progress Street
Edison, NJ 08820

RE: Block 158.02 Lot 114
Stafford Township NJ

Dear Mr. Antia:

After review of your request for information on the above noted parcel this department reports no major contamination data in our files.

If you have any questions please feel free to contact this office.

Sincerely,

John Protonentis
Supervisor REHS

JP/cal

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Public Health Coordinator

February 8, 2010

Xerxes Antia
Prestige Environmental
27 Progress Street
Edison, NJ 08820

RE: Block 103 Lots 6, 4, 5, 7; Block 100 Lots 8, 9, 7, 9.03, 9.02, 9.04, 9.01
Ship Bottom NJ

Dear Mr. Antia:

After review of your request for information on the above noted parcel this department reports no major contamination data in our files. We suggest that you contact Long Beach Island Health Department for further information.

If you have any questions please feel free to contact this office.

Sincerely,

John Protonentis
Supervisor REHS

JP/cal

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Ella Boyd, VMD
Public Health Coordinator

February 8, 2010

Xerxes Antia
Prestige Environmental
27 Progress Street
Edison, NJ 08820

RE: Block 111 Lot 1
Ship Bottom NJ

Dear Mr. Antia:

After review of your request for information on the above noted parcel this department reports no major contamination data in our files. We suggest that you contact Long Beach Island Health Department for further information.

If you have any questions please feel free to contact this office.

Sincerely,

John Protonentis
Supervisor REHS

JP/cal

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Ella Boyd, VMD
Public Health Coordinator

February 8, 2010

Xerxes Antia
Prestige Environmental
27 Progress Street
Edison, NJ 08820

RE: Block 101 Lot 1
Ship Bottom NJ

Dear Mr. Antia:

After review of your request for information on the above noted parcel this department reports no major contamination data in our files. We suggest that you contact Long Beach Island Health Department for further information.

If you have any questions please feel free to contact this office.

Sincerely,

John Protonentis
Supervisor REHS

JP/cal

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Ella Boyd, VMD
Public Health Coordinator

February 8, 2010

Xerxes Antia
Prestige Environmental
27 Progress Street
Edison, NJ 08820

RE: Block 110 Lots 21, 22, 8.02, 18, 16, 17, 17.01, 23, 19.01
Ship Bottom

Dear Mr. Antia:

After review of your request for information on the above noted parcel this department reports no major contamination data in our files. We do note an NJDEP Active Case PI #022627, BUST, Case Manger – David Miele (609) 777-0900, Remedial Level C2 for Mr. Big/Russo – Gas Station/Automotive Repair.

If you have any questions please feel free to contact this office.

Sincerely,

John Protonentis
Supervisor REHS

JP/cal

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Public Health
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Ella Boyd, VMD
Public Health Coordinator

February 8, 2010

Xerxes Antia
Prestige Environmental
27 Progress Street
Edison, NJ 08820

RE: Block 297 Lots 1, 2, 3, 4; Block 297.01 Lots 7, 8, 9
Stafford Township

Dear Mr. Antia:

After review of your request for information on the above noted parcel this department reports no major contamination data in our files. A computer search revealed records for Well and a Replacement Well on Block 297 Lot 4 (file # 009950; 011457).

If you have any questions please feel free to contact this office.

Sincerely,

John Protonentis
Supervisor REHS

JP/cal

THE OCEAN COUNTY BOARD OF HEALTH PROVIDES THIS INFORMATION AS A PUBLIC SERVICE AND DOES NOT GUARANTEE OR WARRANT THE ACCURACY OF THIS INFORMATION. AN APPOINTMENT CAN BE MADE FOR A THOROUGH SEARCH OF THE HEALTH DEPARTMENT RECORDS BY INTERESTED INDIVIDUALS.

Socioeconomic Impact Assessment

for

ROUTE 72 MANAHAWKIN BAY BRIDGES

MP 25.5 TO MP 28.2

in

Stafford Township and Ship Bottom Borough
Ocean County, New Jersey

December 2009

Prepared For:
New Jersey Department of Transportation
Attn: Pamela Garrett
Trenton, NJ 08625

Prepared By:
PB Americas, Inc.
506 Carnegie Center Blvd.
Princeton, NJ 08540

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Introduction

An assessment of the anticipated socioeconomic impacts of the Route 72 Bay Bridges project was performed. Both potential permanent impacts and temporary construction impacts were considered.

The study area for the socioeconomic impact assessment was defined to include those portions of the municipalities of Stafford and Ship Bottom closest to the project limits. Due to the nature of the project, these are the areas most likely to be affected. Neighboring communities on Long Beach Island were not included in the assessment, since the project is not anticipated to cause significant travel delays or other impacts that would affect residents, businesses, commuters or transit riders in the surrounding areas. However, since Route 72 is the economic lifeline for Long Beach Island and its only evacuation route, any changes in the assumptions concerning anticipated traffic delays would prompt a need to consider more widespread socioeconomic impacts. Continuity of service will be important for many users of the Route 72 facility, including school buses transporting students from the Long Beach Island communities to Southern Regional High School in Manahawkin.

Figure 1 shows the boundaries of the Census Tracts that make up the study area, Tracts 7351 and 7390. Much of Tract 7351 is made up of water and other uninhabited areas. Table 1 shows the 2000 Census population figures for the municipalities of Stafford and Ship Bottom overall and for those portions included in the study area. The study area's 2000 population was approximately 7,200.

Table 1: 2000 Population

	Total Municipal Pop.	Study Area Pop.
Stafford	22,532	6,712
Ship Bottom	1,384	506
Total	23,916	7,218

The majority of Stafford's workforce is employed outside the municipality, and the same is true for Ship Bottom's workforce. Major employers in Stafford Township include Southern Ocean County Hospital and the Southern Regional School District, both outside the study area. There are no daily bus routes operating along the causeway. However, Ocean Ride provides a weekly bus service on Mondays connecting points on Long Beach Island with destinations in Manahawkin. This service is geared to seniors but open to the general public.

General impacts to the study area may include minor changes in traffic flow due to lane closures or diversions (limited to off-peak periods), temporary impacts to bicycle access between Long Beach Island and the mainline during construction, construction noise, and minor impacts on private boating due to the presence of transport barges in the water. Bicycle compatibility will be affected by the elimination of shoulders and narrowing of lanes during construction, particularly in the second stage when travel lanes will be reduced to 11 feet in width. Right of way impacts are anticipated to be minor and are described below, along with other localized impacts.

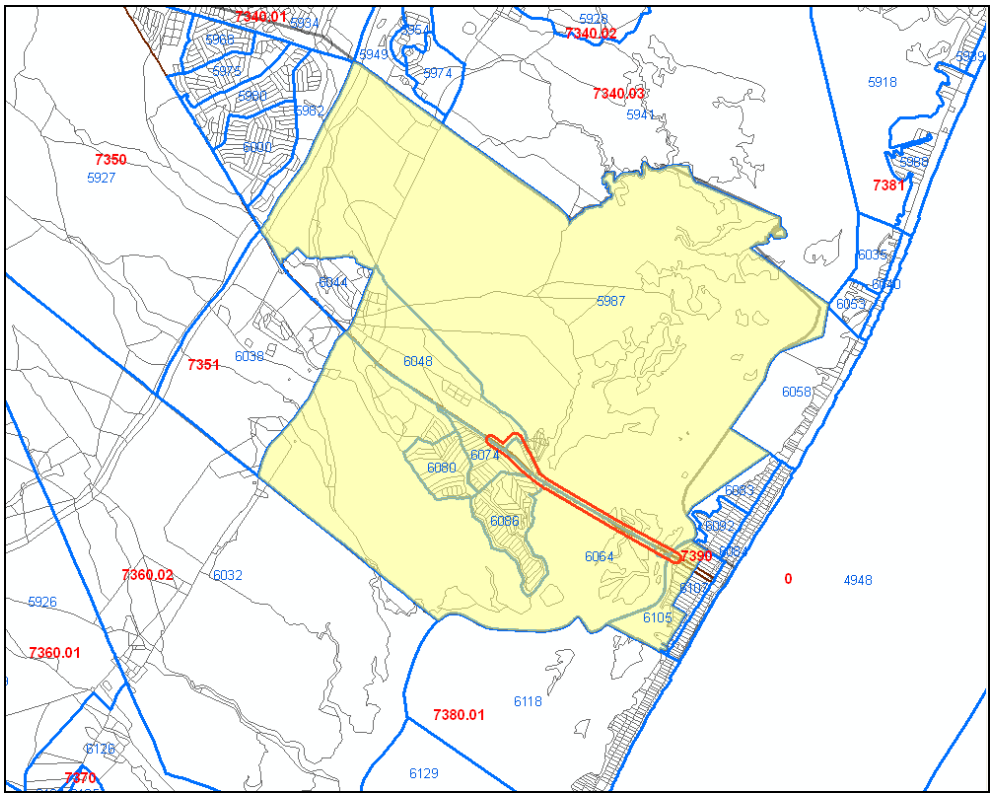

Figure 1: Socioeconomic assessment area Census boundaries

Socioeconomic Focus Areas

The study area was divided into five focus areas for analysis purposes, as shown in Figure 2. From east to west, these are:

1. Ship Bottom at eastern bridge terminus
2. Cedar Bonnet Island
3. Bonnet Island
4. Bay Avenue and the Hillard/Railroad Avenue neighborhood
5. Marsha Drive area

The following sections discuss each of these focus areas, the significance of the project for each, and the types of socioeconomic impacts that may occur.

Figure 2: Focus areas for socioeconomic assessment

1. Ship Bottom at Eastern Bridge Terminus

The first focus area is Ship Bottom at the eastern terminus of the project. This area, shown in Figure 3, includes the residential, commercial and recreational uses surrounding the bridge and its approaches, including the marinas and the Shore Avenue neighborhood. A significant amount of construction activity is planned to occur in this area.

Figure 3: Ship Bottom at bridge terminus

The following land uses are located in this area:

- 10th Street Waterfront Park, adjacent to the eastbound Route 72 bridge abutment and approach. The park lies between Manahawkin Bay and Shore Avenue and includes a gazebo, playground, and the Robert W. Nissen Boat Ramp. The playground is located at the end of the park closest to Route 72. The park parcel also contains a large parking lot to accommodate boat trailers and a walking path along the Bay.
- Hochstrasser's Marina at 401 West 8th Street
- Several residential neighborhoods located east of Shore Avenue between 6th Street and West 11th Street.
- The State Room building (a commercial use property) with a large parking lot, which is flanked by 8th and 9th streets.
- A residence, vacant lot and marine commercial property on 8th street.
- The LBI Medical Center and other medical/professional offices at Causeway Professional Plaza on 9th Street.

There is a pedestrian walkway beneath the bridge that provides connections to Shore Avenue on either side. The walkway provides pedestrian access to the 10th Street Waterfront Park on the eastbound side of the bridge and leads into the marina area on the westbound side.

Pedestrian walkway beneath bridge and along bay at Waterfront Park

Potential Impacts

In this section, the bridge project includes sidewalk improvements and bridge rehabilitation through structural improvements. The project may include rebuilding the bulkheads.

- No physical takings of any property in this section are planned.
- The contractor may temporarily use a portion of the 10th Street Waterfront Park for equipment access to the job site. The park and its recreational facilities are expected to remain open, but there may be impacts on park access.
- While the contractor is working on the bridge, the walkway under the bridge will be closed. This will affect pedestrian access to the waterfront park and marina.
- Park users and business establishments closest to the job site may experience temporary construction noise.

2. Cedar Bonnet Island

Proceeding west, the next focus area is Cedar Bonnet Island, which is part of Stafford Township. As shown in Figure 4, Route 72 bisects the island, creating two separate neighborhoods. Each neighborhood has direct access to and from the causeway. In addition to the residential neighborhoods, there is a large restaurant and bar, Dutchman's, north of Route 72 on the western edge of the island. This appears to be a major destination for local residents. Duke's Boat Rental is located at the southwestern corner of the island.

There is a one-lane roadway known as Circle Drive under the bridge on the western end of Cedar Bonnet which provides a vehicular connection between the two island neighborhoods. This connector roadway operates on a signal and sensor system to provide bidirectional access. At the eastern end of the island, a pedestrian walkway is available.

Figure 4: Cedar Bonnet Island

Potential Impacts

In this section, the project will include roadway improvements and bridge rehabilitation. The project may include rebuilding the bulkheads.

- No physical takings of any property in this section are planned.

- Temporary construction noise will likely affect those year-round residents of Cedar Bonnet Island located closest to construction sites.

- The connector roadway on the western end of the island will be temporarily closed while the contractor is working on the adjacent section of the bridge. During construction, this will eliminate the direct connection between the neighborhoods. However, U-turn locations are available less than a half mile in either direction along Route 72 which will enable residents to access their respective neighborhoods.

- The pedestrian connection at the eastern end of the island is also expected to be closed during construction. In addition, while construction is in progress, pedestrians and bicyclists will not be able to use the connector roadway at the western end to travel between the two neighborhoods. Further investigation with local officials is warranted to determine whether these closures would disrupt any essential pedestrian or bicycle access for employment or other purposes.

- Shore properties in the residential neighborhoods have riparian rights. Procedures may need to be followed during construction to avoid disrupting these waters and/or to alert property owners about the presence of barges in the area, if applicable.

- The opportunity to improve pedestrian connectivity between the two Cedar Bonnet neighborhoods by upgrading the existing vehicular connector roadway with a walkway could be explored as a potential project enhancement.

Dutchman's Restaurant

Connector road beneath bridge

3. Bonnet Island

Bonnet Island is a larger, mostly undeveloped island located just west of Bonnet Island. Like Cedar Bonnet, Bonnet Island is bisected by Route 72 with access in each direction (see Figure 5), and is located within Stafford Township.

A national wildlife refuge is located on the south and north sides of the island. On the north side, the principal land uses include the following:

- Causeway Boat Rentals and Marina, a large facility occupying the western end of the island.
- Bonnet Island Estate, a banquet hall with a large parking lot, at the eastern end of the island.
- Along East Bay Avenue there are two houses, one occupied and one which appears to be abandoned.

Pedestrian walkway under Route 72; Bonnet Island Estate in the distance

At the eastern end of the island there is an unpaved pedestrian pathway beneath the bridge. This pathway provides recreational access to the wildlife refuge from the north side of Cedar Bonnet.

Potential Impacts

There is no major bridge work planned in this section.

- Access to the Causeway Marina and Bonnet Island Estate will not be affected.
- All of the trails in the National Wildlife Refuge will remain open.
- The pedestrian walkway under the bridge will be closed during construction.

Figure 5: Bonnet Island

4. Bay Avenue and Hillard Avenue/Railroad Avenue Neighborhood

Proceeding west to the mainland, there are two locations where project impacts could potentially occur. The first is the vicinity of the existing interchange at Route 72 and Bay Avenue, where a roundabout alternative has been proposed. If pursued, the roundabout would require some additional right of way and could result in minor takings of adjacent slivers of property, all of which are currently vacant land.

The other location is the Hillard Avenue/Railroad Avenue neighborhood, located along the water's edge north of Bay Avenue. No direct project impacts are expected in this neighborhood. However, the area along the waterfront has been identified as a potential environmental mitigation site. This proposal could require clearing of some existing structures, including several houses along Hillard Avenue that are within the state Tidelands boundary and lack proper Bureau of Tidelands Council leases. The Mallard Island Yacht Club, a banquet hall, is located nearby.

Figure 6 shows both the existing Route 72/Bay Avenue interchange where the proposed roundabout would be constructed and the Hillard Avenue/Railroad Avenue neighborhood.

Figure 6: Rt 72/Bay Avenue interchange and Hillard Avenue

There are approximately six houses and two docks that extend into the Tidelands zone in the Hillard Avenue/Railroad Avenue neighborhood. A review of the Stafford Township tax maps indicates that the parcels that appear to be associated with these structures are currently assessed at a total value of $1,540,500 ($935,500 for land and $605,000 for improvements). Actual market values could be significantly higher.

Houses along Hillard Avenue

Potential Impacts

- If constructed, a roundabout at Route 72 and Bay Avenue could require minor right of way takings of currently vacant land.

- Existing structures within the Tidelands boundary on Hillard Avenue and Railroad Avenue could be impacted by a decision to pursue the use of this location for an environmental mitigation site, possibly resulting in residential dislocations.

5. Marsha Drive Area

The final focus area is the location of the proposed improvements at Marsha Drive and East Bay Avenue. Four distinct construction activities are planned: widening of a section of Route 72, roadway improvements on Marsha Drive, and intersection improvements at two locations: Route 72 at Marsha Drive, and Marsha Drive at East Bay Avenue (potentially a roundabout). There is a restaurant in the southeast quadrant of the Marsha Drive/East Bay Avenue intersection (Mud City Crab House). The northeast quadrant is preserved land which will not be affected by the project. The other quadrants are undeveloped.

Potential Impacts

- The widening project on Route 72 will utilize the existing grass median, hence it will not extend beyond the existing right of way.

- The roadway improvement on the south side of Marsha Drive will not extend beyond Beach Haven West Boulevard, where the existing neighborhood begins.

- The proposed roundabout at Marsha Drive and East Bay Avenue may involve acquiring a small sliver of right of way at the restaurant property, as well as traffic impacts during construction.

Figure 7: Marsha Drive/East Bay Avenue

Positive Socioeconomic Impacts

In addition to the impacts identified above, the project may result in improved circulation and safety at the affected intersections. It will also significantly improve bicycle and pedestrian access to and from Long Beach Island through the addition of a bike lane and continuous sidewalk from Marsha Drive to Long Beach Island. There are a number of residents of Stafford Township and the surrounding area who currently bicycle to jobs on Long Beach Island, despite the poor bicycle accommodations currently available on the causeway. It is likely that many of these bicyclists are dependent on bicycling for basic mobility and these roadway users will see a significant benefit from the project.

Environmental Justice Assessment

The potential for disproportionate impacts to minority or low-income populations was assessed as required by the Executive Order 21898 on Environmental Justice. The demographic characteristics of the two affected municipalities were examined.

The non-white population of the study area is small (see Figure 8). Overall, Stafford Township's 2000 population was 96.8% white and Ship Bottom's population was 96.3% white. Percentages for those portions of the two municipalities within the socioeconomic study area were similar, at 97.4% white for Stafford and 98.6% white for Ship Bottom. The

Hispanic population was reported as 2.4% for Stafford overall and 5.8% for Ship Bottom. In Stafford, approximately 4% of the population was below poverty level, while in Ship Bottom this figure was higher at close to 8%.

Additional information was also reviewed on age composition, household access to vehicles and means of transportation to work. In Ship Bottom, 25% of the population was aged 65 or over, while in Stafford the corresponding figure was 19%. In Stafford, approximately 5% of households had no vehicle available as of 2000. However, less than one percent of employed residents relied on public transportation to get to work. In Ship Bottom, approximately 8% of households had no vehicle available.

Based on the above information, there is no indication that the project will have environmental justice impacts. While there will be temporary disruption of bicycle access to and from Long Beach Island, the project will provide long term mobility benefits for bicycle-dependent workers. Right of way impacts are anticipated to be minor, and do not involve any known displacement of minority or low income residents or minority-owned businesses.

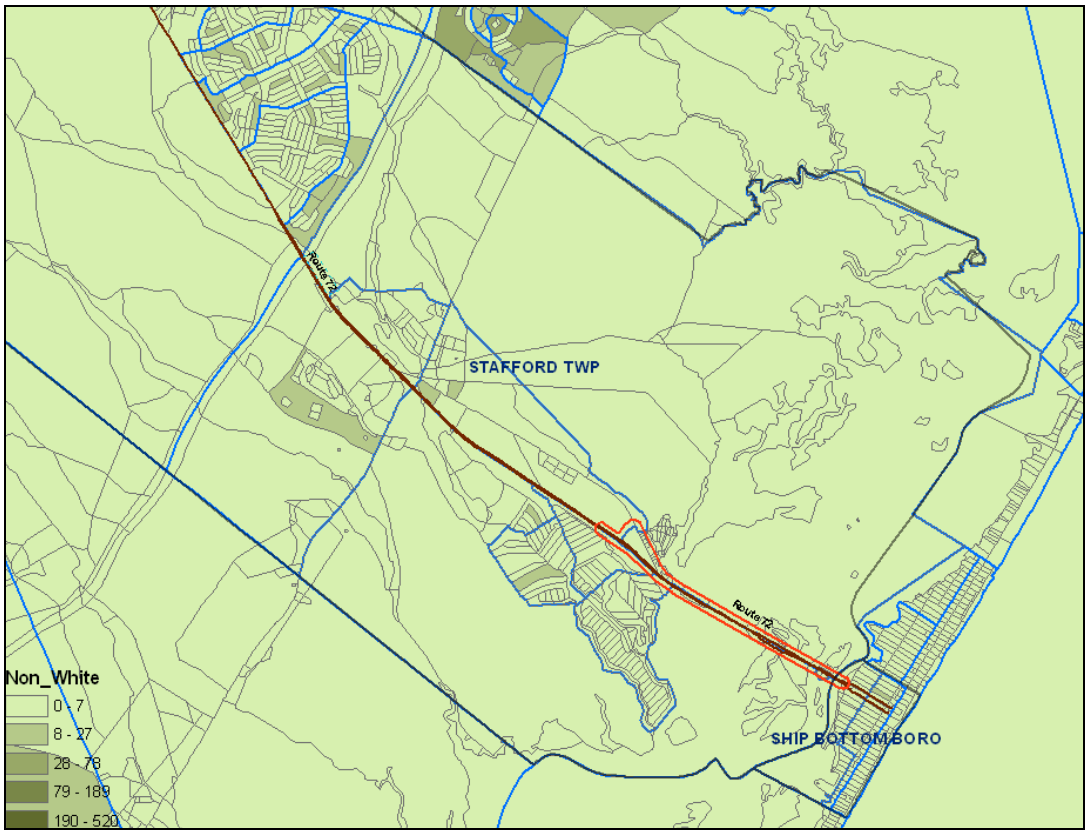

Figure 8: Non-white population by Census block, 2000

Summary of Findings

Overall, the project is anticipated to have relatively minor socioeconomic impacts, the majority of which are temporary construction-related inconveniences. General impacts to the study area may include minor changes in traffic flow due to lane closures or diversions (limited to off-peak periods), reduced bicycle compatibility and limited bicycle access during certain construction stages, construction noise, and minor impacts on private boating due to the presence of transport barges in the water. Construction noise may affect residents in certain areas close to the project. However, there are no schools, places of worship, libraries, nursing homes or hospitals located in the immediate vicinity of the project.

Other temporary impacts may include the use of a portion of the 10th Street Waterfront Park in Ship Bottom for construction equipment access, reduced pedestrian access between that park and the nearby marina, and closure of the connector roadway and walkway beneath Route 72 on Cedar Bonnet Island, which currently provide a pedestrian connection between the island's two neighborhoods.

Right-of-way impacts are not yet determined, but could include minor takings of vacant property for potential roundabouts at Marsha Drive/East Bay Avenue and at Route 72/Bay Avenue. Several homes within the Tidelands boundary in the Hillard Avenue/Railroad Avenue neighborhood could also be impacted by a decision to pursue the use of this location for an environmental mitigation site.

The project is not expected to have any permanent adverse impacts on community cohesion, aesthetics, mobility, or access to public facilities, or any adverse Environmental Justice impacts. Improvements to bicycle mobility and improved vehicular circulation at the affected intersections represent positive socioeconomic impacts that can be expected.

WETLAND DELINEATION REPORT

for

ROUTE 72 MANAHAWKIN BAY BRIDGES

MP 25.5 TO MP 28.2

in

Stafford Township and Ship Bottom Borough
Ocean County, New Jersey

July 2009

Prepared For:
New Jersey Department of Transportation
Trenton, NJ 08625

Prepared By:
PB Americas, Inc.
506 Carnegie Center Blvd.
Princeton, NJ 08540

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Appendix A – Figures (SURRGO Soils Map, USGS Map, and EPA Wetlands Map)

Appendix B – Photograph Locations

Appendix C – Data Sheets

Appendix D – Wetland Plans

1.0 INTRODUCTION

Long Beach Island (LBI) is one of New Jersey's premier oceanfront tourist destinations. As many as 150,000 people live and vacation on LBI and Barnegat Bay on any given weekend. The Route 72 Causeway is the only roadway linking the six municipalities on LBI to the mainland. The regional economy is completely dependent on the continued operation of the causeway.

The existing Route 72 Causeway was constructed in 1958. Major fatigue cracking has been discovered on the high-level steel bridge, and past crack repairs have failed to arrest the fatigue cracking. Fatigue cracking is especially worrisome since it can lead to sudden failure of members that support the roadway surface under normal load conditions. The pier caps of the low-level bridges have shown significant distress. Much of the concrete under some of the bridge seats has crumbled away and past efforts to correct this problem have been only partially effective. If left unchecked, this condition can lead to sudden failure by loss of support for portions of the bridge decks in travel ways.

Traffic projections indicate that additional capacity is needed on the causeway in approximately 20 years; therefore, replacement alternatives need to accommodate the anticipated growth without requiring extensive reconstruction.

The Route 72 Manahawkin Bay Bridges project extends from MP 25.5 to MP 28.2 along Route 72 and involves construction of a new parallel structure to Bay Bridge, and rehabilitation of four bridges over Manahawkin Bay. The four bridges included in project study, from west to east, are as follows:

1. NJ Route 72 Bridge over Hilliards Thorofare, Structure No. 1513-151
2. NJ Route 72 Bridge over Manahawkin Bay, Structure No. 1513-152
3. NJ Route 72 Bridge over West Thorofare, Structure No. 1513-153
4. NJ Route 72 Bridge over East Thorofare, Structure No. 1513-154

2.0 WETLAND INVESTIGATION METHODOLOGY

Field investigations to determine wetland boundaries were conducted by Parsons Brinckerhoff (PB) from May through June of 2009. Vegetation, soils, and hydrology were examined for evidence of wetland characteristics according to methodology outlined in the *Federal Manual for Identifying and Delineating Jurisdictional Wetlands* (Federal Interagency Committee on Wetland Delineations, 1989) and the *Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain Region* (U.S. Army Corps of Engineers, 2008). To be classified as a wetland according to the *Federal Manual*, an area must exhibit the following three parameters: hydrophytic vegetation, hydric soils and is saturated by groundwater or inundated by surface water for a sufficient time during the growing season as to allow reducing conditions to develop and persist in the soil, known as wetland hydrology. The wetland boundaries were flagged, labeled and surveyed by a licensed surveyor.

Photographs of wetland areas were also taken and are presented in Appendix B. Wetland Plans depicting each of the wetland area boundaries are included in Appendix D. Wetland data sheets are presented in Appendix C.

2.1 Wetlands

The project area contains mostly coastal wetlands; however, there are freshwater wetlands adjacent to Marsha Drive and Route 72 near Marsha Drive. The Wetland Plans (Appendix D) show the field delineated wetlands and the mapped coastal wetland lines.

Freshwater wetlands under the NJDEP jurisdiction are assigned transition areas according to their resource value classification in accordance with the NJDEP Freshwater Wetlands Protection Act. Wetlands associated with trout production waters or which are documented habitat for endangered or threatened species are classified as exceptional resource value wetlands and receive a 150-foot transition area. Ordinary resource value wetlands include ditches, swales and certain isolated wetlands and do not receive a transition area. All remaining wetlands are considered to be of intermediate resource value and receive a 50-foot transition area. State open waters do not receive a wetland transition area. Final determination of wetland resource value is subject to confirmation by NJDEP. The freshwater wetlands within the project area have an anticipated 150- foot transition area.

Coastal wetlands are mapped according to the Wetlands Act of 1970 and are under jurisdiction of the NJDEP. These coastal wetlands are assigned coastal wetland buffers of 300 feet as prescribed in the NJDEP Coastal Zone Management Rules. The extents of these wetlands were also determined through the field investigations performed in 2009.

A brief description of the general wetland habitat type and major associated vegetation is listed below. Appendix C (data sheets) contains a more detailed description of each individual wetland delineated and appendix D contains mapping of the delineated wetlands.

Saline Low Marsh – This wetland type is associated with delineated wetlands A, B, F, G, H, I, K, L and M (see Appendix D,). The most common species of this wetland type include common reed (*Phragmites australis,* FACW), smooth cordgrass (*Spartina alterniflora*, OBL), saltmeadow cordgrass (*Spartina patens*, FACW+), and marsh elder *(Iva frutescens*, FACW+). Other species include sea lavender (*Limonium nashii*, OBL) and Northern bayberry (*Morella pensylvanica*, FAC).

Saline High Marsh – This wetland type is associated with delineated wetlands D, E and J. Dominant species here include common reed, smooth cordgrass, and marsh elder. Other species in this wetland are weeping willow (*Salix babylonica*, FACW-), Russian olive (*Elaeagnus angustifolia*, FACU), and arrowwood (*Viburnum dentatum,* FAC).

Coastal Wetland – This wetland type is associated with wetland C and is dominated by common reed.

Mixed Scrub-Shrub/Emergent Wetland – These wetlands are deciduous, and like the forested wetlands are dominated by marsh elder and Northern bayberry in the shrub stratum, common reed in the herbaceous stratum; and poison ivy (*Toxicodendron radicans*, FAC) in the woody vine stratum. Other species in these wetlands include weeping willow, and Japanese honeysuckle (*Lonicera japonica* FAC-). These wetlands occur mostly along roadways in man-made ditches; are included in the palustrine scrub-shrub (PSS) and palustrine emergent (PEM) wetland classification of the Cowardin system. This wetland type is associated with wetlands C, E, H, J, and K.

Forested Wetland – Red maple (*Acer rubrum*, FAC) is the most dominant species of this wetland type. Marsh elder and Northern bayberry typically dominate the shrub stratum, while common reed is dominant in the herbaceous stratum. These wetlands are described as palustrine forested (PFO) wetland classification of the Cowardin system. This wetland type is associated with wetlands H and J.

State Open Waters – These areas consist of open water areas with no vegetation and may include ditches, streams, rivers, ponds, and lakes.

Wetland Areas Delineated Within the Route 72 Project Area

Wetland ID	Wetland Types	Number of Flags	Soil Unit(s)
A	SL	11	AptAv
B	SL	16	AptAv
C	PSS, C	9	PstAt
D	SH	23	AptAv
E	PSS, SH	32	AptAv
F	SL	24	AptAv
G	SL	8	PstAt
H	SL, PSS, PFO	16	AptAv
I	SL	12	AptAv
J	PFO, PEM, SH	42	PstAt/AptAv
K	PSS, PEM, SL	41	AptAv/
L	SL	6	AptAv
M	SL	16	PstAt

PFO = Palustrine Forested Wetlands
PSS = Palustrine Scrub-Shrub Wetlands
PEM = Palustrine Emergent Wetlands
SL = Saline Low Marsh
SH = Saline High Marsh
C = Coastal Wetlands

AptAv = Appoquinimink-Transwauaking-Mispillion Complex
PstAt = Psammaquents, sufidic substratum
PSSA = Psamments

United States Environmental Protection Agency (USEPA) Priority Wetlands located throughout the entire project area include Barnegat Bay and its tributaries.

2.2 Uplands

Upland areas consisting of forest, scrub-shrub, and grass areas are also located adjacent to Route 72 and throughout the project area. The canopy of upland forested areas are dominated by Eastern red cedar (*Juniperus virginiana*, FAC), sassafras (*Sassafras albidum*, FACU-), black cherry (*Prunus serotina*, FACU). The shrub stratum is dominated by sassafras, arrowwood, Russian olive, silverberry (*Elaeagnus commutata*, UPL), multiflora rose (*Rosa multiflora*, FACU), and smooth sumac (*Rhus glabra*, NI). The herbaceous layer is dominated by meadow fescue (*Festuca elatior*, FACU-), red clover (*Trifolium pretense*, FACU-), common dandelion (*Taraxacum officinale*, FACU-), common reed, and various grasses.

3.0 DATA SOURCES

The following data sources were reviewed during preparation of this report.

1. Federal Interagency Committee for Wetland Delineation. 1989. Federal Manual for Identifying and Delineating Jurisdictional Wetlands. U.S. Army Corps of Engineers, US Environmental Protection Agency, US Fish and Wildlife Service, and USDA Soil Conservation Service. Washington, D.C. Cooperative technical publication.

2. U.S. Army Engineer Research and Development Center. October 2008. Interim Regional Supplement To The Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain Region. U.S. Army Corps of Engineers.

3. N.J.A.C. 7:7A. 1989. Freshwater Wetlands Protection Act Rules.

4. Reed, P.B. 1988. National List of Plant Species that Occur in Wetlands: Northeast (Region 1). U.S. Fish and Wildlife Service. St. Petersburg, Florida.

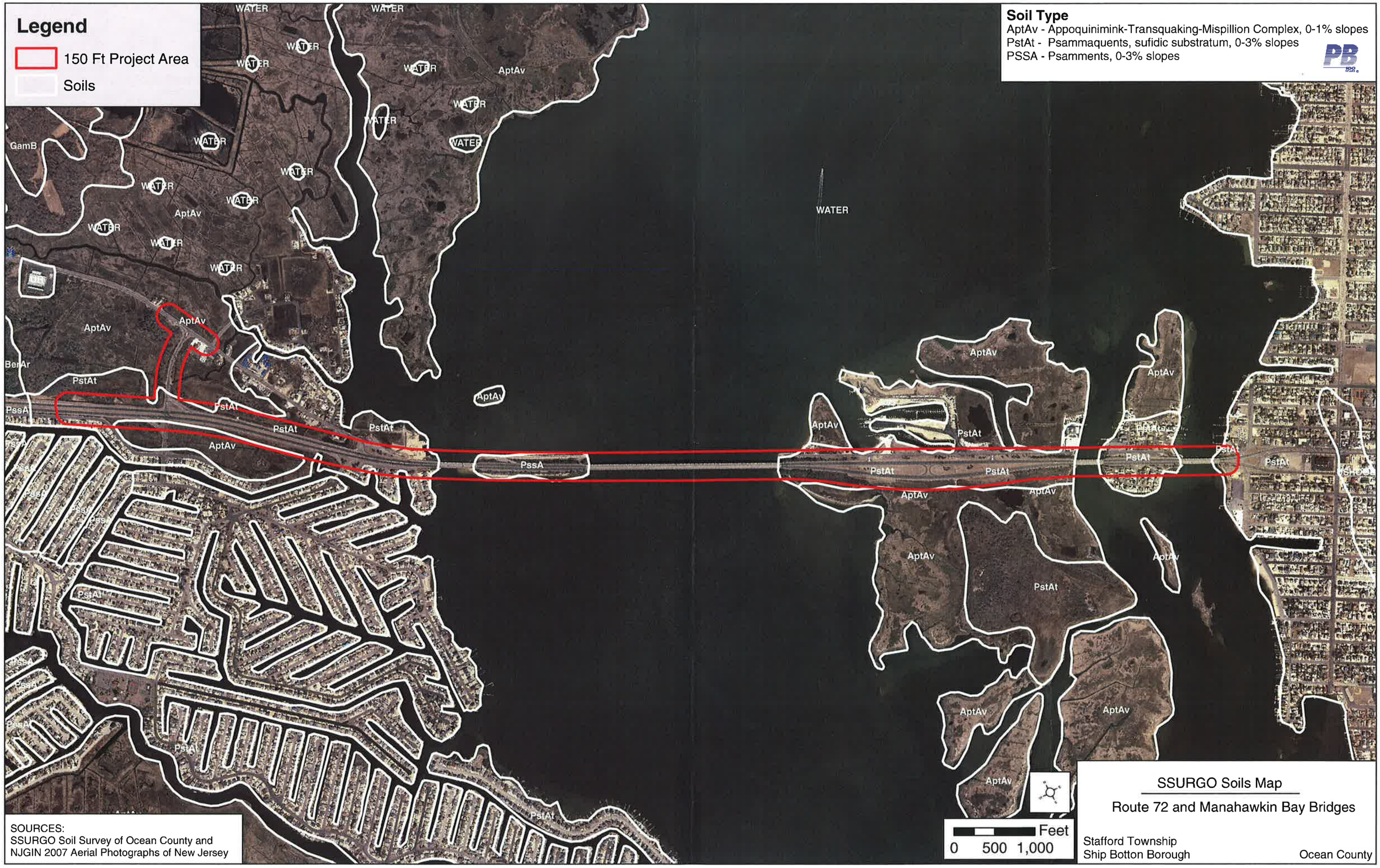
5. SCS. 1995. Hydric Soils of New Jersey. In cooperation with the National Technical Committee for Hydric Soils. USDA.

6. Tedrow, J.C.F. 1986. Soils of New Jersey. Krieger Publishing Company. Malabar, Florida.

Appendix A

FIGURES –

SSURGO Soils Map
USGS Topographic Map
EPA Priority Wetlands Map



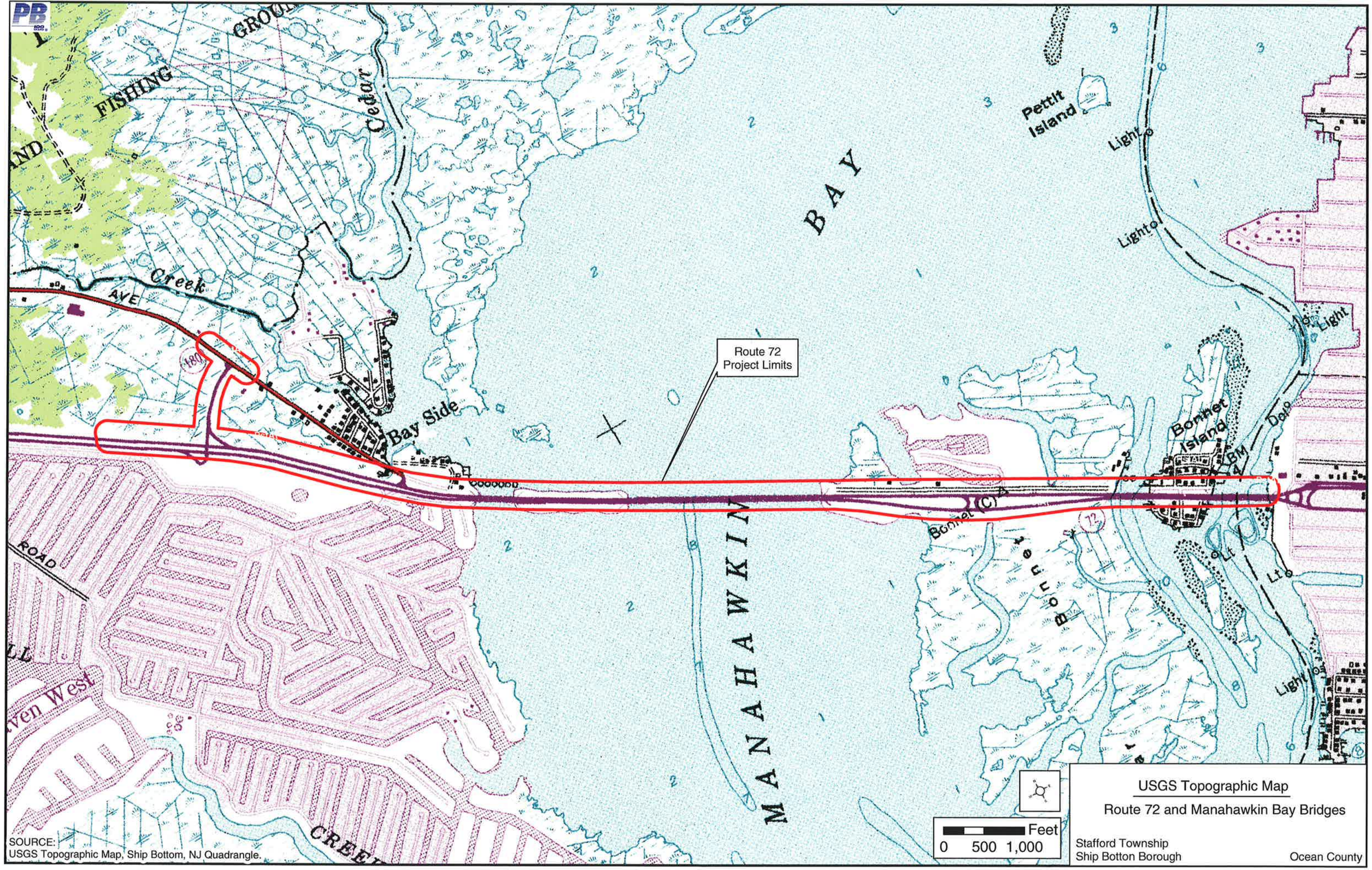
SOURCES:
SSURGO Soil Survey of Ocean County and
NJGIN 2007 Aerial Photographs of New Jersey

SSURGO Soils Map

Route 72 and Manahawkin Bay Bridges

Stafford Township
Ship Botton Borough

Ocean County



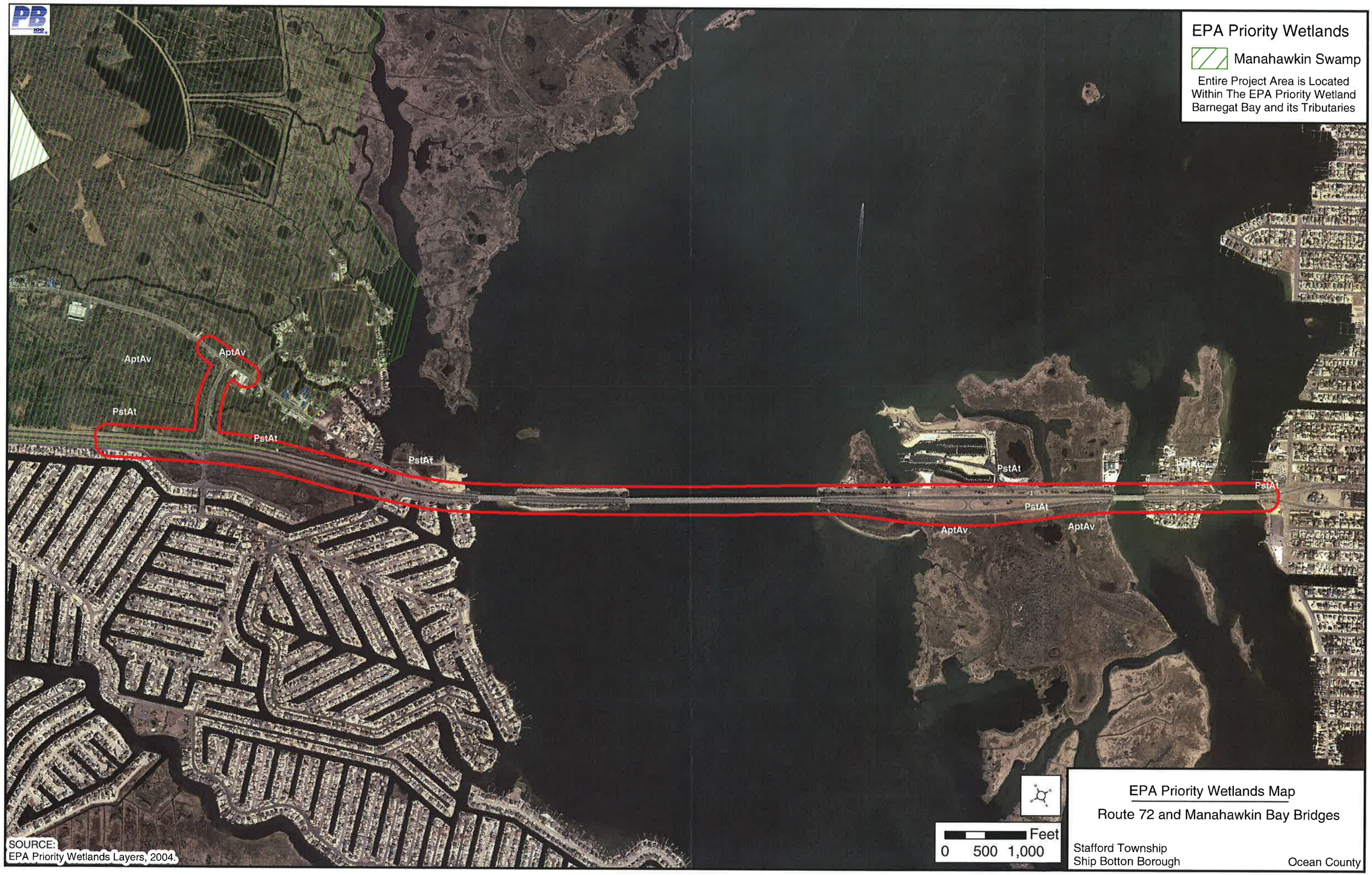
SOURCE:
USGS Topographic Map, Ship Bottom, NJ Quadrangle.

USGS Topographic Map

Route 72 and Manahawkin Bay Bridges

Stafford Township
Ship Botton Borough

Ocean County



SOURCE:
EPA Priority Wetlands Layers, 2004.

EPA Priority Wetlands Map

Route 72 and Manahawkin Bay Bridges

Stafford Township
Ship Botton Borough

Ocean County

APPENDIX B

Photograph Locations

Photo A: View looking southwest from wetland flag A11 of a saline low marsh wetland area.

Photo B: View from wetland flag A11 looking southeast at two docks in Barnegat Bay adjacent to Wetland A.

Photo C: View looking northeast from wetland flag B5 at a saline low marsh wetland area.

Photo D: View looking east from wetland flag B5 along Crab Trap Lane just north of Route 72 westbound.

Photo E: View looking east from wetland flag C9 at a coastal wetland area with scrub shrub wetland around the perimeter.

Photo F: View looking northeast from wetland flag C9 at a coastal wetland area.

Photo G: View from wetland flag D15 looking south at pond within a saline high marsh wetland area.

Photo H: View from wetland flag D15 looking west along the Route 72 eastbound lane.

Photo I: View from wetland flag E14 looking southwest at Barnegat Bay which is adjacent to a saline high marsh wetland area.

Photo J: View from wetland flag E14 looking east along the Route 72 eastbound lane.

Photo K: View looking east from wetland flag F20 at a saline low marsh wetland area adjacent to Route 72.

Photo L: View looking west from wetland flag G1 at Wetland F adjacent to Route 72.

Photo M: View looking east at Wetland H (saline low marsh) from wetland flag H14.

Photo N: View looking northwest at Wetland H (saline low marsh) from Marsha Drive and wetland flag H1.

Photo O: View looking southeast at Wetland I (saline low marsh) along Bay Avenue.

Photo P: View looking west at Wetland I (saline low marsh) from flag I12.

Photo Q: View from wetland flag J3 looking northwest along Bay Avenue.

Photo R: View looking north at a scrub shrub wetland ditch near flag J31.

Photo S: View from wetland flag J31 looking east at intersection of Route 72 and Marsha Drive.

Photo T: View looking northeast at a mixed emergent/scrub shrub wetland ditch near flag K15.

Photo U: View near flag K15 along Marsha Drive looking southeast at wetland K.

Photo V: View from Bay Avenue looking south at wetland flag K41.

Photo W: View from flag L5 looking northeast at wetland L adjacent to Heron Avenue.

Photo X: View from Bay Avenue bridge looking northeast at wetland flag L6.

Photo Y: View looking southwest at Wetland M (saline low marsh) from flag M14 near the Mallard Island Yacht Club parking lot.

Photo Z: View looking west at Wetland M (saline low marsh) from flag M4.

APPENDIX C

Data Sheets

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Route 72 Manahawkin Bay Bridges City/County: Stafford Twp./Ocean Co. Sampling Date: 4/28/09

Applicant/Owner: New Jersey Department of Transportation (NJDOT) State: NJ Sampling Point: A7up

Investigator(s): Mike Folli and Brenda Popplestone Section, Township, Range: _____

Landform (hillslope, terrace, etc.): roadside to low marsh Local relief (concave, convex, none): Flat Slope (%): 0

Subregion (LRR or MLRA): LRR T Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: Psammaquents (PstAt) NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No _____	**Is the Sampled Area within a Wetland?** Yes _____ No X
Hydric Soil Present?	Yes _____	No X	
Wetland Hydrology Present?	Yes _____	No X	

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes _____	No X	Depth (inches): _____
Water Table Present?	Yes _____	No X	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No X	Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: A7up

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. N/A			
2.			
3.			
4.			
5.			
6.			
7.			
	_____ = Total Cover		
Sapling Stratum (Plot size: _____)			
1. *Rhus glabra*	15%	Y	NI
2.			
3.			
4.			
5.			
6.			
7.			
	15% = Total Cover		
Shrub Stratum (Plot size: _____)			
1. *Elaeagnus commutata*	10%	Y	NI
2. *Toxicodendron radicans*	40%	Y	FAC
3.			
4.			
5.			
6.			
7.			
	50% = Total Cover		
Herb Stratum (Plot size: _____)			
1. *Phragmites australis*	60%	Y	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	60% = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1. N/A			
2.			
3.			
4.			
5.			
	_____ = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species	60	x 2 =	120
FAC species	40	x 3 =	120
FACU species		x 4 =	
UPL species		x 5 =	
Column Totals:	100 (A)		240 (B)

Prevalence Index = B/A = 2.4

Hydrophytic Vegetation Indicators:

X Dominance Test is >50%

X Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes X No _____

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: A7up

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-3	10YR 3/2						sandy loam	
3-8	10YR 3/1						sandy loam	oxidized rhizospheres
8-14	10YR 4/4						sandy	
14-18	7.5YR 5/6						sandy	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12) **(LRR T, U)**
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Route 72 Manahawkin Bay Bridges City/County: Stafford Twp./Ocean Co. Sampling Date: 4/28/09

Applicant/Owner: New Jersey Department of Transportation (NJDOT) State: NJ Sampling Point: A11wet

Investigator(s): Mike Folli and Brenda Popplestone Section, Township, Range: _____

Landform (hillslope, terrace, etc.): Marsh Local relief (concave, convex, none): Flat Slope (%): 0

Subregion (LRR or MLRA): LRR T Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: Appoquinimink-Transquaking-Mispillion complex (AptAv) NWI classification: E2EM1Pd

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No _____	**Is the Sampled Area within a Wetland?** Yes X No _____
Hydric Soil Present?	Yes X	No _____	
Wetland Hydrology Present?	Yes X	No _____	

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- X Water-Stained Leaves (B9)
- X Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- X Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- X Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No _____	Depth (inches): 0
Water Table Present?	Yes X	No _____	Depth (inches): 9
Saturation Present? (includes capillary fringe)	Yes X	No _____	Depth (inches): 9

Wetland Hydrology Present? Yes X No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: A11wet

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. N/A			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		

Sapling Stratum (Plot size: _____)			
1. N/A			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		

Shrub Stratum (Plot size: _____)			
1. N/A			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		

Herb Stratum (Plot size: _____)			
1. *Phragmites australis*	5%	N	FACW
2. *Spartina alterniflora*	90%	Y	OBL
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	100% = Total Cover		

Woody Vine Stratum (Plot size: _____)			
1. N/A			
2.			
3.			
4.			
5.			
	= Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	90	x 1 =	90
FACW species	5	x 2 =	10
FAC species		x 3 =	
FACU species		x 4 =	
UPL species		x 5 =	
Column Totals:	95 (A)		100 (B)

Prevalence Index = B/A = 1.05

Hydrophytic Vegetation Indicators:

X Dominance Test is >50%

X Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes X No ____

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: A11wet

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-3	organic							
3-8	10YR 3/1						silty loam	
8-18	7.5YR 2.5/1						muck	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12) **(LRR T, U)**
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** ___

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Route 72 Manahawkin Bay Bridges City/County: Stafford Twp./Ocean Co. Sampling Date: 4/28/09

Applicant/Owner: New Jersey Department of Transportation (NJDOT) State: NJ Sampling Point: B1wet

Investigator(s): Mike Folli and Brenda Popplestone Section, Township, Range: _____

Landform (hillslope, terrace, etc.): marsh Local relief (concave, convex, none): Concave Slope (%): 0

Subregion (LRR or MLRA): LRR T Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: PstAt/AptAv NWI classification: E2EM1Pd

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No _____	**Is the Sampled Area within a Wetland?** **Yes X** **No _____**
Hydric Soil Present?	Yes X	No _____	
Wetland Hydrology Present?	Yes X	No _____	

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- X Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- X Water-Stained Leaves (B9)
- X Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- X Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- X Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- X Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ___	No X	Depth (inches): tide out
Water Table Present?	Yes X	No ___	Depth (inches): 2
Saturation Present? (includes capillary fringe)	Yes X	No ___	Depth (inches): 0

Wetland Hydrology Present? **Yes X** **No _____**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants. Sampling Point: B1wet

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. N/A			
2.			
3.			
4.			
5.			
6.			
7.			
	_____ = Total Cover		

Sapling Stratum (Plot size: _____)			
1. N/A			
2.			
3.			
4.			
5.			
6.			
7.			
	_____ = Total Cover		

Shrub Stratum (Plot size: _____)			
1. *Iva frutescens L.* (high marsh)	60%	Y	FACW+
2.			
3.			
4.			
5.			
6.			
7.			
	60 = Total Cover		

Herb Stratum (Plot size: _____)			
1. *Phragmites australis (high marsh)*	60%	Y	FACW
2. *Spartina alterniflora (low marsh)*	100%	Y	OBL
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	_____ = Total Cover		

Woody Vine Stratum (Plot size: _____)			
1. N/A			
2.			
3.			
4.			
5.			
	_____ = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	100	x 1 =	100
FACW species	120	x 2 =	240
FAC species		x 3 =	
FACU species		x 4 =	
UPL species		x 5 =	
Column Totals:	220 (A)		340 (B)

Prevalence Index = B/A = 1.55

Hydrophytic Vegetation Indicators:

X Dominance Test is >50%

X Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes X No _____

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: B1wet

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 2/2		oxidized rhizospheres					organic
4-18	gley 2 2.5/10G						clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12) **(LRR T, U)**
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No ___

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Route 72 Manahawkin Bay Bridges City/County: Stafford Twp./Ocean Co. Sampling Date: 5/6/09

Applicant/Owner: New Jersey Department of Transportation (NJDOT) State: NJ Sampling Point: D3up

Investigator(s): Mike Folli and Brenda Popplestone Section, Township, Range: _____

Landform (hillslope, terrace, etc.): flat Local relief (concave, convex, none): none Slope (%): 0

Subregion (LRR or MLRA): LRR T Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: Psammaquents (PstAt) NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No X	**Is the Sampled Area within a Wetland?** Yes _____ No X
Hydric Soil Present?	Yes _____	No X	
Wetland Hydrology Present?	Yes _____	No X	

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes _____	No X	Depth (inches): _____
Water Table Present?	Yes _____	No X	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes X	No _____	Depth (inches): 12

Wetland Hydrology Present? Yes _____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Disturbed access roadway adjacent to Route 72.

VEGETATION – Use scientific names of plants.

Sampling Point: D3up

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. Juniperus virginiana	10	Y	FACU
2.			
3.			
4.			
5.			
6.			
7.			
	10 = Total Cover		

Sapling Stratum (Plot size: _____)			
1. Elaeagnus angustifolia	40	Y	FACU
2.			
3.			
4.			
5.			
6.			
7.			
	40 = Total Cover		

Shrub Stratum (Plot size: _____)			
1. Toxicodendron radicans	10	Y	FAC
2.			
3.			
4.			
5.			
6.			
7.			
	10 = Total Cover		

Herb Stratum (Plot size: _____)			
1. N/A			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	= Total Cover		

Woody Vine Stratum (Plot size: _____)			
1. N/A			
2.			
3.			
4.			
5.			
	= Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species		x 2 =	
FAC species	10	x 3 =	30
FACU species	50	x 4 =	200
UPL species		x 5 =	
Column Totals:	60 (A)		230 (B)

Prevalence Index = B/A = 3.8

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes _____ No X

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: D3up

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-3	7.5YR 4/6	100			C		sandy	
3-12	7.5YR 5/8						sandy	Access road fill
12-18	5YR 4/6						sandy	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12) **(LRR T, U)**
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Route 72 Manahawkin Bay Bridges City/County: Stafford Twp./Ocean Co. Sampling Date: 5/6/09

Applicant/Owner: New Jersey Department of Transportation (NJDOT) State: NJ Sampling Point: D3wet

Investigator(s): Mike Folli and Brenda Popplestone Section, Township, Range: _____

Landform (hillslope, terrace, etc.): adjacent to roadway Local relief (concave, convex, none): None Slope (%): 0

Subregion (LRR or MLRA): LRR T Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: Psammaquents (PstAt) NWI classification: E2EM1/5Pd

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No _____
Hydric Soil Present?	Yes X	No _____
Wetland Hydrology Present?	Yes X	No _____

Is the Sampled Area within a Wetland? Yes X No _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- X Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes _____	No X	Depth (inches): _____
Water Table Present?	Yes X	No _____	Depth (inches): 6
Saturation Present? (includes capillary fringe)	Yes X	No _____	Depth (inches): 6

Wetland Hydrology Present? Yes X No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: D3wet

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1. Salix babylonica	5	Y	FACW-
2.			
3.			
4.			
5.			
6.			
7.			
	5 = Total Cover		

Sapling Stratum (Plot size:)			
1. Elaeagnus angustifolia	2	Y	FACU
2.			
3.			
4.			
5.			
6.			
7.			
	2 = Total Cover		

Shrub Stratum (Plot size:)			
1. N/A			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		

Herb Stratum (Plot size:)			
1. Phragmites australis	90	Y	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	90 = Total Cover		

Woody Vine Stratum (Plot size:)			
1. Viburnum dentatum	3	Y	FAC
2.			
3.			
4.			
5.			
	3 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 75% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species	95	x 2 =	190
FAC species	3	x 3 =	9
FACU species	2	x 4 =	8
UPL species		x 5 =	
Column Totals:	100 (A)		207 (B)

Prevalence Index = B/A = 2.07

Hydrophytic Vegetation Indicators:

X Dominance Test is >50%

X Prevalence Index is ≤3.0[1]

__ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes X No ____

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: D3wet

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 2/2	100					silty loam	saturated
4-8	10YR 4/3	100					silty loam	
8-12	10YR 3/1	100					sandy loam	
12-18	2.5YR 5/3	50					sandy loam	
12-18	10YR 3/1	50					sandy loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12) **(LRR T, U)**
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No ____

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Route 72 Manahawkin Bay Bridges City/County: Stafford Twp./Ocean Co. Sampling Date: 5/6/09

Applicant/Owner: New Jersey Department of Transportation (NJDOT) State: NJ Sampling Point: F17up

Investigator(s): Mike Folli and Brenda Popplestone Section, Township, Range: _____

Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____

Subregion (LRR or MLRA): LRR T Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: Psammaquents (PstAt) NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No X	**Is the Sampled Area within a Wetland?** Yes _____ No X
Hydric Soil Present?	Yes _____	No X	
Wetland Hydrology Present?	Yes _____	No X	

Remarks:
Roadside embankment.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes _____	No X	Depth (inches): _____
Water Table Present?	Yes _____	No X	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No X	Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Roadside Embankment

VEGETATION – Use scientific names of plants.

Sampling Point: F17up

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1. N/A			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Sapling Stratum (Plot size:)			
1. *Juniperus virginiana*	10	Y	FACU
2. *Rhus glabra*	5	Y	NI
3.			
4.			
5.			
6.			
7.			
	15 = Total Cover		
Shrub Stratum (Plot size:)			
1. N/A			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Herb Stratum (Plot size:)			
1. grass spp.	50	Y	N/A
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	50 = Total Cover		
Woody Vine Stratum (Plot size:)			
1. *Vitis labrusca*	5	Y	FACU
2.			
3.			
4.			
5.			
	5 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species		x 2 =	
FAC species		x 3 =	
FACU species	15	x 4 =	60
UPL species		x 5 =	
Column Totals:	(A)		(B)

Prevalence Index = B/A = 4

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ___ No X

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: F17up

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR 2/2						sandy loam	
2-6	10YR 3/4						sandy loam	
6-18	7.5YR 4/6						sandy	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12) **(LRR T, U)**
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Route 72 Manahawkin Bay Bridges City/County: Stafford Twp./Ocean Co. Sampling Date: 5/6/09

Applicant/Owner: New Jersey Department of Transportation (NJDOT) State: NJ Sampling Point: F17wet

Investigator(s): Mike Folli and Brenda Popplestone Section, Township, Range: _____

Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____

Subregion (LRR or MLRA): LRR T Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: Psammaquents (PstAt) NWI classification: E2EM1Pd

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No _____	**Is the Sampled Area within a Wetland?** Yes X No _____
Hydric Soil Present?	Yes X	No _____	
Wetland Hydrology Present?	Yes X	No _____	

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- X Water-Stained Leaves (B9)
- X Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- X Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No _____	Depth (inches): 0
Water Table Present?	Yes X	No _____	Depth (inches): 1
Saturation Present? (includes capillary fringe)	Yes X	No _____	Depth (inches): 0

Wetland Hydrology Present? Yes X No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Sulfuric odor

VEGETATION – Use scientific names of plants.

Sampling Point: F17wet

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. N/A			
2.			
3.			
4.			
5.			
6.			
7.			
	_____ = Total Cover		
Sapling Stratum (Plot size: _____)			
1. N/A			
2.			
3.			
4.			
5.			
6.			
7.			
	_____ = Total Cover		
Shrub Stratum (Plot size: _____)			
1. N/A			
2.			
3.			
4.			
5.			
6.			
7.			
	_____ = Total Cover		
Herb Stratum (Plot size: _____)			
1. *Spartina alterniflora*	95	Y	OBL
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	95 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1. N/A			
2.			
3.			
4.			
5.			
	_____ = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species	95	x 1 = 95
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	95 (A)	95 (B)

Prevalence Index = B/A = 1

Hydrophytic Vegetation Indicators:

X Dominance Test is >50%

X Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes X No _____

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: F17wet

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-4								organic
4-18	10YR 2/1	100					sandy loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12) **(LRR T, U)**
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** ____

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Rt. 72 Manahawkin Bay Bridges City/County: Stafford Twp./Ocean Co. Sampling Date: 5/27/09

Applicant/Owner: NJDOT State: NJ Sampling Point: H1Wet

Investigator(s): Mike Folli and Amanda Mendoza Section, Township, Range: _____

Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): coastal Slope (%): 0

Subregion (LRR or MLRA): LRR T Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: Appoquinimink-Transquaking-Mispillion complex (AptAv) NWI classification: E2SS1P

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No _____	**Is the Sampled Area within a Wetland?** **Yes** X **No** _____
Hydric Soil Present?	Yes X	No _____	
Wetland Hydrology Present?	Yes X	No _____	

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- X Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- X Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- X Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- X Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- X Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- X Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No _____	Depth (inches): 2
Water Table Present?	Yes X	No _____	Depth (inches): 12
Saturation Present? (includes capillary fringe)	Yes X	No _____	Depth (inches): 0

Wetland Hydrology Present? **Yes** X **No** _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: H1Wet

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. N/A			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		

Sapling Stratum (Plot size: _____)			
1. N/A			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		

Shrub Stratum (Plot size: _____)			
1. *Iva frutescens*	5	Y	FACW+
2. *Morella pensylvanica*	5	Y	FAC
3.			
4.			
5.			
6.			
7.			
	10 = Total Cover		

Herb Stratum (Plot size: _____)			
1. *Spartina patens*	40	Y	FACW+
2. *Spartina alterniflora*	40	Y	OBL
3. *Phragmites australis*	10	Y	FACW
4. *Limonium nashii*	5	N	OBL
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	95 = Total Cover		

Woody Vine Stratum (Plot size: _____)			
1. N/A			
2.			
3.			
4.			
5.			
	= Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species	45	x 1 = 45
FACW species	55	x 2 = 110
FAC species	5	x 3 = 15
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	105 (A)	170 (B)

Prevalence Index = B/A = 1.62

Hydrophytic Vegetation Indicators:

X Dominance Test is >50%

X Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes X No ___

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: H1Wet

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-2	organic							
2-18	10YR 2/1						muck	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12) **(LRR T, U)**
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Rt. 72 Manahawkin Bay Bridges City/County: Stafford Twp./Ocean Co. Sampling Date: 5/27/09

Applicant/Owner: NJDOT State: NJ Sampling Point: H1up

Investigator(s): Mike Folli and Amanda Mendoza Section, Township, Range: _____

Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): coastal Slope (%): 0

Subregion (LRR or MLRA): LRR T Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: Appoquinimink-Transquaking-Mispillion complex (AptAv) NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation Y, Soil Y, or Hydrology Y significantly disturbed? Are "Normal Circumstances" present? Yes _____ No X

Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No X	**Is the Sampled Area within a Wetland?** Yes _____ No X
Hydric Soil Present?	Yes _____	No X	
Wetland Hydrology Present?	Yes _____	No X	

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes _____	No X	Depth (inches): _____
Water Table Present?	Yes _____	No X	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No X	Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants. Sampling Point: H1up

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. N/A			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		

Sapling Stratum (Plot size: _____)			
1. N/A			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		

Shrub Stratum (Plot size: _____)			
1. *Rosa multiflora*	5	Y	FACU
2. *Rhus glabra*	5	Y	NI
3.			
4.			
5.			
6.			
7.			
	10 = Total Cover		

Herb Stratum (Plot size: _____)			
1. grass spp.	50	Y	N/A
2. *Phragmites australis*	5	N	FACW
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	55 = Total Cover		

Woody Vine Stratum (Plot size: _____)			
1. *Lonicera japonica*	5	Y	FAC-
2.			
3.			
4.			
5.			
	5 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species	5	x 2 =	10
FAC species	5	x 3 =	15
FACU species	5	x 4 =	20
UPL species		x 5 =	
Column Totals:	15 (A)		45 (B)

Prevalence Index = B/A = 3

Hydrophytic Vegetation Indicators:

__ Dominance Test is >50%

X Prevalence Index is ≤3.0[1]

__ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes _____ No X

Remarks: (If observed, list morphological adaptations below).

Disturbed roadway embankment.

SOIL

Sampling Point: H1up

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 3/2						sandy	
6-12	10YR 4/4						sandy loam	
12-18	10YR 5/6						loamy sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12) **(LRR T, U)**
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** X

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Rt. 72 Manahawkin Bay Bridges City/County: Stafford Twp./Ocean Co. Sampling Date: 5/27/09

Applicant/Owner: NJDOT State: NJ Sampling Point: H3wet

Investigator(s): Mike Folli and Amanda Mendoza Section, Township, Range: _____

Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): coastal Slope (%): 0

Subregion (LRR or MLRA): LRR T Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: Appoquinimink-Transquaking-Mispillion complex (AptAv) NWI classification: E2SS1P

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No _____	**Is the Sampled Area within a Wetland?** Yes X No _____
Hydric Soil Present?	Yes X	No _____	
Wetland Hydrology Present?	Yes X	No _____	

Remarks:

Red maple wetland (PFO)

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- X Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- X Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- X Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No _____	Depth (inches): 2
Water Table Present?	Yes X	No _____	Depth (inches): 12
Saturation Present? (includes capillary fringe)	Yes X	No _____	Depth (inches): 0

Wetland Hydrology Present? Yes X No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: H3wet

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. Acer rubrum	30	Y	FAC
2.			
3.			
4.			
5.			
6.			
7.			
	30 = Total Cover		

Sapling Stratum (Plot size: _____)			
1. N/A			
2.			
3.			
4.			
5.			
6.			
7.			
	_____ = Total Cover		

Shrub Stratum (Plot size: _____)			
1. Morella pensylvanica	5	Y	FAC
2.			
3.			
4.			
5.			
6.			
7.			
	5 = Total Cover		

Herb Stratum (Plot size: _____)			
1. Phragmites australis	50	Y	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	50 = Total Cover		

Woody Vine Stratum (Plot size: _____)			
1. Toxicodendron radicans	10	Y	FAC
2.			
3.			
4.			
5.			
	10 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species	50	x 2 =	100
FAC species	35	x 3 =	135
FACU species		x 4 =	
UPL species		x 5 =	
Column Totals:	85 (A)		235 (B)

Prevalence Index = B/A = 2.76

Hydrophytic Vegetation Indicators:

X Dominance Test is >50%

X Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes X No _____

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: H3wet

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR 3/1						sandy	salt and pepper
2-10	10YR 3/2						sandy	
10-16	10YR 3/1		10YR 2/1				loamy sand	
16-18	10YR 5/4		10YR 3/1				loamy sand	streaking

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12) **(LRR T, U)**
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** ___

Remarks:

Adjacent to roadway embankment, disturbed.

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Rt. 72 Manahawkin Bay Bridges City/County: Stafford Twp./Ocean Co. Sampling Date: 5/27/09

Applicant/Owner: NJDOT State: NJ Sampling Point: H3up

Investigator(s): Mike Folli and Amanda Mendoza Section, Township, Range: _____

Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): coastal Slope (%): 0

Subregion (LRR or MLRA): LRR T Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: Appoquinimink-Transquaking-Mispillion complex (AptAv) NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No X	**Is the Sampled Area within a Wetland?** Yes _____ No X
Hydric Soil Present?	Yes _____	No X	
Wetland Hydrology Present?	Yes _____	No X	

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes _____	No X	Depth (inches): _____
Water Table Present?	Yes _____	No X	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No X	Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants. Sampling Point: H3up

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. Prunus serotina	10	Y	FACU
2. Juniperus virginiana	5	N	FACU
3.			
4.			
5.			
6.			
7.			
	15 = Total Cover		

Sapling Stratum (Plot size: _____)			
1. N/A			
2.			
3.			
4.			
5.			
6.			
7.			
	_____ = Total Cover		

Shrub Stratum (Plot size: _____)			
1. Viburnum dentatum	10	Y	FAC
2. Sasssafras albidum	5	N	FACU-
3. Rhus glabra	5	N	NI
4.			
5.			
6.			
7.			
	20 = Total Cover		

Herb Stratum (Plot size: _____)			
1. Plantago lanceolata	5	Y	UPL
2. Taraxacum officinale	5	Y	FACU-
3. grass spp.	5	Y	N/A
4. Alliaria petiolata	5	Y	FACU-
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	20 = Total Cover		

Woody Vine Stratum (Plot size: _____)			
1. Toxicodendron radicans	10	Y	FAC
2. Parthenocissus quinquefolia	5	Y	FACU
3.			
4.			
5.			
	15 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species		x 2 =	
FAC species	20	x 3 =	60
FACU species	35	x 4 =	140
UPL species	5	x 5 =	25
Column Totals:	60 (A)		225 (B)

Prevalence Index = B/A = 3.75

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes _____ No X

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: H3up

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR 2/1						sandy	
2-6	10YR 4/3						sandy	
6-12	10YR 4/4						sandy	
12-18	10YR 5/6						sandy	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12) **(LRR T, U)**
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** X

Remarks:

Disturbed roadway embankment.

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Rt. 72 Manahawkin Bay Bridges City/County: Stafford Twp./Ocean Co. Sampling Date: 5/27/09

Applicant/Owner: NJDOT State: NJ Sampling Point: I12wet

Investigator(s): Mike Folli and Amanda Mendoza Section, Township, Range: _____

Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): coastal Slope (%): 0

Subregion (LRR or MLRA): LRR T Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: Appoquinimink-Transquaking-Mispillion complex (AptAv) NWI classification: E2EM1Pd

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No _____	**Is the Sampled Area within a Wetland?** **Yes** X **No** _____
Hydric Soil Present?	Yes X	No _____	
Wetland Hydrology Present?	Yes X	No _____	

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- X Water Marks (B1)
- ___ Sediment Deposits (B2)
- X Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- X Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- X Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- X Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No _____	Depth (inches): 1
Water Table Present?	Yes X	No _____	Depth (inches): 12
Saturation Present? (includes capillary fringe)	Yes X	No _____	Depth (inches): 0

Wetland Hydrology Present? **Yes** X **No** _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: I12wet

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. N/A			
2.			
3.			
4.			
5.			
6.			
7.			
	_____ = Total Cover		
Sapling Stratum (Plot size: _____)			
1. N/A			
2.			
3.			
4.			
5.			
6.			
7.			
	_____ = Total Cover		
Shrub Stratum (Plot size: _____)			
1. *Iva frutescens*	10	Y	FACW+
2.			
3.			
4.			
5.			
6.			
7.			
	10 = Total Cover		
Herb Stratum (Plot size: _____)			
1. *Spartina alterniflora*	60	Y	OBL
2. *Spartina patens*	30	Y	FACW+
3. *Phragmites australis*	20	N	FACW
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	110 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1. N/A			
2.			
3.			
4.			
5.			
	_____ = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species	60	x 1 = 60
FACW species	60	x 2 = 120
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	120 (A)	180 (B)

Prevalence Index = B/A = 1.5

Hydrophytic Vegetation Indicators:

X Dominance Test is >50%

X Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes X No _____

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: I12wet

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-4	organic							organic, roots
4-18	10YR 2/1						silty loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12) **(LRR T, U)**
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No ____

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Rt. 72 Manahawkin Bay Bridges City/County: Stafford Twp./Ocean Co. Sampling Date: 5/27/09

Applicant/Owner: NJDOT State: NJ Sampling Point: I12up

Investigator(s): Mike Folli and Amanda Mendoza Section, Township, Range: _____

Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): coastal Slope (%): 0

Subregion (LRR or MLRA): LRR T Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: Appoquinimink-Transquaking-Mispillion complex (AptAv) NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation Y, Soil Y, or Hydrology Y significantly disturbed? Are "Normal Circumstances" present? Yes _____ No X

Are Vegetation N, Soil Y, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No _____	**Is the Sampled Area within a Wetland?** Yes _____ No X
Hydric Soil Present?	Yes _____	No X	
Wetland Hydrology Present?	Yes _____	No X	

Remarks:

Along roadway embankment. Disturbed.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes _____	No X	Depth (inches): _____
Water Table Present?	Yes _____	No X	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No X	Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Embankment fill

VEGETATION – Use scientific names of plants.

Sampling Point: I12up

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. N/A			
2.			
3.			
4.			
5.			
6.			
7.			
	_____ = Total Cover		

Sapling Stratum (Plot size: _____)			
1. N/A			
2.			
3.			
4.			
5.			
6.			
7.			
	_____ = Total Cover		

Shrub Stratum (Plot size: _____)			
1. N/A			
2.			
3.			
4.			
5.			
6.			
7.			
	_____ = Total Cover		

Herb Stratum (Plot size: _____)			
1. *Phragmites australis*	50	Y	FACW
2. *Festuca elatior*	10	N	FACU-
3. *Trifolium pratense*	5	N	FACU-
4. *Solidago sempervirens*	5	N	FACW
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	65 = Total Cover		

Woody Vine Stratum (Plot size: _____)			
1. *Toxicodendron radicans*	15	Y	FAC
2. *Lonicera japonica*	5	N	FAC-
3.			
4.			
5.			
	20 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species	55	x 2 =	110
FAC species	20	x 3 =	60
FACU species	15	x 4 =	60
UPL species		x 5 =	
Column Totals:	90 (A)		230 (B)

Prevalence Index = B/A = 2.55

Hydrophytic Vegetation Indicators:

X Dominance Test is >50%

X Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes X No _____

Remarks: (If observed, list morphological adaptations below).

Disturbed roadway embankment fill.

SOIL

Sampling Point: I12up

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-1	10YR2/1						sandy	
1-12	10YR 4/2						sandy	
12-16	10YR 4/3						sandy	
16-18	10YR 5/4						sandy	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12) **(LRR T, U)**
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** X

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Rt. 72 Manahawkin Bay Bridges City/County: Stafford Twp./Ocean Co. Sampling Date: 6/25/09

Applicant/Owner: NJDOT State: NJ Sampling Point: J3wet

Investigator(s): Mike Folli and Amanda Mendoza Section, Township, Range: _____

Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____

Subregion (LRR or MLRA): LRR T Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: Appoquinimink-Transquaking-Mispillion complex (AptAv) NWI classification: E2EM1Pd

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation Y, Soil Y, or Hydrology Y significantly disturbed? Are "Normal Circumstances" present? Yes _____ No X

Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No _____
Hydric Soil Present?	Yes X	No _____
Wetland Hydrology Present?	Yes X	No _____

Is the Sampled Area within a Wetland? Yes X No _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- X Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- X Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No _____	Depth (inches): 6
Water Table Present?	Yes _____	No X	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No X	Depth (inches): _____

Wetland Hydrology Present? Yes X No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: J3Wet

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. N/A			
2.			
3.			
4.			
5.			
6.			
7.			
	_____ = Total Cover		

Sapling Stratum (Plot size: _____)			
1. N/A			
2.			
3.			
4.			
5.			
6.			
7.			
	_____ = Total Cover		

Shrub Stratum (Plot size: _____)			
1. N/A			
2.			
3.			
4.			
5.			
6.			
7.			
	_____ = Total Cover		

Herb Stratum (Plot size: _____)			
1. *Juncus effusus*	80	Y	FACW+
2. *Phragmites australis*	10	N	FACW
3. *Ludwigia palustris*	10	N	OBL
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	_____ = Total Cover		

Woody Vine Stratum (Plot size: _____)			
1. N/A			
2.			
3.			
4.			
5.			
	_____ = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	10	x 1 =	10
FACW species	90	x 2 =	180
FAC species		x 3 =	
FACU species		x 4 =	
UPL species		x 5 =	
Column Totals:	100 (A)		190 (B)

Prevalence Index = B/A = 1.9

Hydrophytic Vegetation Indicators:

X Dominance Test is >50%

X Prevalence Index is ≤3.0[1]

__ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes X No _____

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: J3Wet

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 3/1						sandy loam	
4-8	Gley1 3/n		10YR 2/1					
			7.5YR 3/4	10			sandy loam	
8-18	Gley1 4/5gy		7.5YR 3/4	30			loamy sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- X Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12) **(LRR T, U)**
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No ___

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Rt. 72 Manahawkin Bay Bridges City/County: Stafford Twp./Ocean Co. Sampling Date: 6/25/09

Applicant/Owner: NJDOT State: _____ Sampling Point: J3up

Investigator(s): Mike Folli and Amanda Mendoza Section, Township, Range: _____

Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____

Subregion (LRR or MLRA): LRR T Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: Appoquinimink-Transquaking-Mispillion complex (AptAv) NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation Y, Soil Y, or Hydrology Y significantly disturbed? Are "Normal Circumstances" present? Yes _____ No X

Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No X	**Is the Sampled Area within a Wetland?** **Yes** _____ **No** X
Hydric Soil Present?	Yes _____	No X	
Wetland Hydrology Present?	Yes _____	No X	

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes _____	No X	Depth (inches): _____
Water Table Present?	Yes _____	No X	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No X	Depth (inches): _____

Wetland Hydrology Present? **Yes** _____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants. Sampling Point: J3up

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. N/A			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		

Sapling Stratum (Plot size: _____)			
1. N/A			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		

Shrub Stratum (Plot size: _____)			
1. N/A			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		

Herb Stratum (Plot size: _____)			
1. grass spp.	85	Y	N/A
2. *Taraxacum officinale*	5	N	FACU
3. *Alisma plantago-aquatica*	10	N	NL
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	100 = Total Cover		

Woody Vine Stratum (Plot size: _____)			
1. N/A			
2.			
3.			
4.			
5.			
	= Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species		x 2 =	
FAC species		x 3 =	
FACU species	5	x 4 =	20
UPL species		x 5 =	
Column Totals:	5 (A)		20 (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes _____ No X

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: J3up

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 2/1						sandy	
6-12	10YR 3/2						sandy	
12-13	2.5Y 4/2						sandy	
13-18	5YR 4/4						sandy	
18+	7.5YR 8/1						clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12) **(LRR T, U)**
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** X

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Rt. 72 Manahawkin Bay Bridges City/County: Stafford Twp./Ocean Co. Sampling Date: 6/25/09

Applicant/Owner: NJDOT State: NJ Sampling Point: J31wet

Investigator(s): Mike Folli and Amanda Mendoza Section, Township, Range: _____

Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____

Subregion (LRR or MLRA): LRR T Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: Psammaquents (PstAt) NWI classification: E2EM1Pd

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No _____ (If no, explain in Remarks.)

Are Vegetation N, Soil N, or Hydrology Y significantly disturbed? Are "Normal Circumstances" present? Yes _____ No X

Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No _____	**Is the Sampled Area within a Wetland?** **Yes** X **No** _____
Hydric Soil Present?	Yes X	No _____	
Wetland Hydrology Present?	Yes X	No _____	

Remarks:
Wetland ditch

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- X Hydrogen Sulfide Odor (C1)
- X Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes _____	No X	Depth (inches): _____
Water Table Present?	Yes X	No _____	Depth (inches): 16
Saturation Present? (includes capillary fringe)	Yes X	No _____	Depth (inches): _____

Wetland Hydrology Present? **Yes** X **No** _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: J31wet

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. N/A			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		

Sapling Stratum (Plot size: _____)			
1. N/A			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		

Shrub Stratum (Plot size: _____)			
1. *Iva frutescens L.*	15	Y	FACW+
2.			
3.			
4.			
5.			
6.			
7.			
	15 = Total Cover		

Herb Stratum (Plot size: _____)			
1. *Phragmites australis*	80	Y	FACW
2. *Solidago sempervirens*	5	N	FACW
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	85 = Total Cover		

Woody Vine Stratum (Plot size: _____)			
1. *Toxicodendron radicans*	5	Y	FAC
2.			
3.			
4.			
5.			
	5 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species	100	x 2 = 200
FAC species	5	x 3 = 15
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	105 (A)	215 (B)

Prevalence Index = B/A = 2.0

Hydrophytic Vegetation Indicators:

X Dominance Test is >50%

X Prevalence Index is ≤3.0[1]

__ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes X No _____

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: J31wet

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-2	organic							
2-6	10YR 2/1						sandy loam	
6-10	2.5Y 3/2						sandy	
10-18	10YR 3/1						sandy	root mass

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12) **(LRR T, U)**
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** ___

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Rt. 72 Manahawkin Bay Bridges City/County: Stafford Twp./Ocean Co. Sampling Date: 6/25/09

Applicant/Owner: NJDOT State: NJ Sampling Point: J31up

Investigator(s): Mike Folli and Amanda Mendoza Section, Township, Range: _____

Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____

Subregion (LRR or MLRA): LRR T Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: Psammaquents (PstAt) NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No _____ (If no, explain in Remarks.)

Are Vegetation Y, Soil Y, or Hydrology Y significantly disturbed? Are "Normal Circumstances" present? Yes _____ No X

Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No _____	**Is the Sampled Area within a Wetland?** Yes _____ No X
Hydric Soil Present?	Yes _____	No X	
Wetland Hydrology Present?	Yes _____	No X	

Remarks:
Roadway embankment fill. Disturbed.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes _____	No X	Depth (inches): _____
Water Table Present?	Yes _____	No X	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No X	Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: J31up

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. N/A			
2.			
3.			
4.			
5.			
6.			
7.			
	_____ = Total Cover		
Sapling Stratum (Plot size: _____)			
1. *Rhus copallinum L.*	25	Y	FACU-
2. *Prunus serotina*	25	Y	FACU
3.			
4.			
5.			
6.			
7.			
	50 = Total Cover		
Shrub Stratum (Plot size: _____)			
1. N/A			
2.			
3.			
4.			
5.			
6.			
7.			
	_____ = Total Cover		
Herb Stratum (Plot size: _____)			
1. *Phragmites australis*	5	Y	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	5 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1. *Toxicodendron radicans*	25	Y	FAC
2. *Vitis labrusca L.*	5	N	FACU
3.			
4.			
5.			
	30 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species	5	x 2 =	10
FAC species	25	x 3 =	75
FACU species	55	x 4 =	220
UPL species		x 5 =	
Column Totals:	85 (A)		305 (B)

Prevalence Index = B/A = 3.6

Hydrophytic Vegetation Indicators:

X Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes X No _____

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: J31up

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 2/2							organic texture, roots
4-8	10YR 4/3						sandy loam	
8-12	7.5YR 3/3						sandy	
12-18	10YR 3/3						sandy	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12) **(LRR T, U)**
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** X

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Rt. 72 Manahawkin Bay Bridges City/County: Stafford Twp./Ocean Co. Sampling Date: 6/25/09

Applicant/Owner: NJDOT State: NJ Sampling Point: K15wet

Investigator(s): Mike Folli and Amanda Mendoza Section, Township, Range: _____

Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____

Subregion (LRR or MLRA): LRR T Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: Appoquinimink-Transquaking-Mispillion complex (AptAv) NWI classification: E2EM1P

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes _____ No X

Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No _____	**Is the Sampled Area within a Wetland?** Yes X No _____
Hydric Soil Present?	Yes X	No _____	
Wetland Hydrology Present?	Yes X	No _____	

Remarks:
Wetland ditch at toe of slope.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- X Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No _____	Depth (inches): 6
Water Table Present?	Yes X	No _____	Depth (inches): 0
Saturation Present? (includes capillary fringe)	Yes _____	No X	Depth (inches): _____

Wetland Hydrology Present? Yes X No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: K15wet

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. N/A			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		

Sapling Stratum (Plot size: _____)			
1. N/A			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		

Shrub Stratum (Plot size: _____)			
1. *Iva frutescens L.*	10	Y	FACW+
2.			
3.			
4.			
5.			
6.			
7.			
	10 = Total Cover		

Herb Stratum (Plot size: _____)			
1. *Phragmites australis*	80	Y	FACW
2. *Lonicera japonica*	5	N	FAC-
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	85 = Total Cover		

Woody Vine Stratum (Plot size: _____)			
1. *Toxicodendron radicans*	5	Y	FAC
2.			
3.			
4.			
5.			
	5 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species	90	x 2 =	180
FAC species	10	x 3 =	30
FACU species		x 4 =	
UPL species		x 5 =	
Column Totals:	100 (A)		210 (B)

Prevalence Index = B/A = 2.1

Hydrophytic Vegetation Indicators:

X Dominance Test is >50%

X Prevalence Index is ≤3.0[1]

__ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes X No ____

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: K15wet

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-3	7.5YR 2.5/1						organic	
3-8	10YR 2/1						loamy sand	
8-18	10YR 2/2						loamy sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12) **(LRR T, U)**
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? Yes X No ___

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Rt. 72 Manahawkin Bay Bridges City/County: Stafford Twp./Ocean Co. Sampling Date: 6/25/09

Applicant/Owner: NJDOT State: NJ Sampling Point: K15up

Investigator(s): Mike Folli and Amanda Mendoza Section, Township, Range: _____

Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____

Subregion (LRR or MLRA): LRR T Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: Appoquinimink-Transquaking-Mispillion complex (AptAv) NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation N, Soil N, or Hydrology Y significantly disturbed? Are "Normal Circumstances" present? Yes _____ No X

Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No X	**Is the Sampled Area within a Wetland?** Yes _____ No X
Hydric Soil Present?	Yes _____	No X	
Wetland Hydrology Present?	Yes _____	No X	

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes _____	No X	Depth (inches): _____
Water Table Present?	Yes _____	No X	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No X	Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: K15up

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. Juniperus virginiana	10	Y	FACU
2. Prunus serotina	5	Y	FACU
3.			
4.			
5.			
6.			
7.			
	15 = Total Cover		

Sapling Stratum (Plot size: _____)			
1. Sassafras albidum	20	Y	FACU-
2.			
3.			
4.			
5.			
6.			
7.			
	20 = Total Cover		

Shrub Stratum (Plot size: _____)			
1. N/A			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		

Herb Stratum (Plot size: _____)			
1. Phragmites australis	5	Y	FACW
2. grass spp.	15	Y	
3. Taraxacum officinale	5	Y	FACU-
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	25 = Total Cover		

Woody Vine Stratum (Plot size: _____)			
1. Toxicodendron radicans	25	Y	FAC
2.			
3.			
4.			
5.			
	25 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species	5	x 2 =	10
FAC species	25	x 3 =	75
FACU species	40	x 4 =	160
UPL species		x 5 =	
Column Totals:	70 (A)		245 (B)

Prevalence Index = B/A = 3.5

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes _____ No X

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: K15up

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 2/1						sandy loam	salt and pepper
8-13	7.5YR 2.5/1						sandy	
13-18	10YR 3/3						sandy	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12) **(LRR T, U)**
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** X

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Rt. 72 Manahawkin Bay Bridges City/County: Stafford Twp./Ocean Co. Sampling Date: 6/25/09

Applicant/Owner: NJDOT State: NJ Sampling Point: K40wet

Investigator(s): Mike Folli and Amanda Mendoza Section, Township, Range: _____

Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____

Subregion (LRR or MLRA): LRR T Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: Psammaquents (PstAt) NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes _____ No X

Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No _____	**Is the Sampled Area within a Wetland?** **Yes** X **No** _____
Hydric Soil Present?	Yes X	No _____	
Wetland Hydrology Present?	Yes X	No _____	

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- X Aquatic Fauna (B13) Fiddler crabs
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No _____	Depth (inches): 4
Water Table Present?	Yes X	No _____	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes X	No _____	Depth (inches): _____

Wetland Hydrology Present? **Yes** X **No** _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: K40wet

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. N/A			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		

Sapling Stratum (Plot size: _____)			
1. N/A			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		

Shrub Stratum (Plot size: _____)			
1. *Iva frutescens L.*	5	Y	FACW+
2.			
3.			
4.			
5.			
6.			
7.			
	5 = Total Cover		

Herb Stratum (Plot size: _____)			
1. *Phragmites australis*	15	Y	FACW
2. *Spartina alterniflora*	10	Y	OBL
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	25 = Total Cover		

Woody Vine Stratum (Plot size: _____)			
1. N/A			
2.			
3.			
4.			
5.			
	= Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	10	x 1 =	10
FACW species	20	x 2 =	40
FAC species		x 3 =	
FACU species		x 4 =	
UPL species		x 5 =	
Column Totals:	30 (A)		50 (B)

Prevalence Index = B/A = 1.6

Hydrophytic Vegetation Indicators:

X Dominance Test is >50%

X Prevalence Index is ≤3.0[1]

__ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes X No _____

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: K40wet

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 2/2		10YR 2/1	streaking			sandy loam	
6-12	10YR 3/2		10YR 2/1	streaking			sandy loam	
12-18	2.5Y 4/2		10YR 4/6	and Gley2	3/5b	mottles	sandy loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- X Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12) **(LRR T, U)**
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? Yes X No ___

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Rt. 72 Manahawkin Bay Bridges City/County: Stafford Twp./Ocean Co. Sampling Date: 6/25/09

Applicant/Owner: NJDOT State: NJ Sampling Point: K40up

Investigator(s): Mike Folli and Amanda Mendoza Section, Township, Range: _____

Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____

Subregion (LRR or MLRA): LRR T Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: Psammaquents (PstAt) NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation Y, Soil Y, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No X

Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No X	**Is the Sampled Area within a Wetland?** Yes _____ No X
Hydric Soil Present?	Yes _____	No X	
Wetland Hydrology Present?	Yes _____	No X	

Remarks:
Disturbed upland access pathway.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes _____	No X	Depth (inches): _____
Water Table Present?	Yes _____	No X	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No X	Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: K40up

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. Juniperus virginiana	10	Y	FACU
2.			
3.			
4.			
5.			
6.			
7.			
	10 = Total Cover		

Sapling Stratum (Plot size: _____)			
1. N/A			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		

Shrub Stratum (Plot size: _____)			
1. Baccharis halimifolia L.	5	Y	FACW
2.			
3.			
4.			
5.			
6.			
7.			
	5 = Total Cover		

Herb Stratum (Plot size: _____)			
1. Phragmites australis	5	Y	FACW
2. Taraxacum officinale	5	Y	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	10 = Total Cover		

Woody Vine Stratum (Plot size: _____)			
1. Parthenocissus quinquefolia	5	Y	FACU
2.			
3.			
4.			
5.			
	= Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 40% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species	10	x 2 =	20
FAC species		x 3 =	
FACU species	20	x 4 =	80
UPL species		x 5 =	
Column Totals:	30 (A)		100 (B)

Prevalence Index = B/A = 3.3

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes _____ No X

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: K40up

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-4	7.5YR 3/2						sandy	
4-10	7.5YR 4/3						sandy	
10-18	10YR 3/2						sandy	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12) **(LRR T, U)**
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Rt. 72 Manahawkin Bay Bridges City/County: Stafford Twp./Ocean Co. Sampling Date: 6/25/09

Applicant/Owner: NJDOT State: NJ Sampling Point: L2wet

Investigator(s): Mike Folli and Amanda Mendoza Section, Township, Range: _____

Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____

Subregion (LRR or MLRA): LRR T Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: Psammaquents (PstAt) NWI classification: E2EM1P

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes _____ No X

Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No _____
Hydric Soil Present?	Yes X	No _____
Wetland Hydrology Present?	Yes X	No _____

Is the Sampled Area within a Wetland? Yes X No _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- X Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes _____	No X	Depth (inches): _____
Water Table Present?	Yes X	No _____	Depth (inches): 12
Saturation Present? (includes capillary fringe)	Yes X	No _____	Depth (inches): 0

Wetland Hydrology Present? Yes X No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: L2wet

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. N/A			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Sapling Stratum (Plot size: _____)			
1. N/A			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Shrub Stratum (Plot size: _____)			
1. *Iva frutescens L.*	10	Y	FACW+
2.			
3.			
4.			
5.			
6.			
7.			
	10 = Total Cover		
Herb Stratum (Plot size: _____)			
1. *Solidago sempervirens*	5	N	FACW
2. *Juncus effusus*	10	N	FACW+
3. *Salicornia europaea L.*	2	N	NL
4. *Phragmites australis*	10	N	FACW
5. *Spartina alterniflora*	30	Y	OBL
6. *Spartina patens*	30	Y	FACW+
7.			
8.			
9.			
10.			
11.			
12.			
	87 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1. N/A			
2.			
3.			
4.			
5.			
	= Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	30	x 1 =	30
FACW species	65	x 2 =	130
FAC species		x 3 =	
FACU species		x 4 =	
UPL species		x 5 =	
Column Totals:	95 (A)		160 (B)

Prevalence Index = B/A = 1.68

Hydrophytic Vegetation Indicators:

X Dominance Test is >50%

X Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes X No ____

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: L2wet

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-3	organic							
3-10	5Y 5/3						sandy loam	
10-18	5Y 3/1						sandy loam	root mass

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12) **(LRR T, U)**
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** ___

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Rt. 72 Manahawkin Bay Bridges City/County: Stafford Twp./Ocean Co. Sampling Date: 6/25/09

Applicant/Owner: NJDOT State: NJ Sampling Point: L2up

Investigator(s): Mike Folli and Amanda Mendoza Section, Township, Range: _____

Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____

Subregion (LRR or MLRA): LRR T Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: Psammaquents (PstAt) NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation Y, Soil Y, or Hydrology Y significantly disturbed? Are "Normal Circumstances" present? Yes _____ No X

Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No _____	**Is the Sampled Area within a Wetland?** Yes _____ No X
Hydric Soil Present?	Yes _____	No X	
Wetland Hydrology Present?	Yes _____	No X	

Remarks:
Cleared gravel area adjacent to roadway.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes _____	No X	Depth (inches): _____
Water Table Present?	Yes _____	No X	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No X	Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants. Sampling Point: L2up

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1. N/A			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		

Sapling Stratum (Plot size:)			
1. N/A			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		

Shrub Stratum (Plot size:)			
1. N/A			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		

Herb Stratum (Plot size:)			
1. *Phragmites australis*	5	Y	FACW
2. grass spp.	5	Y	N/A
3. *Taraxacum officinale*	5	Y	FACU-
4. *Juncus effusus*	5	Y	FACW+
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	20 = Total Cover		

Woody Vine Stratum (Plot size:)			
1. N/A			
2.			
3.			
4.			
5.			
	= Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 66% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species	10	x 2 =	20
FAC species		x 3 =	
FACU species	5	x 4 =	20
UPL species		x 5 =	
Column Totals:	15 (A)		40 (B)

Prevalence Index = B/A = 2.6

Hydrophytic Vegetation Indicators:

X Dominance Test is >50%

X Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes X No ___

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: L2up

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 2/1						sandy loam	salt and pepper
4-8	10YR 3/1						sandy	salt and pepper
8-12	2.5Y 4/2						sandy	gravelly
12-18	Fill							

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12) **(LRR T, U)**
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** X

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Rt. 72 Manahawkin Bay Bridges City/County: Stafford Twp./Ocean Co. Sampling Date: 6/25/09

Applicant/Owner: NJDOT State: NJ Sampling Point: M4wet

Investigator(s): Mike Folli and Amanda Mendoza Section, Township, Range: _____

Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____

Subregion (LRR or MLRA): LRR T Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: Psammaquents (PstAt) NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation Y, Soil Y, or Hydrology Y significantly disturbed? Are "Normal Circumstances" present? Yes _____ No X

Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X No _____	**Is the Sampled Area within a Wetland?** Yes X No _____
Hydric Soil Present?	Yes X No _____	
Wetland Hydrology Present?	Yes X No _____	

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- X Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes _____	No X	Depth (inches): _____
Water Table Present?	Yes X	No _____	Depth (inches): 12
Saturation Present? (includes capillary fringe)	Yes X	No _____	Depth (inches): 4

Wetland Hydrology Present? Yes X No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: M4wet

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. N/A			
2.			
3.			
4.			
5.			
6.			
7.			
	_____ = Total Cover		

Sapling Stratum (Plot size: _____)			
1. N/A			
2.			
3.			
4.			
5.			
6.			
7.			
	_____ = Total Cover		

Shrub Stratum (Plot size: _____)			
1. N/A			
2.			
3.			
4.			
5.			
6.			
7.			
	_____ = Total Cover		

Herb Stratum (Plot size: _____)			
1. *Phragmites australis*	100	Y	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	100 = Total Cover		

Woody Vine Stratum (Plot size: _____)			
1. N/A			
2.			
3.			
4.			
5.			
	_____ = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species	100	x 1 = 100
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	100 (A)	100 (B)

Prevalence Index = B/A = 1

Hydrophytic Vegetation Indicators:

X Dominance Test is >50%

X Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes X No _____

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: M4wet

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 2/1						sandy loam	
4-8	2.5Y 4/2		10YR 2/1	streaking			sandy loam	
8-18	2.5Y5/3						sandy	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12) **(LRR T, U)**
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No ___

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Rt. 72 Manahawkin Bay Bridges City/County: Stafford Twp./Ocean Co. Sampling Date: 6/25/09

Applicant/Owner: NJDOT State: NJ Sampling Point: M4up

Investigator(s): Mike Folli and Amanda Mendoza Section, Township, Range: _____

Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____

Subregion (LRR or MLRA): LRR T Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: Psammaquents (PstAt) NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation Y, Soil Y, or Hydrology Y significantly disturbed? Are "Normal Circumstances" present? Yes _____ No X

Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No X	**Is the Sampled Area within a Wetland?** Yes _____ No X
Hydric Soil Present?	Yes _____	No X	
Wetland Hydrology Present?	Yes _____	No X	

Remarks:

Adjacent to roadway. Disturbed embankment fill.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes _____	No X	Depth (inches): _____
Water Table Present?	Yes _____	No X	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No X	Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: M4up

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. Juniperus virginiana	5	Y	FACU
2.			
3.			
4.			
5.			
6.			
7.			
	5 = Total Cover		

Sapling Stratum (Plot size: _____)			
1. N/A			
2.			
3.			
4.			
5.			
6.			
7.			
	_____ = Total Cover		

Shrub Stratum (Plot size: _____)			
1. Prunus serotina	5	Y	FACU
2. Rhus copallinum L.	5	Y	FACU
3. Rosa multiflora	5	Y	FACU
4.	5		
5.			
6.			
7.			
	15 = Total Cover		

Herb Stratum (Plot size: _____)			
1. Achillea millefolium	5	Y	FACU
2. Taraxacum officinale	5	Y	FACU
3. Phrgamites australis	5	Y	FACW
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	15 = Total Cover		

Woody Vine Stratum (Plot size: _____)			
1. Rubus spp.	5	Y	FAC
2.			
3.			
4.			
5.			
	5 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 8 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 25% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species	5	x 2 = 10
FAC species	5	x 3 = 15
FACU species	30	x 4 = 120
UPL species		x 5 =
Column Totals:	40 (A)	145 (B)

Prevalence Index = B/A = 3.6

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes _____ No X

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: M4up

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 2/1						sandy loam	
4-8	7.5YR 2.5/1						sandy	
8-18	10YR 4/3						sandy	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12) **(LRR T, U)**
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** X

Remarks:

APPENDIX D

Wetland Plans

AMY S. GREENE
ENVIRONMENTAL
CONSULTANTS INC

TECHNICAL ENVIRONMENTAL STUDY ON ECOLOGY

Route 72 Manahawkin Bay Bridges
Township of Stafford and Borough of Ship Bottom
Ocean County, New Jersey

July 27, 2009

PROJECT SPONSOR:

New Jersey Department of Transportation
1035 Parkway Avenue, P.O. Box 600
Trenton, NJ 08625

PREPARED FOR:

PB Americas, Inc.
506 Carnegie Center
Princeton, NJ 08540
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Attachment B – Submerged Aquatic Vegetation Delineation Survey

1.0 INTRODUCTION

This Technical Environmental Study (TES) for Ecology identifies the environmental resources located within the project study area, and assesses potential impacts to these resources associated with the proposed Route 72 Manahawkin Bay Bridges project located in the Township of Stafford and the Borough of Ship Bottom, Ocean County, New Jersey (Figure 1). The Manahawkin Bay Bridges carry Route 72 over Manahawkin Bay north of the Little Egg Harbor. The project study area includes Route 72 from approximately 1,200 feet west of Marsha Drive to the east end of the bay bridge over East Thorofare on Long Beach Island. It also includes a portion of Marsha Drive and a short section of East Bay Avenue (Route 180) east and west of the intersection with Marsha Road.

The project to reconstruct the Route 72 Causeway linking the mainland to Long Beach Island (LBI) from MP 25.5 to MP 28.2, also known as the Route 72 Manahawkin Bay Bridges project, involves construction of a new structure over Manahawkin Bay, parallel to the existing Manahawkin Bay Bridge, and the rehabilitation of four bridges on the Route 72 Causeway, including the existing Manahawkin Bay Bridge. The four existing bridges are structurally deficient and/or functionally obsolete and exhibit severe deterioration on various structural elements. All of the spans of the existing Manahawkin Bay Bridge display numerous fatigue cracks in the floor beams and in the bracket connection to the main girders. The fatigue cracking has been a source of continuing problems, with holes drilled at the ends of the cracks to help prevent further crack propagation. The three other bridges exhibit severe deterioration of the concrete pier caps, which have undermined the existing bearings. This too is a continuing problem that the New Jersey Department of Transportation (NJDOT) has had to address with high priority repairs as needed. The NJDOT has invested significant resources to perform needed repairs to maintain the deteriorating bridge components. The Route 72 Causeway is the only vehicular route from the island to the mainland; therefore, it is of critical importance as the sole emergency evacuation route off of the island.

Long Beach Island (LBI) is an important summer tourist destination for the region and thus is vital to the economic viability of the region. All LBI economic activity and EMS services depend upon the availability and efficient functioning of Route 72. The viability of most of the businesses on LBI depends upon the business done during the peak summer months. Four lanes of traffic must be maintained during the LBI summer tourist season, so partial closures of Route 72 during construction are not viable. No traffic detour is possible. No alternative means of transportation, such as ferry service, is available.

The bridges do not currently provide accommodations for bicycles and pedestrians. Even though there are no current accommodations on the bridges, some people do walk and/or bicycle across the bridges on a regular basis.

Marsha Drive is a local road connecting Bay Avenue to Route 72 and to a housing development (Beach Haven West) on the south side of Route 72. During the summer months, Marsha Drive southbound traffic attempting to turn left on to Route 72 towards Long Beach Island queues to Bay Avenue, causing significant traffic delays.

Although the bridge construction and rehabilitations are considered to be a single project, construction will take place in four phases. The major elements of the project are as follows:

1. Construct the improvements to the Marsha Drive Intersection and perform rehabilitation to the Manahawkin Bay Bridge, Structure 1513-152, in order to extend the life of the structure until the major rehabilitation project can begin. Minor rehabilitation work would include fatigue crack repairs, spot painting, pin hanger maintenance, deck patching, and joint repair.
2. Construct a new parallel structure over Manahawkin Bay, to the south of existing structure, with a 60-foot vertical clearance over the channel and a curb to curb width of 46 feet. The new structure will accommodate two 12-foot lanes, a 10-foot left shoulder, and a 12-foot right shoulder.
3. Rehabilitate the three structures over Hilliards Thorofare, West Thorofare, and East Thorofare. Work will include pier cap rehabilitation, piling protection system, and possibly a new bearing support system for the superstructure, reconfiguration of travel lanes to install a 6-foot sidewalk, sealing and resurfacing the bridge decks; and joint repairs.
4. Rehabilitate the existing Route 72 Bridge over Manahawkin Bay, Structure 1513-152. Traffic will be shifted onto the new parallel structure during rehabilitation work. Rehabilitation work will replace the deck and floor beams, provide redundancy for the pin suspended spans with a secondary bearing support system, and investigate the need for scour countermeasures at abutments. Ultimately the superstructure width will be reduced from the existing since it will primarily be used for one-way westbound traffic with two lanes and full shoulders.

The project area is heavily developed for urban uses, predominantly as roadway or other urban / built up land. On the mainland, south of Route 72, there is a large development of high density, residential housing around dredged lagoon (Figure 2). More high density, residential housing can be found adjacent to both sides of Route 72 on Bonnet Island, with an area of saline marsh on the north end of the island. High density, residential housing can also be found on the bayside of the barrier island. Land use adjacent to the roadway on Cedar Bonnet Island (the island just west of Bonnet Island) is comprised of recreational land with saline marsh to the north and saline marsh surrounding some deciduous forested wetlands to the south. The majority of the island (south of the Route 72 right-of-way) is a section of the Edwin B. Forsythe National Wildlife Refuge (Forsythe NWR). Saline marsh is also found around the Marsha Drive Intersection, and the saline marsh eventually gives way to mixed deciduous forested and scrub/shrub wetlands to the west of the project. An additional unit of Forsythe NWR as well as Manahawkin Wildlife Management Area, a State WMA, is located north of East Bay Avenue (Route 180). There is a small area of deciduous forest and shrub land on the north side of Route 72 on the west end of the project.

Further from the project area on the mainland side of the bay, saline marsh covers anywhere from 2 to 2 ½ miles of the land west of the bay. Between there and the Garden State Parkway, single unit residential housing with related commercial services can be found along Main Street which runs parallel to the Parkway. Beyond that, large areas of forest associated with Stafford Forge

Wildlife Management Area become the dominant land cover. The most developed area west of the Parkway, is a vast tract of single unit residential housing to the northwest bounded by the Parkway (to the east), Route 72 (to the south), and County Route 554 (to the north). East of the project, land use is entirely residential housing with related commercial services. Beach and vegetated dune communities dominate land along the oceanfront.

This TES includes the following:

- A description of the existing environmental resources and physical conditions
- An analysis of the anticipated impacts
- A description of any potential mitigation measures
- A brief description of any agency permit requirements

Resources addressed in this TES for ecology are as follows:

- Wetlands
- Floodplains
- Surface Water Resources
- Aquatic Habitat
- Upland Plant Communities
- Wildlife
- Threatened and Endangered Species
- Geology/Soils

This report is based upon a review of existing published information, unpublished technical reports, and limited field investigations of the project study area conducted in May and June of 2009 by Amy S. Greene Environmental Consultants, Inc. (ASGECI). This study also includes field information regarding wetlands that was collected by PB Americas, Inc. (PBA).

Legend

Project Location

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Figure 1
Project Location Map

Route 72
Manahawkin Bay Bridges Project
Township of Strafford and
Borough of Shop Bottom
Ocean County, New Jersey

ASGECI Project #3109

2,000
Feet

AMY S. GREENE ENVIRONMENTAL CONSULTANTS

Sources:
ESRI StreetMap USA, nationwide streets dataset in Smart Data Compression (SDC) containing TIGER 2000-based streets dataset, enhanced by ESRI and TeleAtlas, published by ESRI, Redlands, California, 2005.

Legend

Project Location

Coordinate Point

Coordinates:
1 - 39° 40' 36" North / 74° 13' 49" West
2 - 39° 39' 51" North / 74° 12' 30" West
3 - 39° 39' 13" North / 74° 11' 4" West

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Figure 2
USGS Topographic Map

Route 72
Manahawkin Bay Bridges Project
Township of Strafford and
Borough of Shop Bottom
Ocean County, New Jersey

ASGECI Project #3109

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Feet

AMY S. GREENE ENVIRONMENTAL CONSULTANTS

Sources:
Bit-Mapped 7.5 Minute Color Topographic Images of New Jersey, United States Geological Survey (USGS), Digital Raster Graphic (DRG) Topographic Series Map, Ship Bottom, NJ Quadrangle, USGS, Reston, Va., January 9, 1996.

2.0 METHODOLOGIES

The methodology utilized in the preparation of this TES included obtaining and reviewing existing data sources, publications, and reports; conducting limited field investigations of the project study area; and subsequent in-house evaluations of all materials. An evaluation of potential impacts to wetlands, floodplains, surface waters, vegetation, aquatic ecology, and threatened and endangered species from construction of the preferred alternative, as well as potential mitigating measures for these impacts is also discussed.

This study and report comply with the following laws, regulations and Executive Orders:

1. National Environmental Policy Act – Guidance for preparing and processing environmental and section 4(f) documents (Technical Advisory T 6640.8A FHWA).
2. Executive Order 11988, Floodplain Management
3. FHPM 6-7-3-2, FHWA Implementation of Executive Order 11988
4. Executive Order 11990, Protection of Wetlands
5. US Army Corps of Engineers - Section 404 of the Clean Water Act
6. US Coast Guard and US Army Corps of Engineers Sections 9 & 10 of the Rivers and Harbors Act
7. US Fish and Wildlife Service Federal Endangered Species Act - Section 7
8. NJ Department of Environmental Protection (NJDEP) Surface Water Quality Standards (N.J.A.C. 7:9B, 1998)
9. NJDEP Flood Hazard Area Control Act Rules (N.J.A.C. 7:13)
10. NJDEP Water Quality Certification (Section 401 - Clean Water Act)
11. Endangered and Nongame Species Conservation Act (N.J.S.A. 23:2A-13 et seq.)
12. NJDEP Freshwater Wetlands Protection Act Rules (N.J.A.C 7:7A)
13. Wetlands Act of 1970/NJDEP Mapped Coastal Wetlands (N.J.S.A. 13:9A)

3.0 EXISTING ENVIRONMENTAL CONDITIONS

3.1 WETLANDS

Wetlands are defined as "those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated conditions. Wetlands generally include swamps, marshes, bogs, and similar areas" (EPA, 40 CFR 230.3).

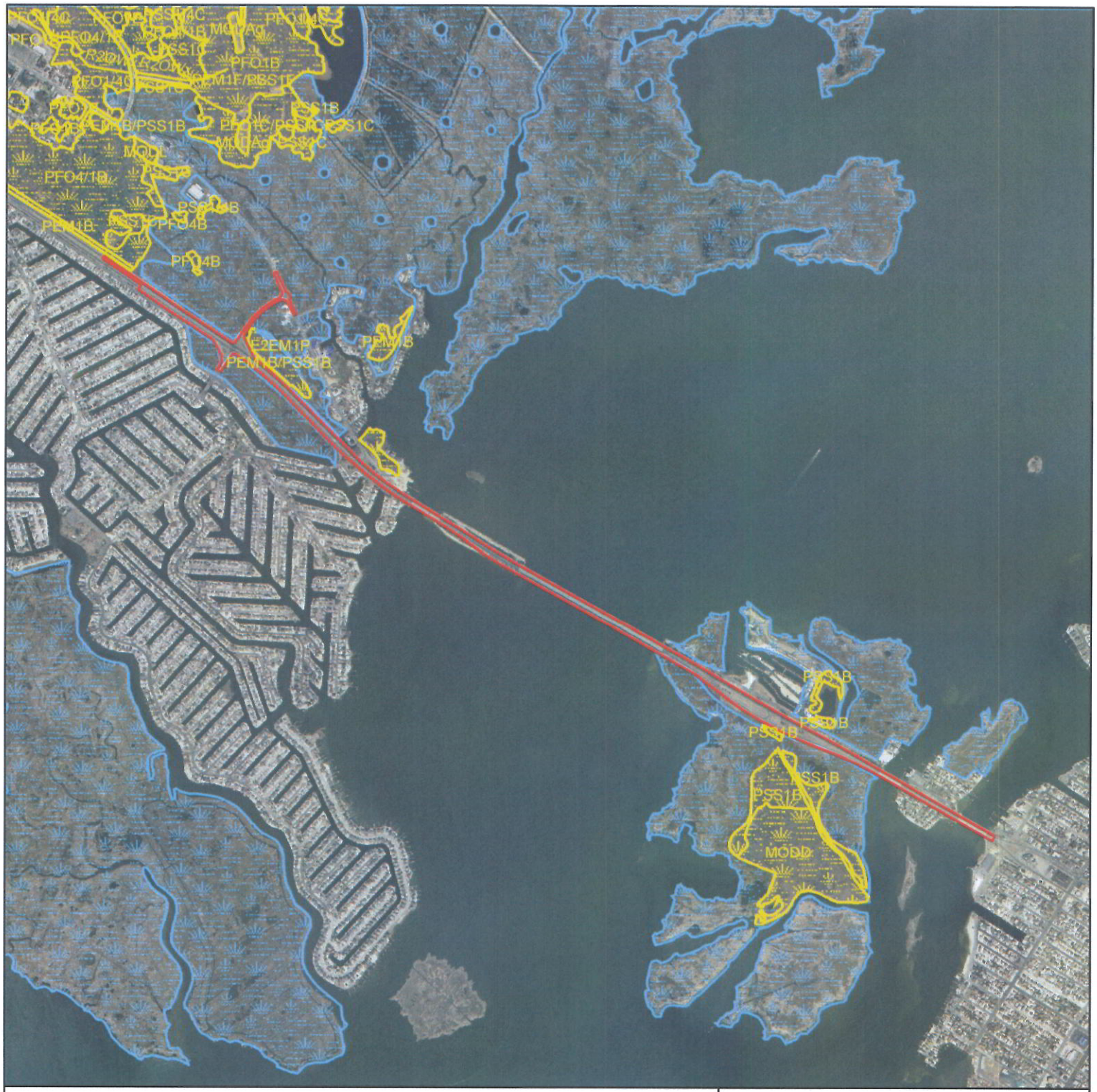
3.1.1 Wetland Delineation

The potential for the presence of wetlands within the project study area was determined from the review of existing published information including the NJDEP Wetlands Maps (Figure 3), Mapped Coastal Wetlands and a field investigation of the study area conducted by ASGECI and PBA. ASGECI observed and sketched wetlands as part of the TES and PBA performed the official wetland delineation (see Attachment A - Wetland Delineation Report, prepared by PB Americas, Inc. and dated July 2009). Wetlands were identified and delineated within, and adjacent to, the proposed project limits.

Wetlands were delineated and documented by PBA in May and June of 2009. Vegetation, soils and hydrology were examined for evidence of wetland characteristics according to methodologies outlined in the Federal Manual for Identifying and Delineating Jurisdictional Wetlands (Federal Interagency Committee on Wetland Delineation, 1989) the Corps of Engineers Wetlands Delineation Manual (Department of the Army, US Army Corps of Engineers, 1987), and the Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain Region (USACE 2008). All of these delineation methodologies were utilized since wetlands under the jurisdiction of both the US Army Corps of Engineers (USACOE) and New Jersey Department of Environmental Protection (NJDEP) were present within the study area. There were no discrepancies in the wetland/upland boundaries using the 1987, 1989, and 2008 delineation methodologies.

Both the USACOE and the NJDEP have jurisdiction over wetlands located within the project area. A detailed description of the jurisdictional limits is included in Section 5.1 of this TES. At the time of the delineation, freshwater and estuarine wetlands, open waters, and intertidal-subtidal shallows were identified on the site.

In accordance with the methodologies described above, areas that contained hydrophytic vegetation, hydric soils, and wetland hydrology were identified as wetlands. The following is a brief summary of the wetland habitats observed within and immediately adjacent to the project limits. A more detailed description of these wetland habitats is included in the Wetland Delineation Report in Attachment A.



Legend

- Project Location
- Linear Wetland
- Freshwater Wetland
- Saline Marsh

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Sources:
New Jersey 2007-2008 High Resolution Orthophotography - JPEG2000 5K Tiles, State of New Jersey - Office of Information Technology (NJOIT), Office of Geographic Information Systems (OGIS), Trenton, NJ, October 2008.

NJDEP Wetlands of Middlesex County, New Jersey 1986, New Jersey Department of Environmental Protection (NJDEP), Office of Information Resources Management (OIRM), Bureau of Geographic Information and Analysis, NJDEP, Trenton, November 1999.

NJDEP Linear Non-Tidal Wetlands of Atlantic County, New Jersey 1986, NJ Department of Environmental Protection (NJDEP), Office of Information Resource Management (OIRM), Bureau of Geographic Information and Analysis (BGIA), NJDEP, Trenton, November 1998.

This (map/publication/report) was developed using New Jersey Department of Environmental Protection Geographic Information System digital data, but this secondary product has not been verified by NJDEP and is not State-authorized.

Figure 3
NJDEP Wetlands Map

Route 72
Manahawkin Bay Bridges Project
Township of Strafford and
Borough of Shop Bottom
Ocean County, New Jersey

ASGECI Project #3109

2,000 Feet

AMY S. GREENE ENVIRONMENTAL CONSULTANTS

3.1.2 Wetland Vegetation

In general, vegetation communities within the project limits follows a gradient that is primarily based upon elevation above sea level. From the water's edge this gradient starts with a low marsh community dominated by smooth cordgrass (*Spartina alterniflora*) followed by high marsh dominated by varying mixtures of saltmeadow cordgrass (*Spartina patens*), seashore saltgrass (*Distichlis spicata*), common reed (*Phragmites australis*), and marsh elder (*Iva frutesence*). At higher elevations, wetlands are primarily dominated by a mix of scrub/scrub and forested freshwater wetlands dominated by southern arrowood (*Viburnum dentatum*) and red maple (*Acer rubrum*). Vegetation Cover Maps of the project area are included in Appendix B.

3.1.3 Hydric Soils

Soil sampling with a hand-held auger was performed during the field investigations within the study area. Some of the sampled soils identified within the study area appeared to be composed of fill materials. Hydric soil characteristics including a low chroma matrix and redoxymorphic features were identified in those areas classified as wetlands. Soil textures within the wetland areas identified were generally classified as muck and sandy loam.

3.1.4 Hydrology

The wetland areas generally exhibited wetland hydrology. Wetland hydrology as witnessed by a high water table and/or the presence of standing water within the areas identified as wetlands. Other indicators of wetland hydrology include water-stained vegetation, silt deposits, and drift and/or wrack lines. The major sources of hydrologic input to the wetlands appear to be from tidal influence from Manahawkin Bay and stormwater runoff from areas within and adjacent to the project study area.

3.1.5 Wetland Transition Areas

Wetlands are classified according to their resource value as determined by the NJ Freshwater Wetlands Protection Act Rules (N.J.A.C. 7:7A-2.5). These Rules define freshwater wetlands as all freshwater wetlands and unmapped coastal wetlands. Wetlands associated with trout production waters or documented habitat for endangered or threatened species are classified as exceptional resource value wetlands. Ordinary resource value wetlands are ditches, swales, detention basins, and certain isolated wetlands. All other wetlands are of intermediate resource value. According to the NJ Surface Water Quality Standards (N.J.A.C. 7:9B), Barnegat Bay and all waters of the bay, including Manahawkin Bay, have been designated as Saline Estuarine 1 (SE1). This water quality classification would typically elicit an intermediate resource value designation for site related wetlands resulting in a 50-foot transition area; however, the potential presence of threatened or endangered species, may result in an exceptional resource value designation, requiring a 150-foot transition area. Wetlands regulated under the Freshwater Wetlands Protection Act are located primarily in the western end of the alignment consisting of

the scrub/shrub and forested wetlands described above. The final determination of resource value will be made by NJDEP after review of all application materials.

Transition areas are not typically placed on mapped coastal wetland pursuant to the Wetlands Act of 1970. However, the Coastal Zone Management Rules (N.J.A.C. 7:7E) does contain a resource policy for wetland buffers that allows a buffer of as much as 300 feet, and it can be established at the discretion of the NJDEP. The majority of the low and high marsh wetlands identified within the project limits have been mapped pursuant to the Wetlands Act of 1970, so they will be regulated under the Coastal Zone Management Rules.

The USACE regulates wetlands pursuant to the Federal Clean Water Act. No transition area requirements are mandated by this act; however, transition areas or buffers can be imposed around high quality aquatic habitat at the discretion of the District Engineer.

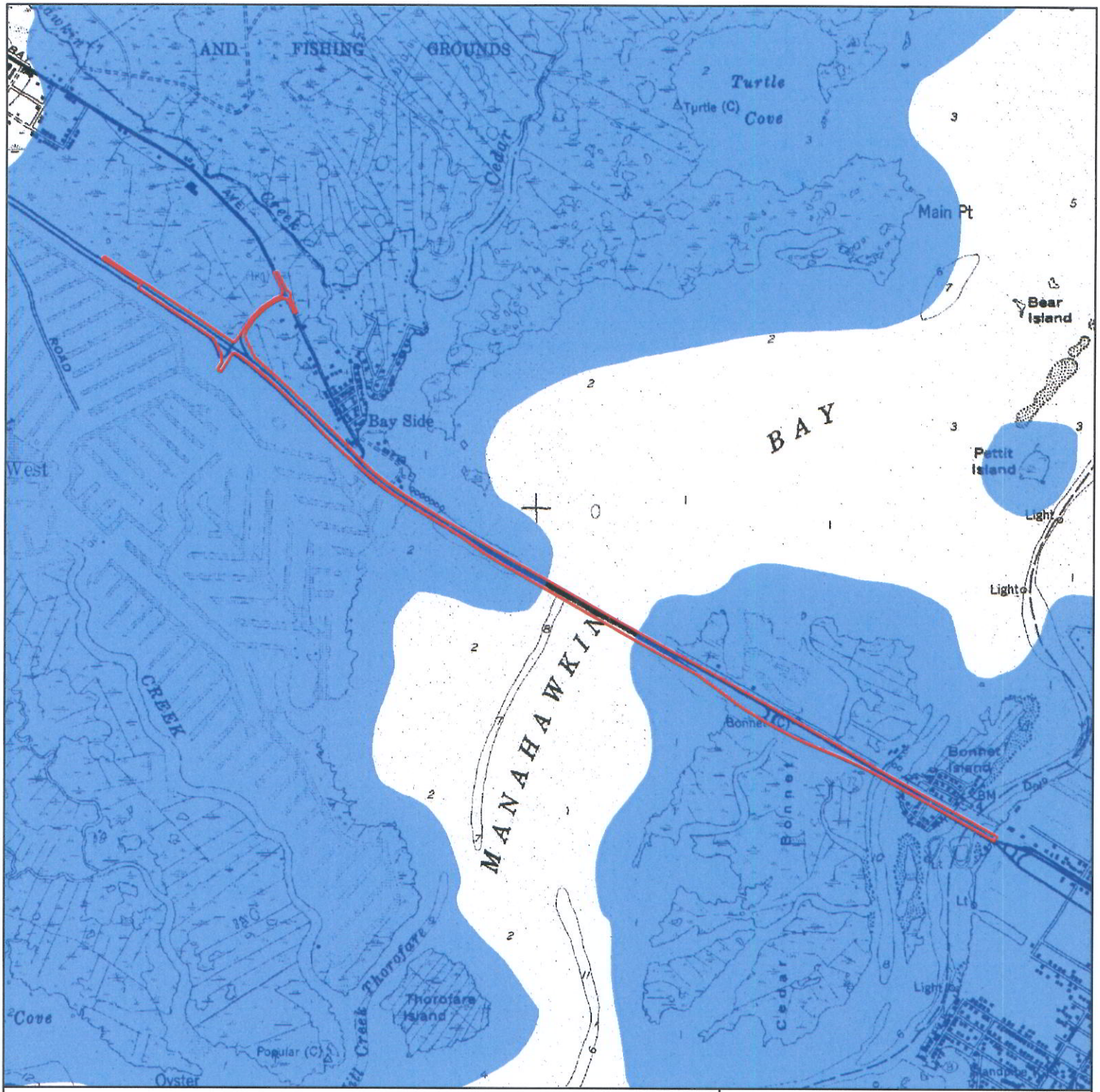
3.2 FLOODPLAINS

The location of the 100-year floodplain boundary within the project study area was identified from Flood Insurance Rate Maps (FIRM) and Flood Insurance Studies as prepared by the Federal Emergency Management Agency (FEMA). The approximate extent of the 100-year floodplain within the study area has been mapped on the "FEMA Floodplain Map" for the project (see Figure 4).

According to FEMA, the base flood elevation of the Manahawkin Bay within the confines of the project study area is approximately 8 feet NGVD (National Geodetic Vertical Datum) placing most of the project area within the 100-year floodplain. Manahawkin Bay floods along all sides of the proposed bridge abutments, which will be above the 100-year floodplain. Manahawkin Creek and Cedar Creek are in the northwest project study area, but they do not have an identified floodplain separate from that of the Manahawkin Bay.

Flooding that occurs from the Manahawkin Bay is mainly attributed to tidal conditions associated with storm surges. Floodplains generally function to absorb some of the extra volume of a river or bay during a storm to reduce the height of the flood stage downstream. In a tidal area, such as in this portion of the Manahawkin Bay, this role is less critical since the Atlantic Ocean can easily absorb the increased volume from the bay. Stormwater runoff, from the expanses of impervious surfaces present within the study area, also contributes to flood conditions, and large areas are flooded during storms due to flat topography, poor drainage, and flows directed from higher elevations. Although wetlands and other low-lying areas retain floodwaters, the amount of impervious surface surrounding the project limits creates a runoff condition that cannot be completely contained within the remaining wetlands in the area.

The NJDEP regulates certain activities under the NJ Flood Hazard Area (FHA) Control Act Rules (N.J.A.C. 7:13 et seq.). Project activities are anticipated to be exempt from the engineering standards for a Flood Hazard Area Permit under this Act because the Manahawkin and its floodplain are tidally influenced (N.J.A.C. 7:13-1.3(b)2). However, the FHA Rules have established a riparian zone encompassing land and vegetation within and adjacent to regulated



Legend

Project Location

100-year Floodplain

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Sources:
Digital Flood Insurance Rate Map Database, Ocean County, New Jersey, Federal Emergency Management Agency, vector digital data, Federal Insurance and Mitigation Administration, Washington, DC, September 2006.

Monochromatic Bit-Mapped 7.5 Minute Topographic Images of New Jersey, Gregory C. Herman and Maryann C. Scott, N.J. Geological Survey Digital Geodata Series DGS99-1, May 27, 1999, derived from USGS 7.5 Minute Digital Raster Graphic (DRG) Topographic Series Map, Ship Bottom, NJ Quadrangle.

This (map/publication/report) was developed using New Jersey Department of Environmental Protection Geographic Information System digital data, but this secondary product has not been verified by NJDEP and is not State-authorized.

Figure 4
FEMA Floodplain Map

Route 72
Manahawkin Bay Bridges Project
Township of Strafford and
Borough of Shop Bottom
Ocean County, New Jersey

ASGECI Project #3109

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waters. Certain activities, including the removal of vegetation, are regulated within this riparian zone. The width of the riparian zone is based upon several variables including the presence of Category 1 waters, trout production waters, trout maintenance waters, threatened and endangered species, and/or acid producing soils. Barnegat Bay, including Manahawkin Bay, is classified as a Category 1 waterway, and as such, it is anticipated that a 300-foot wide riparian zone will be applied to waterbodies within the project limits. The final determination as to the width of the riparian zone will be made by NJDEP.

Executive Order 11988 Floodplains requires that alternatives that avoid or minimize disturbance to floodplains be considered in the project design. As noted above, the New Jersey regulations pertaining to floodplains adequately address the concerns of this Executive Order.

A detailed description of permitting requirements is included as Section 5.0 of this TES.

3.3 SURFACE WATER RESOURCES

The Manahawkin Bay is the major water body in the project study area. This bay is part of the Barnegat Bay Estuary which also includes Barnegat Bay to the north and Little Egg Harbor to the south. As part of the Atlantic Coastal Drainage Basin, this estuary is subject to tidal exchange with the Atlantic Ocean. Ocean water enters the estuary through Little Egg Inlet, Barnegat Inlet, and Point Pleasant Canal. Manahawkin Bay is situated nearly midway between Little Egg Inlet and Barnegat Inlet resulting in low energy tidal action created by opposing tides. The primary surface sources of freshwater to Manahawkin Bay are Manahawkin Creek and Cedar Creek; however, the ultimate source of freshwater to the estuary is via ground water discharge from the Kirkwood-Cohansey aquifer.

According to the NJ Surface Water Quality Standards (N.J.A.C. 7:9B), Barnegat Bay and all waters of the bay, including Manahawkin Bay, have been designated as Saline Estuarine 1 (SE1) and Category 1 (C1) waterways. The C1 designation was given to Barnegat Bay as a high quality shellfish resource. Manahawkin Creek and Cedar Creek discharge to Manahawkin Bay from the mainland. Both of these waterbodies have been classified as Freshwater 2 Non-trout/estuarine 1 (FW2-NT/SE1) and C1 waters. No other large waterbodies were identified within or immediately adjacent to the study area.

Water quality within Manahawkin Bay fluctuates seasonally due to the influx of humans during the summer season. The primary pollutants to the bay emanate from non-point sources such as roadway runoff, runoff from lawns and agricultural fields, and septic discharges. The primary constituents of concern are nutrients and pathogens. The primary nutrients of concern include nitrogen and phosphorous which are common components in fertilizers and detergents. Increased nutrient loading in the bay typically results in algal blooms that increase turbidity and decrease dissolved oxygen. Increased turbidity reduces light penetration which will result in the die-off of submerged aquatic vegetation (SAV) in the deeper portions of the bay. Decreased dissolved oxygen will have an immediate negative impact on benthic macroinvertebrate and shellfish diversity. The decrease in SAV beds and macroinvertebrate diversity will negatively

impact higher trophic level organisms by reducing available breeding, feeding, and resting areas. The most severe symptom of this type of eutrophication comes in the form of what is referred to as brown tides. Brown tides consist of phytoplankton blooms (*Aureococcus anophagefferans*) that become so thick that they shade out sunlight to such an extent that SAV begins to die off. In addition, when dead algae and SAV decompose on the bottom of the bay, it results in a sharp reduction in dissolved oxygen which affects most of the aquatic fauna in the bay.

The primary pathogen of concern for the bay is fecal coliform emanating from human and animal waste. The primary sources of this fecal matter are from illegal discharges from watercraft, faulty septics, farm run-off, and to a lesser extent urban run-off. Increased fecal coliform in the water column becomes a human health issue, so affected recreational areas and shellfish beds are closed in order to reduce direct human contact with these pathogens.

Toxic chemicals of concern within the bay include petroleum products, mercury, and volatile organics. The primary sources of petroleum products are from watercraft and roadway runoff. Mercury enters the bay via atmospheric deposition and discharge of contaminated groundwater. Volatile organic compounds such as methyl tertiary-butyl ether (MTBE) enter the bay primarily via groundwater discharge. These compounds are of greatest concern at their points of discharge where they are at highest concentration. Because these compounds are highly volatile they are short lived once in contact with the atmosphere.

The NJDEP Ambient Monitoring program conducted water quality of all of the estuaries of New Jersey and many of their tidal tributaries between 1993 and 1997. The following tables show the results of these studies including comparisons of water quality in the vicinity of the proposed project with other estuaries and tributaries in the State.

TABLE 1
NEW JERSEY ESTUARINE WATER QUALITY

PARAMETER	MANAHAWKIN BAY	BARNAGAT BAY	LITTLE EGG HARBOR	GREAT BAY	CAPE MAY HARBOR
Temperature (C)	17.2	16.4	15.9	14.0	17.8
Salinity (o/oo)	28.7	22.4	29.9	25.4	31.8
Secchi (ft)	2.9	3.1	4.0	3.4	2.8
TSS	53.4	38.4	36.7	38.1	38.0
DO (% SAT)	64.3	82.9	63.6	57.9	83.5
NH_3	16.2	18.0	27.0	38.7	120.0
NO_3	8.7	18.6	15.2	29.9	14.3
PO_4	17.6	18.7	21.1	24.5	29.0
TON	498.0	440.8	337.8	354.3	344.3
N:P	3.8	3.2	2.6	3.5	4.4
Fecal Coliform	5.1	7.8	4.7	5.6	3.0

Source: (Zimmer and Groppenbacher 1999)

TABLE 2
NEW JERSEY TIDAL TRIBUTARIES WATER QUALITY

PARAMETER	CEDAR CREEK	METEDECONK RIVER	FORKED RIVER	OYSTER CREEK	KETTLE CREEK
Temperature (C)	9.0	9.0	10.0	10.0	10.0
Salinity (o/oo)	0.1	0.2	0.1	0.1	0.1
Secchi (ft)	2.0	1.0	2.5	1.5	1.0
TSS					
DO (% SAT)	76.7	60.8	74.2	80.4	83.5
NH_3	20.1	52.1	20.4	12.0	29.0
NO_3	37.3	679.4	33.3	10.5	852.0
PO_4	2.5	7.5	3.1	2.0	6.2
TON	170.5	971.5	230.7	194.3	1030.2
N:P	23.1	98.4	17.3	11.3	141.4
Fecal Coliform	3.0	31.4	15.0	3.6	5.2

Source: (Zimmer and Groppenbacher 1999)

TABLE 3
COMPARISON OF MANAHAWKIN BAY WATER QUALITY
1989 to 1997

PARAMETER	1989	1997
Temperature (C)	10.33	17.2
Salinity (o/oo)	32.15	28.7
Secchi (ft)	1.18	2.9
TSS	32.28	53.4
DO (% SAT)	78.69	64.3
NH_3	72.2	16.2
NO_3	21.68	8.7
PO_4	27.73	17.6
TON	138.76	498.0
N:P	5.16	3.8
Fecal Coliform	NI	5.1

Source: (Connell and Messler 1990)

3.4 AQUATIC HABITAT

Aquatic life includes filamentous and non-filamentous algal communities, benthic macro-invertebrates, and fish populations. Sources used to determine the potential presence of aquatic life included technical reports, publications, and limited field observations. No sampling of aquatic biota was conducted as part of this study.

3.4.1 Submerged Aquatic Vegetation

Submerged aquatic vegetation consists of rooted, vascular seagrasses that occur within the subtidal portions of most estuarine waters of New Jersey south of Raritan Bay. SAV beds provide valuable habitat for an abundance of aquatic fauna. They serve as areas for forage refuge

for the various life stages of many fish and invertebrate species. SAV beds are protected under the Coastal Zone Management Rules.

Because the portions of Manahawkin Bay within the project limits are very shallow, there is an abundance of SAV. In order to evaluate the impacts associated with the proposed project would be on SAV beds, a survey was conducted to map its distribution and abundance. The report of findings of this survey is entitled "Submerged Aquatic Vegetation Delineation Survey" prepared by LGA Engineering, Inc.and dated June 2009. The report in its entirety is included as Attachment B to this TES.

The Summary of Findings (Section 3 of the report) states that "34.4 acres of SAV were identified in the project study area…These data represent presence of SAV only and do not represent shoot density or spatial coverage. Our findings also indicate that both eelgrass (*Zostera marina*) and widgeon grass (*Ruppia maritime*) were present in the survey region and SAV presence was noted to a depth of at least six (6) feet MLW."

3.4.2 Intertidal/Subtidal Shallows

According to the LGA report, the majority of the shallow waters in the study area contain SAV. Any of the shallow water areas that are devoid of SAV are likely to be regulated as Intertidal/Subtidal shallows, which are defined as "all permanently or temporarily submerged areas from the spring high water line to a depth four feet below mean low water." (N.J.A.C. 7:7E-3.15).

The spring high water line (referred to as "Mean Higher High Water" in the SAV Report) is 0.903' above sea level (NAVD 1988). The Mean Low Water is –1.224' below sea level (NAVD 1988). Therefore, any development, filling, or dredging to land 5.224' below sea level to 0.903' above sea level will be considered impacts to intertidal/subtidal shallows. Intertidal/subtidal shallows can either be vegetated or not. Those shallows that are vegetated by emergent vascular plants are considered to be wetlands and those that are vegetated with submerged vascular vegetation are considered to be SAV beds. Impacts will be calculated to only one resource type and will not be duplicated as impact calculation numbers to multiple resources.

3.4.3 Essential Fish Habitat

The salt marshes along the Manahawkin Bay banks provide critical habitat for the early life history stages of many game fish species (Table 4). The National Marine Fisheries Service (NFMS) in a letter dated June 8, 2009 (see Appendix A) that the project area contains many resident, forage, and benthic species that make Manahawkin Bay essential fish habitat (EFH). NMFS requested that an Essential Fish Habitat Assessment be conducted pursuant to the Magnuson-Stevens Fishery Conservation and Management Act to insure that the proposed project avoids and minimizes impacts to the greatest extent possible and that mitigation be provided for any unavoidable impacts. In addition to general game fish, NMFS indicated that

Manahawkin Bay serves as habitat for the anadromous river herring or alewife (*Alosa pseudoharengus*)

TABLE 4
MANAHAWKIN BAY GAME FISH SPECIES AND LIFE STAGES

Species	Eggs	Larvae	Juveniles	Adults	Spawning Adults
American Plaice (Hippoglossoides platessoides)			M,S	M,S	
Atlantic Butterfish (*Peprilus triacanthus*)			M,S		
Winter flounder (*Pleuronectes americanus*)	M,S	M,S	M,S	M,S	M,S
Windowpane flounder (*Scopthalmus aquosus*)	M,S	M,S	M,S	M,S	M,S
Atlantic herring (*Clupea harenus*)			M,S	M,S	
Bluefish (*Pomatomus saltatrix*)			M,S	M,S	
Summer flounder (*Paralicthys dentatus*)		M,S	M,S	M,S	
Scup (*Stenotomus chrysops*)			S		
Black sea bass (*Centropristus striata*)			M,S	M.S	
King mackerel (*Scomberomorus cavalla*)	X	X	X	X	
Spanish mackerel (*Scomberomoruss maculatus*)	X	X	X	X	
Cobia (*Rachycentron canadum*)	X	X	X	X	
Little Skate (*Leucoraja erinacea*)				X	
Clearnose Skate (*Raja eglanteria*)				X	
Winter Skate (*Leucoraja ocellata*)				X	

M – The EFH designation for this species includes the mixing water/brackish salinity of this bay or estuary (salinity 0.5 to 25 ppt)
S – The EFH designation for this species includes the seawater salinity zone of this bay or estuary (salinity > or = 25 ppt)
X – EFH has been designated within this square for the particular species and life stage.

Other fish species known to occur within Barnegat Bay, and likely to occur in Manahawkin Bay, are listed in Table 5.

TABLE 5
FISH SPECIES OF THE BARNEGAT BAY COMPLEX

Common name	Scientific name
Smooth dogfish	*Mustelus canis*
American sandlace	*Ammodytes americanus*
American eel	*Anguilla rostrata*
Inland silverside	*Menidia beryllina*
American silverside	*Menidia menidia*
Oyster toadfish	*Opsanus tau*
Atlantic needlefish	*Strongylura marina*
Blueback herring	*Alosa aestivalis*
Alewife	*Alosa pseudoharengus*
American shad	*Alosa sapidissima*
Atlantic menhaden	*Brevoortia tyrannus*
Grubby sculpin	*Myoxcephalus aenaeus*

TABLE 5 (Cont.)
FISH SPECIES OF THE BARNEGAT BAY COMPLEX

Banded killifish	*Fundulus diaphanus*
Mummichog	*Fundulus heteroclitus*
Spotfin killifish	*Fundulus luciae*
Striped anchovy	*Anchoa hepsetus*
Bay anchovy	*Anchoa mitchilli*
Redfin pickerel	*Esox americanus americanus*
Silver hake	*Merluccius bilinearis*
Pollack	*Pollachius virens*
Red hake	*Urophycis chuss*
Fourspine stickleback	*Apeltes quadracus*
Naked goby	*Gobiosoma bosci*
Seaboard goby	*Gobiosoma ginsburgi*
White catfish	*Ameiurus catus*
Brown bullhead	*Ameiurus nebulosus*
Tautog	*Tautoga onitis*
Cunner	*Tautogolabrus adspersus*
Striped mullet	*Mugil cephalus*
White perch	*Morone americana*
Striped bass	*Morone saxatilis*
Yellow perch	*Perca flavescens*
Weakfish	*Cynoscion regalis*
Spot	*Leiostomas xanthurus*
Northern kingfish	*Menticirrhus saxatilis*
Atlantic croaker	*Micropogonias undulatus*
Atlantic mackerel	*Scomber scombrus*
Hogchoker	*Trinectes maculatus*
Northern pipefish	*Syngnathus fuscus*
Northern searobin	*Prionotus carolinus*
Striped searobin	*Prionotus evolans*

Source: (USFWS website)

3.4.4 Shellfisheries

The Barnegat Bay Estuary has been designated as a Category 1 waterway by the NJDEO due to its valuable shellfish resources. The waters below the bridges associated with the project have been given three different shellfish growing water classifications by NJDEP. Hilliards Thorofare has been designated as a special restricted area for the harvest of shellfish, Special restricted areas are "condemned for the harvest of oysters, clams, and mussels except harvesting for further processing". This processing involves the relocation of the shellfish for depuration and vcan only be conducted under special permit. A small area immediately east of Hilliards Thorofare, as well

as the entire project area within East and West Thorofares, are seasonally restricted for the harvest of shellfish. Seasonal Areas are those waters "condemned for the harvest of shellfish" except for certain seasons, and in the case of the project area, nshellfish can be harvested between November 1 and April 30 of each year. The entire area below the Manahawkin Bay main span in an Approved Area where shellfish can be harvested year round.

Field investigations conducted along the shoreline of Manahawkin Bay revealed that seven types of shellfish are present in the vicinity of the bridges. These include the following species:

Table 6
Shellfish of Manahawkin Bay

Common name	Scientific name
Hard clam	*Mercenaria mercenaria*
Soft-shell clam	*Mya arenaria*
Bay scallop	*Argopecten irradians*
Eastern oyster	*Crassostrea virginica*
Blue mussel	*Mytilus edulis*
Common razor clam	*Ensis directus*
Atlantic ribbed mussel	*Geukensia demissa*

3.4.5 Benthic Macroinvertebrates

The mudflats and tide pools within the Manahawkin Bay provide foraging sites for shorebirds, wading birds, and waterfowl and crabs (Bosakowski and Pitler 1984) that feed on detritus and benthic invertebrates at low tide (Table 7). These invertebrates also likely provide food for resident fish species, like the common mummichog, that may access the marsh surface during high tides.

Table 7
Aquatic Macroinvertebrates of Barnegat Bay Complex

Common name	Scientific name
Sideswimmers	*Amphipoda*
Proboscis worms	*Nemertea*
Inidentified clams	*Mollusca*
Aquatic sowbugs	*Isopoda*
Polychaete worms	*Polychaeta*
Marine Copepods	*Harpacticoida*
Protobranchiids	*Solemya spp.*
Anemones	*Anthozoa*
Tellinl	*Tellina spp.*
Nutclam	*Nucula spp.*

Source: MacKenzie 2003

The study conducted by MacKenzie (2003) on the macroinvertebrate population of the Barnegat Bay estuary found that the density of macroinvertebrates had declined since a similar study conducted between 1969 and 1973. MacKenzie found that there was a correlation between the drop in density of macroinvertebrates and a drop in the density of the northern quahog (Mercenaria mercenaria).

3.5 Upland Vegetation Communities

Upland vegetation communities were identified within the project study area during the wetland delineation field surveys and other limited fieldwork performed in 2009. Vegetation Cover Maps are included in Appendix B.

The upland portions of the project study area consist of maintained lawn with some trees in the highway infield areas and along the roadside. Several areas contained early and late successional field communities further from the roadside. The upland portions also include urban development including pavement (roads, driveways and parking lots) and buildings (primarily residential, but some commercial). Vegetated upland communities in the study area support numerous species. The maintained roadside lawn consisted of a mixture of grass species. The early successional field communities included various grasses and species typical of disturbed areas, such as common reed (*Phragmites australis*), mugwort (*Artemisia annua*), seaside goldenrod (*Solidago thapsus*), multiflora rose (*Rosa multiflora*), autumn olive (*Eleagnus umbellatum*), northern bayberry (*Myrica pensylvanica*), poison ivy (*Rhus* toxicodendron), the seedlings of black cherry (*Prunus serotiina*) and Eastern red cedar (*Juniperus virginiana*). The late successional field areas include pitch pine (*Pinus rigida*), black cherry, Eastern red cedar, autumn olive, bayberry, poison ivy, Japanese honeysuckle (*Lonicera* japonica), and winged sumac (*Rhus copallinum*). The topography of these upland areas was irregular due to the dumping of fill material (likely associated with the construction of the bridges, which may have contained a seed bank for some of the species present. Numerous bulkheaded areas contained barren and mostly sandy areas on the upland side of the bulkheads.

The only forested area is located in the far west end of the project area. This second growth forest is intermixed with a mosaic of forested wetlands. Dominant vegetation in the upland forest includes black cherry, pitch pine, black locust (*Robinia pseudoacacia*), red maple, and black gum (*Liquidamber styraciflua*).

3.6 Wildlife

Potential wildlife communities identified within the project study area were identified through technical reports, publications ("New Jersey Breeding Bird Atlas" by Walsh et al. 1999), field guides, and limited field surveys. Potentially-occurring herptile (amphibians and reptiles) and mammal species were identified using distribution and abundance information in "Vertebrates of New Jersey" (Stiles, 1978), Conant (1975), and Burt and Grossenhieder (1976).

Birds were observed in the project area during several field visits in the Spring of 2009. The New Jersey Breeding Bird Atlas (Walsh et al. 1999) shows evidence of possible breeding for 72 bird species within a 9 square mile block surrounding the project area (1/6 of the Ship Bottom Quad), but not all of these species can be expected to breed in the immediate vicinity of the project.

Although not seen on the referenced site visit, several common mammals could be expected to inhabit sites in the project study area. These species may include: eastern cottontail (*Sylvilagus floridanus*), raccoon (*Procyon lotor*), muskrat (*Ondatra zibethicus*), Norway rat (*Rattus norvegicus*) and Virginia opossum (*Didelphis virginiana*) (Stiles 1978; Burt and Grossenhieder 1976; Bosakowski and Pitler 1984). The potential for any significant amphibian population on the site is anticipated to be low due to the lack of significant freshwater wetlands in the area. Reptiles are limited to common species such as the garter snake (*Thamnophis sirtalis*), northern brown snake (*Storeria dekayii*), eastern milksnake (*Lampropeltis triangulum*), snapping turtle (*Chelydra serpentina*), and eastern painted turtles (*Chrysemys picta*). The only reptile observed during field investigations was the diamondback terrapin (*Malaclemmys terrapin*).

Table 8 - Breeding Birds

Common Name	Status	Observed in the Project Area 2006
1. Red-throated loon	W, M	
2. Pied-billed grebe	R	
3. Horned grebe	W, M	
4. Double–crested cormorant	R	✓
5. Great cormorant	W, M	
6. Great blue heron	R	✓
7. Great egret	M	✓
8. Snowy egret	M	✓
9. Little blue heron	M	✓
10. Tricolored heron	M	✓
11. Green heron	M	
12. Black-crowned night heron	R, ST	
13. Yellow-crowned night heron	M, ST	
14. Glossy ibis	M	✓
15. Mute swan	R	
16. Snow goose	W, M	
17. Canada goose	R, M	✓
18. Brant	W, M	✓
19. Wood duck	R, M	
20. American black duck	R, M	✓
21. Mallard	R	✓
22. Gadwall	W, M	
23. American wigeon	W, M	
24. Northern pintail	W, M	
25. Northern shoveler	W, M	
26. Blue-winged teal	W, M	
27. Green-winged teal	W, M	
28. Canvasback	W, M	
29. Redhead	W, M	
30. Lesser scaup	W, M	
31. Greater scaup	W, M	
32. Long-tailed duck	W, M	
33. White-winged scoter	W, M	
34. Surf scoter	W, M	

Table 8 - Breeding Birds (Cont.)

35. Black scoter	W, M	
36. Common goldeneye	W, M	
37. Bufflehead	W, M	
38. Red-breasted merganser	W, M	✓
39. Ruddy duck	W,M	
40. Black vulture	M	
41. Turkey vulture	R, M	✓
42. Osprey	M, ST	✓
43. Cooper's hawk	R, M, ST	
44. Northern goshawk	M, ST	
45. Sharp-shinned hawk	R, M	✓
46. Northern harrier	R, M, ST	
47. Broad-winged hawk	M	
48. Red-tailed hawk	R, M	✓
49. Bald eagle	R, M, SE	
50. American kestrel	M	✓
51. Merlin	M	
52. Peregrine falcon	M, SE	
53. Northern bobwhite	R, M	
54. Clapper rail	R, M	
55. Virginia rail	R, M	
56. Sora	M	
57. Black-bellied plover	W, M	
58. Killdeer	R, M	✓
59. Semipalmated plover	M	✓
60. Piping plover	M, SE, FT	
61. American oystercatcher	R, M	✓
62. Greater yellowlegs	M	
63. Lesser yellowlegs	M	✓
64. Willet	M	✓
65. Spotted sandpiper	M	✓
66. Ruddy turnstone	M	
67. Sanderling	M	✓
68. Red knot	M	
69. Dunlin	M	
70. Western sandpiper	M	
71. Least sandpiper	M	✓
72. Bonaparte's gull	W, M	
73. Laughing gull	M	✓
74. Ring-billed gull	R	✓
75. Herring gull	R	✓
76. Lesser black-backed gull	M	
77. Great black-backed gull	R	✓
78. Caspian tern	M	
79. Gull-billed tern	M	
80. Royal tern	M	
81. Common tern	W, M	
82. Forster's tern	M	✓
83. Roseate tern	M, ST	
84. Least tern	M	
85. Black skimmer	M, SE, B	✓
86. Rock dove	R	✓
87. Mourning dove	R	✓
88. Barn owl	R, M	
89. Chimney swift*	M	✓
90. Ruby-throated hummingbird	M	

Table 8 - Breeding Birds (Cont.)

91. Belted kingfisher	R,M	✓
92. Red-bellied woodpecker	R	✓
93. Downy woodpecker	R	✓
94. Northern flicker*	R, M	
95. Eastern phoebe	M	✓
96. Great crested flycatcher	M	✓
97. Eastern kingbird	M	✓
98. Purple martin	M	
99. Blue jay	R, M	✓
100.American crow	R, M	✓
101.Fish crow	R	✓
102.Barn swallow	M	✓
103.Tree Swallow	M	✓
104.No. Rough-winged swallow	M	
105.Carolina chickadee	R	✓
106.Tufted titmouse	R	✓
107.White-breasted nuthatch	R	
108.Marsh wren	M,	✓
109.Carolina wren	R	✓
110.House wren	M	
111.Blue-gray gnatcatcher	M	✓
112.Eastern bluebird	R, M	
113.American robin	R, M	✓
114.Gray catbird	M	✓
115.Northern mockingbird	M	✓
116.Brown thrasher	M	✓
117.European starling	R	✓
118.Cedar waxwing	R, M	
119.White-eyed vireo	M	✓
120.Yellow Warbler	M	✓
121.Northern Parula	M	✓
122.Chestnut-sided Warbler	M	
123.Prairie Warbler	M	
124.Common Yellowthroat	M	✓
125.Scarlet Tanager	M	
126.Rufous-sided Towhee	R, M	
127.Chipping Sparrow	M	✓
128.Field Sparrow	R, M	
129.Saltmarsh sharp-tailed sparrow	R, M	✓
130.Seaside sparrow	R	✓
131.Song Sparrow	R	✓
132.Swamp Sparrow	R, M	
133.Northern Cardinal	R	✓
134.Rose-breasted Grosbeak	M	
135.Indigo Bunting	M	✓
136.Red-winged Blackbird	M	✓
137.Common Grackle	R, M	✓
138.Brown-headed Cowbird	R, M	✓
139.Northern Oriole	M	✓
140.House Finch	R	✓
141.American Goldfinch	R	✓
142.House Sparrow	R	

Footnotes:

1. Source: New Jersey Audubon Society Breeding Bird Atlas (Walsh et al., 1999).
2. Scientific names for these common names are available in Walsh et al., 1999.
3. Status Codes: R = resident, M = migratory, W = winter, B = breeding, E = endangered, T = threatened.
4. Status Qualifiers: F = federally listed, S = state listed
5. ✓ indicates species observed by ASGECI staff.

3.7 THREATENED AND ENDANGERED SPECIES

The New Jersey Natural Heritage Program (NHP) maintains a computer database of reported sightings of rare plants, animals, and natural communities in the State. The NHP also maintains records of species listed as endangered or threatened by the US Fish and Wildlife Service (USFWS). In addition to the NHP database, the NJDEP Landscape Project Mapping (Figure 5) identified habitat polygons for numerous State and Federally listed species (Appendix A). The NJ Natural Heritage Program database in a letter dated May 7, 2009 (Appendix A) listed the following threatened or endangered species as occurring on the referenced site:

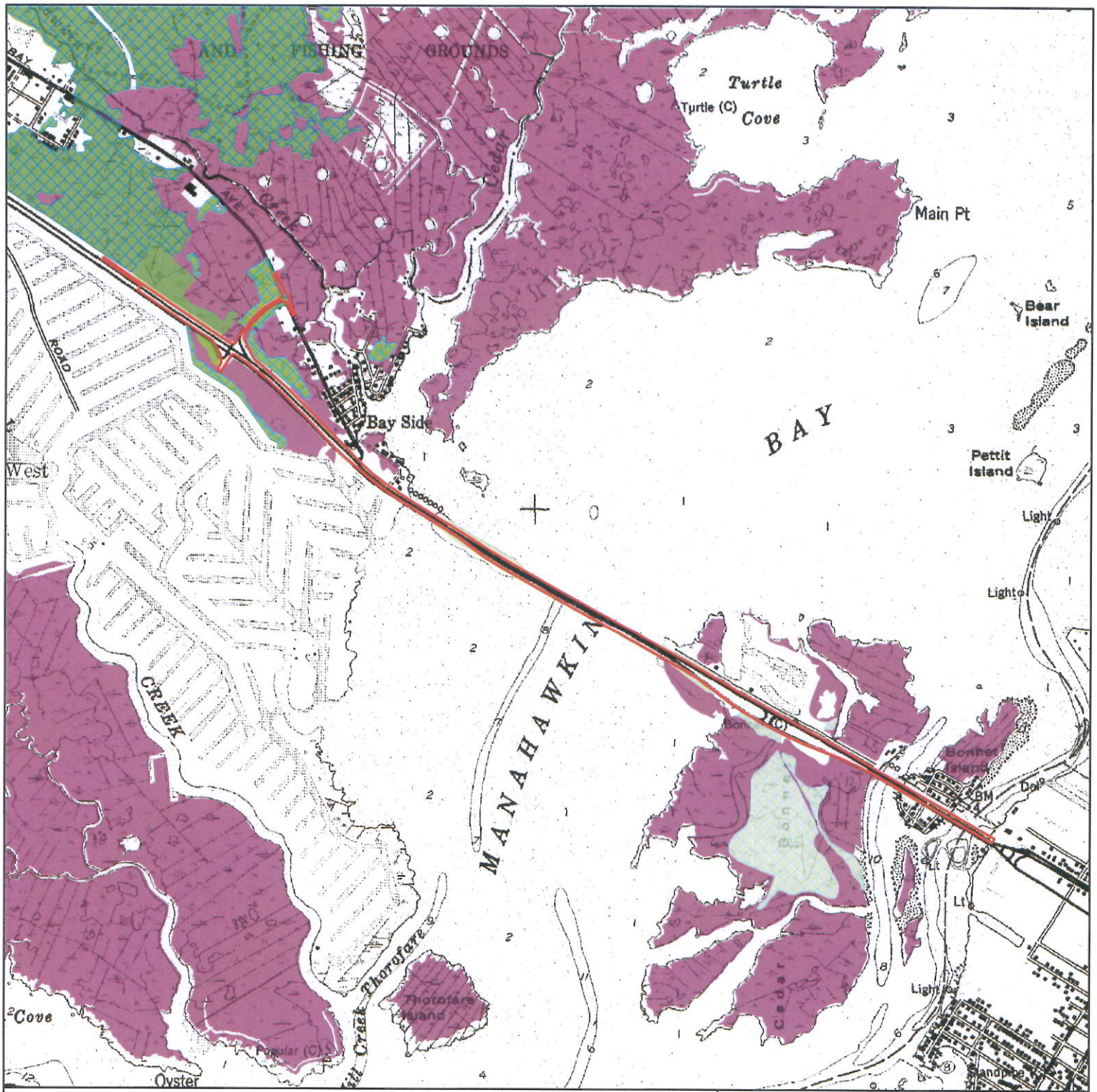
- Black skimmer (*Rynchops niger* – State endangered)
- Black-crowned night heron (*Nycticorax nycticorax* – State threatened, breeding)
- Cope's gray treefrog (*Hyla chrysoscelis* – State endangered)
- Northern harrier (*Circus cyaneus* – State endangered, breeding
- Osprey (*Pandion haliaetus* – State threatened)
- Peregrine falcon (*Falco peregrinus* – State threatened)
- Roseate tern (*Sterna dougallii dougallii* – Federal and State endangered)
- Yellow-crowned night heron (*Nyctanassa violacea* – State threatened, breeding and migratory)

Habitat for all of the bird species listed above is present in the vicinity of the proposed project; however, except for the osprey, none of these species were observed nesting within the sight line of the proposed work area. There is an historic occurrence of nesting roseate terns on the Edwin B. Forsythe National Wildlife Refuge, but the last known occurrence of nesting terns in New Jersey was 1980. Although these species are not nesting in this area this season, it is possible that they may nest in closer proximity to the project area in succeeding years.

The only potential habitat for Cope's gray treefrog is within the forested wetland at the westernmost end of the alignment. No treefrogs were heard during the investigation, and it is unlikely that any of this potential habitat will be disturbed by the project.

During field surveys of the project site, three of the species listed in the State NHP letter were observed. Two transient black skimmers were observed. One immature night-heron that was not identified to species was observed. Several osprey were observed feeding in the vicinity of the project area. Two active osprey nests were observed on Cedar Bonnet Island in areas that are part of the National Wildlife Refuge; one is located near the southern tip of the island approximately 2,000 feet from Route 72 and one is located near the northern tip of the island at least 1,000 feet from the Route 72 alignment.

Review of US Fish and Wildlife Service records for *Federally Listed and Candidate Species Occurrences in New Jersey by County and Municipality (April 2009)* in Stafford Township and Ship Bottom Borough indicated potential and historic habitat for piping plover (*Charadrius melodus* – Federally threatened) and seabeach amaranth (*Amaranthus pumilis* – Federally



Legend

- Project Location
- Forest Suitable Habitat
- Forest Priority Species
- Forest State Endangered
- Forested Wetland Suitable Habitat
- Forested Wetland Priority Species
- Forested Wetland State Endangered
- Emergent Federal Threatened or Endangered

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Sources:
NJDEP Forest, Forested Wetland, and Emergent Wetland Critical Habitat, Edition: Version 2.1, 200807, New Jersey Department of Environmental Protection, Division of Fish and Wildlife, Endangered Non-Game Species Program, vector digital data, NJ Division of Fish and Wildlife, Trenton, NJ, November 2007.

Monochromatic Bit-Mapped 7.5 Minute Topographic Images of New Jersey, Gregory C. Herman and Maryann C. Scott, N.J. Geological Survey Digital Geodata Series DGS99-1, May 27, 1999, derived from USGS 7.5 Minute Digital Raster Graphic (DRG) Topographic Series Map, Ship Bottom, NJ Quadrangle.

This (map/publication/report) was developed using New Jersey Department of Environmental Protection Geographic Information System digital data, but this secondary product has not been verified by NJDEP and is not State-authorized.

Figure 5
NJDEP Landscape Project Map

Route 72
Manahawkin Bay Bridges Project
Township of Strafford and
Borough of Shop Bottom
Ocean County, New Jersey

ASGECI Project #3109

2,000 Feet

AMY S. GREENE ENVIRONMENTAL CONSULTANTS

threatened). In Stafford Township, there are known populations of swamp pink (*Helonias bullota* – Federally threatened), Knieskern's beaked rush (*Rhyncospora knieskernii* – Federally threatened), and bog asphodel (*Narthecium americanum* – Federal candidate species). Therefore, a formal request was made to the USFWS NJ field office for consultation regarding the location of these species or their habitats in relation to the project location. A response to this request has not been received to date. None of these Federally listed or candidate species nor their habitats were encountered during the field investigations. Piping plover and seabeach amaranth are coastal dune species, and there are no coastal dunes in the vicinity of the project limits. Although transient piping plovers may enter the project area during migration for the purposes of resting or feeding, they would not utilize the area for nesting. Swamp pink requires forested wetlands with braided streams and consistent hydrology. A forested wetland is located in the west end of the project area. This forested wetland was thoroughly searched for signs of swamp and none was found. It was determined that the hydrology within this forested wetland was not suitable for swamp pink. Knieskern's beaked rush requires open emergent freshwater wetlands with no shade and little competition. All of the emergent wetlands observed in the project area consisted of tidally influenced, coastal wetlands, and the only truly freshwater wetland on site is forested. Like the Knieskern's beaked rush, bog asphodel requires emergent freshwater wetlands. No such habitat is located in or near the project limits.

The NMFS identified the Federally endangered shortnose sturgeon (*Acipenser brevirostrum*) as potentially being present in the project area in certain times of the year. This anadromous fish spends much of its life in slow flowing rivers, estuaries, and near-shore coastal areas. It goes upstream to faster flowing fresh waters to breed. The project area contains habitat that is consistent with the needs of the shortnose sturgeon.

3.8 GEOLOGY/SOILS

Existing published information was studied to obtain information regarding geologic and soil resources within the project study area. Geologic resources within the project study area were identified through the use of the "Geologic Map of New Jersey" (Lewis and Kummel, 1950). Soil resources were identified through the use of the Soil Survey Geographic (SSURGO) Database for Ocean County, New Jersey (USDA, 2004) and through visual observations made during the limited field investigation of the study area.

The project study area is located within the geological province known as the Outer Coastal Plain. The geologic formation that underlies the project study area is known as the Cape May Formation. Within the project study area the underlying geology is composed chiefly of relatively deep sand deposits on unconsolidated aquifer.

The SSURGO Soil Map of Ocean County prepared by the USDA Natural Resources Conservation Service maps only three soil types over the project area (Figure 6).

Legend

Project Location

AptAv - Appoquinimink-Transquaking-Mispillion complex, 0 to 1 percent slopes, very frequently flooded

PssA - Psamments, 0 to 3 percent slopes

PstAt - Psamments, sulfidic substratum, 0 to 3 percent slopes, frequently flooded

N
W E
S

Sources:
New Jersey 2007-2008 High Resolution Orthophotography - JPEG2000 5K Tiles, State of New Jersey - Office of Information Technology (NJOIT), Office of Geographic Information Systems (OGIS), Trenton, NJ, October 2008.

Soil Survey Geographic (SSURGO) Database for Ocean County, New Jersey, USDA, Natural Resources Conservation Service, Fort Worth, Texas, December 2004.

Figure 6
SSURGO Soil Map

Route 72
Manahawkin Bay Bridges Project
Township of Strafford and
Borough of Shop Bottom
Ocean County, New Jersey

ASGECI Project #3109

2,000 Feet

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Appoquinimink-Transquaking-Mispillion complex, 0 to 1 percent slopes, very frequently flooded (AptAv)

This soil consists of three primary series and is listed as a hydric soil. The Mispillion series consists of very deep, very poorly drained soils formed in organic deposits overlying loamy mineral fluvial and marine deposits that have low strength. The Transquaking series consists of very deep, very poorly drained soils formed in thick organic deposits overlying high N value loamy mineral sediments of the Mid-Atlantic coastal plain. The Appoquinimink series consists of very deep, very poorly drained soils formed in silty sediments overlying organic deposits. Appoquinimink soils are continuously saturated and are flooded by tidal waters twice daily. This soil is listed as a Hydric soil. Field observations generally concurred with the soil mapping, but there may be areas of urban land and filled land over tidal marsh within this map unit.

Psamments, 0 to 3 percent slopes (PssA)

Psamments soils are excessively drained sandy fill land that has been smoothed. The thickness of the fill ranges from 24 to 48 inches, but is predominantly 36 inches. Gravel content ranges from 0 to 50 percent. This is not a hydric soil, per se, but it may contain small amounts of hydric Atsion, Berryland, and/or Mullica soils and therefore may have hydric components.

Psamments, sulfidic substratum, 0 to 3 percent slopes, frequently flooded (PstAt)

Psamments soils are excessively drained sandy fill land that has been smoothed. The thickness of the fill ranges from 24 to 48 inches, but is dominantly 36 inches. Gravel content ranges from 0 to 50 percent. This is not a Hydric soil, per se, but it may contain varying amounts of Hydric Appoquinimink, Pawcatuck, or Transquaking soils near the surface. And, as indicated by the sulfidic substratum these hydric components are likely to increase with depth. This soil series is more subject to flooding than is the PssA series.

4.0 POTENTIAL ECOLOGICAL IMPACTS AND MITIGATING MEASURES

This section discusses the potential impacts to ecological resources, which may result from the implementation of the preferred alternative for the project as currently designed. Also discussed are measures that should be taken to mitigate potential adverse environmental impacts to ecological resources. These measures generally include minimizing construction-related disturbances to the maximum extent practicable through adherence to Best Management Practices (BMPs). BMPs include methods, measures, designs, performance standards, maintenance procedures, and other practices that prevent or reduce adverse impacts as a result of construction activities. The preferred alternative avoids and minimizes impacts to environmentally sensitive resources to the greatest extent practical.

4.1 WETLANDS

Wetlands identified within the study area will be disturbed by construction of the preferred alternative, which involves construction of a new structure over Manahawkin Bay parallel to the existing Manahawkin Bay Bridge. In order to stage the proposed activities and allow passage of traffic during construction, a "temporary" trestle bridge is proposed to access the construction areas. Because the trestle is anticipated to be in place for up to two years, it is not temporary from a regulatory standpoint. The wetlands to be impacted by the new bridge alignment include some of the low and high marsh area located on both the north and south sides of the existing structure. However, the bulk of the impacts will occur on the south side of the existing structure where the new span is proposed. These wetland areas are dominated by common reed high marsh in areas above mean high water and scattered patches of smooth cordgrass low marsh in regions below mean high water. It is not clear at this time whether the impacts to this wetland area will be associated with piers or just by shading caused by the bridge deck. If shading is the cause of the disturbance, permanent impacts will be less severe than if impacts were a result of abutment or pier construction.

It is anticipated that a total of 0.10 acres of wetlands will be impacted by the proposed project. There will be additional impacts to open water and subtidal/intertidal shallows; however, the extent of these impacts has not yet been ascertained.

Mitigating measures to reduce adverse impacts to wetlands should be considered with regard to the preferred alternative. These measures should include use of BMPs and the minimizing of construction-related impacts to wetlands to the maximum extent practicable, and the locating of staging areas outside of identified wetland areas.

Impacts to wetlands are an unavoidable consequence of project implementation. Wetland disturbances resulting for project implementation will require permits. Permit requirements are described in detail in Section #5 of this study. Each of the permits may require mitigation (i.e.; replacement or enhancement of wetlands and open waters to offset the disturbance). Mitigation options will be investigated including creation or enhancement of wetlands in the vicinity of the project study area.

4.2 FLOODPLAINS

By their very nature, most bridges are located within the base floodplain. All of the bridge and most of the roadway approaches (except abutments) are located within the area of the 100-year floodplain of the Manahawkin Bay/Atlantic Ocean. Therefore, disturbance to the 100-year floodplain will result from project implementation. Currently, much of the proposed project footprint on the land exists as developed areas containing impervious surfaces such as roadways and parking lots. The vast majority of the new footprint for the proposed project will be over open water in Manahawkin Bay. In most areas of the proposed project footprint, only minor changes in existing surface elevations are anticipated from the construction of the new roadway.

Measures to mitigate for general construction-related impacts to floodplains include adherence to BMPs and the implementation of an approved soil erosion and sediment control plan. Also, minimizing the net amount of fill placed within floodplain will minimize impacts to this resource. Mitigation for riparian zone vegetation may be required by NJDEP if impacts to riparian zone vegetation exceed that allowed under the Flood Hazard Area Control Act Rules.

4.3 SURFACE WATER RESOURCES

Short-term impacts to the water quality from runoff draining from project construction areas may result, predominantly from sediment loading related to erosion of exposed soil surfaces. Long-term impacts to the water quality from runoff may result from increased pollutant loading to stormwater due to additional impervious roadway surfaces. Stormwater runoff has the potential to wash pollutants, including hydrocarbons, metals, and sediments, from impervious surfaces.

Strict adherence to the Soil Erosion and Sediment Control Plan, should eliminate the potential for water quality impacts due to sediment loading during construction. It is expected that the construction of the project will not result in any substantial short-term impacts upon surface water quality.

Mitigating measures for long-term impacts to water quality related to the potential increase in pollutant loading of stormwater will include the implementation of a stormwater management plan. Stormwater associated with runoff from Route 72 currently enters Manahawkin Bay untreated. The proposed project will need to comply with the NJDEP Stormwater Management Rules (N.J.A.C. 7:8) which should result in a net long term improvement to the quality of stormwater entering the bay.

4.4 AQUATIC HABITAT

Manahawkin Bay is home to wide variety of aquatic and semi-aquatic fauna and flora that may be susceptible to short and long-term disturbance from the proposed project. Direct impacts to SAV, wetlands, and shellfish beds cannot be avoided by the construction of the preferred alternative. In order to reduce impacts, the footprint of the preferred alternative was reduced as

much as possible while still meeting the goals and objectives of the project. Mitigation for SAV and wetlands will be conducted as a condition of permits issued by NJDEP and USACE. Disturbance to shellfish will be minimized by informing the local shellfishermen in advance of construction so that the shellfish can be harvested prior to construction.

Some displacement and mortality can be expected to occur to other benthic organisms; however, these impacts are anticipated to be minimal and the construction of piers in the water will afford certain species additional substrate to adhere to. Measures will be taken during construction of the piers to minimize disturbance of bottom sediments thereby not affecting turbidity. The National Marine Fisheries Service may place restrictions on the scheduling of in-water activities to protect fisheries.

4.5 UPLAND PLANT COMMUNITIES

Implementation of the preferred alternative will result in the minor removal of some upland vegetation in areas adjacent to the proposed alignment. Onsite upland vegetation is limited to weedy species such as common reed and mugwort that are typical of disturbed areas. Given the disturbed nature of identified vegetated areas, no significant adverse impacts to upland plant communities are anticipated from project implementation and no specific mitigating measures are proposed. In addition, it does not appear that any of these areas provide habitat for any rare plant species.

4.6 WILDLIFE

Impacts to terrestrial species is anticipated to be minimal because the impacts on land are primarily to degraded uplands within or close to previously disturbed areas associated with roadway infrastructure. The majority of the impacts will be associated with direct impacts to aquatic habitats. Impacts to these habitats are discussed in Section 4.5 above. There is very limited habitat for terrestrial species because the majority of the upland habitat has been previously disturbed. For the most part, aquatic and terrestrial species are mobile and will be able to avoid adversity due to their mobility.

Osprey are the only listed threatened and endangered species (State-listed as threatened) known to be utilizing the habitat surrounding the proposed project. For discussion of Osprey, see Section 4.7 Threatened and Endangered Species below.

4.7 THREATENED AND ENDANGERED SPECIES

Numerous threatened or endangered species and their habitats were identified within, or immediately adjacent to the project study area. Section 3.7 provides a detailed discussion of the listed species of concern. Habitat for all of the bird species listed by NJDEP is present in the vicinity of the proposed project; however, none of these species were observed nesting within the

sight line of the proposed work area. Although these species are not nesting in this area this season, it is possible that they may nest in closer proximity to the project area in succeeding years. To mitigate the potential impact to these species in the future, additional surveys are recommended immediately prior to construction activities.

Osprey is the only listed species (State-listed as threatened) known to be utilizing the habitat surrounding the proposed project. The two known nesting locations appear to be far enough from the bridge that construction activity is not anticipated to disrupt the successful use of the osprey platforms. This distance is generally agreed to be 1,000 feet as per communications with Kathy Clark from NJDEP Endangered and Non-game Species. If it is determined that osprey are nesting closer than 1,000 feet from the bridge, a timing restriction for certain construction activities could be imposed from April 1 to August 31.

The NMFS identified shortnose sturgeon as potentially utilizing the project area in certain times of the year. It is anticipated that NMFS will impose timing restriction on in-water construction to protect this species.

4.8 GEOLOGY/SOILS

Disturbance to soils will result from implementation of the project alternatives. These impacts relate directly to the excavation, removal, and/or grading of soils required for construction activities. The potential for soil loss through both wind and waterborne erosion increases substantially as bare ground surfaces are exposed during construction activities. Due to the flat topography of the site and the permeable texture of the majority of the site's soils, the hazard of soil erosion should be slight. However, to minimize the potential for soil loss during storm events, soil erosion and sediment control measures will be implemented. These measures will conform to the "Standards for Soil Erosion and Sediment Control in New Jersey", (New Jersey State Soil Conservation Committee, July 1999). Standard practices such as installation of silt fencing and hay bale barriers, reseeding/mulching disturbed areas within 30 days, installing storm drain inlet protection, utilizing crushed stone tracking pads at the entrance/exit to the construction site, and containing stockpiled topsoil onsite will be required. Soils stockpiled onsite will not be located in any wetlands. In addition, the construction specifications will require that all soil erosion and sediment control structures are installed prior to any construction, and that they must be maintained for the duration of the project. With proper implementation of the approved soil erosion and sediment control plan, impacts to soils and to surrounding areas as a result of soil loss from the development activities should be negligible.

Blasting or significant drilling into bedrock is not anticipated for project implementation. Therefore, project activities are not anticipated to impact upon geologic resources; therefore, no mitigating measures for geology are proposed.

4.9 SUBMERGED AQUATIC VEGETATION

The project's anticipated impacts to the submerged aquatic vegetation as mapped by LGA Engineering, Inc. in the attached Submerged Aquatic Vegetation Delineation Survey (See Addendum B) are 3.373 acres. These impacts are a combination of shading (due to the new proposed bridge structure and associated bridge trestle for construction purposes) and direct impacts for bridge piles.

According to Coastal Zone Management compliance N.J.A.C. 7:7E-3.7(d):

> "Compensation for unavoidable, permanent significant impacts to submerged vegetation habitats, when required, shall consist of the establishment of self-sustaining habitat for the appropriate species in accordance with scientifically –documented transplanting methods…"

Although the regulations do not specifically address a mitigation/compensation ratio, it is assumed to be 2:1. Therefore, at this point it is anticipated that 6.746 acres of mitigation/compensation for impacts to submerged aquatic vegetation will be required.

4.10 INTERTIDAL AND SUBTIDAL SHALLOWS

The project's anticipated impacts to Intertidal and Subtidal Shallows is 2.806 acres. Mitigation is required for the destruction of non-vegetated intertidal and subtidal shallows at a creation to loss ratio of 1:1 on-site. If on-site mitigation is not feasible, a site search will be conducted to identify a suitable mitigation site.

4.11 Essential Fish Habitat

An essential Fish Habitat Assessment report will be prepared concurrently with the USACE and US Coast Guard permit applications. This report will describe in detail the essential fish habitat that is located within and adjacent to the project limits, the impacts that are anticipated to this habitat, and the measures that will be instituted to minimize and mitigate any impacts. This report will be submitted to NMFS, USACE, and the US Coast Guard for review.

4.12 Shellfish

Prior to construction, the local shellfishermen will be notified as to the start date of construction in order to allow them time to enter and harvest shellfish within the project limits. Consultation with the NJDEP Bureau of Shellfisheries will be conducted during the NJDEP permit process in order to determine whether compensatory mitigation for loss of shellfish habitat will be required.

5.0 PERMITS AND APPROVALS

This section discusses potential environmental and land use permits and approvals that may be required for project implementation.

Agency	Approval	Statutory Authority
NJDEP	General/Individual Freshwater Wetland and Open Water Fill Permit	NJ Freshwater Wetlands Protection Act (NJFWPA) (N.J.A.C. 7:7A)
NJDEP	Water Quality Certification Federal CWA Section 401	Federal Clean Water Act
NJDEP	Waterfront Development Permit (WDP)	N.J. Coastal Permit Program Rules (N.J.A.C. 7:7)
NJDEP	Flood Hazard Area Individual Permit	N.J. Flood Hazard Area Control Act (N.J.A.C. 7:13)
NJDEP	Tidelands/riparian Grants	N.J.S.A. 13:1B-13
NJDEP	Coastal Zone Consistency Determination (part of WDP)	N.J. Coastal Permit Program Rules (N.J.A.C. 7:7E)
NJDEP	Coastal Area Facility Review Act (CAFRA)	N.J.S.A. 13:19
NJDEP	Wetlands Act of 1970	N.J.S.A. 13:9A
NJDEP	Stormwater Management Rules	N.J.A.C. 7:8
USACE	Nationwide Permit #15 and/or Individual Section 10/404 Permit	Rivers and Harbors Act of 1899, Section 10 & Federal Clean Water Act, Section 404
US Coast Guard	Permit to Construct or Modify a Bridge	Federal River and Harbors Act Section 9 & General Bridge Act of 1966

5.1 Wetlands

Both State and Federal agencies have jurisdiction over activities in wetlands and waters located within the project study area. Only the freshwater wetlands and tidal wetlands that were delineated at higher elevation than mapped coastal wetlands are subject to NJDEP jurisdiction under the NJ Freshwater Wetlands Protection Act (NJFWPA). Those wetlands mapped in accordance with the Wetlands Act of 1970 are subject to the Coastal Permit Program Rules. In addition, and as required under Section 401 of the Federal Clean Water Act, the NJDEP must authorize Water Quality Certification (WQC) for any activities proposed in wetlands within the State of New Jersey.

Although the State of New Jersey assumed the Federal 404 permit program, the USACOE retained its jurisdiction "over those wetlands that are partially or entirely located within 1,000

feet of all waterbodies which are subject to the ebb and flow of the tide." (USACE, Public Notice, March 14, 1994).

In addition to State and Federal regulations, wetlands are also protected under Federal Executive Order 11990 - Protection of Wetlands. This Executive Order requires that all federally sponsored activities avoid or minimize impacts to wetlands.

Wetland permits required for the project will likely include the following:

- ❑ USACOE Nationwide/Individual Permit and Section 10 Permit– An Individual Permit will be required if the project will impact greater than one-third acre of tidal waters and wetlands adjacent to tidal water. A Section 10 permit application will be part of the section 404 Individual Permit.
- ❑ NJDEP General/Individual Freshwater Wetlands Permit - This permit may be required if there are impacts to tidal wetlands above the mapped coastal wetlands. It currently appears that these impacts will be minimal and would qualify for a General Permit and not require an Individual Permit.
- ❑ NJDEP Water Quality Certificate – This is required as a condition of all permits issued pursuant to Section 401 of the Federal Clean Water. This certificate is automatically granted by NJDEP when any land use permit is requested, and it will be granted along with the wetlands permit in this case.

Approval of a wetland mitigation plan or approval of mitigation bank credits would be a condition of both the NJDEP and USACE wetland permits.

Determination of permit applicability and approval would be subject to review and verification by the NJDEP and USACE.

5.2 US COAST GUARD SECTION 9 BRIDGE PERMIT

Activities that have the potential to affect navigation require approval from the US Coast Guard under Section 9 of the Rivers and Harbors Act. This approval will be required for bridge construction.

5.3 FLOODPLAINS

The NJDEP regulates certain activities under the NJ Flood Hazard Area (FHA) Control Act Rules (N.J.A.C. 7:13 et seq.). Project activities are anticipated to be exempt from the engineering standards for a Flood Hazard Area Permit under this Act because the Manahawkin and its floodplain are tidally influenced (N.J.A.C. 7:13-1.3(b)2). However, the FHA Rules have established a riparian zone encompassing land and vegetation within and adjacent to regulated waters. Certain activities, including the removal of vegetation, are regulated within this riparian zone. The width of the riparian zone is based upon several variables including the presence of Category 1 waters, trout production waters, trout maintenance waters, threatened and endangered

species, and/or acid producing soils. Barnegat Bay, including Manahawkin Bay, is classified as a Category 1 waterway, and as such, it is anticipated that a 300-foot wide riparian zone will be applied to waterbodies within the project limits. The final determination as to the width of the riparian zone will be made by NJDEP.

5.4 Waterfront Development Permit

Except in the CAFRA zone, a Waterfront Development Permit is required for activities both below the MHW and up to 500 feet inland from the MHW or up to the first intervening public road or railroad, but not less than 100 feet inland of MHW. Because the proposed project is located in the CAFRA zone, the Waterfront Development permit is only required for activities waterward of mean high water.

In order to obtain the Waterfront Development Permit the project must comply with the NJ Coastal Zone Management Rules (N.J.A.C. 7:7E).

5.5 Coastal Area Facility Review Act

The Coastal Area Facility Review Act (CAFRA) regulates almost all development activities involved in residential, commercial, or industrial development, including construction, relocation, and enlargement of buildings or structures; and all related work, such as excavation, grading, shore protection structures, and site preparation located landward of the mean high water line.

In order to be in compliance with CAFRA rules, the project must comply with the NJ Coastal Zone Management Rules (N.J.A.C. 7:7E).

6.0 CONCLUSIONS

No significant long term impacts to ecological resources are anticipated from the proposed project. Mitigation for impacts to SAV beds, wetlands, intertidal/subtidal shallows, and shellfish will be required pursuant to conditions in the NJDEP and USACE environmental permits. Timing restrictions will also be required by the permit conditions to protect the shortnose sturgeon and other aquatic fauna. The Stormwater Management Rules will require implementation of soil erosion and sediment controls to reduce short term impacts to water quality associated with construction. The Stormwater Rules will also require implementation of a stormwater management plan that will have a positive long term effect on water quality.

7.0 REFERENCES

Brady, N.C. 1974. The Nature and Property of Soils (8th ed.). MacMillan Publishing Co. New York.

Burt, W.H., and Grossenheider, R.P. 1976. A Field Guide to the Mammals of America North of Mexico. Houghton Mifflin Company. Boston, MA.

Conant, R. 1975. A Field Guide to Reptiles and Amphibians of Eastern and Central North America. Second Edition. Houghton Mifflin Company. Boston, MA.

Cowardin, L.M., Carter, V., Golet, F.C., and LaRoe, E.T. 1979. Classification of Wetlands and Deepwater Habitats of the United States. US Fish and Wildlife Service. Washington, DC.

Environmental Laboratory. 1987. Corps of Engineers Wetlands Delineation Manual, Technical Report Y-87-1. US Army Engineer Waterways Experiment Station. Vicksburg, Miss.

Federal Interagency Committee for Wetland Delineation. 1989. Federal Manual for Identifying and Delineating Jurisdictional Wetlands. US Army Corps of Engineers, US Environmental Protection Agency, US Fish and Wildlife Service, and USDA Soil Conservation Service. Washington, D.C. Cooperative technical publication.

Fernald, M.L. 1950. Gray's Manual of Botany (8th ed.). American Book Co. New York.

Goldshore, L.P. 1979. The New Jersey Riparian Rights Handbook. Second Edition. County and Municipal Government Study Commission. NJDEP.

Kennish, M.J. 2007. Barnegat Bay-Little Egg Harbor Estuary: Ecosystem Condition and Recommendations. Technical Report for Barnegat Bay National Estuary Program. April 2007. 52 pp.

Lathrop, R.G. and S.M. Haag. 2007. Assessment of Land Use and Riparian Zone Status in the Barnegat Bay and Little Egg Harbor Watershed: 1995-2002-2006. Technical Report for Barnegat Bay National Estuary Program. October 2007. 25 pp.

Lewis, J. Volney and Henry B. Kummel. Geologic Map of New Jersey. 1920, rev. 1950. State of New Jersey Epartment of Conservation and Economic Development.

MacKenzie, C.L., Jr. 2003 Comparison of invertebrate abundances in four bays of the northeast United States: two bays with sparse quahogs and two bays with abundant quahogs. Northeast Fish. Sci. Cent. Ref. Doc. 03-10; 25 p.

National Flood Insurance Program. March 1979. Flood Insurance Rate Maps and Flood Insurance Studies for Stafford Township and Borough of Ship Bottom, Ocean County, NJ. Federal Emergency Management Agency.

Natural Heritage Program. May 7, 2009. Letter to Amy S. Greene Environmental Consultants, Inc. Office of Natural Lands Management, NJ Department of Environmental Protection.

Pollock L.W. 1998. A practical guide to the marine animals of northeastern North America. Rutgers University Press, New Brunswick, New Jersey.

Reed, P.B. 1988. National List of Plant Species that Occur in Wetlands: Northeast (Region 1). US Fish and Wildlife Service. St. Petersburg, Florida.

SCS. 1987 (revised 2/90). New Jersey's County-Based Soils List. USDA.

SCS. 1995. Hydric Soils of New Jersey. In cooperation with the National Technical Committee for Hydric Soils. USDA.

Stiles, E.W. 1978. Vertebrates of New Jersey. Published by Edmund W. Stiles, Somerset, NJ. 148 pp.

Tedrow, J.C.F. 1986. Soils of New Jersey. Robert E. Krieger Publishing Co. Malabar, Florida.

Tiner, R.W., Jr. 1985. Wetlands of New Jersey. U.S. Fish and Wildlife Service, National Wetlands Inventory, Newton Corner, MA.

U.S. Department of Agriculture. 1988. Keys to Soil Taxonomy. Cornell University, Ithaca, New York.

U.S. Fish and Wildlife Service. 1979. National Wetlands Inventory Mapping, Toms River, NJ Quadrangle. US Department of the Interior.

U.S. Fish and Wildlife Service. 1979. National Wetlands Inventory Mapping. Ship Bottom, NJ Quadrangle. US Dept. of Interior.

USACE. 1987. Corps of Engineers Wetlands Delineation Manual (Department of the Army, US Army Corps of Engineers, 1987)

USACE. 2008. Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain Region (USACE 2008)

US Army Corps of Engineers. 1995. Public Notice; New Jersey Assumption of Section 404 Permit Program. USACOE Philadelphia District.

USFWS. http://library.fws.gov.

US Geological Survey. revised 1979. 7.5 minute series. Ship Bottom, NJ Quadrangle. US Department of the Interior. Reston, Virginia.

Walsh, J., V. Elia, R. Kane, and T. Halliwell. 1999. Birds of New Jersey. New Jersey Audubon Society, Bernardsville, NJ. 704 pp.

APPENDIX A

CORRESPONDENCE

Natural Heritage Program Correspondence dated May 7, 2009

National Marine Fisheries Correspondence dated June 8, 2009

3109

State of New Jersey

JON S. CORZINE
Governor

DEPARTMENT OF ENVIRONMENTAL PROTECTION
Division of Parks and Forestry
Office of Natural Lands Management
Natural Heritage Program
P.O. Box 404
Trenton, NJ 08625-0404
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MARK N. MAURIELLO
Acting Commissioner

May 7, 2009

Sean J. Ronan
Amy S. Greene Environmental Consultants, Inc.
4 Walter E. Foran Boulevard, Suite 209
Flemington, NJ 08822-4666

Re: Route 72 Manahawkin Bay Bridges

Dear Mr. Ronan:

Thank you for your data request regarding rare species information for the above referenced project site in Stafford Township and Ship Bottom Borough, Ocean County.

Searches of the Natural Heritage Database and the Landscape Project (Version 3 in the highlands region, Version 2.1 elsewhere) are based on a representation of the boundaries of your project site in our Geographic Information System (GIS). We make every effort to accurately transfer your project bounds from the topographic map(s) submitted with the Request for Data into our Geographic Information System. We do not typically verify that your project bounds are accurate, or check them against other sources.

We have checked the Natural Heritage Database and the Landscape Project habitat mapping for occurrences of any rare wildlife species or wildlife habitat on the referenced site. Please see Table 1 for species list and conservation status.

Table 1 (on referenced site).

Common Name	Scientific Name	Federal Status	State Status	Grank	Srank
black skimmer	*Rynchops niger*		E	G5	S1B,S1N
black-crowned night-heron	*Nycticorax nycticorax*		T/SC	G5	S2B,S3N
cattle egret	*Bubulcus ibis*		SC	G5	S3B,S3N
common tern	*Sterna hirundo*		SC	G5	S3B,S4N
Cope's gray treefrog	*Hyla chrysoscelis*		E	G5	S1
eastern box turtle	*Terrapene carolina carolina*		SC	G5T5	S3
eastern king snake	*Lampropeltis g. getula*		U	G5T5	S3
Fowler's toad	*Bufo woodhousii fowleri*		SC	G5	S3
glossy ibis	*Plegadis falcinellus*		SC/S	G5	S3B,S4N
gull-billed tern	*Sterna nilotica*		SC	G5	S3B,S3N
little blue heron	*Egretta caerulea*		SC	G5	S3B,S3N
northern harrier	*Circus cyaneus*		E/U	G5	S1B,S3N
osprey	*Pandion haliaetus*		T/T	G5	S2B
peregrine falcon	*Falco peregrinus*		E	G4	S1B,S1N
roseate tern	*Sterna dougallii dougallii*	LE	E	G4T3	S1B,S1N
snowy egret	*Egretta thula*		SC/S	G5	S3B,S4N
spotted turtle	*Clemmys guttata*		SC	G5	S3
tricolored heron	*Egretta tricolor*		SC/SC	G5	S3B,S3N
yellow-crowned night-heron	*Nyctanassa violacea*		T/T	G5	S2B,S2N

We have also checked the Natural Heritage Database and the Landscape Project habitat mapping for occurrences of any rare wildlife species or wildlife habitat within one mile of the referenced site. Please see Table 2 for species list and conservation status. This table excludes any species listed in Table 1.

Table 2 (additional species within one mile of referenced site).

Common Name	Scientific Name	Federal Status	State Status	Grank	Srank
Atlantic leatherback	*Dermochelys coriacea*	LE	E	G2	S1
Atlantic loggerhead	*Caretta caretta*	LT	E	G3	S1
barred owl	*Strix varia*		T/T	G5	S2B,S2N
black rail	*Laterallus jamaicensis*		T/T	G4	S2B,S2N
humpback whale	*Megaptera novaeangliae*	LE	E	G3	S1
northern pine snake	*Pituophis melanoleucus melanoleucus*		T	G4T4	S2
northern right whale	*Eubalaena glacialis*	LE	E	G1	S1
veery	*Catharus fuscescens*		S/S	G5	S3B
wood thrush	*Hylocichla mustelina*		SC/S	G5	S3B

We have also checked the Natural Heritage Database for occurrences of rare plant species or ecological communities. The Natural Heritage Database does not have any records for rare plants or ecological communities on the site or for rare plant species covered by the Flood Hazard Area Control Act rule within one mile of the site.

A list of rare plant species and ecological communities that have been documented from Ocean County can be downloaded from http://www.state.nj.us/dep/parksandforests/natural/heritage/countylist.html. If suitable habitat is present at the project site, the species in that list have potential to be present.

Status and rank codes used in the tables and lists are defined in EXPLANATION OF CODES USED IN NATURAL HERITAGE REPORTS, which can be downloaded from http://www.state.nj.us/dep/parksandforests/natural/heritage/nhpcodes_2008.pdf.

If you have questions concerning the wildlife records or wildlife species mentioned in this response, we recommend that you visit the interactive I-Map-NJ website at the following URL, http://www.state.nj.us/dep/gis/depsplash.htm or contact the Division of Fish and Wildlife, Endangered and Nongame Species Program at (609) 292 9400.

PLEASE SEE 'CAUTIONS AND RESTRICTIONS ON NHP DATA', which can be downloaded from http://www.state.nj.us/dep/parksandforests/natural/heritage/newcaution2008.pdf.

Thank you for consulting the Natural Heritage Program. The attached invoice details the payment due for processing this data request. Feel free to contact us again regarding any future data requests.

Sincerely,

Herbert A. Lord

Herbert A. Lord
Data Request Specialist

cc: Robert J. Cartica
NHP File No. 09-3907462-2261

NJDEP LANDSCAPE PROJECT MAPPING

Emergent Wetland Imperiled Species

LINK	Species	COUNT	RANK
10271	BLACK SKIMMER	1	4
10271	LEAST TERN	1	4
10271	NORTHERN HARRIER	1	4
10271	ROSEATE TERN	1	5
10271	BLACK SKIMMER FORAGING AREA	1	4
10271	BLACK-CROWNED NIGHT-HERON FORAGING HABITAT	1	3
10271	COLONIAL WATERBIRD FORAGING HABITAT	1	2
10271	COLONIAL WATERBIRD NESTING HABITAT	1	2
10271	TERN SPECIES FORAGING HABITAT	1	2
10271	YELLOW-CROWNED NIGHT-HERON FORAGING HABITAT	1	3
10271	EMERGENT SUITABLE	1	1
10173	BLACK SKIMMER FORAGING AREA	1	4
10173	BLACK-CROWNED NIGHT-HERON FORAGING HABITAT	1	3
10173	COLONIAL WATERBIRD FORAGING HABITAT	1	2
10173	HERPTILE PRIORITY SPECIES	2	2
10173	TERN SPECIES FORAGING HABITAT	1	2
10173	EMERGENT SUITABLE	1	1
10195	BLACK SKIMMER FORAGING AREA	2	4
10195	BLACK-CROWNED NIGHT-HERON FORAGING HABITAT	2	3
10195	COLONIAL WATERBIRD FORAGING HABITAT	2	2
10195	HERPTILE PRIORITY SPECIES	2	2
10195	TERN SPECIES FORAGING HABITAT	2	2
10195	EMERGENT SUITABLE	1	1
10258	BLACK SKIMMER FORAGING AREA	1	4
10258	BLACK-CROWNED NIGHT-HERON FORAGING HABITAT	1	3
10258	COLONIAL WATERBIRD FORAGING HABITAT	1	2
10258	TERN SPECIES FORAGING HABITAT	1	2
10258	YELLOW-CROWNED NIGHT-HERON FORAGING HABITAT	1	3
10258	EMERGENT SUITABLE	1	1
10259	BLACK SKIMMER FORAGING AREA	1	4
10259	BLACK-CROWNED NIGHT-HERON FORAGING HABITAT	1	3
10259	COLONIAL WATERBIRD FORAGING HABITAT	1	2
10259	TERN SPECIES FORAGING HABITAT	1	2
10259	YELLOW-CROWNED NIGHT-HERON FORAGING HABITAT	1	3
10259	EMERGENT SUITABLE	1	1
25091	NORTHERN HARRIER	1	4
25091	PEREGRINE FALCON	1	4
25091	OSPREY	6	3
25091	COPE'S GRAY TREEFROG	1	4

25091	BLACK SKIMMER FORAGING AREA	9	4
25091	BLACK-CROWNED NIGHT-HERON FORAGING HABITAT	2	3
25091	COLONIAL WATERBIRD FORAGING HABITAT	2	2
25091	HERPTILE PRIORITY SPECIES	4	2
25091	TERN SPECIES FORAGING HABITAT	8	2
25091	EMERGENT SUITABLE	1	1

Emergent Wetland Priority Species

LINK	Species	COUNT
10173	FOWLER'S TOAD	1
10173	SPOTTED TURTLE	1
10195	FOWLER'S TOAD	1
10195	SPOTTED TURTLE	1
25091	CARPENTER FROG	1
25091	FOWLER'S TOAD	2
25091	SPOTTED TURTLE	1

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE

Habitat Conservation Division
James J. Howard Marine
Sciences Laboratory
74 Magruder Road
Highlands, New Jersey 07732

June 8, 2009

TO: Jennifer Czar
Amy S. Greene Environmental Consultants, Inc.
4 Walter E. Foran Blvd, Suite 209
Flemington, NJ 08822

SUBJECT: New Jersey Department of Transportation
Route 72 Manahawkin Bay Bridges Project
Stafford Township and Ship Bottom Borough
Ocean County, NJ
ASGECI Project # 3109

Karen Greene
(Reviewing Biologist)

We have reviewed the information provided to us regarding the above subject project. We offer the following preliminary comments pursuant to the Endangered Species Act, the Fish and Wildlife Coordination Act and the Magnuson-Stevens Fishery Conservation and Management Act:

Endangered Species Act

Threatened and endangered shortnose sturgeon may be present in the project area at certain times of the year. As a result, further consultation by the federal action agency may be required depending upon the activities proposed by the applicant. As part of the federal authorization process, the federal action agency should contact NMFS Protected Resources Division to initiate coordination on this project. Requests for coordination can be addressed to: Endangered Species Coordinator, NOAA Fisheries Service's Protected Resources Division, 55 Great Republic Drive, Gloucester, MA 01930-2276

Fish and Wildlife Coordination Act

The following may be present in the project area: Resident, forage and benthic species including winter flounder, summer flounder, windowpane bluefish, river herring, bluefish, striped bass and hard clams. Submerged aquatic vegetation, a habitat area of particular concern for summer flounder has also been mapped in the project area. Avoidance and minimization of impacts to aquatic habitats should occur to the maximum extent practicable. Compensatory mitigation will be needed to offset unavoidable impacts. Seasonal work restriction may also be needed to minimize impacts to sensitive life stages of some species.

Magnuson-Stevens Fishery Conservation and Management Act
Essential Fish Habitat

The project area has been designated as Essential Fish Habitat (EFH) for one or more species. Further EFH consultation by the federal action agency will be required as part of the federal permit process. For a listing of EFH and further information, please go to our website at: http://www.nero.noaa.gov/hcd.

If you wish to discuss this further, please call 732-872-3023.

APPENDIX B

VEGETATION COMMUNITIES MAPPING

Key to Vegetation Communities:

A. Early successional field with scattered landscape trees. Includes maintained lawn with various grasses and common weedy species.

B. Late successional field. Includes young trees and saplings, shrubs and herbaceous plants and is not regularly maintained, but may be pruned or trimmed occasionally.

C. Palustrine forested wetland dominated by red maple and black gum.

D. High marsh dominated by common reed and marsh elder.

E. High marsh dominated by marsh elder, saltmeadow cordgrass, and seashore saltgrass.

F. Mosaic of smooth cordgrass low marsh and saltmeadow cordgrass and seashore saltgrass high marsh.

G. Unvegetated intertidal zone (beach).

H. Seashore saltgrass dominated high marsh with sparse patches of saltmeadow cordgrass.

I. Palustrine scrub/shrub and emergent wetland.

J. Second growth upland forest including pitch pine and black locust.

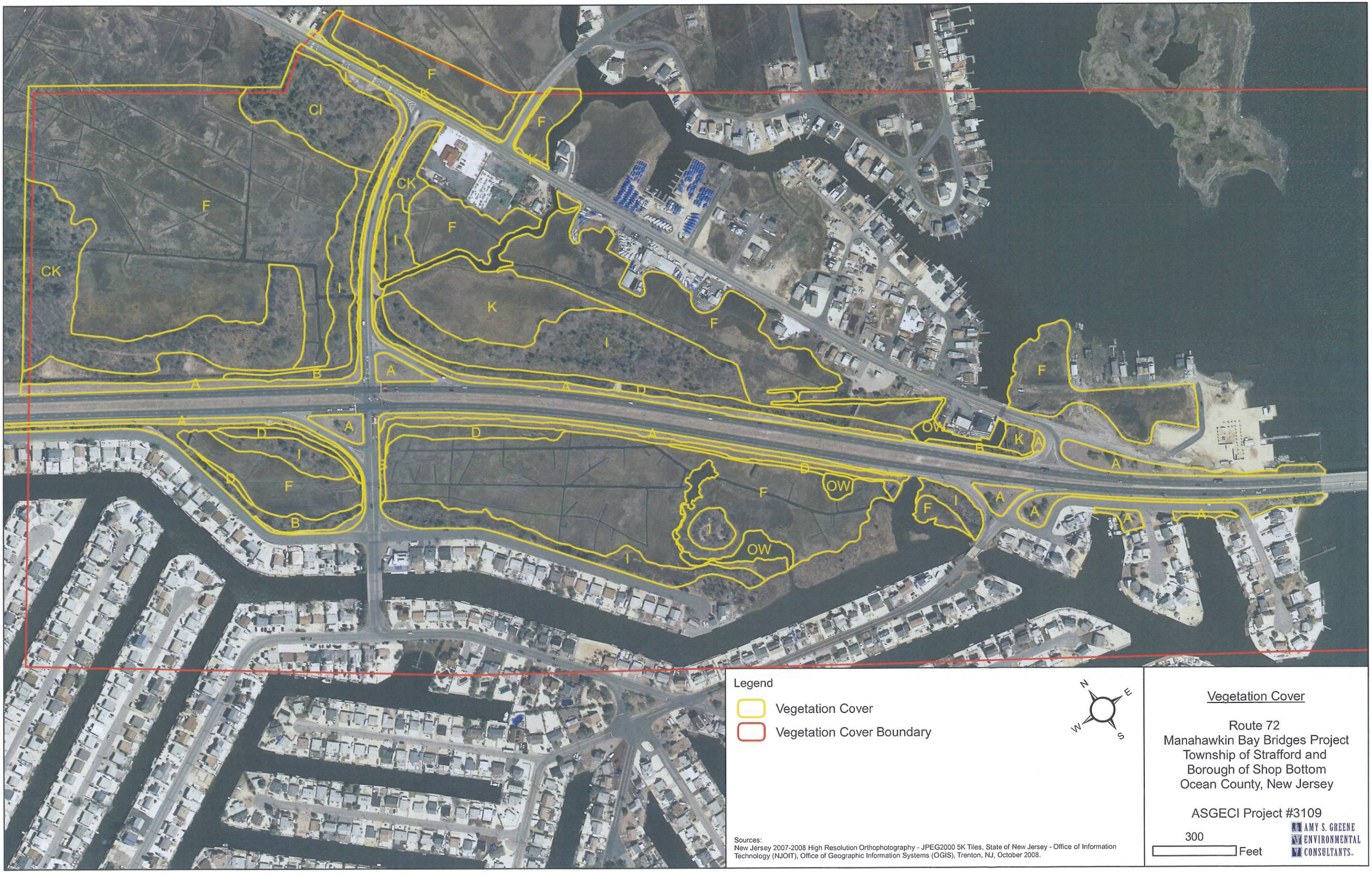
K. Common reed only wetland/high marsh.

L. High marsh codominant with common reed, saltmeadow cordgrass, and seashore saltgrass.

M. Barren Land.

CK. Mosaic of forested wetland and common reed high marsh.

OW. Open Water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ENVIRONMENTAL
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ASGECI Project #3109
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ENVIRONMENTAL
CONSULTANTS

Supplement to Technical Environmental Study on Ecology for Proposed ITS Locations

for

ROUTE 72 MANAHAWKIN BAY BRIDGES

MP 25.5 TO MP 28.2

in

Stafford Township and Ship Bottom Borough

Ocean County, New Jersey

August 2010

Prepared For:
New Jersey Department of Transportation
Attn: Pamela Garrett
Trenton, NJ 08625

Prepared By:
PB Americas, Inc.
506 Carnegie Center Blvd.
Princeton, NJ 08540

Route 72 Manahawkin Bridges Project
Intelligent Transportation Systems (ITS)

1. OVERVIEW

ITS are a set of tools to improve transportation focusing on collecting real-time conditions from the roadways, sending it to a Traffic Operations Center (TOC), and providing traveler information in response. Since the Route 72 Manahawkin Bay Bridges in this project are part of the transportation corridor running from the Garden State Parkway (GSP) to Long Beach Island (LBI), NJDOT directed that the ITS portion of the project cover the corridor even though it extends beyond the limits of the other project work. The new ITS devices that will be designed are two Closed Circuit Television (CCTV) cameras, three dynamic message signs (DMS) signs, four Toll Tag Readers (TAG) (for estimating travel time), and one road weather information station (RWIS). These devices will become part of the existing ITS equipment along the corridor which includes two CCTV's, one DMS, and one weight-in-motion (WIM) station. Figures 1A and 1B show the overview of the ITS devices proposed for the project.

2. ALTERNATIVES PROCESS

Two alternatives were considered for communication networking the existing and proposed ITS devices: fiber optic cable in conduit and wireless. PB's cost estimates for both options resulted in $8.4 million for fiber optic versus $2.5 million for wireless communication network. Therefore, the fiber optic cable option was rejected due to higher costs as well as the significantly greater ground disturbance. At an August 5, 2009 design coordination meeting among NJDOT and PB, the wireless communication option was chosen. The proposed wireless network will be supported by various pole-mounted devices along the corridor that are co-located with ITS devices or signalized intersections. The wireless network will connect to the existing fiber optic cable system along the Garden State Parkway (GSP) that will provide a network connection to NJDOT's TOC-South in Cherry Hill. The only anticipated work in Garden State Parkway Right-of-Way (ROW) is installation of a short run of conduit between a proposed equipment cabinet in NJDOT Route 72 ROW and a fiber optic splice point near the Route 72 westbound ramp to the GSP southbound lanes. All work on the GSP will be conducted in accordance with applicable New Jersey Turnpike Authority standards.

The selection of ITS devices and their approximate locations were based on providing functionality desired by NJDOT for managing the corridor through visual monitoring, data collection, and opportunities to provide traveler information. Conceptual locations were further refined based on stakeholder input following the November 16, 2009 public officials meeting. The locations were agreed upon by NJDOT via the Systems Engineer Review Form (SERF) dated June 18, 2010 as shown on Figures 1A and 1B. NJDOT standard equipment is being used.

3. DESCRIPTION OF ITS DEVICES

The following descriptions give specific information on each of the ITS devices proposed for the project. As of the drafting of the revised EA, the conceptual locations were final, but the exact locations have not been finalized. Approximate areas under considerations were submitted for environmental review.

Closed Circuit Television (CCTV) Camera

The purpose of the CCTV cameras is to monitor traffic flow and verify crashes for supporting emergency response. The footprint of a typical CCTV site includes the pole foundation, guiderail, and possibly a 2' x 3' equipment cabinet with an adjacent 5' x 3' concrete pad. A sample photo of a CCTV camera is shown in Figure 2 and he summary of CCTV cameras proposed in this project is shown in Table 1.

Figure 2: Sample CCTV Camera *(photo of CCTV #1)*

Table 1 Proposed CCTV Cameras		
No.	**Location**	**Purpose**
3	On Route 72 at MP 26.7 - Installed on the bridge, so foundation or no concrete pad is needed. - Cabinet will be mounted on the pole.	To monitor traffic conditions on the Manahawkin Bay Bridge and beyond.
4	On LBI at the foot of the East Thorofare Bridge - Installed in the median. - Protected with guiderail. - Cabinet and pad will be installed in the ground near the pole.	To monitor traffic conditions along 8th and 9th Streets on Long Beach Island and toward Cedar Bonnet Island. Co-located with TAG #4.

Note: *CCTV #1 and #2 are existing devices which will be added to the wireless network*

Variable Message Sign (VMS) *also known as Dynamic Message Sign (DMS)*

The VMS's are intended to provide traveler information including congestion advisories, construction updates, and travel times (based on data from the tag readers further described below). They can also assist with emergency management associated with major storms by providing information on evacuation routes, shelters, and road closures.

The typical footprint of a VMS site includes two 3' diameter foundations for support posts, a 3' x 4' equipment cabinet with an adjacent 5' x 5' concrete pad, and guiderail protection. The sign itself is approximately 18' wide, 7' tall, and 1' thick. Conduit will be required between the sign location and available power. A photo of a sample VMS is shown in Figure 3, and the summary of VMSs proposed in this project is shown in Table 2.

Figure 3: Sample VMS *(Photo of VMS #4)*

Table 2
Proposed VMS--*VMS #4 is existing*

No.	Location	Notes
1	On Route 72 between the GSP and Nautilus Drive in the eastbound shoulder approximately 500ft east of the intersection of Route 72 and Nautilus Drive (MP 21.1)	For eastbound traffic Guiderail protection is anticipated
2	On Route 72 between the GSP and Route 9 in median just north of the signalized entrance to Stafford Park Mall (MP 22.8)	For eastbound traffic Guiderail protection is anticipated, possibly enclosing non-vegetative surface
3	On Route 9 in southbound shoulder north of Hilliard Boulevard between the Wawa store and car wash (MP 72.1)	For southbound traffic Guiderail protection is not anticipated due to the design speed and existing paved shoulder width on Route 9 . Can be used to advise travelers bound for LBI of incidents or construction on Route 72 west of Marsha Drive which can be avoided by using Hilliard Boulevard and East Bay Avenue

TAG Reader

Toll tag readers detect EZ-Pass devices in vehicles as they move along a corridor. The data, which is kept separate from user accounts to protect privacy, can be used to estimate travel times between the GSP and LBI in both directions for possible display on VMS's.

These sites will consist of antennae mounted on traffic signal steel mast arms suspended over the roadway, either from the shoulder areas or medians. One pole may be required for each direction of traffic. The antenna is approximately 22" long, 11" wide, and 2" deep. A similar model, though shorter than the one currently proposed for this project, is shown in Figure 3 along with a typical EZ-Pass tag.

Figure 3: Toll Tag Reader Antenna

Since the antennae are mounted on break-away signal-type poles, guiderail protection is not anticipated. Conduit is required between power points and poles and/or cabinets.

The four tag reader locations are proposed along the Route 72 corridor as follows (Figures 1A and 1B):

Tag1: Between the GSP and Route 9, one on either side of the intersection of Route 72 with Doc Cramer Boulevard (labeled as E Rd on some maps)
Tag 2: Between Route 9 and Jennings Road
Tag 3: Between Marsha Drive and E. Bay Avenue
Tag 4: On LBI at the eastern end of the causeway, co-located with CCTV #4.

Road Weather Information Station (RWIS)

The RWIS is planned to collect and report weather related information such as pavement conditions, wind speeds, relative humidity, dew point, temperature, visibility, and precipitation to assist with assessing travel conditions, posting of travel advisories, and deploying road maintenance crews. A photo of a sample RWIS is shown in Figure 5.

Figure 4: Sample RWIS

The weather station will be installed in the median of Route 72 on Cedar Bonnet Island near MP 27.6. The footprint of the weather station is approximately 15' by 15' enclosed by a chain link fence containing the foundation for the tower and other equipment. The area within the fence may be concrete or asphalt to prevent the need to mow inside. Conduit will be required between the RWIS and a power point if a solar option is not feasible.

CTSS (Controlled Traffic Signal System)

The CTSS will network the five existing and one new traffic signal along 8th and 9th Streets in Ship Bottom Township on Long Beach Island. The communication among the traffic signals will enable more reliable coordination of signal timing which is intended to improve traffic flow onto and off of LBI particularly during heavy peak seasonal demands. The communication from the signals to NJDOT's TOC-South will allow remote updates of signal timing plans, such as during emergency events. The CTSS is composed of small antennae mounted on traffic signal poles and equipment which will reside in the traffic signal controller cabinet.

4. EXISTING ENVIRONMENTAL CONDITIONS

VMS #1

Proposed ITS VMS#1 will be located along the eastbound side of Route 72 in Manahawkin, New Jersey near Nautilus Drive adjacent to a transitional forest. The project area is also located within Pinelands boundaries (Figure 1A).

Dominant vegetation in this area consists of pitch pine (*Pinus rigida*, FACU), scarlet oak (*Quercus coccinea*, FACU), white oak (*Quercus alba*, FACU), black gum (*Nyssa sylvatica*, FAC), red maple (*Acer rubrum*, FAC), boneset (*Eupatorium spp*., FAC-), and Northern bayberry (*Morella pensylvanica*, FAC) with switchgrass (*Panicum virgatum*, FAC) and maintained grass within the roadway embankment.

Mill Creek is approximately 375 feet south of the project area and is classified as Pinelands Waters (PL). Wetlands exist approximately 150 feet south of the roadway where the topography begins to slope downward into a depression. Near the eastern end of the project area, wetlands begin at approximately 50 feet from the roadway. These findings correspond to existing wetland mapping for the area.

The soil units mapped for this area are DocB, BerAt, and MakAt which are classified as hydric. Field observations confirmed that the soils within this area are accurate as mapped.

Photo A: Looking west towards Nautilus Drive in area of proposed VMS #1.

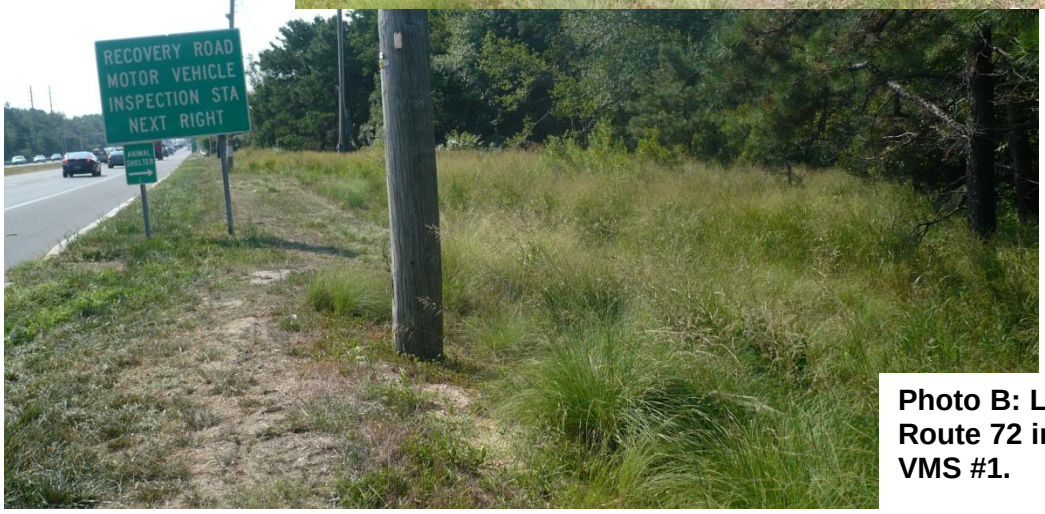

Photo B: Looking west along Route 72 in area of proposed VMS #1.

CCTV #1 Antenna (Photo C)

ITS CCTV #1 is an existing ITS, that will be added to the existing wireless network via a proposed antenna that will be installed on the existing pole and equipment cabinet that is located where the medians of Route 72 and the GSP cross. The project area is also located within Pinelands boundaries.

Dominant vegetation in this area consists of pitch pine, white oak, scarlet oak, sassafras (*Sassafras albidum*, FACU-), black gum, American holly (*Ilex opaca*, FACU), red maple, grape (*Vitis spp*., FACU), Eastern red cedar (*Juniperus virginiana*, FACU), arrowwood (*Viburnum dentatum*, FAC), and tree of heaven (*Ailanthus altissima*, NI).

Mill Creek runs through the project area and is classified as Pinelands Waters (PL). Wetlands exist within a depressional area in the vicinity of Mill Creek in the southern portion of the project area. Further north of Mill Stream, the topography begins to slope upwards into upland areas. These findings correspond to existing wetland mapping for the area.

The soil units mapped for this area are DocB and MakAt which are classified as hydric. Field observations confirmed that the soils within this area are accurate as mapped.

Photo C: Looking north at GSP entrance ramp at area of proposed CCTV #1 antenna.

Tag #1

Proposed ITS Tag #1 will be located near the intersection of Route 72 and Doc Cramer Boulevard. The exact ITS location has not yet been determined; however, will consist of either one signal type pole on each side of the road or a single pole in the median. The median area consists only of maintained grass. The proposed ITS location along the eastbound roadway consists of maintained grasses and is located adjacent to a retention basin. The proposed ITS location along the westbound roadway is dominated by pitch pine, scarlet oak, white oak, black gum, green briar (*Smilax rotundifolia*, FAC), bracken fern (*Pteridium aquilinum*, FACU), Eastern red cedar, and sassafras.

Mill Creek UNT is located approximately 150 feet west of this area and is classified as FW2-NT/SE1. Wetlands exist along the western portion of the project area adjacent to Mill Creek UNT. These findings correspond to existing wetland mapping for the area. The soil unit mapped for this area is DocB which is classified as hydric. Field observations confirmed that the soils within this area are accurate as mapped.

Additionally, there is one known contaminated site (Site ID #341636) within the vicinity of this proposed ITS.

Photo D: Looking west along Route 72 at area of proposed Tag #1

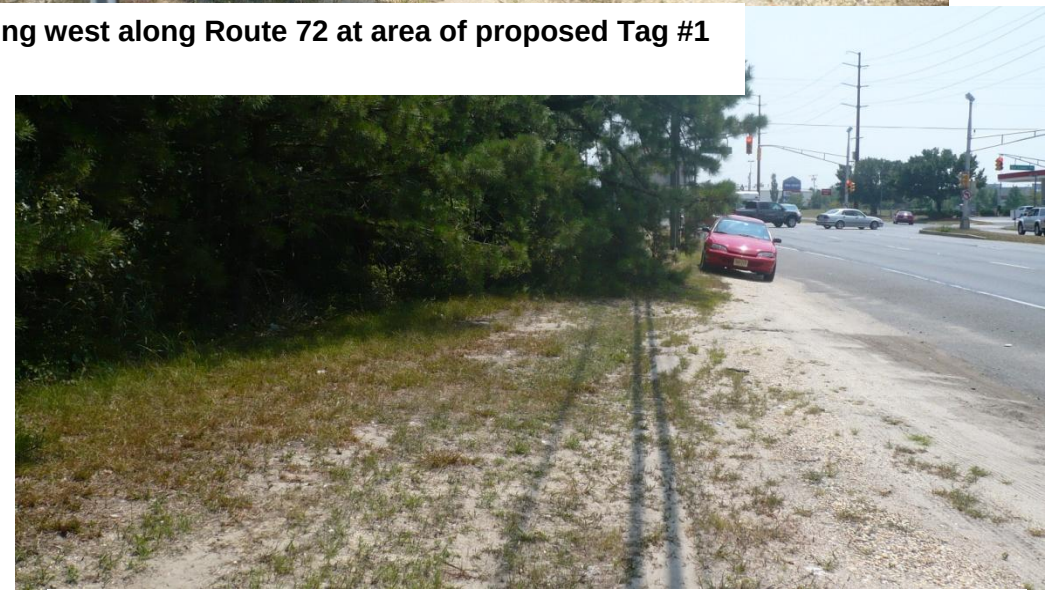

Photo E: Looking east along Route 72 towards Doc Cramer Blvd. in area of proposed Tag #1

VMS #3

Proposed ITS VMS #3 will be located along the Route 9 southbound lane just north of the intersection with Hilliards Boulevard between Wawa and See Foam Carwash.

Dominant vegetation in this area consist of green briar, red maple, pitch pine, arrowwood, white oak, American holly, sweet gum (*Liquidambar styraciflua*, FAC), black cherry (*Prunus sero*tina, FACU), winged sumac (*Rhus copallinum*, NI), grape spp, and scarlet oak. No streams or hydrology exist within or adjacent to the project area. Additionally, no wetlands were identified within or adjacent to this area. The soil unit mapped for this area is HboA which is classified as hydric. Field observations confirmed that the soils within this area are accurate as mapped.

Photo F: Looking north along Route 9 towards car wash in area of proposed VMS #3

Photo G: Looking north from Wawa parking lot at area of proposed VMS #3

VMS #2

This proposed ITS will be located within the median east of the Route 72 and Doc Cramer Boulevard intersection across from the Honda dealership. No wetlands or other sensitive resources were identified in this area.

Photo H: Looking north at retention basin adjacent to area of proposed VMS #2.

Photo I: Looking north at median area in proposed location of VMS #2.

Tag #2

This proposed ITS will be located within the roadway shoulder just west of the Route 72 and Jennings Road intersection. No wetlands were identified in this area.

Photo J: Looking west at median area adjacent to proposed Tag #2

Tag #3

Proposed ITS Tag #3 will be located near the intersection of Route 72 and Marsha Drive. The exact ITS location has not yet been determined; however, will consist of either one pole on each side of the roadway, or one or two poles in the median. The median area consists of only maintained grass. Both sides of the road are maintained grass embankments adjacent to tidal wetlands.

Photo K: Looking west along Route 72 in area of proposed Tag #3, just east of Marsha Drive

Photo L: Looking north at area of proposed Tag #3, just east of Marsha Drive

CCTV #3 (No photos)
This proposed ITS will be located on the new bay bridge structure.

RWIS #1

Photo M: Looking north at area of proposed RWIS #1

This proposed ITS will be located within the Route 72 median on Cedar Bonnet Island. No wetlands were identified in this area.

Photo N: Looking north at area of proposed RWIS #1

CCTV #4 and Tag #4
This proposed ITS will be located within the Route 72 median at the entrance to Ship Bottom Borough. No wetlands were identified in this area.

Photo O: Looking west at area of proposed CCTV #4/Tag #4

Analysis of Impacts

As the final locations of each proposed ITS has not yet been determined, there is greater flexibility to install the ITS in areas that do not contain wetlands. However, impacts to wetland transition area and/or riparian zone are still likely.

Potential riparian zone impacts may result from the installation of the foundations for Tag #3, CCTV #4, and RWIS #1. Tag #4 will be co-located with CCTV #4, but will not have riparian zone impacts directly associated with its installation as these devices are typically installed on existing poles unless there is no pole already in the area.

Potential wetland transition area impacts may result from the foundation installations for VMS #1 and RWIS #1. Impacts may also be expected from the installation of Tags #1-3 unless there is an existing pole already in the proposed project area.

Permits Approvals Required

A summary of potential permit requirements is provided in the following table.

Proposed ITS	Potential Permit Requirements
VMS #1	Pinelands PDA, Pinelands FWGP#2/Transition Area Waiver
VMS #2	NJDEP Coastal Permit
VMS #3	NJDEP Coastal Permit
Tag #1	NJDEP FWGP#2/Transition Area Waiver, NJDEP Coastal Permit
Tag #2	NJDEP Coastal Permit, NJDEP FWGP#2/Transition Area Waiver
Tag #3	NJDEP FWGP#2/Transition Area Waiver, NJDEP Coastal Permit, NJDEP FHAP, USACE NWP#12
Tag #4	NJDEP Coastal Permit, NJDEP FHAP, USACE NWP#12
CCTV #1	Pinelands PDA, Pinelands FWGP#2/Transition Area Waiver
CCTV #3	NJDEP Coastal Permit, USACE NWP#12
CCTV #4	NJDEP Coastal Permit, NJDEP FHAP, USACE NWP#12
RWIS #1	NJDEP Coastal Permit, NJDEP FHAP, USACE NWP#12, NJDEP FWGP#2/Transition Area Waiver

AMY S. GREENE
ENVIRONMENTAL
CONSULTANTS INC.

March 21, 2011

Ms. Judy Burton
Parsons Brinckerhoff
2000 Lenox Drive, 3rd Floor
Lawrenceville, NJ 08648

RE: Route 72 Bridge over Manahawkin Bay Addendum to the TES

Dear Ms. Burton:

Attached is an addendum to the TES on Threatened and Endangered Species for the Route 72 Bridge Project over Manahawkin Bay. This addendum includes a discussion on the various sea turtles and anadromous fish which may occur within Manahawkin Bay.

The National Marine Fisheries Service (NMFS) has indicated that several species of sea turtle including the Federally endangered Kemp's ridley (*Lepidochelys kempi*) and Atlantic leatherback (*Dermochelys coriacea*) as well as the Federally threatened loggerhead (*Caretta caretta*) and Atlantic green sea (*Chelonia mydas*) may occasionally be present within Manahawkin Bay in the vicinity of the project area. None of the four species of turtle nest in New Jersey; therefore, impacts to nesting activities are not a concern. Kemp's ridley, loggerhead and green sea turtles have fairly similar life cycle characteristics, distributions, and habitat preferences. As noted above, all of these species mate and nest in southern latitudes. Hatchlings emerge from nests located on sandy, ocean and bay beaches and immediately enter the water. The first several years of their life stage is spent in a pelagic existence within beds of sargassum weeds that float with the currents in the Gulf of Mexico and along the Atlantic coast. Once matured, the juveniles move closure to shore to take on a neritic existence in which they live in fairly shallow waters along the continental shelf and within bays and estuaries. Juveniles of these species feed on a variety of organisms including crabs, sponges, tunicates and occasionally small fish. These species are also seasonal migrants that will begin moving away from New Jersey waters to the south in the fall (October/November) and return in the spring (June).

The Atlantic leatherback is the largest turtle in the world, and it leads a slightly different type of existence from the other sea turtles. Because of its size and physiology, this turtle is able to tolerate colder temperatures than the other species of sea turtles. This allows it to venture into water at higher latitudes and remain in temperate latitudes later into the fall or winter. Little is known about the habits of hatchling and juvenile leatherbacks, but since they are rarely found close to shore they are thought to lead a purely pelagic existence. Adults do venture into bays and estuaries on occasion, but they tend to lead a more pelagic existence unlike the other turtles. This may be due to the fact that their primary forage consists of jelly fish which often congregate in large numbers off shore

The primary threats to all of these turtle species have been related to nesting. The combination of loss of habitat and predation has devastated the populations of each species. Because the proposed project will not have any impact on nesting habitat or breeding behavior, the primary concern is associated with impacts that occur in the marine environment. These threats along with proposed mitigation measures are as follows:

1. Oil/petroleum spills – A spill prevention and emergency clean up plan will be in place prior to any construction activities to prevent the accidental discharge of any petroleum products into the water.

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P.O. Box 551 ■ New Cumberland, Pennsylvania 17070 ■ 717.932.9495 ■ fax 717.938.5847
Printed on recycled paper

2. Dredging – No dredging activities are proposed for this project.
3. Marine and Dock Development – The proposed project is strictly a transportation project, and although access by the public to the waterfront will be a component of the project, dock development is not proposed and there is no expectation that there will be any increase in boating activity as a result of bridge improvements.
4. Seagrass Bed Loss – Seagrass beds will be impacted by the proposed project; however, every effort has been made to minimize this impact and plans are in place to mitigate the loss by creating seagrass beds elsewhere.
5. Disease and predation – The proposed project will not have an impact on disease and predation.

Other threats directly associated with construction activities are possible though remote. All in-water work will be conducted within the confines of heavy-duty turbidity barriers. These barriers will be put in place prior to driving piles for the bridge piers. Care will be taken when installing the barriers to prevent any entrapment of turtles or fish. These barriers will also help to reduce turbidity in the surrounding waters that might hamper the ability of turtles to forage. There are no plans to demolish any of the existing bridge structure, so impacts related demolition, including blasting, is not anticipated.

NMFS also has a concern about project related impacts to blueback herring (*Alosa aestivalis*) and alewife (*Alosa pseudoharengus*). These are anadromous species that spend most of their adult lives in the marine environment and periodically move into freshwater streams to spawn. These fish can be found in Manahawkin Bay year round, but they tend to move through the project area en masse during spawning runs which typically lasts from March 1st to June 30th. Best management practices will be instituted during construction to prevent any impact to water quality that might harm resident anadromous fish. In order to protect these fish during their spawning runs, in-water construction activities will be restricted between March 1st and June 30th. Activities conducted within cofferdams and heavy-duty turbidity barriers may be allowed under certain circumstances. Communications and coordination with NMFS will be required prior to engaging in any in-water work activities even within the confines of these structures.

If you require any additional information, please feel free to contact me at 908-788-9676 (Ext. 35).

Yours truly,

Bill Romaine
Senior Project Manager

cc: ASGECI File 3109

Submerged Aquatic Vegetation Delineation Survey

June 2009

Prepared For The:

Route 72 Manahawkin Bay Bridges Improvements Project

Prepared By:

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1.0 INTRODUCTION

During May 2009, LGA Engineering, Inc. (LGA) conducted a Submerged Aquatic Vegetation (SAV) Survey of the proposed Rt. 72 Bridge study area. The project delineation was performed in accordance with the Seagrass Survey Guidelines for New Jersey, December 1991, prepared by Jeffrey C. Lockwood, National Marine Fisheries Service ("Survey Guidelines"), as required by NJDEP and NMFS. Aerial photography and field verification were conducted in accordance with the procedures for "Seagrass Surveys by Aerial Photography" as and "Exploratory Surveys: Defining the Study Area" as detailed within the Survey Guidelines as follows (directly from Lockwood 1991):

SEAGRASS SURVEYS BY AERIAL PHOTOGRAPHY

In most cases, aerial surveys are strongly encouraged as a supplement to on-site surveys in order to provide a qualitative overview of seagrass distribution. However, high-resolution aerial surveys may be necessary for larger projects to verify in-water surveys, and to provide insights and relationships between underwater physiographic features and seagrass bed distribution. Methods and guidelines for aerial photography and mapping of submerged vegetation are described in Orth et al. (1990) and Orth et al. (1991). Additional information on aerial photography and interpretation of aerial photographs is given Good et al. (1978); Earth Satellite Corporation (1979); and Orth and Moore (1983).

For optimum resolution of seagrass beds, a large-format mapping camera with Aerochrome transparency film is required. For smaller projects, a 35 mm camera with a 50 mm lens, 200 speed Ektachrome slide film and a polarizing filter often will suffice.

The photographs must be taken on a clear day (no or low haze; no clouds beneath aircraft; no more than scattered or thin broken clouds, or thin overcast above aircraft). Winds must be 10 knots or less, there must be no waves or turbidity from recent storms, and the bottom of the waterway must be clearly visible. The photos generally should be taken with sun angles of 20 to 40 degrees above the horizon. Mid-morning is usually an ideal time since afternoon sea breezes have not begun. Photos should be taken at low tide, +/-0 to 1.5 ft, as determined by NOAA tide tables.

For most projects, a suitable altitude is 1200 to 1500 ft. Photos must show a plan view of the project area (90 to the water surface), and should not be taken facing into the sun. If multiple photographs are required to cover a project, they should overlap 60% horizontally (along flight line) and 20% laterally to reduce sun glint. Always include land reference points in each photo. For areas located far from land, additional photos at high altitudes may be required to include land references. In no case should a scale finer than 1:24,000 be employed.

With 35 mm film, use an internegative to make enlarged prints (8 x 10) from the transparencies. Positive prints should made from Aerochrome film in the same size as the transparency. Submit

the prints, a map showing flight lines and location of photos, and description of methods used to the agency requesting the survey. Environmental review agencies may wish to view original transparencies for optimum resolution of seagrass beds and other underwater features, and keep print copies for their files.

EXPLORATORY SURVEY
DEFINING THE STUDY AREA

An exploratory survey is required to verify the presence of seagrass and to determine the maximum depth of seagrass in the vicinity of the project. Sampling should be limited to areas no deeper than the deepest natural seagrass patch found in the vicinity of the project. Otherwise, by including areas incapable of supporting seagrass in bottom coverage estimates, coverage estimates would be skewed too low for the areas where seagrass is present.

First, install a sturdy stake or pole below the mean low water line, but close to shore. The stake should be marked to reduce navigation hazards. Mark the water level on the stake at the time of the exploratory survey. This provides a datum independent of any unusual tidal conditions, so that the survey can be repeated within the same depth contours if necessary. If the survey will extend beyond one day, also record the water level relative to an independent reference such as mean high water for the project location, or relative to a fixed structure such as the top of a bulkhead. This will allow placement of another marked stake should the first one be removed by a storm or vandals, or if the survey is repeated later in time.

To locate the deepest seagrass patches, snorkel or dive across all the transects as described above. Examine the substrate closely – seagrass may not be visible from the water surface. Measure and record the depth from the water surface for the deepest seagrass patch found along each transect. Also record the time for each measurement.

During the exploratory survey, check the stake periodically, and record how much the water level has changed. Correct each individual measurement of maximum seagrass depth by interpolating what the water level on the stake would have been at the time of the measurement, and adding or subtracting. If the tide is rising, subtract the difference between the reference mark on the stake and the interpolated water level at the time of measurement from the maximum seagrass depth. If the tide is falling, add the difference to the maximum seagrass depth. When all data have been collected (and corrected if necessary), note the deepest seagrass in the project area.

EXAMPLE 1: In doing the third transect of an exploratory survey, the maximum depth that seagrass is encountered is 4.2 ft. below the water level. At the time the third transect is completed, the water level is observed or interpolated to be 0.3 ft below the reference mark on the stake. Record the maximum seagrass depth for that transect as 4.5 ft below the reference mark.

EXAMPLE 2: In doing the fifth transect of an exploratory survey, the maximum depth that seagrass is encountered is 5.2 ft. below the water level. At the time the fifth transect is completed, the water level is observed or interpolated to be 0.5 ft above the reference mark on the stake. Record the maximum seagrass depth for that transect as 4.7 ft.

If no seagrass is found during the exploratory survey, there is no need to proceed with transect sampling. However, the total absence of seagrass at the site must be confirmed by aerial photography or by a resource agency inspection.

2.0 DELINEATION SURVEY METHODOLOGY

Delineation of existing SAV bed limits within the project study area (defined by the project team as 500 feet on either side of all four bridges) was conducted in May 2009. As the Survey Guidelines require an initial survey start date of June 1, permission was specifically requested of and given by Karen Greene (NMFS) to conduct the survey for this project in May. This permission was requested by LGA based upon our prior experience that presence/absence surveys conducted within the month of May are adequate to ensure a high standing crop of seagrass in this region. This request was made in order to conduct SAV field activities in conjunction with other ecological studies being performed for the project (i.e. wetland delineations). In addition, as a detailed Hydrographic Survey and Tidal Study were being performed simultaneously for this project by our office, the recommended exploratory survey methodology within The Guidelines for determining maximum depth of seagrass within the vicinity of the project was supplemented with a review and comparison of this more detailed information. Qualifications for the LGA project team are included as Appendix A.

2.1 Aerial Photography

A low altitude flight (1200 ft.) was conducted by Nor East Mapping, Inc. Color Orthometric Aerial Photographs were generated and placed into NAD 83 coordinates at a scale of 1" = 100'. These images were then digitally georeferenced and inserted into an AutoCAD drawing for further analysis and manipulation.

2.2 Delineation Process

The delineation methodology incorporated a five step process:

(1) An initial "desk top" hand delineation based upon appearance of SAV on the digitally enhanced photographs coupled with prior mapping of SAV in the region (Figures 1 and 2);

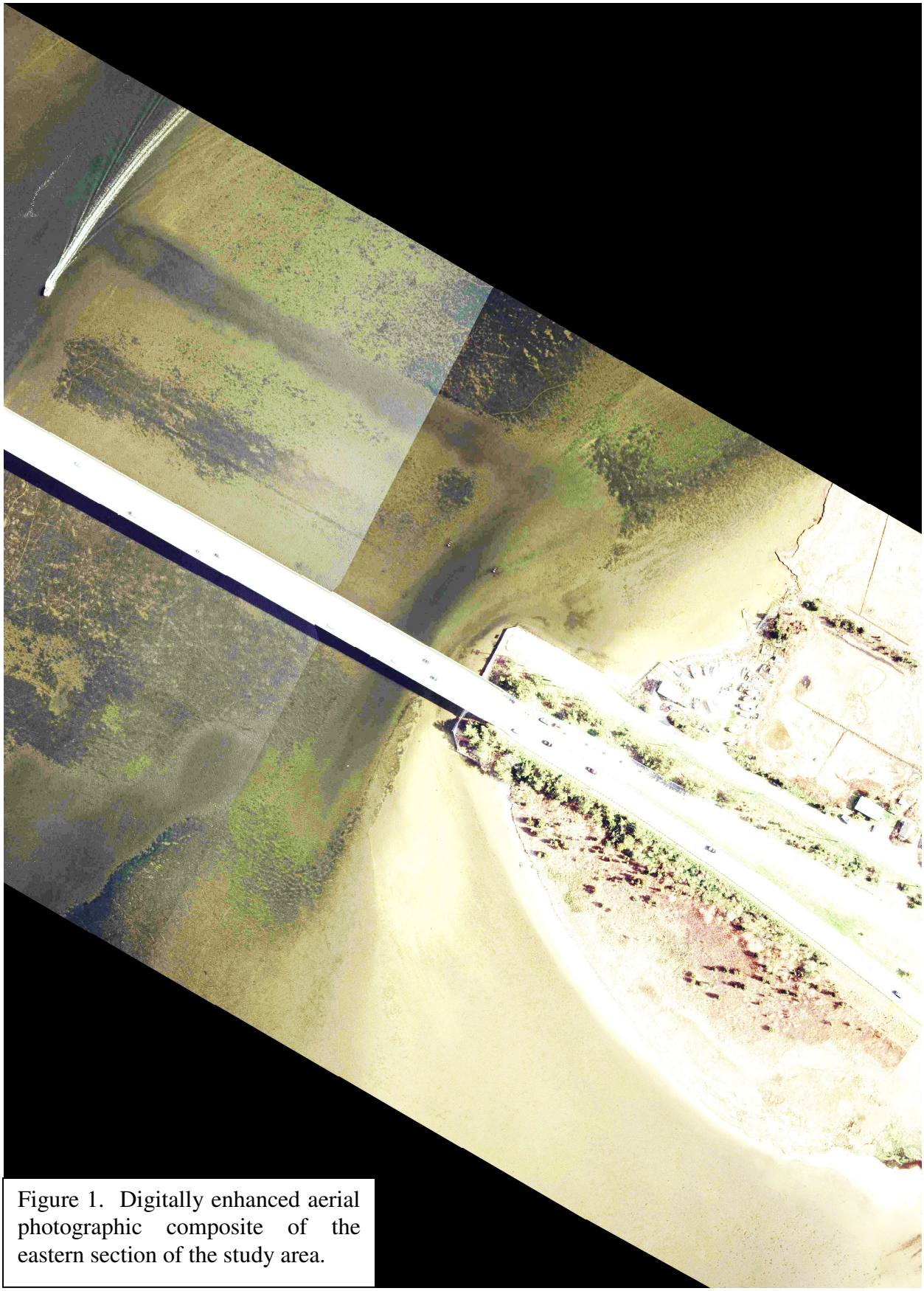


Figure 1. Digitally enhanced aerial photographic composite of the eastern section of the study area.

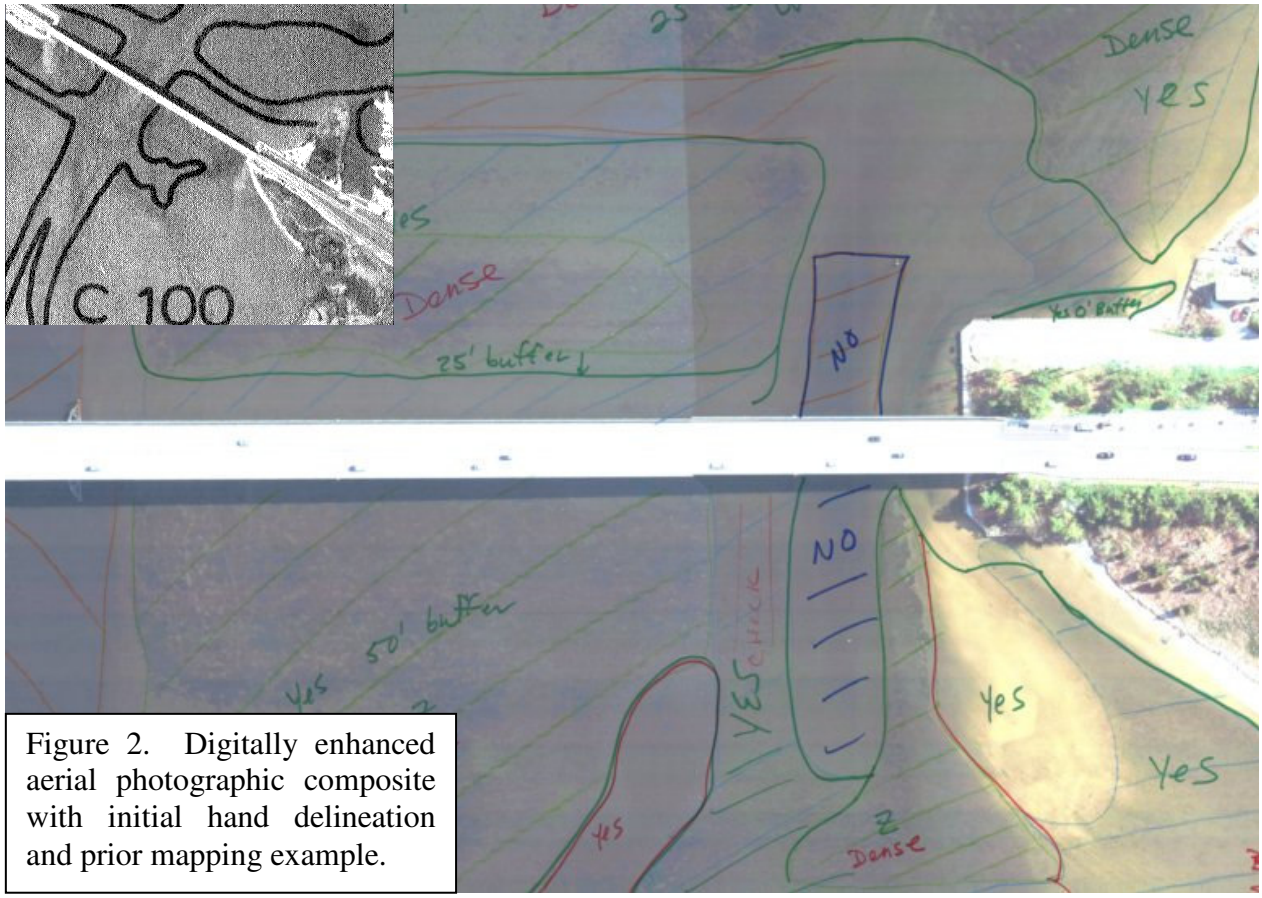


Figure 2. Digitally enhanced aerial photographic composite with initial hand delineation and prior mapping example.

(2) Digitizing the "desk top" hand delineation and developing coordinates for line establishment in the field (Figure 3);

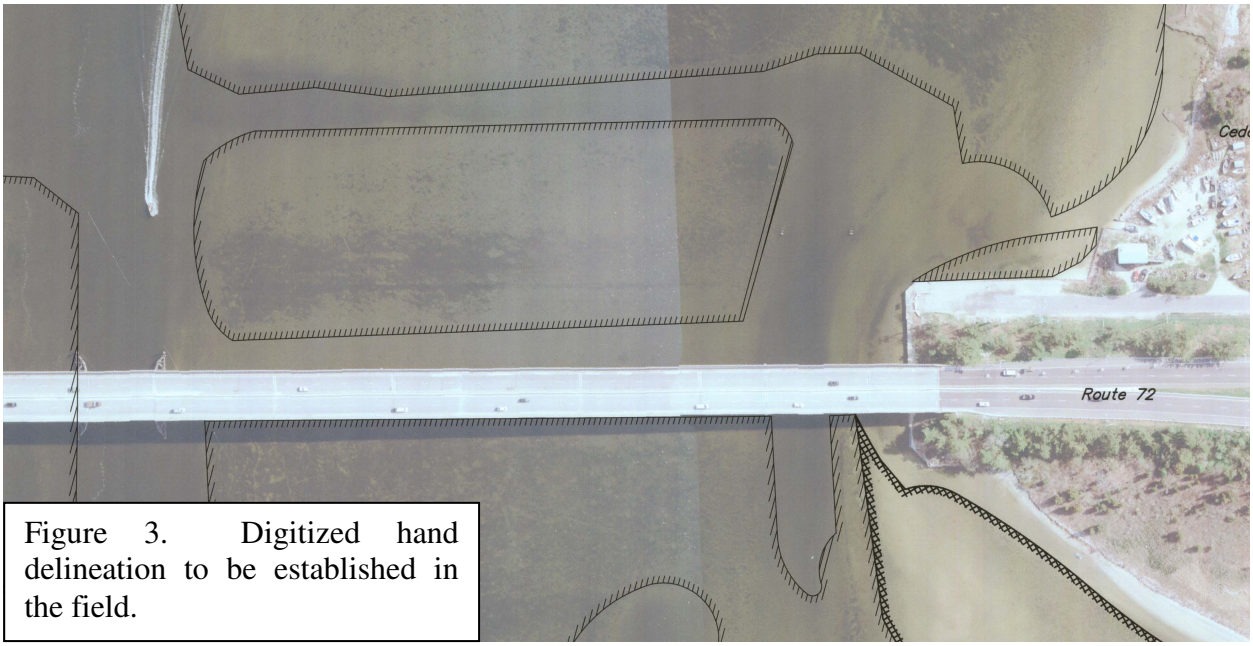


Figure 3. Digitized hand delineation to be established in the field.

(3) Survey staking of the line coordinates in the field with 10' PVC for ground truth verification was conducted by LGA licensed surveyors;

(4) Modification of the survey lines based upon ground truthed conditions using a combination of grab sampling using a rake, view scope observations and underwater diver inspection (Figure 4). In some cases, hand delineated SAV was ground truthed as algae and removed from the final designation; and

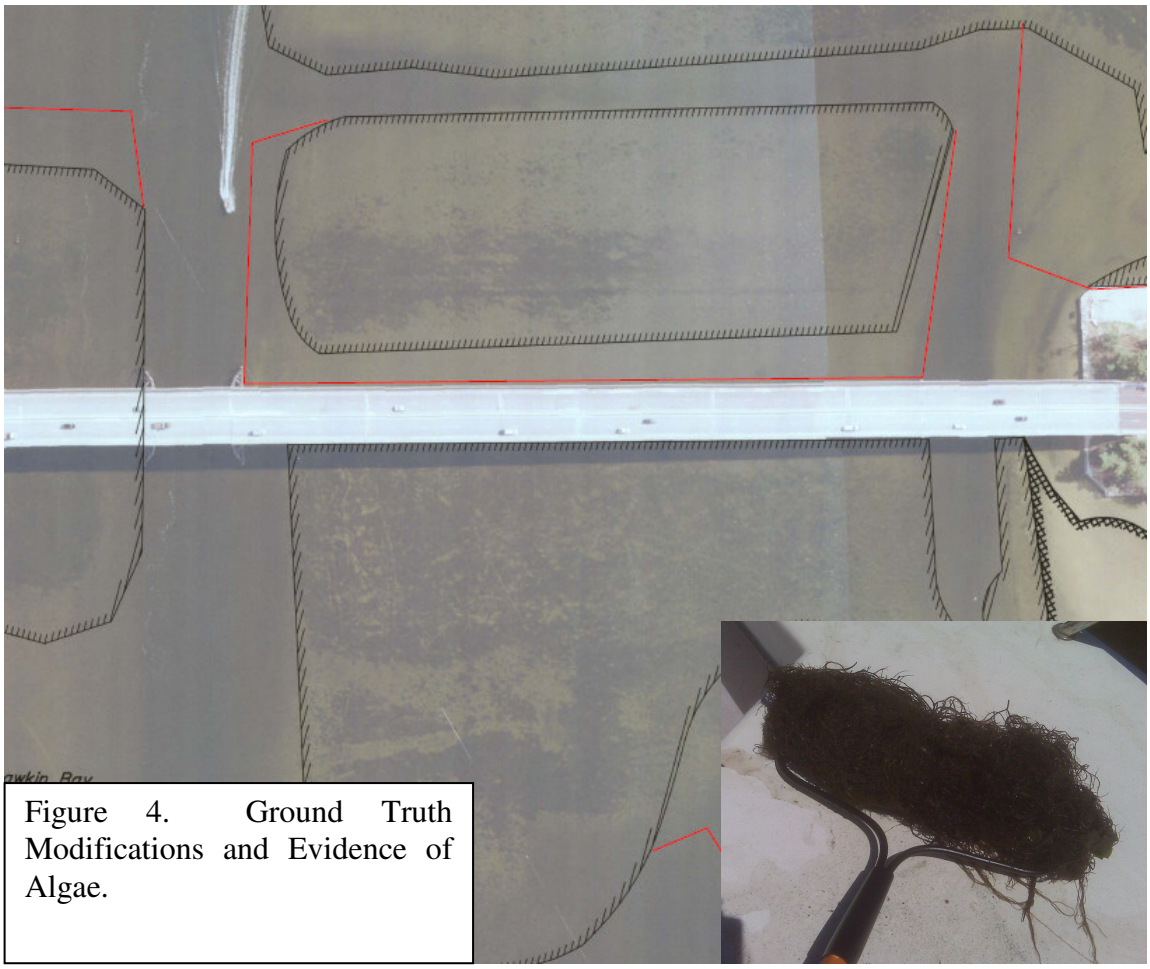


Figure 4. Ground Truth Modifications and Evidence of Algae.

(5) Final line modifications based upon detailed hydrographic and tidal information obtained for the project.

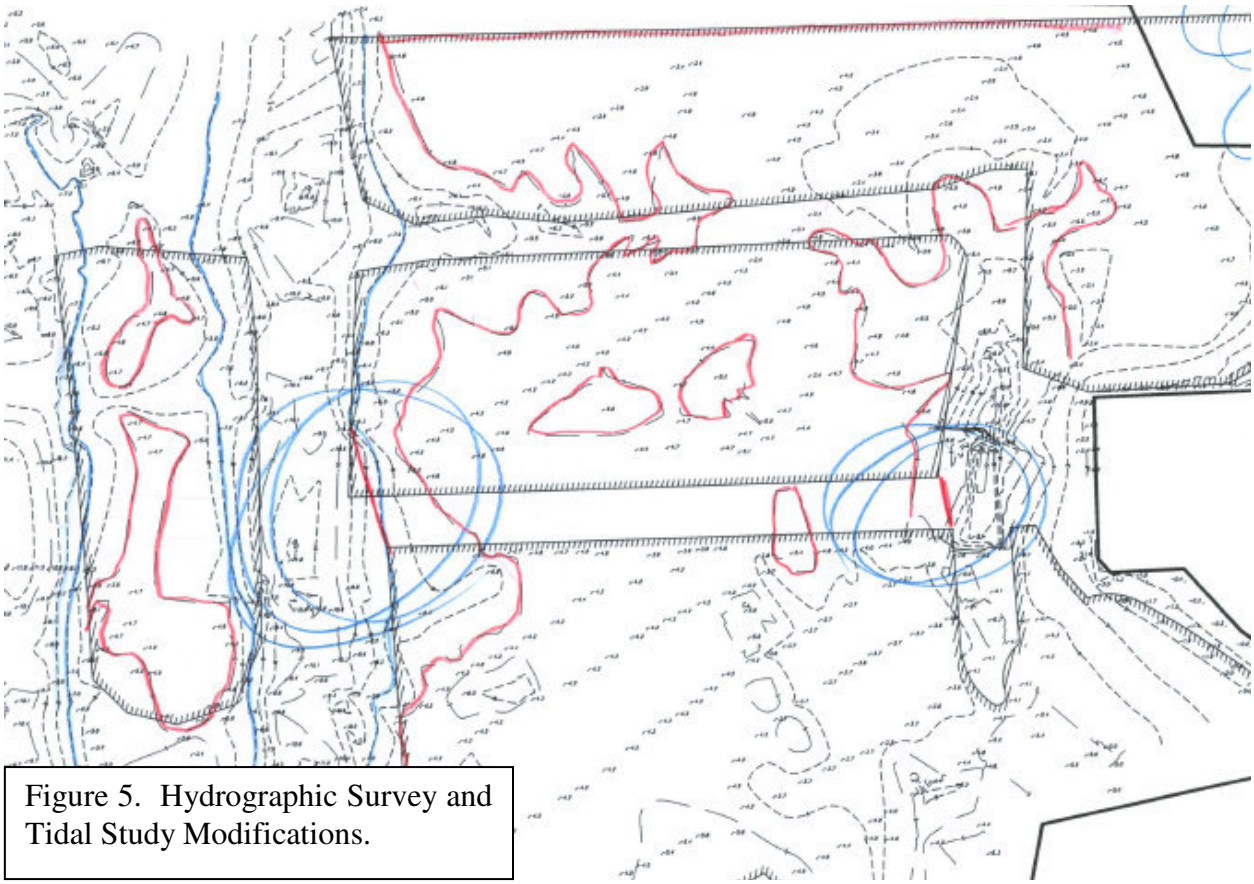


Figure 5. Hydrographic Survey and Tidal Study Modifications.

3.0 SUMMARY OF FINDINGS

Based on the integrated photo-interpretation and ground truth activities, 34.4 acres of SAV were identified in the project study area. Detailed mapping of the Submerged Aquatic Vegetation Delineation Survey is provided on both aerial photography and hydrographic survey base mapping and is included as Appendix B and C respectively. These data represent presence of SAV only and do not represent shoot density or spatial coverage. Our findings also indicate that both eelgrass (*Zostera marina*) and widgeon grass (*Ruppia maritima*) were present in the survey region and SAV presence was noted to a depth of at least six (6) feet MLW.

4.0 BIBLIOGROPHY

Almasi, M., C. Hoskin, J. Reed, and J. Milo. 1987. Effects of natural and artificial *Thalassia* on rates of sedimentation. Journal of Sedimentology and Petrology 57: 901-906.

Bell, J. and M. Westoby. 1986. Variation is seagrass height and density over a wide spatial scale: effects on fish and decapods. Journal of Experimental Marine Biology and Ecology 104: 275-295.

Bologna, P., R. Lathrop, P. Bowers & K. W. Able. 2000. Assessment of submerged aquatic vegetation in Little Egg Harbor, New Jersey. Technical Report 2000-11. Institute of Marine and Coastal Sciences, Rutgers, the State University of New Jersey. New Brunswick, New Jersey. 30 p.

Bologna, P. and M. Sinnema. 2005. Submerged Aquatic Vegetation Restoration as a Technique for Increasing Water Quality and Reducing NPS Pollution. Project Final Report. New Jersey Department of Environmental Protection. 15p. with 4 supporting Appendices.

Bologna, P. and M. Sinnema. 2006. Assessing the Success of Eelgrass Restoration in New Jersey. In. Seagrass Restoration: Success, Failure and the Costs of Both (S. Treat and R. Lewis eds.). pp. 79-90. Lewis Environmental Services, INC. Valrico, FL USA.

Bologna, P., Wilbur, A., and Able, K. 2001. Reproduction, population structure, and recruitment limitation in a bay scallop (*Argopecten irradians* Lamarck) population from New Jersey, USA. Journal of Shellfish Research 20:89-96.

Bricelj, M. and D. Lonsdale. 1997. *Aureococcus anophagefferens*: causes and ecological consequences of brown tides in U.S. mid-Atlantic coastal waters. Limnology and Oceanography 42: 1023-1038.

Den Hartog, C. 1987. 'Wasting disease' and other dynamic phenomena in *Zostera* beds. Aquatic Botany 27: 3-14.

Downs-Gastrich, M. 2001. New Jersey Brown Tide Assessment Project. Barnegat Bay National Estuary Program, Monitoring Workshop.

ENSR International, Conectiv. "Submerged Aquatic Vegetation Aerial Hyperspectral Imaging and Groundtruthing Survey" October 2002.

Fonseca, M. S. and J. S. Fisher. 1986. A comparison of canopy friction and sediment movement between four species of seagrass with reference to their ecology and restoration. Marine Ecology Progress Series 29: 15-22.

Fonseca, Mark S., Kenworthy, W. Judson, and Thayer, Gordon W. "Guidelines for the Conservation and Restoration of Seagrasses in the United States and Adjacent Waters", November 1998.

Fonseca, M. S., J. C. Zeiman, G. W. Thayer, and J. S. Fisher. 1982. Influence of the seagrass *Zostera marina*, on current flow. Estuarine and Coastal Shelf Science. 15: 351-364.

Goodman, J. K. Moore, and W. Dennison. 1995. Photosynthetic responses of eelgrass (*Zostera marina*) to light and sediment sulfide in a shallow barrier island lagoon. Aquatic Botany 50: 37-48.

Larkum, A. W. and C. den Hartog. 1989. Evolution and biogeography of seagrasses. p. 112-156. In: A. W. Larkum, A. J. McComb, and S. A. Shepherd (eds.), Biology of seagrasses: a

treatise on the biology of seagrasses with special reference to the Australia region. Elsevier Science Publishers, Amsterdam. 842 pp.

Lathrop, R., Styles, R., Seitzinger, S., Bognar, J. 2001. Use of GIS mapping and modeling approaches to examine the spatial distribution of seagrasses in Barnegat Bay, New Jersey. Estuaries 24:904-916.

Lockwood, J.C. 1991. Seagrass survey guidelines for New Jersey, NOAA National Marine Fisheries Service, Sandy Hook Lab., Sandy Hook, NJ.

Marba, N. and C. Duarte. 1995. Coupling of seagrass (*Cymodocea nodosa*) patch dynamics to subaqueous dune migration. Journal of Ecology 83: 381-389

Onuf. C. 1996. Seagrass responses to long-term light reductions by brown tide in upper Laguna Madre, Texas: distribution and biomass patterns. Marine Ecology Progress Series 138: 219-231.

Orth, R. J. 1977. The importance of sediment stability in seagrass communities. p. 281-300. In: B. C, Coull (ed.), Ecology of Marine Benthos. University of South Carolina Press, Columbia. 467 pp.

Orth, R. J., J.R. Fishman, M.C. Harwell, and S.R. Marion. 2003. Seed-density effects on germination and initial seedling establishment in eelgrass *Zostera marina* in the Chesapeake Bay Region. Marine Ecology Progress Series. 250: 71-79

Orth, R.J., M.L. Luckenbach, S.R. Marion, K.A. Moore, and D.J. Wilcox. 2006. Seagrass recovery in the Delmarva Coastal Bays, USA. Aquatic Botany. 84: 26-36.

Reid, R., C. MacKenzie, and J. Vitaliano. 1993. A failed attempt to re-establish eelgrass in Raritan Bay (New York/New Jersey). NOAA/NMFS/NEFSC: Woods Hole, MA. [Northeast Fisheries Science Center] Ref. Doc. 93-27.

Robbins, B. D. and S. S. Bell. 1994. Seagrass landscapes: a terrestrial approach to the marine subtidal environment. Trends in Ecology and Evolution 9: 301-304.

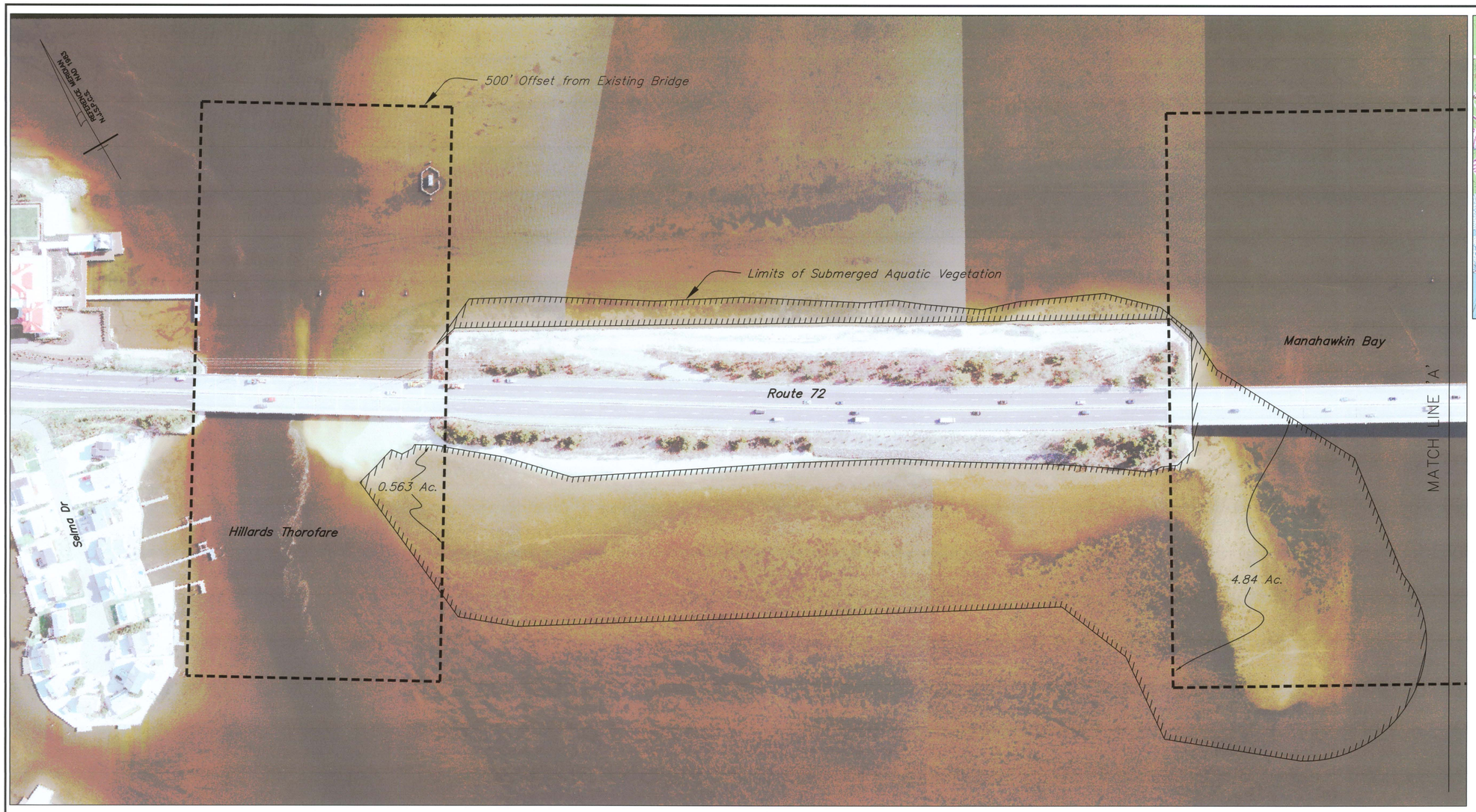
Schuster, R., E. Feerst, and P. Olsen. 2000. Annual summary of phytoplankton blooms and related conditions in the New Jersey coastal waters summer of 1999. Water Monitoring Report, Bureau of Marine Water Monitoring, New Jersey Department of Environmental Protection 30p.

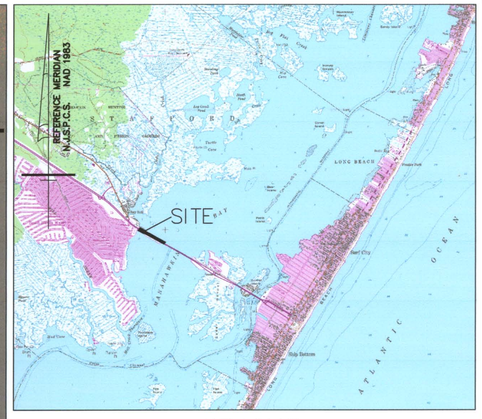
Short, F. and Burdick, D. 1996. Quantifying eelgrass habitat loss in relation to housing development and nitrogen loading in Waquoit Bay, Massachusetts. Estuaries. 19; 730-739.

Short, F. D. Burdick, and J. Kaldy. 1995. Mesocosm experiments quantify the effects of eutrophication on eelgrass, *Zostera marina*. Limnology and Oceanography. 40: 740-749.

Thayer, G. W., Kenworthy, W., and Fonseca, M. 1984. The ecology of eelgrass meadows of the Atlantic coast: a community profile. U.S. Fish Wildl. Serv. Biol. Ser. Prog. FWS/OBS-84/02, 147 p.

Walker, D. and McComb, A. 1992. Seagrass degradation in Australian coastal waters. Marine Pollution Bulletin. 26: 191-195.





KEY MAP

PORTION OF USGS QUADRANGLE MAP
LOCATION: SHIP BOTTOM
SCALE: 1" = 5000'

GENERAL NOTES

1.) AERIAL PHOTOGRAPHY SHOWN HEREON WAS PERFORMED BY NOR EAST MAPPING, INC. ON APRIL 27, 2009.

2.) STREET AND WATERWAY NAMES SHOWN HEREON WERE TAKEN FROM THE CURRENT TAX ASSESSMENT MAPS OF THE BOROUGH OF SHIP BOTTOM AND STAFFORD TOWNSHIP, OCEAN COUNTY, NEW JERSEY.

3.) SAV AREA QUANTITIES SHOWN CORRESPOND ONLY TO VEGETATION FALLING WITHIN 500 FEET OF THE FOUR EXISTING BRIDGES.

4.) SUBMERGED AQUATIC VEGETATION (SAV) LIMITS SHOWN HEREON ARE BASED UPON A DELINEATION CONDUCTED BY LGA ENGINEERING, INC. DURING MAY 2009. THE DELINEATION WAS PERFORMED IN ACCORDANCE WITH THE SEAGRASS SURVEY GUIDELINES FOR NEW JERSEY, DECEMBER 1991, PREPARED BY JEFFREY C. LOCKWOOD, NATIONAL MARINE FISHERIES SERVICE ("SURVEY GUIDELINES"), AS REQUIRED BY NJDEP AND NMFS. AERIAL PHOTOGRAPHY AND FIELD VERFICATION WERE CONDUCTED IN ACCORDANCE WITH THE PROCEDURES FOR "SEAGRASS SURVEYS BY AERIAL PHOTOGRAPHY" AND "EXPLORATORY SURVEYS: DEFINING THE STUDY AREA" AS DETAILED WITH THE SURVEY GUIDELINES. MEANS AND METHODS EMPLOYED FOR THE DELINEATION ARE SUMMARIZED IN THE REPORT ENTITLED "SUBMERGED AQUATIC VEGETATION DELINEATION SURVEY," DATED JUNE 2009, PREPARED BY LGA ENGINEERING, INC.

SAV WITHIN 500' OFFSET FROM EXISTING BRIDGES

SHEET 1	5.40 ACRES
SHEET 2	26.4 ACRES
SHEET 3	N/A
SHEET 4	2.62 ACRES
TOTAL	34.4 ACRES

100 75 50 25 0 100 200 300

GRAPHIC SCALE

LGA ENGINEERING, INC.
A SUBSIDIARY OF BIRDSALL SERVICES GROUP, INC.
CONSULTING ENGINEERS & SURVEYORS

DATE: 6/15/09

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NO.	DATE	REVISION	DRAWN	CHK'D	REL'D

DELINEATION OF SUBMERGED AQUATIC VEGETATION ROUTE 72 MANAHAWKIN BAY BRIDGES PROJECT

SITUATED IN
STAFFORD TOWNSHIP & BOROUGH OF SHIP BOTTOM, OCEAN COUNTY, NEW JERSEY

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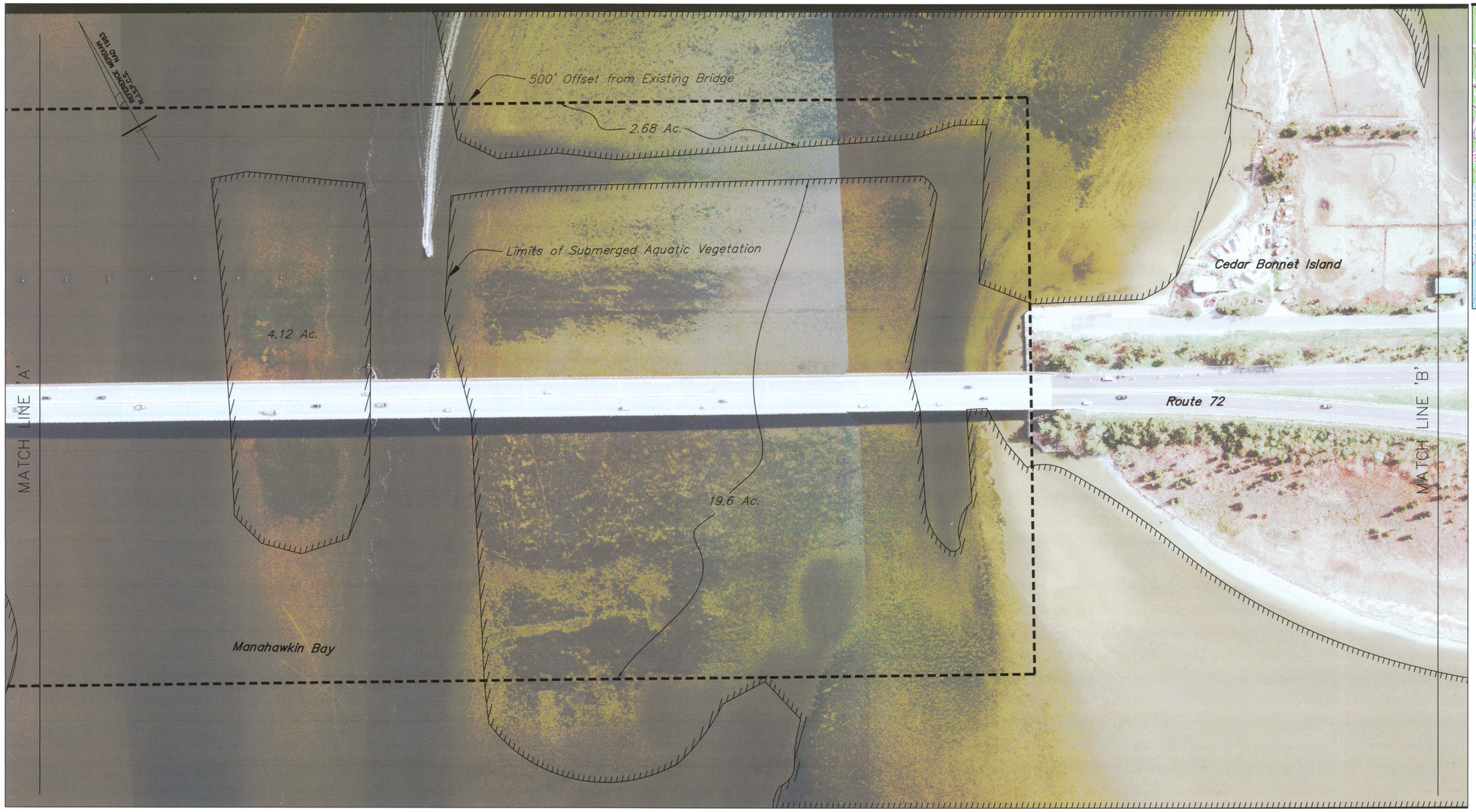

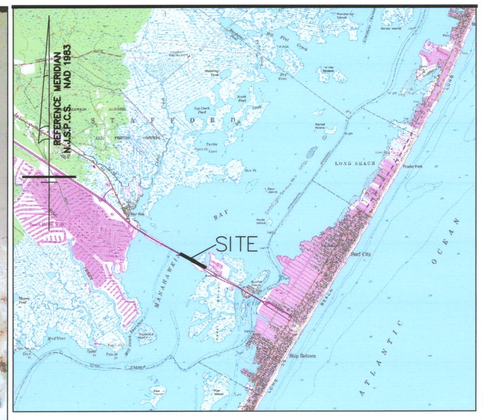

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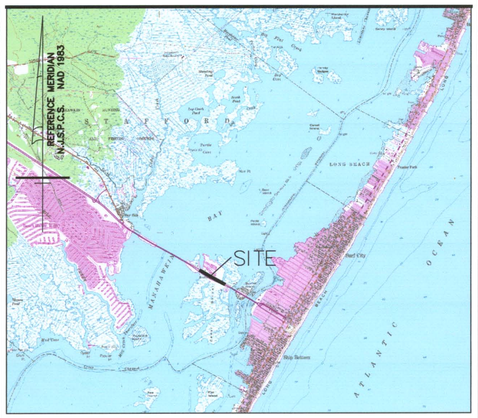

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Certificate of Authorization No. 24GA27999000

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Tel: (732) 961-2162

DELINEATION OF SUBMERGED AQUATIC VEGETATION ROUTE 72 MANAHAWKIN BAY BRIDGES PROJECT

SITUATED IN
STAFFORD TOWNSHIP & BOROUGH OF SHIP BOTTOM, OCEAN COUNTY, NEW JERSEY

Date	Scale: (H)1" = 100' (V)	Drawn	Checked	Released
05/17/2009		DG	FJB	FJB

Job No.	Drawer Number	Drawing Name:	
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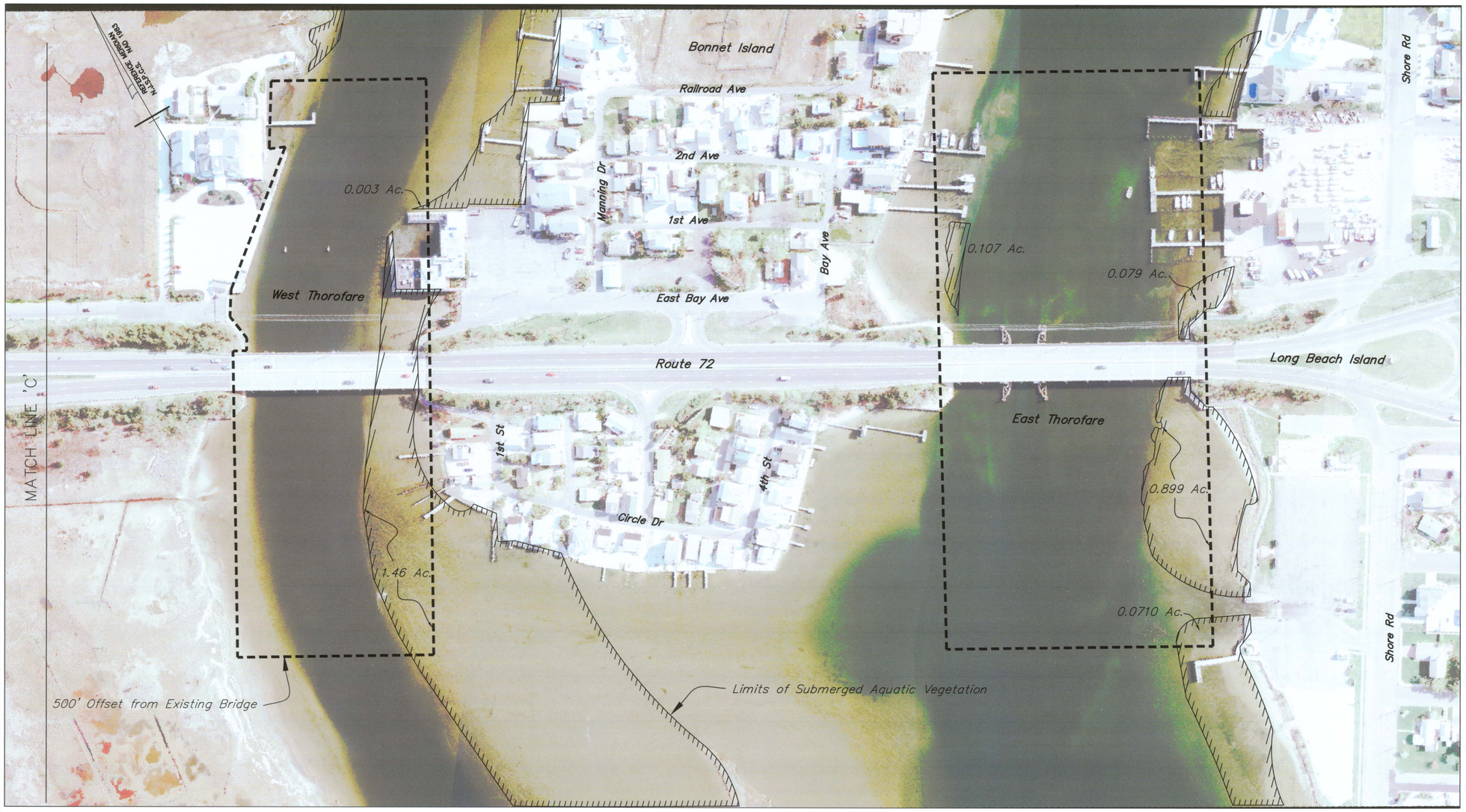

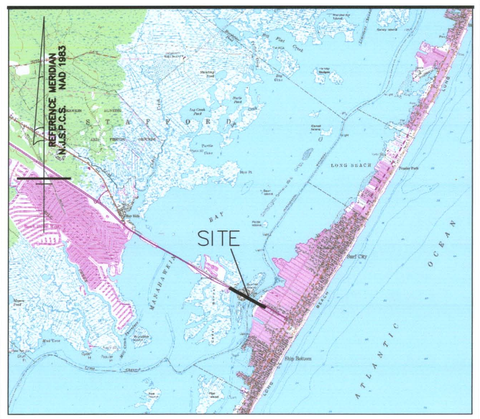

KEY MAP

PORTION OF USGS QUADRANGLE MAP
LOCATION: SHIP BOTTOM
SCALE: 1" = 5000'

GENERAL NOTES

1.) AERIAL PHOTOGRAPHY SHOWN HEREON WAS PERFORMED BY NOR EAST MAPPING, INC. ON APRIL 27, 2009.

2.) STREET AND WATERWAY NAMES SHOWN HEREON WERE TAKEN FROM THE CURRENT TAX ASSESSMENT MAPS OF THE BOROUGH OF SHIP BOTTOM AND STAFFORD TOWNSHIP, OCEAN COUNTY, NEW JERSEY.

3.) SAV AREA QUANTITIES SHOWN CORRESPOND ONLY TO VEGETATION FALLING WITHIN 500 FEET OF THE FOUR EXISTING BRIDGES.

4.) SUBMERGED AQUATIC VEGETATION (SAV) LIMITS SHOWN HEREON ARE BASED UPON A DELINEATION CONDUCTED BY LGA ENGINEERING, INC. DURING MAY 2009. THE DELINEATION WAS PERFORMED IN ACCORDANCE WITH THE SEAGRASS SURVEY GUIDELINES FOR NEW JERSEY, DECEMBER 1991, PREPARED BY JEFFREY C. LOCKWOOD, NATIONAL MARINE FISHERIES SERVICE ("SURVEY GUIDELINES"), AS REQUIRED BY NJDEP AND NMFS. AERIAL PHOTOGRAPHY AND FIELD VERFICATION WERE CONDUCTED IN ACCORDANCE WITH THE PROCEDURES FOR "SEAGRASS SURVEYS BY AERIAL PHOTOGRAPHY" AND "EXPLORATORY SURVEYS: DEFINING THE STUDY AREA" AS DETAILED WITH THE SURVEY GUIDELINES. MEANS AND METHODS EMPLOYED FOR THE DELINEATION ARE SUMMARIZED IN THE REPORT ENTITLED "SUBMERGED AQUATIC VEGETATION DELINEATION SURVEY," DATED JUNE 2009, PREPARED BY LGA ENGINEERING, INC.

SAV WITHIN 500' OFFSET FROM EXISTING BRIDGES

SHEET 1	5.40 ACRES
SHEET 2	26.4 ACRES
SHEET 3	N/A
SHEET 4	2.62 ACRES
TOTAL	34.4 ACRES

100 75 50 25 0 100 200 300
GRAPHIC SCALE

NO.	DATE	REVISION	DRAWN	CHK'D	REL'D

LGA ENGINEERING, INC.
A SUBSIDIARY OF BIRDSALL SERVICES GROUP, INC.
CONSULTING ENGINEERS & SURVEYORS

DATE 6/15/09
FRANK J. BARLOWSKI, P.L.S.
PROFESSIONAL LAND SURVEYOR
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Alan P. Hilla PE No 20393
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DELINEATION OF
SUBMERGED AQUATIC VEGETATION
ROUTE 72 MANAHAWKIN BAY BRIDGES
PROJECT

SITUATED IN
STAFFORD TOWNSHIP & BOROUGH OF SHIP BOTTOM, OCEAN COUNTY, NEW JERSEY

Date	Scale: (H)1" = 100' (V)	Drawn	Checked	Released
05/17/2009		DG		

Job No.	Drawer Number	Drawing Name:	
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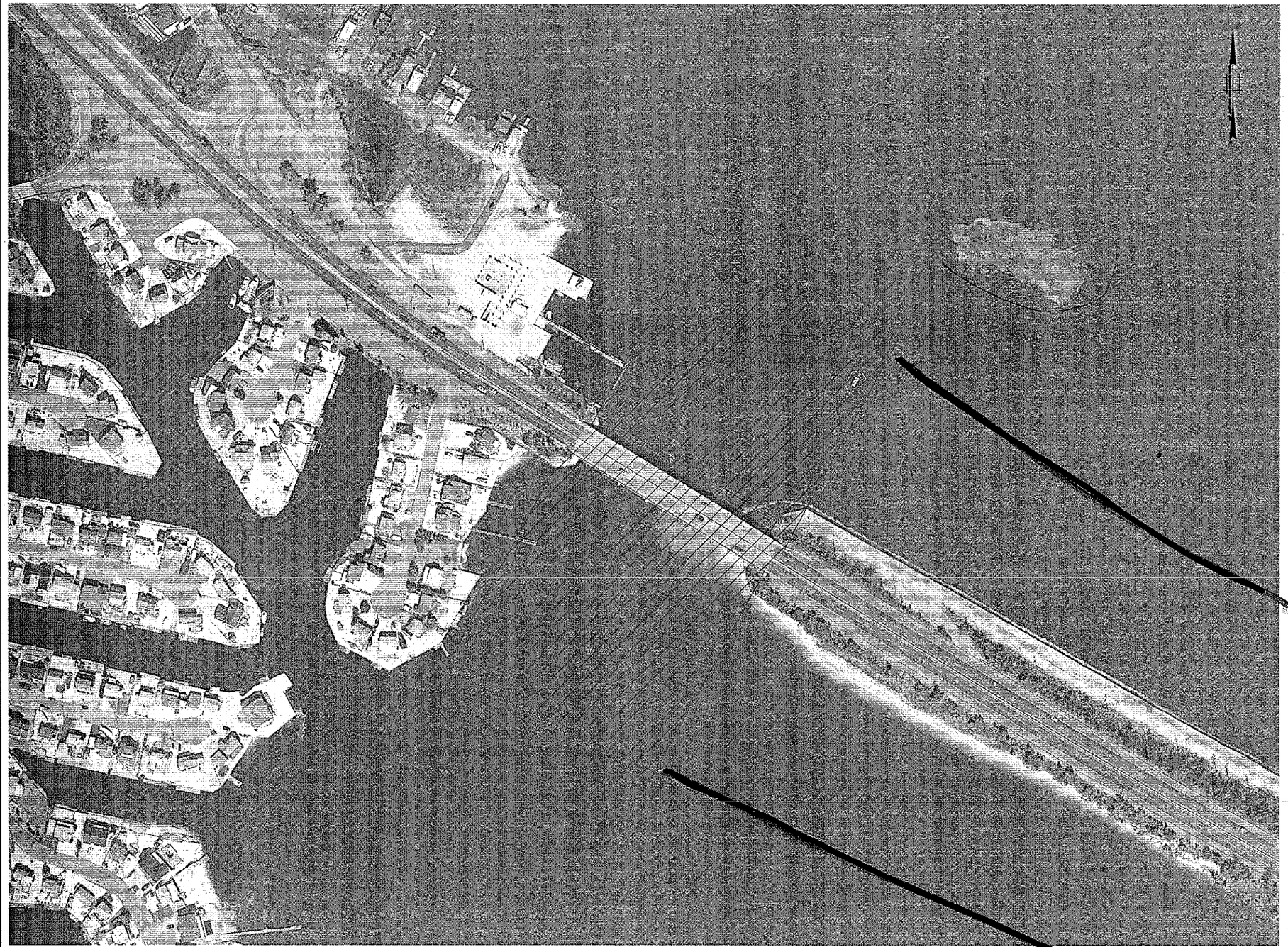

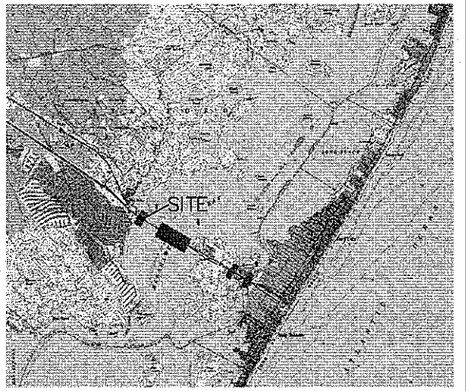

KEY MAP

PORTION OF USGS QUADRANGLE MAP
LOCATION: SHIP BOTTOM
SCALE: 1" = 5000'

COORDINATE SYSTEM

HORIZONTAL DATUM–NAD 1983, BASED ON GPS OBSERVATIONS BY LGA ENGINEERING, INC., FEBRUARY 11, 2009 AND REFER TO NATIONAL GEODETIC MONUMENT "NJOC" (PID–DD077).

VERTICAL DATUM–REFER TO MEAN LOW WATER (MLW), BASED ON GPS OBSERVATIONS BY LGA ENGINEERING, INC. FEBRUARY 11, 2009 AND REFER TO NATIONAL GEODETIC MONUMENT "NJOC" (PID–DD077).

GENERAL NOTES

1.) KNOWN AND DESIGNATED AS BLOCK 127, LOT 1 AS SHOWN ON THE CURRENT TAX ASSESSMENT MAPS OF THE BOROUGH OF POINT PLEASANT BEACH, OCEAN COUNTY, NEW JERSEY, SEPTEMBER 2001.

2.) LOT AND BLOCK NUMBERS ALONG WITH STREET AND WATERWAY NAMES SHOWN HEREON ARE AS SHOWN ON THE CURRENT TAX ASSESSMENT MAPS OF THE BOROUGH OF POINT PLEASANT BEACH, OCEAN COUNTY, NEW JERSEY, SEPTEMBER 2001.

3.) NJDEP 2007 ORTHOMETRIC AERIAL PHOTOGRAPHY REFERENCED. "THIS MAP WAS DEVELOPED USING NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION GEOGRAPHIC INFORMATION SYSTEM DIGITAL DATA, BUT THIS SECONDARY PRODUCT HAS NOT BEEN VERIFIED BY NJDEP AND IS NOT STATE AUTHORIZED."

4.) HYDROGRAPHIC SURVEY PERFORMED BY LGA ENGINEERING, INC. ON FEBRUARY 11, 2009. ELEVATIONS SHOWN HEREON INDICATE TOP OF SILT LOCATION.

5.) SPOT ELEVATIONS SHOWN ON HYDROGRAPHIC SURVEY ORDINATED FROM A LARGER POINT DATABASE. SPOT ELEVATIONS ARE SHOWN AT AN APPROXIMATE 25 FOOT GRID.

TIDAL ELEVATION

REFER TO MEAN LOW WATER (MLW)

MEAN HIGH HIGH WATER	4.35'
MEAN HIGH WATER	4.02'
NAVD 88	2.22'
MEAN TIDE LEVEL	2.01'
MEAN LOW WATER	0.00'
MEAN LOWER LOW WATER	−0.18'

TIDAL ELEVATION BASED ON CONTROL TIDE STATION: "8532591" MANASQUAN INLET, NEW JERSEY, POINT IDENTIFICATION NUMBERS: KV3525 AND KV0834.

100 75 50 25 0 100 200 300
GRAPHIC SCALE

LGA ENGINEERING, INC.
A SUBSIDIARY OF BIRDSALL SERVICES GROUP, INC.
CONSULTING ENGINEERS & SURVEYORS

DATE:

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XXXXX		CS		

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HYDROGRAPHIC SURVEY
PORTIONS OF TAX MAP
LOTS, BLOCKS
ROUTE 72 BRIDGES

SITUATED IN
TOWNSHIP, OCEAN COUNTY, NEW JERSEY

Job No.	Drawer Number	Drawing Name:	
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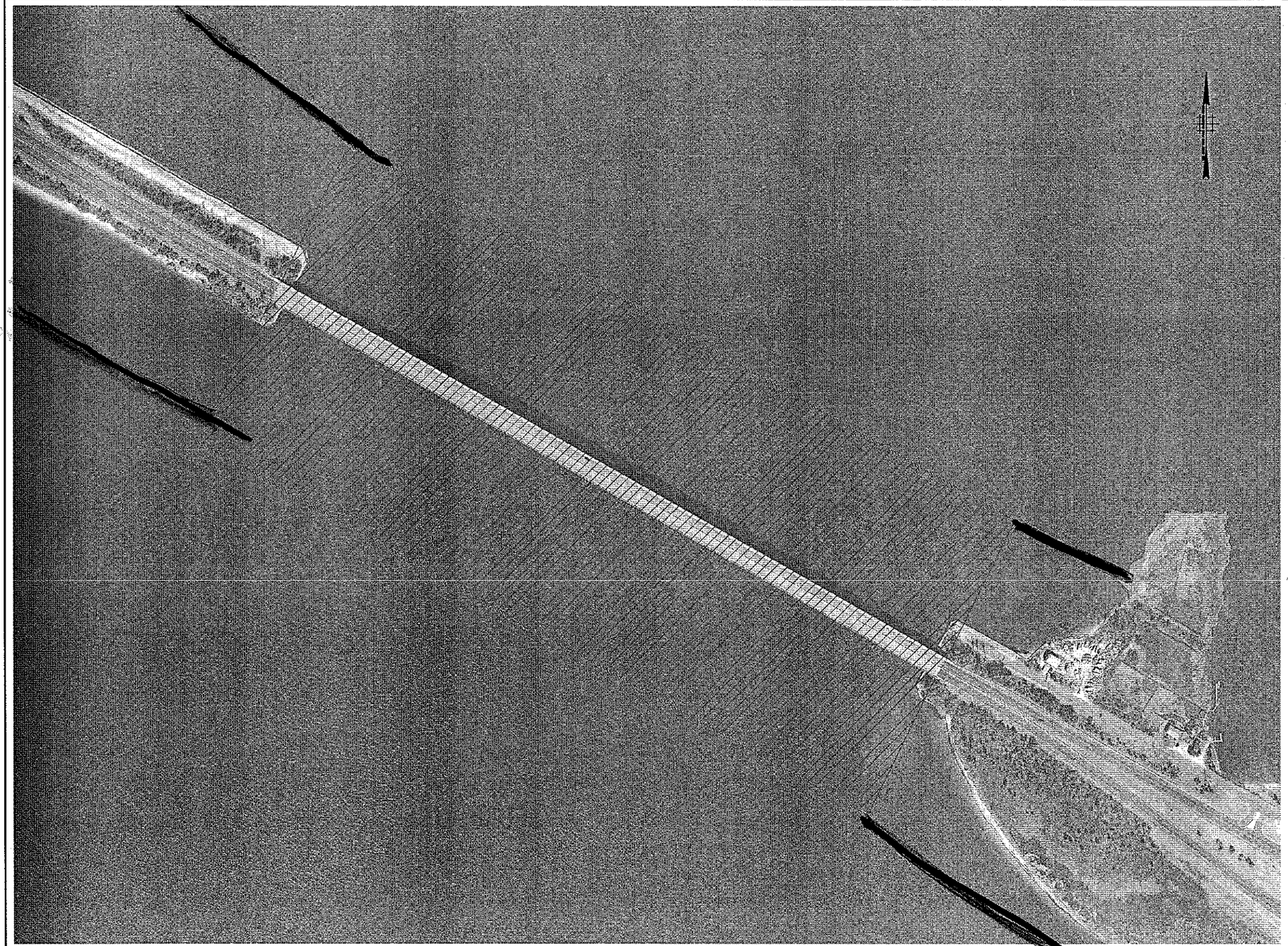

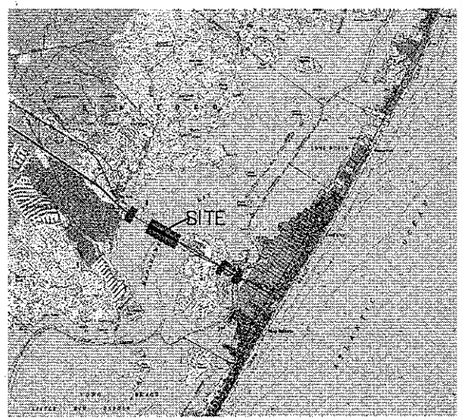

KEY MAP

PORTION OF USGS QUADRANGLE MAP
LOCATION: POINT PLEASANT
SCALE: 1" = 5000'

LGA ENGINEERING, INC.
A SUBSIDIARY OF BOSWELL SURVEYS GROUP, INC.
CONSULTING ENGINEERS & SURVEYORS

DATE

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Michael J. Gallione, Jr. — PE No. 23314
John L. Wiczynsk — PE No. 34398
David G. Gottshaw — PE No. 42294

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Date	Scale: (H)1" = 150' (V)	Drawn	Checked	Released
XXXXX		CB		

NO.	DATE	REVISION	DRAWN	CHK'D	REL'D

HYDROGRAPHIC SURVEY
PORTIONS OF TAX MAP
LOTS, BLOCK
ROUTE 72 BRIDGES

SITUATED IN
TOWNSHIP, OCEAN COUNTY, NEW JERSEY

Job No.	Drawer Number	Drawing Name	
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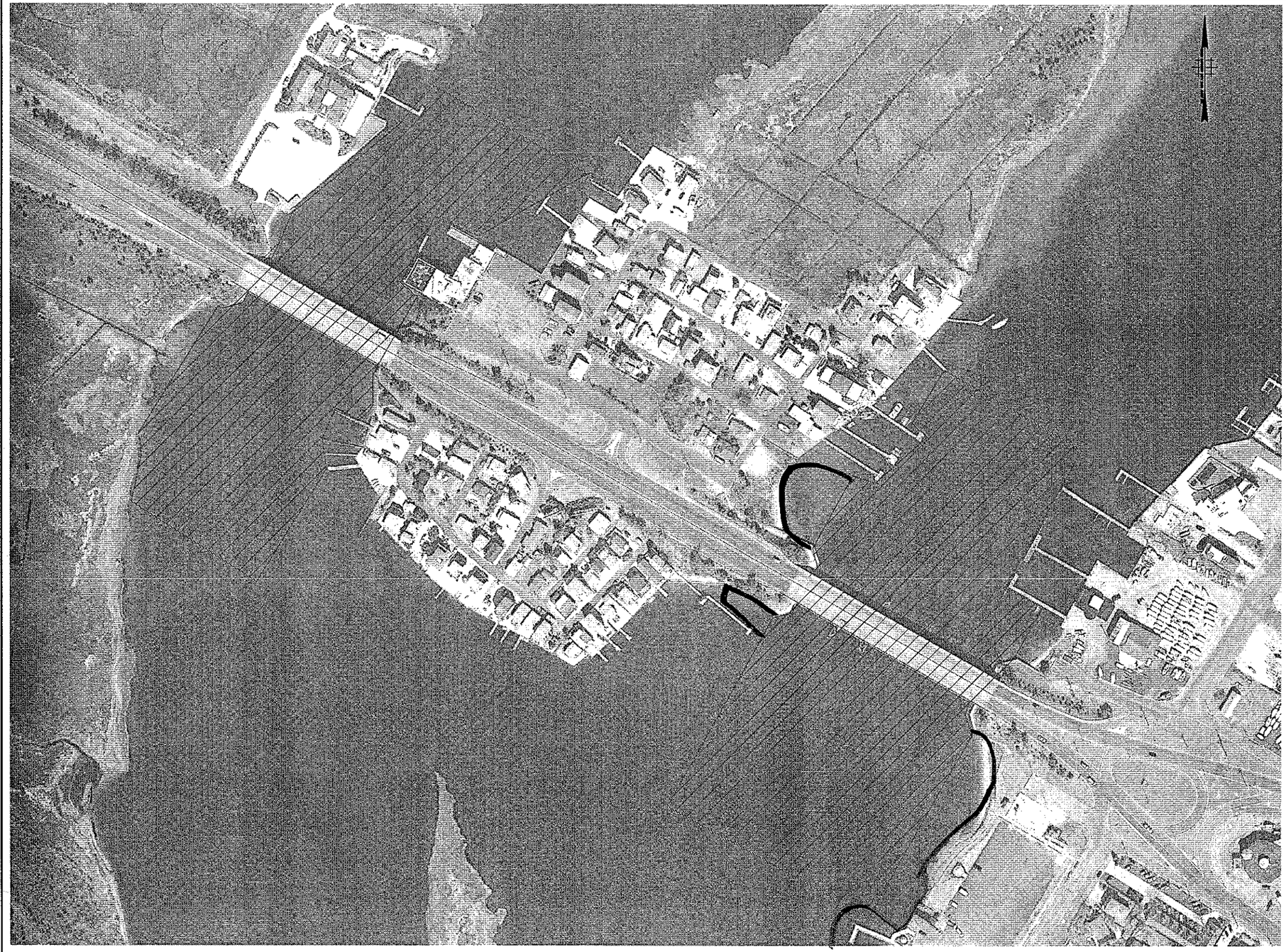

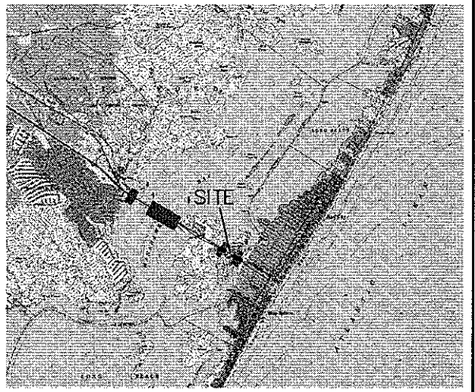

KEY MAP

PORTION OF USGS QUADRANGLE MAP
LOCATION: SHIP BOTTOM
SCALE: 1" = 5000'

100 75 50 25 0 100 200 300

GRAPHIC SCALE

LGA ENGINEERING, INC.
A SUBSIDIARY OF BIRDSALL SERVICES GROUP, INC.
CONSULTING ENGINEERS & SURVEYORS

DATE:

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Date	Scale: (H)1" = 100' (V)	Drawn	Checked	Released
XXXXX		CB		

NO.	DATE	REVISION	DRAWN	CHK'D	REL'D

Line 1 of 4 (MAP TITLE)
Line 2 of 4 (LOT , BLOCK)
Line 3 of 4 (PROJECT NAME)
Line 4 of 4 (SHEET NAME)

SITUATED IN
TOWNSHIP, COUNTY, NEW JERSEY

Job No.	Drawer Number	Drawing Name	
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LGa LGA ENGINEERING, INC.
CONSULTING ENGINEERS & SURVEYORS

A BIRDSALL SERVICES GROUP COMPANY

MEAN HIGH WATER ELEVATION DETERMINATION

ROUTE 72 MANAHAWKIN BAY BRIDGE REPLACEMENT

JOB NO. 508710000100
JUNE 2009

PREPARED BY:
LGA ENGINEERING
750 VASSAR AVENUE
LAKEWOOD, NJ 08701
732-961-2162

FRANK J. BARLOWSKI, P.L.S.
SENIOR PROFESSIONAL LAND SURVEYOR

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EXHIBIT B	**COMPUTATION FORMS – RANGE RATIO METHOD**
EXHIBIT C	**COMPUTATIONS & FIELD NOTES – CONTROL STATION** BENCHMARK DATA SHEETS REDUCTIONS TO N.A.V.D. 1988 LEVEL RUN FIELD NOTES BENCHMARK LOCATION MAPS & TIE SHEETS
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EXHIBIT E	**IMAGES** SITE LOCATION MAP TIDE STAFF LOCATIONS PHOTOS

EXHIBIT A

METHODOLOGY MEMORANDUM

BIRDSALL SERVICES GROUP

BIRDSALL ENGINEERING • DI STASIO & VAN BUREN • LGA ENGINEERING • MORRIS, JOHNSON & ASSOCIATES • PMK GROUP

MEMORANDUM

TO: FILE
FROM: Frank J. Barlowski, PLS
CC:
SUBJECT: Methodology for Establishment of Mean High Water Elevation
Route 72 Manahawkin Bay Bridge Replacement

DATE: June 1, 2009
JOB NO.: 50871000100

This memorandum summarizes methodology utilized to establish the mean high water line elevation for the above-referenced project. Methodology described herein is consistent with the State of New Jersey Department of Transportation's 2008 Mean High Water Manual (NJDOT Manual).

The NJDOT Manual specifies several methodologies for determining MHW at a project site. Based upon the manual's criteria and the timing restrictions of the project, the most appropriate methodology for the Route 72 Bridge Project is the Range Ratio Method, utilizing short-term tidal measurements.

RANGE RATIO METHOD

The Range Ratio Method is the National Ocean Service (NOS) "Standard Method" for computing mean high water at a subordinate tide station. To use this method the full range of tide must be available at the project site. The range ratio method requires simultaneous observations of the high water and low water at the subordinate and at the NOS control tide station for at least 3 tide cycles. This is the only short-term tide study that can be used to extrapolate the mean low water elevation as well as the mean high water elevation.

NOS Control Tide Station. The Range Ratio method requires tidal observations at an NOS control tide station. For purposes of this study, there are two proximate control stations to consider, as illustrated in the attached figure. The Barnegat Inlet Station is located approximately 8.5 miles north of the project site, and the Beach Haven Crest Station is located approximately 3 miles south.

For purposes of this study, the Beach Haven Crest Station is considered superior due its proximity to the project site. Likewise, its location is more representative of the insular portions of Barnegat Bay than the Inlet Station, which is more likely to be influenced by the dynamics of the Bay/Ocean interactions. The NOS Beach Haven Crest (Inside) benchmark data sheet is attached to this memorandum for reference.

Establishment of Field Measurement Stations

The Range Ratio Method requires simultaneous staff observations of the high water and low water at the subordinate (project site) and the NOS control tide stations (Beach Haven Crest). LGA established the tidal staffs at the two locations in accordance with the NJDOT Manual. Survey documentation and photographic documentation of the staffs are included in an attached appendix.

Establishment of Field Measurement Stations / Staff

The Range Ratio Method requires simultaneous staff observations of the high water and low water at the subordinate (project site) and the NOS control tide stations (Beach Haven Crest). LGA established the tidal staffs on May 5, 2009 at the two locations in accordance with the NJDOT Manual. Survey documentation and photographic documentation of the staffs are included in the attached appendix, including the required Range Ratio forms (Forms 1 through 3).

Field Measurements

The Range Ratio Method requires simultaneous staff observations of the high water and low water at the subordinate (project site) and the NOS control tide stations (Beach Haven Crest) for three tide cycles. LGA performed these observations from May 6 through 7, 2009. Data are summarized in the attached Appendix.

Determination of Mean High Water

The mean high water elevation, as determined by the Range Ratio Method and considering the above-referenced measurements, is 0.631 feet (NAVD 88). Computation forms for the Range Ratio Method are included in the attached Appendix.

Tidal Datum

Considering the mean high water elevation reported above, the complete tidal datum table for the project site is as indicated below (as determined from relative relationships at the Beach Haven Crest Station).

Elevations of tidal datums referred to NAVD 88, in feet:

Mean Higher High Water (MHHW)	=	0.903
Mean High Water (MHW)	=	0.631
Mean Sea Level (MSL)	=	-0.242
Mean Tide Level (MTL)	=	-0.271
Mean Low Water (MLW)	=	-1.224
Mean Lower Low Water (MLLW)	=	-1.229

EXHIBIT B

COMPUTATION FORMS – RANGE RATIO METHOD

Appendix III: Computation Forms for the Range Ratio Method

Project RT. 72 THOROFARE County OCEAN

Observer DIA Surveyor FJB Firm LGA ENGINEERING

New Jersey Department of Transportation

Mean High Water Data Collection - Range Ratio Method, Page 1

All elevations must be expressed in NAVD 1988

☒ Control Tide Station Data:

No. 8534048

H_0 = 6.00 Top of tape, on staff

H_1 = +1.931

H_2 = 0

COMPUTATIONS

NAVD88 Elevation of Top of Tape on Staff (H_{TTS})

$H_{TTS} = H_{NOS}$ 2.22 + H_1 1.931 - H_2 0 = 4.151 ft_{NAVD88}

Staff Conversion Factor (SCF)

$SCF_c = H_0$ 6.00 - H_{TTS} 4.151 = 1.849 ft_{staff}

On-Staff values published tidal datum:

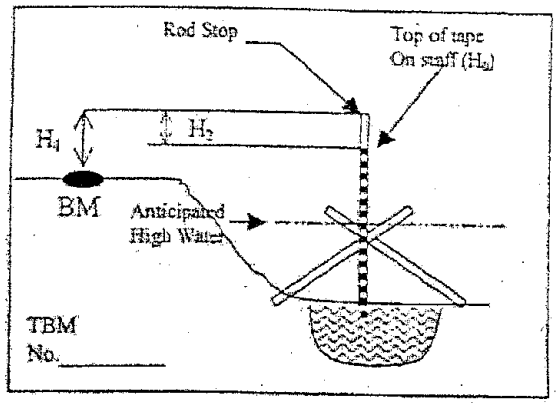
$MHWc = SCF_c$ 1.849 + MHW_{NOS} 0.783 = 2.632 feet on staff

$MTLc = SCF_c$ 1.849 + MTL_{NOS} -0.119 = 1.730 feet, on staff

$MLWc = SCF_c$ 1.849 + MLW_{NOS} -1.072 = 0.777 feet, on staff

Note: $MRc = MHW_c$ 2.632 - MLW_c 0.777 = 1.855

(Is it the same as MR_c computed on NOS datasheet?) ☒ YES ☐ NO



Notes

☐ Subordinate Tide Station Data:

No.

H_0 = Top of tape, on staff

H_1 =

H_2 =

COMPUTATIONS

NAVD88 Elevation of Top of Tape on Staff (H_{TTS})

$H_{TTS} = H_{TBM}$ ____ + H_1 ____ - H_2 ____ = ____ ft_{NAVD88}

Staff Conversion Factor (SCF)

$SCF_S = H_0$ ____ - H_{TTS} ____ = ____ ft_{staff}

NAVD88 values of computed tidal datum:

$MHWs = MHW_{SS}$ ____ + SCF_S ____ = ____ ft_{NAVD88}

Submit these forms signed and sealed together with rubbings of at least two NAVD88 benchmarks that were used in the MHW study. Other notes (e.g. leveling) and computations (e.g. reductions of tidal datums to NAVD88) should be submitted to NJDOT as well.

Appendix III: Computation Forms for the Range Ratio Method

Project RT. 72 THOROFARE County OCEAN

Observer DG Surveyor FJB Firm LGA ENGINEERING

New Jersey Department of Transportation

Mean High Water Data Collection - Range Ratio Method, Page 1

All elevations must be expressed in NAVD 1988

☐ Control Tide Station Data:

No. 853 _ _ _ _

H_0 = _____ Top of tape, on staff

H_1 = _____

H_2 = _____

COMPUTATIONS

NAVD88 Elevation of Top of Tape on Staff (H_{TTS})

$H_{TTS} = H_{NOS}$ _____ + H_1 _____ - H_2 _____ = _____ ft_{NAVD88}

Staff Conversion Factor (SCF)

$SCF_c = H_0$ _____ - H_{TTS} _____ = _____ ft_{staff}

On-Staff values published tidal datum:

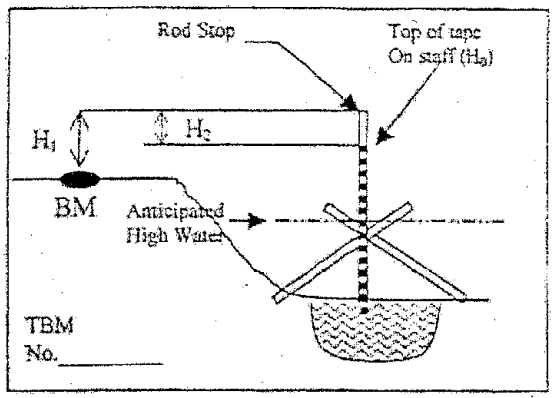
$MHWc = SCF_c$ _____ + MHW_{NOS} _____ = _____ feet on staff

$MTLc = SCF_c$ _____ + MTL_{NOS} _____ = _____ feet, on staff

$MLWc = SCF_c$ _____ + MLW_{NOS} _____ = _____ feet, on staff

Note: $MRc = MHW_c$ _____ - MLW_c _____ = _____

(Is it the same as MR_c computed on NOS datasheet?) ☐ YES ☐ NO



Notes _____

☒ Subordinate Tide Station Data:

No. _____

H_0 = 3.00 Top of tape, on staff

H_1 = -1.038

H_2 = 0

COMPUTATIONS

NAVD88 Elevation of Top of Tape on Staff (H_{TTS})

$H_{TTS} = H_{TBM}$ 2.22 + H_1 -1.038 - H_2 0 = 1.182 ft_{NAVD88}

Staff Conversion Factor (SCF)

$SCF_s = H_0$ 3 - H_{TTS} 1.182 = 1.818 ft_{staff}

NAVD88 values of computed tidal datum:

$MHWs = MHW_{SS}$ 2.449 - SCF_s 1.818 = 0.631 ft_{NAVD88}

Submit these forms signed and sealed together with rubbings of at least two NAVD88 benchmarks that were used in the MHW study. Other notes (e.g. leveling) and computations (e.g. reductions of tidal datums to NAVD88) should be submitted to NJDOT as well.

FIELD

Project RT 72 THOROFARE County OCEAN

Observer DG Surveyor FJB Firm LGA ENGINEERING

New Jersey Department of Transportation

Mean High Water Data Collection - Range Ratio Method, Page 2

(This form is to be filled out by observer – copy to be submitted to NJDOT)

Use this form for:

(a) Mean High Water computations for Subordinate Tide Station

(b) Based on Control Tide Station 8534048 Beach Haven Crest (Inside)

(c) MHW_C mean high water, on staff 1.86

(d) MR_C mean range of tide 1.855

(e) MTL_C mean tide level, on staff 0.958

Computations made by FJB Date: 5/15/09

OBSERVATION SESSION 1 Date 05/06/09 Time /

DATA	COMPUTATION
At control tide station	(1) TLc = (HWc + LWc)/2 2.101
HW_C high water observed on staff 3.245	(2) TLs = (HWs + LWs)/2 2.059
LW_C low water observed on staff 0.958	(3) MRs = Rs (MRc/Rc) 1.923
Rc = HWc – LWc 2.287	(4) MTLs = MTLc + (TLs - TLc) 0.916
At subordinate tide Station	**Mean high water on staff**
HW_S high water observed on staff 2.937	$MHWs_1$ = MTLs 0.916 + (MRs/2) 0.7115 = 1.627
LWs low water observed on staff 1.182	
Rs = HWs – LWs 1.755	

OBSERVATION SESSION 2 Date / / Time /

DATA	COMPUTATION
At control tide station	(1) TLc = (HWc + LWc)/2 1.928
HW_C high water observed on staff 2.672	(2) TLs = (HWs + LWs)/2 1.914
LW_C low water observed on staff 1.184	(3) MRs = Rs (MRc/Rc) 1.5907
Rc = HWc – LWc 1.488	(4) MTLs = MTLc + (TLs - TLc) 0.944
At subordinate tide Station	**Mean high water on staff**
HW_S high water observed on staff 2.562	$MHWs_2$ = MTLs 0.944 + (MRs/2) 0.7953 = 1.739
LWs low water observed on staff 1.276	
Rs = HWs – LWs 1.276	

OBSERVATION SESSION 3 Date / / Time /

DATA	COMPUTATION
At control tide station	(1) TLc = (HWc + LWc)/2 2.0675
HW_C high water observed on staff 3.25	(2) TLs = (HWs + LWs)/2 2.044
LW_C low water observed on staff 0.885	(3) MRs = Rs (MRc/Rc) 1.4589
Rc = HWc – LWc 2.365	(4) MTLs = MTLc + (TLs - TLc) 0.9345
At subordinate tide Station	**Mean high water on staff**
HW_S high water observed on staff 2.974	$MHWs_{13}$ = MTLs 0.9345 + (MRs/2) 0.729 = 1.663
LWs low water observed on staff 1.114	
Rs = HWs – LWs 1.860	

TIDE STUDY EVALUATION

MHWs = $(MHWs_1 + MHWs_2 + MHWs_3)$ / 3 = 1.676 ft (Average MHW at subordinate station)

Range = 0.112 ft (difference between highest and lowest computed $MHWs_i$)

σ_{MHW} = 0.042 ft (Standard Deviation of MHW at subordinate station)

Comments: Above calculations are relative to field-mounted tide staff.

NAVD 88

Project RT 72 THOROFARE County OCEAN

Observer DG Surveyor EJB Firm LGA ENGINEERING

New Jersey Department of Transportation

Mean High Water Data Collection - Range Ratio Method, Page 2

(This form is to be filled out by observer – copy to be submitted to NJDOT)

Use this form for:

(a) Mean High Water computations for Subordinate Tide Station _____

(b) Based on Control Tide Station 8534048, Beach Haven Crest (Inside)

(c) MHW_c mean high water, on staff 0.783

(d) MR_c mean range of tide 1.855

(e) MTL_c mean tide level, on staff -0.119

Computations made by EJB Date: 5/15/09

OBSERVATION SESSION 1 Date / / Time /

DATA	COMPUTATION
At control tide station	(1) TLc = (HWc + LWc)/2 0.2525
HW_c high water observed on staff 1.396	(2) TLs = (HWs + LWs)/2 0.2415
LW_c low water observed on staff -0.891	(3) MRs = Rs (MRc/Rc) 1.4235
Rc = HWc –LWc 2.287	(4) MTLs = MTLc + (TLs -TLc) -0.130
At subordinate tide Station	**Mean high water on staff**
HW_s high water observed on staff 1.119	$MHWs_1$ = MTLs -0.13 +(MRs/2) 0.7115 = 0.5815
LWs low water observed on staff -0.636	
Rs = HWs –LWs 1.755	

OBSERVATION SESSION 2 Date / / Time /

DATA	COMPUTATION
At control tide station	(1) TLc = (HWc + LWc)/2 0.079
HW_c high water observed on staff 0.823	(2) TLs = (HWs + LWs)/2 0.096
LW_c low water observed on staff -0.665	(3) MRs = Rs (MRc/Rc) 1.5907
Rc = HWc –LWc 1.488	(4) MTLs = MTLc + (TLs -TLc) -0.102
At subordinate tide Station	**Mean high water on staff**
HW_s high water observed on staff 0.734	$MHWs_2$ = MTLs -0.102 +(MRs/2) 0.7953 = 0.693
LWs low water observed on staff -0.542	
Rs = HWs –LWs 1.276	

OBSERVATION SESSION 3 Date / / Time /

DATA	COMPUTATION
At control tide station	(1) TLc = (HWc + LWc)/2 0.2185
HW_c high water observed on staff 1.401	(2) TLs = (HWs + LWs)/2 0.226
LW_c low water observed on staff -0.964	(3) MRs = Rs (MRc/Rc) 1.4589
Rc = HWc –LWc 2.365	(4) MTLs = MTLc + (TLs -TLc) -0.1115
At subordinate tide Station	**Mean high water on staff**
HW_s high water observed on staff 1.156	$MHWs_{3}$ = MTLs -0.1115 +(MRs/2) 0.72945 = 0.618
LWs low water observed on staff -0.704	
Rs = HWs –LWs 1.860	

TIDE STUDY EVALUATION

MHWs = ($MHWs_1$ + $MHWs_2$ + $MHWs_3$) / 3 = 0.631 ft (Average MHW at subordinate station)

Range = 0.1115 ft (difference between highest and lowest computed $MHWs_i$)

σ_{MHW} = 0.042 ft (Standard Deviation of MHW at subordinate station)

Comments: Above calculations reference the NAVD 88 datum

Project RT 72 THOROFARE County OCEAN

Observer DG Surveyor Firm LGA ENGINEERING

New Jersey Department of Transportation

Mean High Water Data Collection - Range Ratio Method, Page 3

(This form is to be filled out by observer – copy to be submitted to NJDOT)

Weather conditions during high water observations:	Begin Session	End Session
Wind Speed/Direction (out of)	5 mph/ S	5 mph/ S
Temperature	60 °F	60 °F
Barometric Pressure	29.95 in/Hg	29.95 in/Hg

OBSERVATION SESSION #1 AT CONTROL TIDE STATION 8534048

STAFF OBSERVATIONS by DG

Date 5/6/09 — Observation Time — Date 5/6/09

High Water	20:00 hrs	21:00 hrs	22:00 hrs	:00 hrs
:00		3.246	3.146	
:10	3.120	3.240		
:20	3.135	3.245		
:30	3.156	3.245		
:40	3.219	3.188		
:50	3.245	3.162		

Low Water	15:00	16:00	:00	:00
:00	0.990	1.016		
:10	0.974	1.083		
:20	0.964			
:30	0.958			
:40	0.958			
:50	0.979			

Clock Time (24 Hour Format)

SUMMARY CONTROL

HWc = 3.245 staff

LWc = 0.958 staff

Rc = (HWc-LWc) 2.287

TLc = (HWc-LWc)/2 2.102

OBSERVATION SESSION #1 AT SUBORDINATE TIDE STATION ____

STAFF OBSERVATIONS by WR/CB

Date 5/6/09 — Observation Time — Date 5/6/09

High Water	20:00 hrs	21:00 hrs	22:00 hrs	:00 hrs
:00		2.820	2.937	
:10		2.875	2.937	
:20		2.906	2.910	
:30		2.911	2.880	
:40	2.742	2.910	2.839	
:50	2.813	2.917		

Low Water	15:00	16:00	:00	:00
:00		1.193		
:10		1.182		
:20	1.266	1.182		
:30	1.250	1.203		
:40	1.219	1.240		
:50	1.208	1.292		

Clock Time (24 Hour Format)

SUMMARY SUBORDINATE

HWs = 2.937 staff

LWs = 1.182 staff

Rs = (HWs-LWs) 1.755

TLs = (HWs-LWs)/2 2.059

Project RT 72 THOROFARE County OCEAN

Observer DG Surveyor Firm LGA ENGINEERING

New Jersey Department of Transportation

Mean High Water Data Collection - Range Ratio Method, Page 3

(This form is to be filled out by observer – copy to be submitted to NJDOT)

Weather conditions during high water observations:	Begin Session	End Session
Wind Speed/Direction (out of)	15 mph/	10 mph/
Temperature	60 °F	65 °F
Barometric Pressure	29.81 in/Hg	29.81 in/Hg

OBSERVATION SESSION #2 AT CONTROL TIDE STATION 8534048

STAFF OBSERVATIONS by DG

Date 5/7/09 — Observation Time — Date 5/7/09

High Water	8:00 hrs	9:00 hrs	10:00 hrs	:00 hrs
:00		2.646	2.620	
:10		2.672	2.578	
:20		2.662		
:30	2.047	2.662		
:40	2.557	2.656		
:50	2.589	2.656		

Low Water	3:00	4:00	:00	:00
:00		1.203		
:10		1.234		
:20	1.266	1.245		
:30	1.266	1.250		
:40	1.184	1.302		
:50	1.224			

Clock Time (24 Hour Format)

SUMMARY CONTROL

HWc = 2.672 staff

LWc = 1.184 staff

Rc = (HWc-LWc) 1.488

TLc = (HWc-LWc)/2 1.928

OBSERVATION SESSION #2 AT SUBORDINATE TIDE STATION

STAFF OBSERVATIONS by CB/WR

Date 5/7/09 — Observation Time — Date 5/7/09

High Water	9:00 hrs	10:00 hrs	:00 hrs	:00 hrs
:00	2.419	2.552		
:10	2.458	2.542		
:20	2.479	2.526		
:30	2.500	2.505		
:40	2.521	2.469		
:50	2.542			

Low Water	4:00	5:00	:00	:00
:00	1.391	1.281		
:10	1.359	1.318		
:20	1.343	1.344		
:30	1.318	1.365		
:40	1.302			
:50	1.276			

Clock Time (24 Hour Format)

SUMMARY SUBORDINATE

HWs = 2.552 staff

LWs = 1.276 staff

Rs = (HWs-LWs) 1.276

TLs = (HWs-LWs)/2 1.914

Project RT 72 THOROFARE County OCEAN

Observer DG Surveyor Firm LGA ENGINEERING

New Jersey Department of Transportation

Mean High Water Data Collection - Range Ratio Method, Page 3

(This form is to be filled out by observer – copy to be submitted to NJDOT)

Weather conditions during high water observations:	Begin Session	End Session
Wind Speed/Direction (out of)	8 mph/ S	8 mph/ S
Temperature	65 °F	60 °F
Barometric Pressure	29.81 in/Hg	29.81 in/Hg

OBSERVATION SESSION #3 AT CONTROL TIDE STATION 8534048

STAFF OBSERVATIONS by DG

Date 5/7/09 — Observation Time — Date 5/7/09

High Water	21 :00 hrs	22 :00 hrs	:00 hrs	:00 hrs
:00		3.260		
:10	3.099	3.214		
:20	3.172	3.203		
:30	3.203	3.198		
:40	3.240	3.116		
:50	3.250			

Low Water	15 :00	16 :00	17 :00	:00
:00		0.964	1.005	
:10		0.938		
:20		0.901		
:30		0.885		
:40	0.906	0.922		
:50	0.891	0.964		

Clock Time (24 Hour Format)

SUMMARY CONTROL

HWc = 3.250 staff

LWc = 0.885 staff

Rc = (HWc-LWc) 2.365

TLc = (HWc+LWc)/2 2.0675

OBSERVATION SESSION #2 AT SUBORDINATE TIDE STATION _____

STAFF OBSERVATIONS by WR/CB

Date 5/7/09 — Observation Time — Date 5/7/09

High Water	21 :00 hrs	22 :00 hrs	23 :00 hrs	:00 hrs
:00		2.977	2.922	
:10		2.938	2.901	
:20		2.963	2.828	
:30		2.974		
:40		2.969		
:50	2.906	2.943		

Low Water	16 :00	17 :00	:00	:00
:00	1.224	1.156		
:10	1.182	1.177		
:20	1.156	1.203		
:30	1.130			
:40	1.114			
:50	1.155			

Clock Time (24 Hour Format)

SUMMARY SUBORDINATE

HWs = 2.974 staff

LWs = 1.114 staff

Rs = (HWs-LWs) 1.860

TLs = (HWs+LWs)/2 2.044

EXHIBIT C

COMPUTATIONS & FIELD NOTES
CONTROL STATION

BENCHMARK DATA SHEETS
REDUCTIONS TO N.A.V.D. 1988
LEVEL RUN FIELD NOTES
BENCHMARK LOCATION MAPS & TIE SHEETS

U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
National Ocean Service

Datums Page

Station ID: 8534048
Name: BEACH HAVEN CREST (INSIDE) NEW JERSEY
NOAA Chart: 12324
USGS Quad: BEACH HAVEN

PUBLICATION DATE: 07/26/2004

Latitude: 39° 36.8' N
Longitude: 74° 12.6' W

To reach the tidal bench marks at Beach Haven Crest from teh Long Beach Township Hall, proceed 0.6 km (0.4 mi) SW along Bay Avenue (Long Beach Boulevard) to the intersection of Bay Avenue and Jeannette Street, then turn right and continue to the foot of Jeannette Street. The bench marks are in the vicinity of Jeannette Street (78th Street) and the sewage disposal plant. The tide gage and staff were at the Crest Marina pier.

T I D A L B E N C H M A R K S

PRIMARY BENCH MARK STAMPING: **4048 A 1976**
DESIGNATION: 853 4048 A TIDAL

MONUMENTATION: Tidal Station disk
AGENCY: National Ocean Survey (NOS)
SETTING CLASSIFICATION: Copper clad steel rod

VM#: 2622
PID:

The primary bench mark is a disk set at the NW end of Jeannette Street, 18.50 m (60.7 ft) SE of the corner of the bulkhead of the Crest Marina, 6.64 m (21.8 ft) NE of the centerline of Jeannette Street, 5.00 m (16.4 ft) SE of the SE corner of Boat House #147, and 4.94 m (16.2 ft) NW of utility pole #P 10259. The bench mark is set 6 cm (0.2 ft) below ground level, crimped to the top of a copper-clad steel rod driven 15.2 m (50 ft), and encased in a PVC pipe and concrete kickblock.

BENCH MARK STAMPING: **4048 B 1976**
DESIGNATION: 853 4048 B TIDAL

MONUMENTATION: Tidal Station disk
AGENCY: National Ocean Survey (NOS)
SETTING CLASSIFICATION: Copper clad steel rod

VM#: 2623
PID:

The bench mark is a disk set at 114 Jeannette Street, 0.3 km (0.2 mi) NW along Jeannette Street from the intersection of Bay Avenue and Jeannette Street, 107 m (350 ft) SE of bench mark 4048 A 1976, 16.40 m (53.8 ft) south of utility pole #T 4462, 9.24 m (30.3 ft) SSW of the centerline of Jeannette Street, 7.38 m (24.2 ft) NE of the NW corner, and 3.51 m (11.5 ft) NW of the NE corner of the frame house at #114. The bench mark is set 6 cm (0.2 ft) below ground level, crimped to the top of a copper-clad steel rod driven 15.2 m (50 ft), and encased in a PVC pipe and concrete kickblock.

U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
National Ocean Service

Station ID: 8534048
Name: BEACH HAVEN CREST (INSIDE)
NEW JERSEY
NOAA Chart: 12324
USGS Quad: BEACH HAVEN

PUBLICATION DATE: 07/26/2004

Latitude: 39° 36.8' N
Longitude: 74° 12.6' W

T I D A L B E N C H M A R K S

BENCH MARK STAMPING: 4048 C 1976
DESIGNATION: 853 4048 C TIDAL

MONUMENTATION: Tidal Station disk
AGENCY: National Ocean Survey (NOS)
SETTING CLASSIFICATION: Copper clad steel rod

VM#: 2624
PID:

The bench mark is a disk set at 28 Jeannette Street, 122 m (400 ft) NW along Jeannette Street from the intersection of Bay Avenue and Jeannette Street, 14.45 m (47.4 ft) south of utility pole #11317, 8.05 m (26.4 ft) SW of the centerline of the street, and 4.45 m (14.6 ft) east of the NW corner of the house. The bench mark is set 6 cm (0.2 ft) below ground level, crimped to the top of a copper-clad steel rod driven 15.2 m (50 ft), and encased in a PVC pipe and concrete kickblock.

BENCH MARK STAMPING: 4048 D 1976
DESIGNATION: 853 4048 D TIDAL

MONUMENTATION: Tidal Station disk
AGENCY: National Ocean Survey (NOS)
SETTING CLASSIFICATION: Copper clad steel rod

VM#: 2625
PID#: AC7255

The bench mark is a disk located 122 m (400 ft) east of bench mark 4048 C 1976, 6.52 m (21.4 ft) NE of the north curb of Jeannette Street, 6.25 m (20.5 ft) NE of utility pole #P 7478, 3.51 m (11.5 ft) west of the catch basin on the west curb of Bay Avenue, and 1.83 m (6.0 ft) east of the SE corner of Antique Shop at 7712 Bay Avenue. The bench mark is set 6 cm (0.2 ft) below ground level, crimped to the top of a copper-clad steel rod driven 15.2 m (50 ft), and encased in a PVC pipe and concrete kickblock. NOTE: The sign for the business is directly overhead; the sign can be rotated by removing the connection pin.

U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
National Ocean Service

Station ID: 8534048
Name: BEACH HAVEN CREST (INSIDE)
NEW JERSEY
NOAA Chart: 12324
USGS Quad: BEACH HAVEN

PUBLICATION DATE: 07/26/2004

Latitude: 39° 36.8' N
Longitude: 74° 12.6' W

T I D A L D A T U M S

Tidal datums at BEACH HAVEN CREST (INSIDE) based on:

LENGTH OF SERIES:	5 MONTHS
TIME PERIOD:	August 1976 - December 1976
TIDAL EPOCH:	1983-2001
CONTROL TIDE STATION:	8557380 LEWES, FT. MILES

Elevations of tidal datums referred to Mean Lower Low Water (MLLW), in METERS:

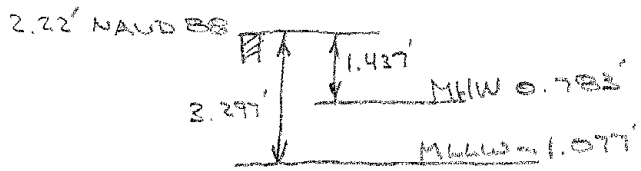
MEAN HIGHER HIGH WATER (MHHW)	=	0.650	2.122
MEAN HIGH WATER (MHW)	=	0.567	1.860
MEAN SEA LEVEL (MSL)	=	0.301	0.987
MEAN TIDE LEVEL (MTL)	=	0.292	0.958
MEAN LOW WATER (MLW)	=	0.017	0.055
MEAN LOWER LOW WATER (MLLW)	=	0.000	—

National Geodetic Vertical Datum (NGVD 29)

Bench Mark Elevation Information — In METERS above:

Stamping or Designation		MLLW	MHW			
4048 A 1976	See note → *	3.586	-1.093	0.526	1.726	-0.913 +0.912 *
4048 B 1976			1.158	0.591		
4048 C 1976		3.320	-1.012	0.445	1.460	-1.072 +0.787
4048 D 1976		3.297	-1.005	0.438	1.437	-1.077 +0.782

MON 4048 D ELEV = 2.22 NAVD 88 Published & Held (5/10/07 GSA)
MON 4048 C ELEV = 2.247 " Surveyed (5/10/07 GSA)
MON 4048 A ELEV = 2.668 " Surveyed (5/10/07 GSA)
* NOTE: MON. 4048A Disk Plate in top of monument was not found. Top edge of conc. cap of monument was surveyed (ELEV = 2.668)



U.S. DEPARTMENT OF COMMERCE

U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
National Ocean Service

Station ID:	**8534048**	**PUBLICATION DATE:**	**07/26/2004**
Name:	**BEACH HAVEN CREST (INSIDE) NEW JERSEY**		
NOAA Chart:	**12324**	**Latitude:**	**39° 36.8' N**
USGS Quad:	**BEACH HAVEN**	**Longitude:**	**74° 12.6' W**

D E F I N I T I O N S

Mean Sea Level (MSL) is a tidal datum determined over a 19-year National Tidal Datum Epoch. It pertains to local mean sea level and should not be confused with the fixed datums of North American Vertical Datum of 1988 (NAVD 88).

NGVD 29 is a fixed datum adopted as a national standard geodetic reference for heights but is now considered superseded. NGVD 29 is sometimes referred to as Sea Level Datum of 1929 or as Mean Sea Level on some early issues of Geological Survey Topographic Quads. NGVD 29 was originally derived from a general adjustment of the first-order leveling networks of the U.S. and Canada after holding mean sea level observed at 26 long term tide stations as fixed. Numerous local and wide-spread adjustments have been made since establishment in 1929. Bench mark elevations relative to NGVD 29 are available from the National Geodetic Survey (NGS) data base via the World Wide Web at National Geodetic Survey.

NAVD 88 is a fixed datum derived from a simultaneous, least squares, minimum constraint adjustment of Canadian/Mexican/United States leveling observations. Local mean sea level observed at Father Point/Rimouski, Canada was held fixed as the single initial constraint. NAVD 88 replaces NGVD 29 as the national standard geodetic reference for heights. Bench mark elevations relative to NAVD 88 are available from NGS through the World Wide Web at National Geodetic Survey.

NGVD 29 and NAVD 88 are fixed geodetic datums whose elevation relationships to local MSL and other tidal datums may not be consistent from one location to another.

The Vertical Mark Number (VM#) and PID# shown on the bench mark sheet are unique identifiers for bench marks in the tidal and geodetic databases, respectively. Each bench mark in either database has a single, unique VM# and/or PID# assigned. Where both VM# and PID# are indicated, both tidal and geodetic elevations are available for the bench mark listed.

The NAVD 88 elevation is shown on the Elevations of Tidal Datums Table Referred to MLLW only when two or more of the bench marks listed have NAVD 88 elevations. The NAVD 88 elevation relationship shown in the table is derived from an average of several bench mark elevations relative to tide station datum. As a result of this averaging, NAVD 88 bench mark elevations computed indirectly from the tidal datums elevation table may differ slightly from NAVD 88 elevations listed for each bench mark in the NGS database.

The NGS Data Sheet

```
DATABASE =  ,PROGRAM = datasheet, VERSION = 7.67
1         National Geodetic Survey,   Retrieval Date = MAY 12, 2009
 AC7255 ***********************************************************************
 AC7255  TIDAL BM     -  This is a Tidal Bench Mark.
 AC7255  DESIGNATION -  853 4048 D TIDAL
 AC7255  PID          -  AC7255
 AC7255  STATE/COUNTY-  NJ/OCEAN
 AC7255  USGS QUAD    -  BEACH HAVEN (1977)
 AC7255
 AC7255                          *CURRENT SURVEY CONTROL
 AC7255  ______________________________________________________________________
 AC7255* NAD 83(1986)-  39 36 41.      (N)     074 12 16.      (W)      SCALED
 AC7255* NAVD 88      -         0.676  (meters)        2.22    (feet)   ADJUSTED
 AC7255  ______________________________________________________________________
 AC7255  GEOID HEIGHT-         -33.64  (meters)                         GEOID03
 AC7255  DYNAMIC HT  -           0.675 (meters)        2.21    (feet)   COMP
 AC7255  MODELED GRAV-     980,145.1   (mgal)                           NAVD 88
 AC7255
 AC7255  VERT ORDER   -  FIRST      CLASS I
 AC7255
 AC7255.The horizontal coordinates were scaled from a topographic map and have
 AC7255.an estimated accuracy of +/- 6 seconds.
 AC7255
 AC7255.The orthometric height was determined by differential leveling
 AC7255.and adjusted in April 1997.
 AC7255
 AC7255.This Tidal Bench Mark is designated as VM 2625
 AC7255.by the Center for Operational Oceanographic Products and Services.
 AC7255
 AC7255.The geoid height was determined by GEOID03.
 AC7255
 AC7255.The dynamic height is computed by dividing the NAVD 88
 AC7255.geopotential number by the normal gravity value computed on the
 AC7255.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45
 AC7255.degrees latitude (g = 980.6199 gals.).
 AC7255
 AC7255.The modeled gravity was interpolated from observed gravity values.
 AC7255
 AC7255;                     North         East     Units  Estimated Accuracy
 AC7255;SPC NJ        -    86,410.      175,380.      MT  (+/- 180 meters Scaled)
 AC7255
 AC7255                           SUPERSEDED SURVEY CONTROL
 AC7255
 AC7255.No superseded survey control is available for this station.
 AC7255
 AC7255_U.S. NATIONAL GRID SPATIAL ADDRESS: 18SWJ682849(NAD 83)
 AC7255_MARKER: DJ = TIDAL STATION DISK
 AC7255_SETTING: 46 = COPPER-CLAD STEEL ROD W/O SLEEVE (10 FT.+)
 AC7255_STAMPING: 4048 D 1976
 AC7255_MARK LOGO: NOS
 AC7255_PROJECTION: RECESSED 4 CENTIMETERS
 AC7255_MAGNETIC: I = MARKER IS A STEEL ROD
 AC7255_STABILITY: B = PROBABLY HOLD POSITION/ELEVATION WELL
 AC7255_SATELLITE: THE SITE LOCATION WAS REPORTED AS NOT SUITABLE FOR
 AC7255+SATELLITE: SATELLITE OBSERVATIONS - July 08, 1996
 AC7255_ROD/PIPE-DEPTH: 15.2 meters
 AC7255
```

```
AC7255  HISTORY     - Date     Condition        Report By
AC7255  HISTORY     - 1976     MONUMENTED       PORTER
AC7255  HISTORY     - 19960708 GOOD             NJGS
AC7255
AC7255                          STATION DESCRIPTION
AC7255
AC7255'DESCRIBED BY NEW JERSEY GEODETIC SURVEY 1996 (ECB)
AC7255'THE STATION IS LOCATED IN LONG BEACH TOWNSHIP IN THE COMMUNITY OF
AC7255'BEACH HAVEN CREST.  TO REACH THE STATION FROM THE INTERSECTION OF 9TH
AC7255'STREET, THE EASTBOUND LANES OF STATE ROUTE 72 AND LONG BEACH BOULEVARD
AC7255'IN THE BOROUGH OF SHIP BOTTOM, GO SOUTHWEST ON LONG BEACH BOULEVARD
AC7255'FOR ABOUT 3.0 MI (4.8 KM) TO THE INTERSECTION WITH JEANETTE STREET,
AC7255'(78TH STREET) AND THE STATION ON THE RIGHT, SET FLUSH IN ASPHALT
AC7255'PAVING AT THE NORTHWEST CORNER OF THE INTERSECTION IN FRONT OF NUMBER
AC7255'7712, A ONE STORY FRAME DWELLING FOR LBI VIDEO.  THE STATION IS 6.0 FT
AC7255'(1.8 M) EAST FROM THE SOUTHEAST CORNER OF NUMBER 7712 AND 11.5 FT (3.5
AC7255'M) WEST FROM THE WEST CURB OF LONG BEACH BOULEVARD.  THE SIGN FOR THE
AC7255'BUSINESS IS DIRECTLY OVERHEAD, THE SIGN CAN BE ROTATED BY REMOVING THE
AC7255'CONNECTION PIN.

*** retrieval complete.
Elapsed Time = 00:00:00
```

LGA ENGINEERING, INC.
CONSULTING ENGINEERS & SURVEYORS

750 VASSAR AVENUE
LAKEWOOD, NEW JERSEY 08701
TEL: (732) 961-2162 FAX: (732) 961-2163

PROJECT #: DATE:

PROJECT NAME: SURVEY CREW:

STREET:

CITY/TOWN:

COUNTY: SHEET ___ OF ___

SURVEY CONTROL DATASHEET

HORIZONTAL DATUM (circle): NAD27 NAD83 ASSUMED OTHER (Describe)

VERTICAL DATUM (circle): NGVD29 NAVD88 ASSUMED OTHER (Describe)

POINT DESCRIPTION:

TIE #1 = ; TIE #2 = ; TIE #3 =

NORTH:

EAST:

ELEVATION:

CONTROL POINT #

Publish B.M.
Beach Haven Crest (Inside)
8534048

Base on
4048 D
PID AC7255 NAVD88 EL=2.22
Publication Date 07/26/2004
Tidal Epoch 1983-2001

MON 4048 D = 2.22 NAVD88

1.437

MHW = 0.783 NAVD88 V.S. 0.631 = (0.152')

Base on Field observations
by LGA on 5/7/09 & Published
BM ELEV of 2.22 NAVD88
@ 4048-D PID AC7255

LGA ENGINEERING, INC.
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750 VASSAR AVENUE
LAKEWOOD, NEW JERSEY 08701
TEL: (732) 961-2162 FAX: (732) 961-2163

PROJECT #: DATE:

PROJECT NAME: SURVEY CREW:

STREET:

CITY/TOWN:

COUNTY: SHEET ___ OF ___

SURVEY CONTROL DATASHEET

HORIZONTAL DATUM (circle): NAD27 NAD83 ASSUMED OTHER (Describe)

VERTICAL DATUM (circle): NGVD29 NAVD88 ASSUMED OTHER (Describe)

POINT DESCRIPTION:

TIE #1 = ; TIE #2 = ; TIE #3 =

NORTH:

EAST:

ELEVATION:

CONTROL POINT # 4

Control Sta

MRS =

NAVD88 4.151 @ 6.0' MARK

4.151 = 6.0

4.151

3.248 HWa - 1.396 NAVD88

1.

2.290

0.958 LWa — 0.891 NAVD88

LGa LGA ENGINEERING, INC.
CONSULTING ENGINEERS & SURVEYORS

750 VASSAR AVENUE
LAKEWOOD, NEW JERSEY 08701
TEL: (732) 961-2162 FAX: (732) 961-2163

PROJECT #: DATE:

PROJECT NAME: SURVEY CREW:

STREET:

CITY/TOWN:

COUNTY: SHEET ___ OF ___

SURVEY CONTROL DATASHEET

HORIZONTAL DATUM (circle): NAD27 NAD83 ASSUMED OTHER (Describe)

VERTICAL DATUM (circle): NGVD29 NAVD88 ASSUMED OTHER (Describe)

POINT DESCRIPTION:

TIE #1 = ; TIE #2 = ; TIE #3 =

NORTH:

EAST:

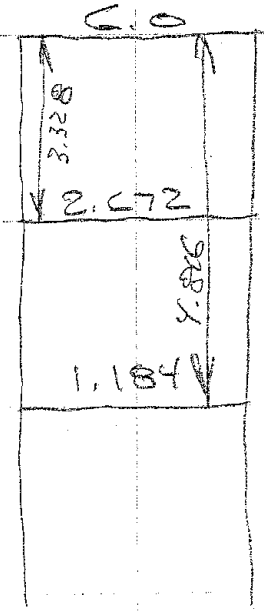
ELEVATION:

CONTROL POINT # ___

(2)

NAVD88 4.151 = 6.0 Nack Control

4.151 = 6.0



HWC 0.823 NAVD88

LWC −0.665 NAVD88

LGA ENGINEERING, INC.
CONSULTING ENGINEERS & SURVEYORS

750 VASSAR AVENUE
LAKEWOOD, NEW JERSEY 08701
TEL: (732) 961-2162 FAX: (732) 961-2163

PROJECT #: DATE:

PROJECT NAME: SURVEY CREW:

STREET:

CITY/TOWN:

COUNTY: SHEET ___ OF ___

SURVEY CONTROL DATASHEET

HORIZONTAL DATUM (circle): NAD27 NAD83 ASSUMED OTHER (Describe)

VERTICAL DATUM (circle): NGVD29 NAVD88 ASSUMED OTHER (Describe)

POINT DESCRIPTION:

TIE #1 = ; TIE #2 = ; TIE #3 =

NORTH:

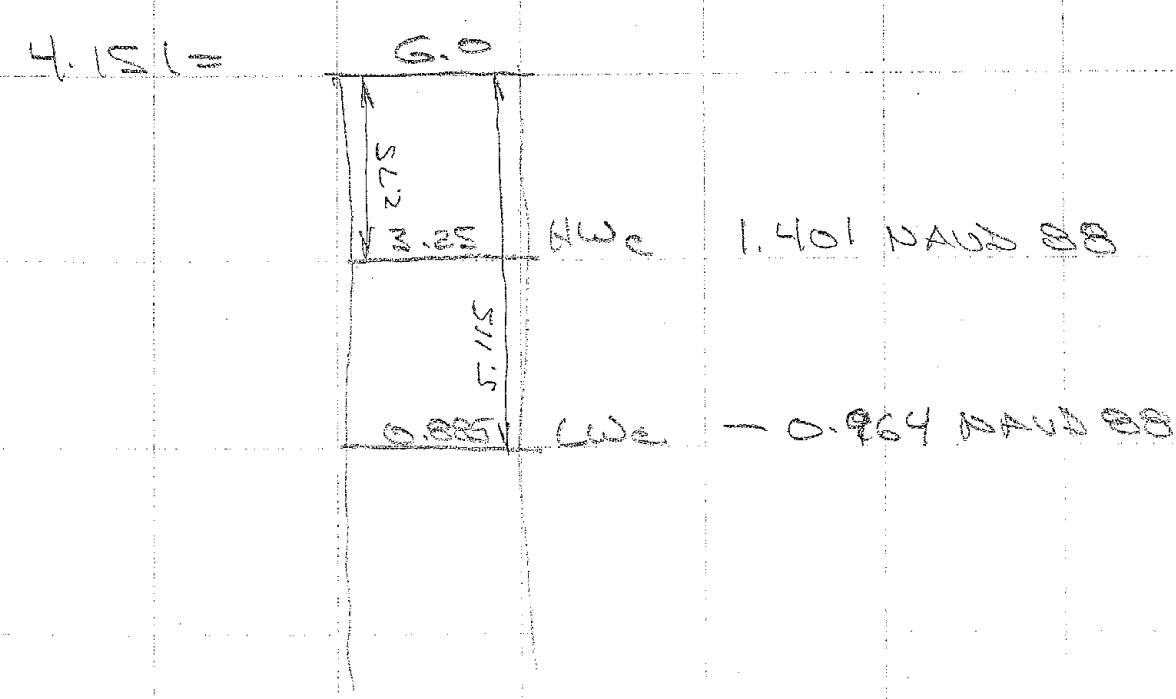
EAST:

ELEVATION:

CONTROL POINT #

(3) coastal

NAVD 88 4.151 e 6.0 mark



5/13/09
60° ☀

3 Wire Bench Run #2

78th ST.

TP#	BS		FS	ELEV	DESC
				2.22	MON 4048 D AC7255
	5.086				853 4048 D TIDAL
	4.553 4.554	6.773			EL= 2.22 Published.
	4.021				(LGA GPS EL= 2.16')
			4.986		
#1			4.442 ✓	2.331	PNI in Tie
			3.898		
	5.43				
	4.857 4.858	7.188			
	4.284				
			5.414		
#2			4.941 4.94	2.247	mon 4048-C
			4.47		853 4048 C TIDAL
	5.88				
	4.909 ✓	7.156			
	3.939				
			5.807		
#3			4.816 ✓	2.34	TC
			3.825		

Control Tide Station
3 wire bench run

1 of 4

(2)

TP#	BS	HI	FS	ELEV	DISC
				2.34	
	5.812				
	4.888 ✓	7.228			
	3.965				
			5.666		
TP#4			4.789 4.792	2.439	TC
			3.91		
	5.032				
	4.501 4.502	6.94			
	3.97				
			4.435		
TP#5			4.272 ✓	2.668	BM- MON? 4048-A
			4.109		
			3.264		
SS#6			2.789 ✓	4.151	TIDE Board 6' MARK
			2.366		
				2.668	BM- MON
	4.668				
	4.432 ✓	7.10			
	4.197				

NOT FOUND

NOTE: CONC MON Found w/ Hole center of MON w/ PVC PIPE NO DISK

Control Tide Station
3 wire bench mark

2 of 4

(3)

TP#	BS	HI	FS	ELEV	DESC
		7.10			
			4.996		
#7			4.663	2.437	TC
			4.33		
	5.747				
	4.81 4.809	7.246			
	3.87				
			5.985		
			4.994 4.9945	2.301	TC
#8			3.910		
	5.395				
	4.47 4.468	6.769			
	3.538				
			4.975		
			3.963 3.964	2.805	
#9			2.955		
	5.456				
	4.32	7.125			
	3.185				

Control Tide Station
3 wire bench run
3 of 4

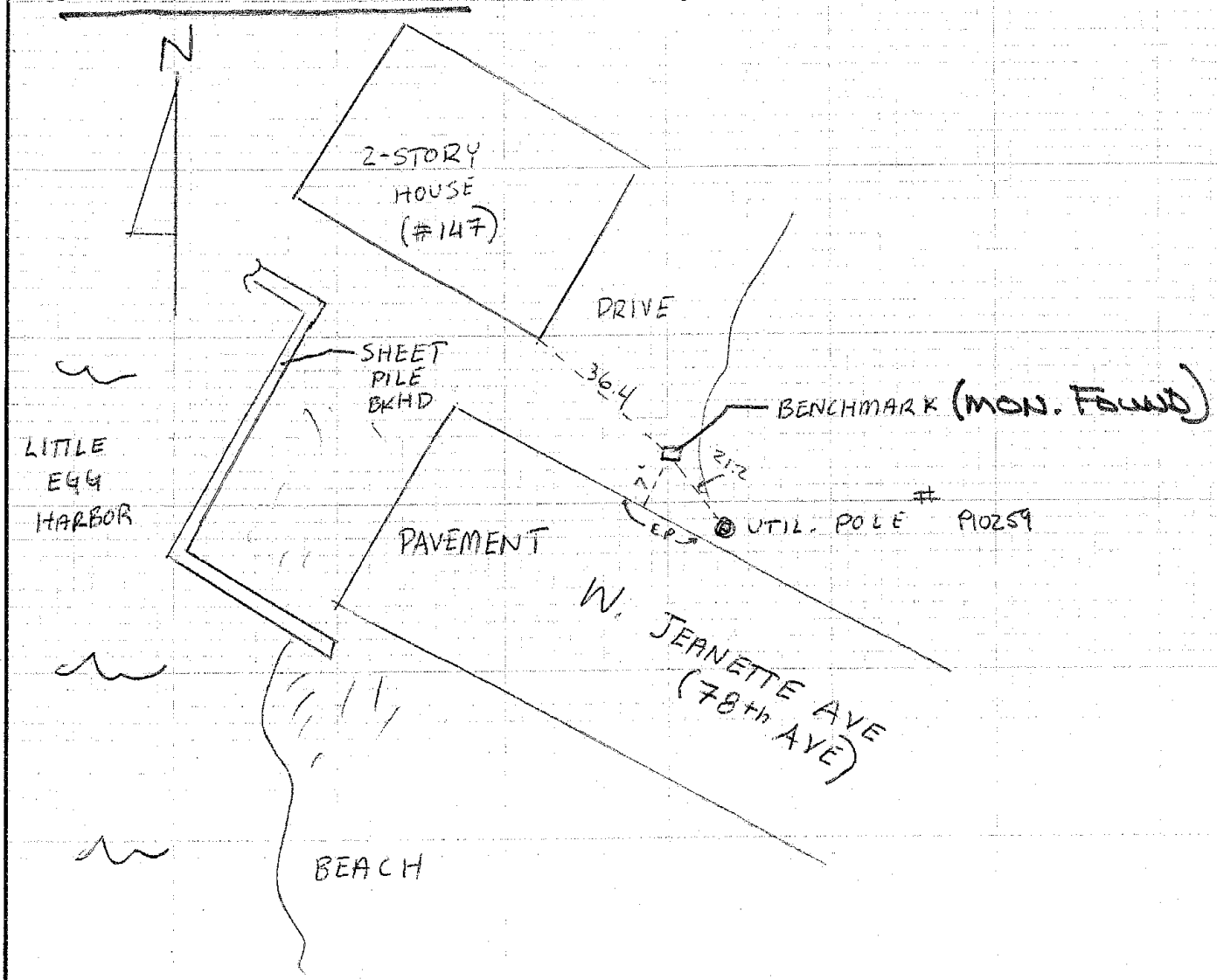
Control Tide Station
3 wire bench run
4/ of 4

(4)

BS	HI	FS	ELEV
	7.125		
		5.745	
		4.908	2.217
		4.07	

MON 4048 D ✓

853 4048 A 1976 ← NOT FOUND



LGA ENGINEERING, INC.
CONSULTING ENGINEERS & SURVEYORS
TEL: (732) 961-2162 FAX: (732) 961-2163

Project: ROUTE 72 BENCHMARKS		
Design:	Check:	Sheet No: 1 of 4
Date:	Date:	File No:

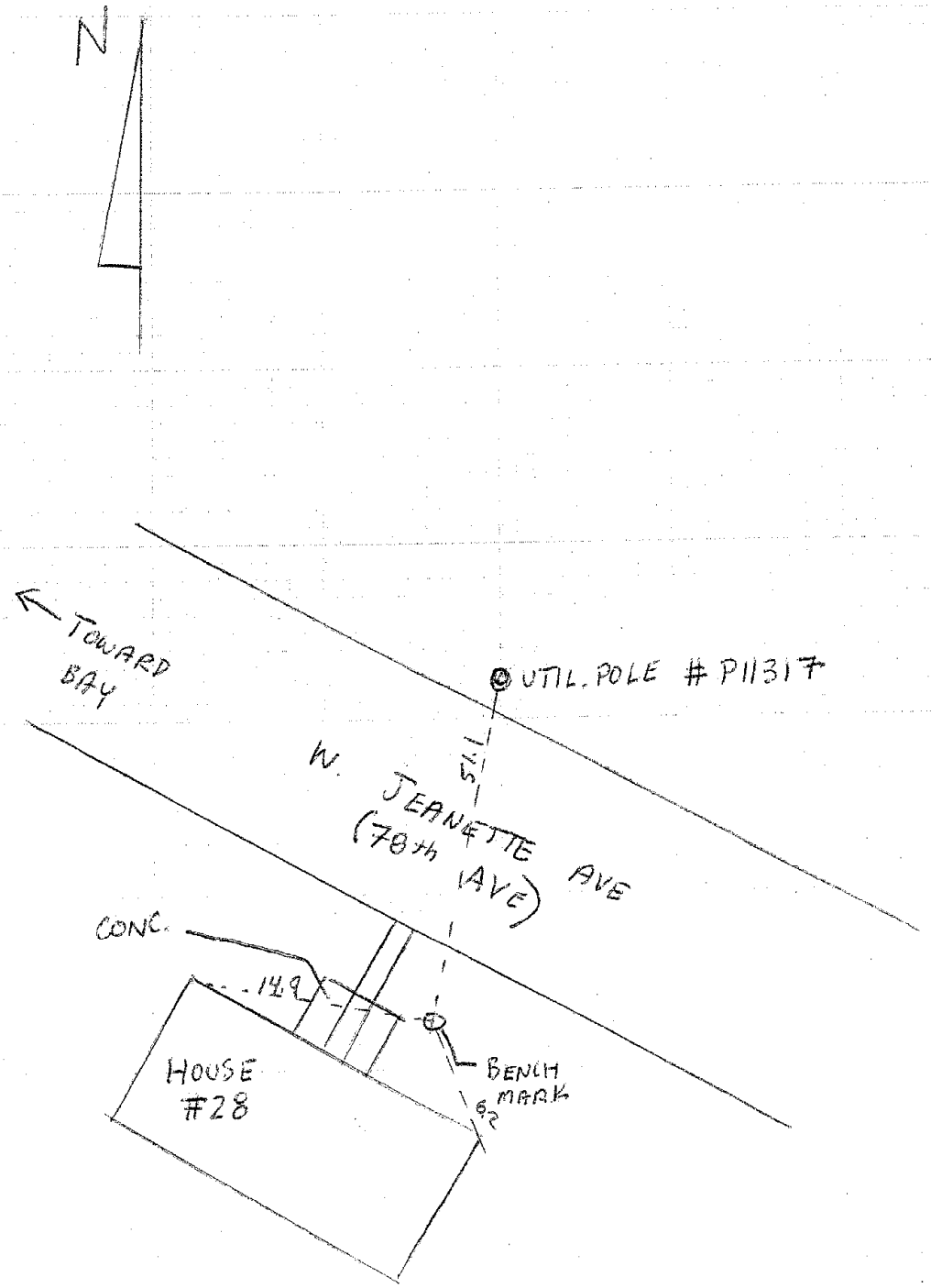
853 4048 B 1976

NOT RECOVERED

LGA ENGINEERING, INC.
CONSULTING ENGINEERS & SURVEYORS
TEL: (732) 961-2162 FAX: (732) 961-2163

Project: ROUTE 72 BENCH MARKS		
Design:	Check:	Sheet No: 2 of 4
Date:	Date:	File No:

853 4048 C 1976 Found

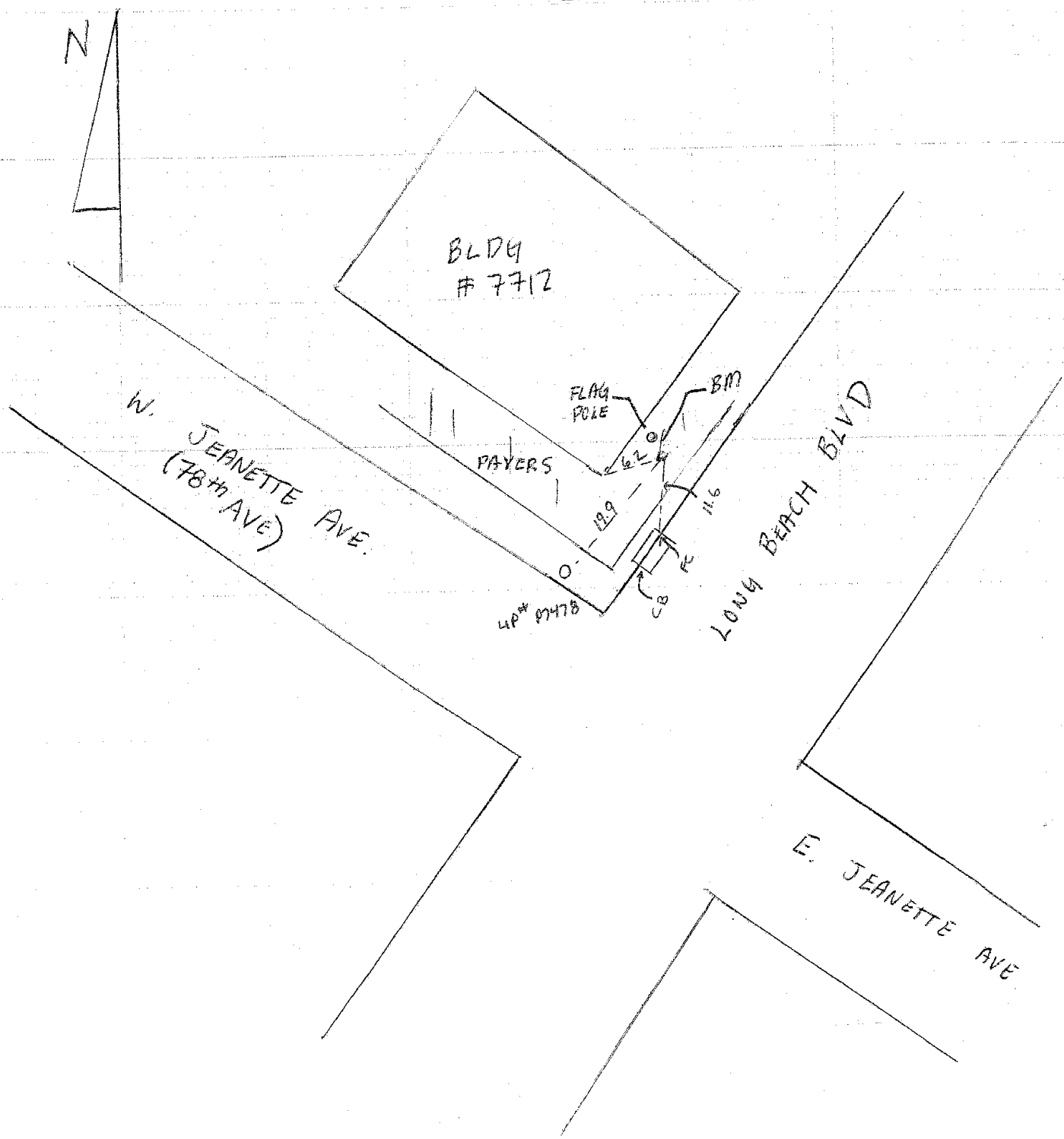


SEE NOAA DATASHEETS FOR TIES TO FIXED POINTS

LGa LGA ENGINEERING, INC.
CONSULTING ENGINEERS & SURVEYORS
TEL: (732) 961-2162 FAX: (732) 961-2163

Project: ROUTE 72 BENCHMARKS		
Design:	Check:	Sheet No: 3 of 4
Date:	Date:	File No:

853 4648 D 1976 Found



LGA ENGINEERING, INC.
CONSULTING ENGINEERS & SURVEYORS
TEL: (732) 961-2162 FAX: (732) 961-2163

Project: ROUTE 72 BENCHMARKS		
Design:	Check:	Sheet No: 4 OF 21
Date:	Date:	File No:

Update Rec ~~11/15/78~~
May 2009

Beach Haven Crest, Inside - 853 4048

BENCH MARK 4048 A 1976: 1.81 feet above mean high water and 3.67 feet above mean low water. May 2009 ? ~~1997~~ Found

BENCH MARK 4048 B 1976: 2.03 feet above mean high water and 3.89 feet above mean low water.

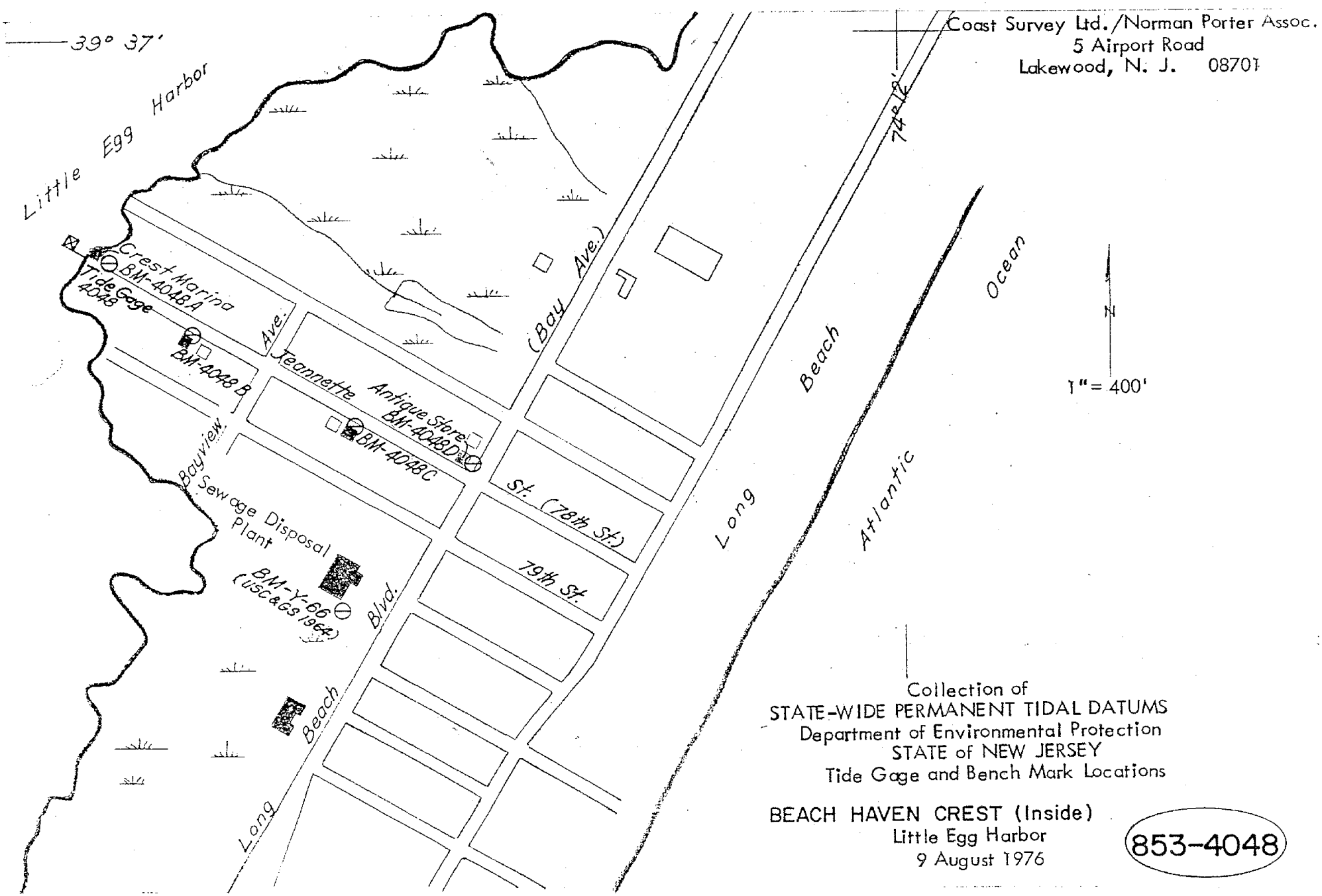
BENCH MARK 4048 C 1976: 1.55 feet above mean high water and 3.41 feet above mean low water. Found

BENCH MARK 4048 D 1976: 1.52 feet above mean high water and 3.38 feet above mean low water. Found

BENCH MARK Y 66 1964: 3.77 feet above mean high water and 5.63 feet above mean low water.

~~NOT FOUND~~

Found May 2009



Coast Survey Ltd./Norman Porter Assoc.
5 Airport Road
Lakewood, N. J. 08701

Collection of
STATE-WIDE PERMANENT TIDAL DATUMS
Department of Environmental Protection
STATE of NEW JERSEY
Tide Gage and Bench Mark Locations

BEACH HAVEN CREST (Inside)
Little Egg Harbor
9 August 1976

853-4048

Designation 4048 A State New Jersey County Ocean
Nearest town Beach Haven Crest County Ocean Chief of party N. Porter
Distance and direction from nearest town At Beach Haven Crest Leveling date 29 July 1976
Character of mark Deep rod mark Stamping 4048 A 1976
Established by Norman Porter Assoc. Section ,T ,R
Detailed description

On Long Beach Island, at Beach Haven Crest, approximately 0.4 mile southwest along Bay Avenue from the Long Beach Township Hall, to the intersection of Bay Avenue and Jeannette Street, the mark is a standard NOS bench mark disk stamped "4048 A 1976" set on top of a 5/8" diam. copper-coated steel rod driven 50 feet, located at the northwest end of Jeannette Street, 16.4 feet southeast of the southeast corner of Boat House #147, 16.2 feet northwest of wood utility pole #P 10259, 21.8 feet northeast of the centerline of Jeannette Street, and 60.7 feet southeast of the corner of the bulkhead of the nearby Marina, set about 2 inches below ground.

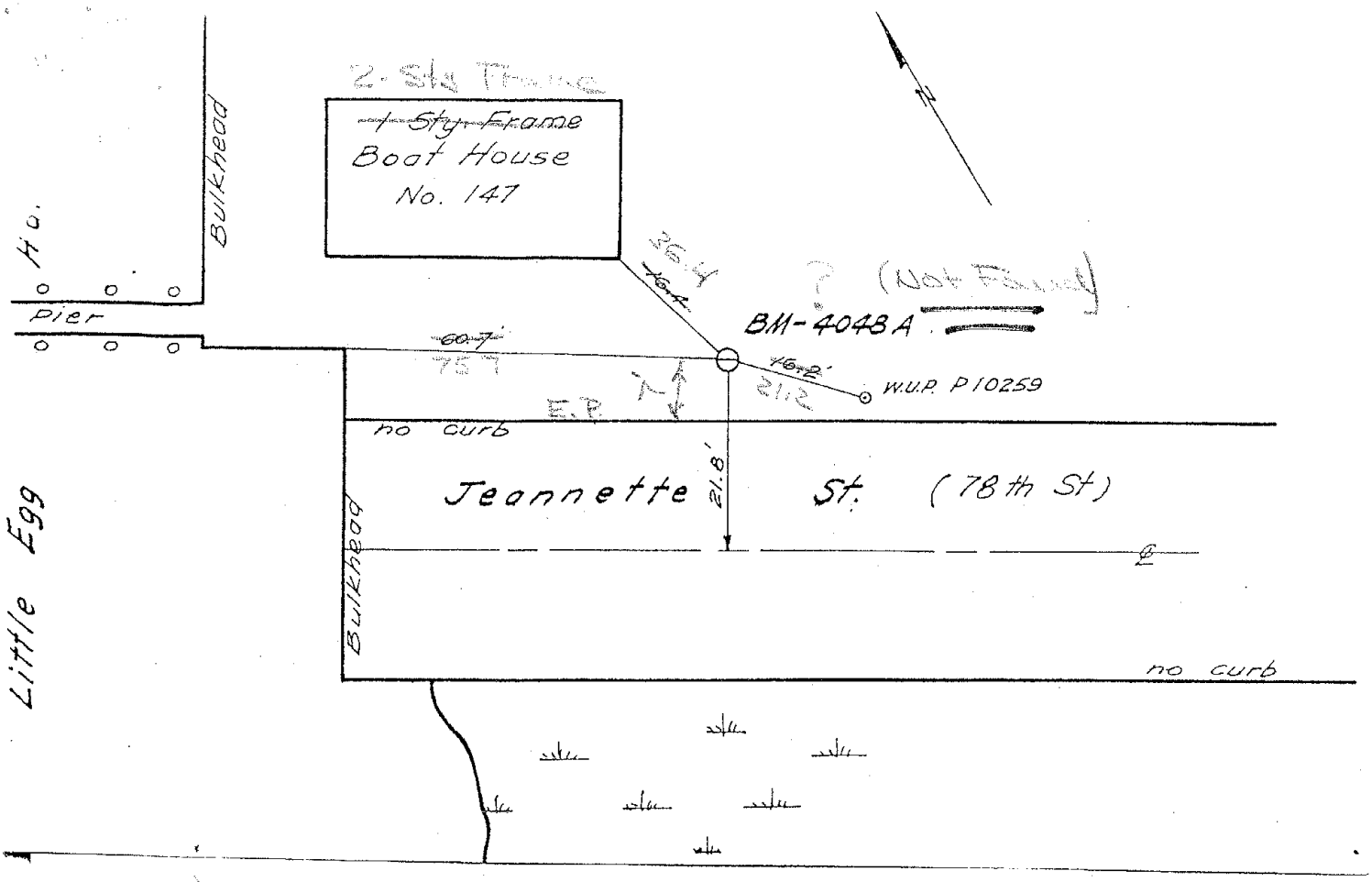
NOT FOUND

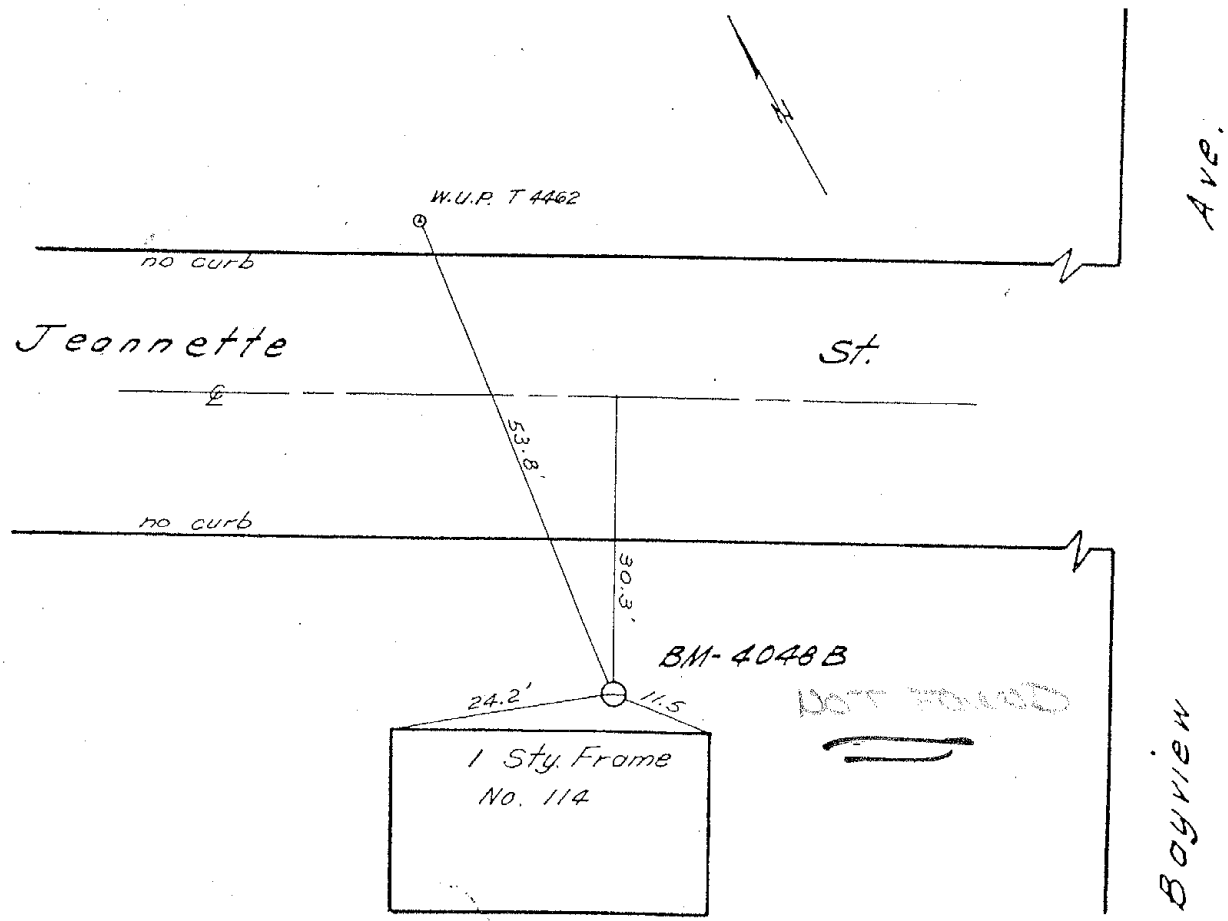
NOT FOUND

DESCRIPTION OF BENCH MARK

Designation 4048 B State New Jersey County Ocean
Nearest town Beach Haven Crest County Ocean Chief of party N. Porter
Distance and direction from nearest town At Beach Haven Crest Leveling date 29 July 1976
Character of mark Deep rod mark Stamping 4048 B 1976
Established by Norman Porter Assoc. Section ,T ,R
Detailed description

On Long Beach Island, at Beach Haven Crest, approximately 0.4 mile southwest along Bay Avenue from the Long Beach Township Hall, to the intersection of Bay Avenue and Jeannette Street, thence approximately 0.2 mile northwest along Jeannette Street to House No. 114, the disk stamped "4048 B 1976", is a standard NOS bench mark disk set on top of a 5/8" diam. copper-coated steel rod driven 50 feet, approximately 350 feet southeast of Bench Mark 4048 A, 53.8 feet south of wood utility pole #T 4462, 30.3 feet south-southwest of the centerline of Jeannette Street, 11.5 feet northwest of the northeast corner of frame house No. 114, 24.2 feet northeast of the northwest corner of the same house, approximately 2 inches below ground.


2-Sty Frame
~~1 Sty. Frame~~
Boat House
No. 147
Bulkhead
Pier
BM-4048A
(Not Found)
W.U.P. P10259
no curb
Jeannette St. (78th St)
21.8'
Bulkhead
no curb
Little Egg


W.U.P. T 4462
no curb
Jeannette St.
53.8'
no curb
30.3'
BM-4048B
24.2'
11.5
1 Sty. Frame
No. 114
Bayview Ave.

Designation 4048 C
Nearest town Beach Haven Crest
Distance and direction from nearest town
Character of mark Deep rod mark
Established by Norman Porter Assoc.
Detailed description

State New Jersey
County Ocean
At Beach Haven Crest

County Ocean
Chief of party N. Porter
Leveling date 29 July 1976
Stamping 4048 C 1976

Section .T .R

On Long Beach Island, at Beach Haven Crest, approximately 0.4 mile southwest along Bay Avenue from the Long Beach Township Hall, to the intersection of Bay Avenue and Jeannette Street, thence approximately 400 feet northwest along Jeannette Street from Bay Avenue (and Bench Mark 4048 D), to House No. 28, the mark stamped "4048 C 1976" is a standard NOS bench mark disk set on top of a 5/8" diam. copper-coated steel rod driven 50 feet, 6.1 feet north of the northeast corner of wood frame House No. 28 Jeannette Street, 14.6 feet east of the northwest corner of the same house, 47.4 feet south of wood utility pole No. 11317, and 26.4 feet southwest of the centerline of Jeannette Street, 2 inches below ground.

Found

DESCRIPTION OF BENCH MARK

Designation 4048 D
Nearest town Beach Haven Crest
Distance and direction from nearest town
Character of mark Deep rod mark
Established by Norman Porter Assoc.
Detailed description

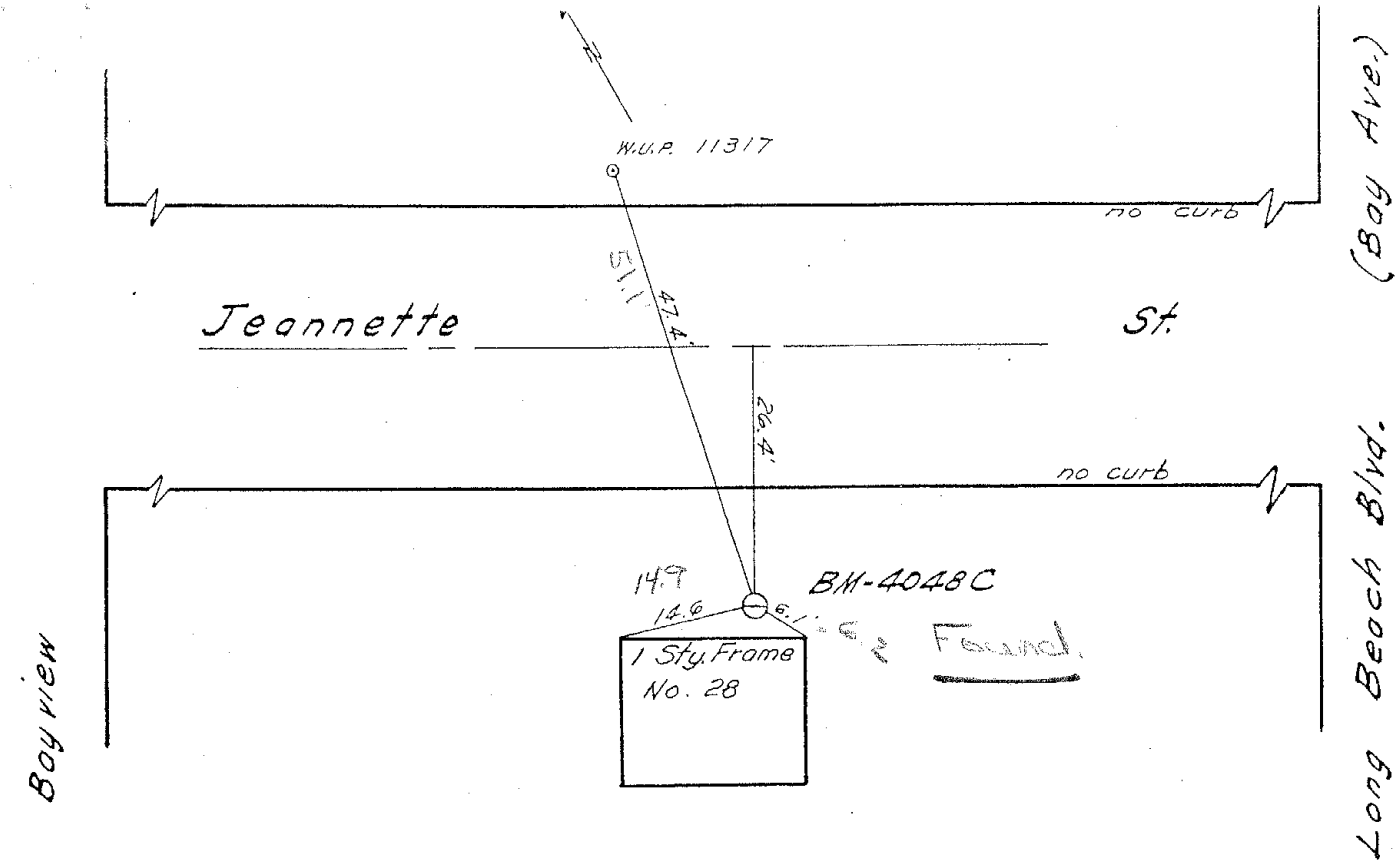
State New Jersey
County Ocean
At Beach Haven Crest

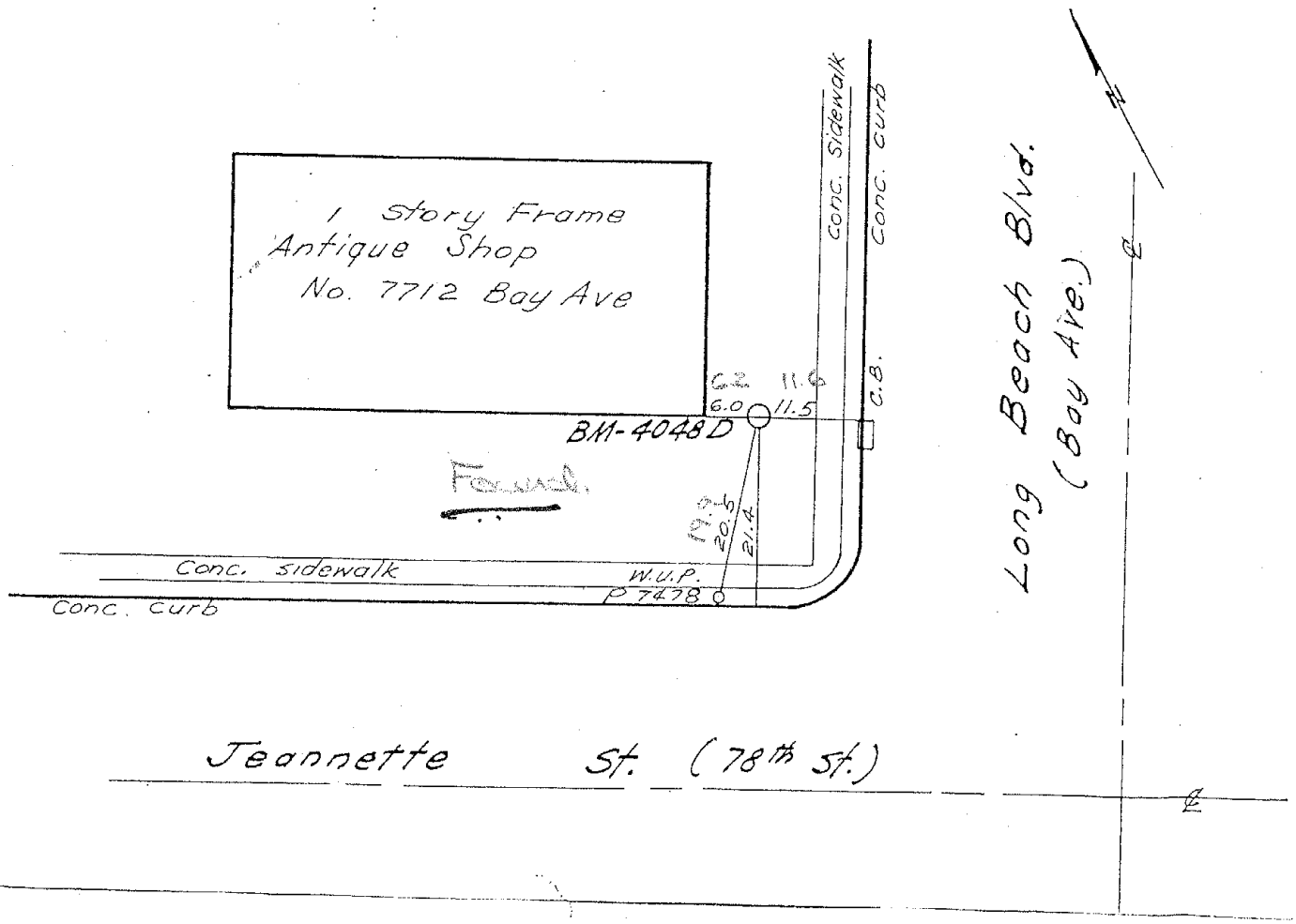
County Ocean
Chief of party N. Porter
Leveling date 29 July 1976
Stamping 4048 D 1976

Section .T .R

On Long Beach Island, at Beach Haven Crest, approximately 0.4 mile southwest along Bay Avenue from the Long Beach Township Hall to the intersection of Bay Avenue and Jeannette Street, the mark is a standard NOS bench mark disk stamped "4048 D 1976" set on top of a 5/8" diam. copper-coated steel rod driven 50 feet, approximately 400 feet east of Bench Mark 4048 C, 6.0 feet east of the southeast corner of Antique Shop No. 7712 Bay Avenue, 11.5 feet west of the catch basin on the west curb of Bay Avenue, 21.4 feet northeast of the north concrete curb of Jeannette Street, and 20.5 feet northeast of wood utility pole #P 7478, 2.5 inches below elevation of curb.

Found


W.U.P. 11317
no curb
(Bay Ave.)
51.1
47.4'
Jeannette St.
26.4'
no curb
14.9
BM-4048C
14.6
6.1
Found.
1 Sty. Frame
No. 28
Bay view
Long Beach Blvd.


1 Story Frame
Antique Shop
No. 7712 Bay Ave
Conc. Sidewalk
Conc. Curb
C.B.
C.B.
6.0
11.6
11.5
BM-4048D
Found.
19.3
20.5
21.4
Conc. sidewalk
W.U.P.
P 7478
Conc. Curb
Long Beach Blvd.
(Bay Ave.)
Jeannette St. (78th St.)

RECOVERY NOTE, BENCH MARK

R

Designation Y 66
Nearest town Beach Haven Crest
State New Jersey
Described in 390741, Pg.30
County Ocean
Distance and direction from nearest town At Beach Haven Crest
Chief of party N. Porter
Character of mark C&GS Bench Mark Disk
Established by C&GS
Recovery date 27 July 1976
Stamping Y 66 1964
Also horizontal control point ☐
Present condition Good
feet of corner of 1/4, SEC , T , R
Detailed report:

Recovered as described in good condition.

NOT FOUND

NOAA FORM 76-89
(1-72)

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

☆U.S. G.P.O. 1973-769-569/700 REG.#6

DESCRIPTION OF BENCH MARK

Designation Y 66
Nearest town Beach Haven Crest
State New Jersey
County Ocean
County Ocean
Distance and direction from nearest town At Beach Haven Crest
Chief of party N. Porter
Character of mark C&GS Bench Mark Disk
Leveling date 29 July 1976
Established by C&GS
Stamping Y 66 1964
Detailed description
Section ,T ,R

On Long Beach Island, at Beach Haven Crest, 0.5 mile southwest along Bay Avenue from the Long Beach Township Hall, 0.55 mile northeast along Bay Avenue from the Long Beach Post Office, set in the top of the south corner of a concrete sewer outfall with a manhole in the center (the outfall is about 7-by-7 foot square and 6 feet deep with 1-foot thick walls and resting on piles), 145.0 feet northwest of the centerline of Bay Avenue, 13.0 feet southwest of the south corner of the main building of the disposal plant and about level with the avenue.

NOT FOUND

NOAA FORM 76-75
(1)

*U S GOVERNMENT PRINTING OFFICE:1975-665-083

U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY

Tide Stake
House #147
BY 404BA
NOT Found
MON Found
W. Hebart (17th) Avenue
W. Kennette (18th) Avenue
Bayview Avenue
W. Culver (19th) Avenue
House #28
BY 404B
House #17
BY 404
A-28

EXHIBIT D

COMPUTATIONS & FIELD NOTES
SUBORDINATE STATION

COORDINATE SYSTEM DATA
REDUCTIONS TO N.A.V.D. 1988
LEVEL RUN FIELD NOTES
SURVEY CONTROL INFORMATION

COORDINATE SYSTEM

HORIZONTAL DATUM–NAD 1983, BASED ON GPS OBSERVATIONS BY LGA ENGINEERING, INC., APRIL 16, 2009 AND REFER TO NATIONAL GEODETIC MONUMENTS "NJBR" (PID–DK4428), "NJGC" (PID–DF8717), "NJGT" (PID–DL1896), "NJNT" (PID–DK7749), "NJOC" (PID–DI1077), "NJTR" (PID–DG7014), "NJTW" (PID–DF7058), "PAPH" (PID–DJ6115) "RED5" (PID–DI7532) "SHK5" (PID–DI0880),"DEDT" (PID–DH3832)."NJOC" (PID–DI1077),

VERTICAL DATUM–NAVD 1988, BASED ON GPS OBSERVATIONS BY LGA ENGINEERING, INC. APRIL 16, 2009 AND REFER TO NATIONAL GEODETIC MONUMENTS "NJBR" (PID–DK4428), "NJGC" (PID–DF8717), "NJGT" (PID–DL1896), "NJNT" (PID–DK7749), "NJOC" (PID–DI1077), "NJTR" (PID–DG7014), "NJTW" (PID–DF7058), "PAPH" (PID–DJ6115) "RED5" (PID–DI7532) "SHK5" (PID–DI0880),"DEDT" (PID–DH3832).

PROJECT BASE STATION POINT POSITIONS COMPUTED BY PROCESSING STATIC OBSERVATIONS UTILIZING LEICA GEO OFFICE BASED ON THE ABOVE MENTIONED NGS COR STATIONS.

LGA ENGINEERING, INC.
CONSULTING ENGINEERS & SURVEYORS

750 VASSAR AVENUE
LAKEWOOD, NEW JERSEY 08701
TEL: (732) 961-2162 FAX: (732) 961-2163

PROJECT #: DATE:

PROJECT NAME: SURVEY CREW:

STREET:

CITY/TOWN:

COUNTY: SHEET ___ OF ___

SURVEY CONTROL DATASHEET

HORIZONTAL DATUM (circle): NAD27 NAD83 ASSUMED OTHER (Describe)

VERTICAL DATUM (circle): NGVD29 NAVD88 ASSUMED OTHER (Describe)

POINT DESCRIPTION:

TIE #1 = ; TIE #2 = ; TIE #3 =

NORTH:

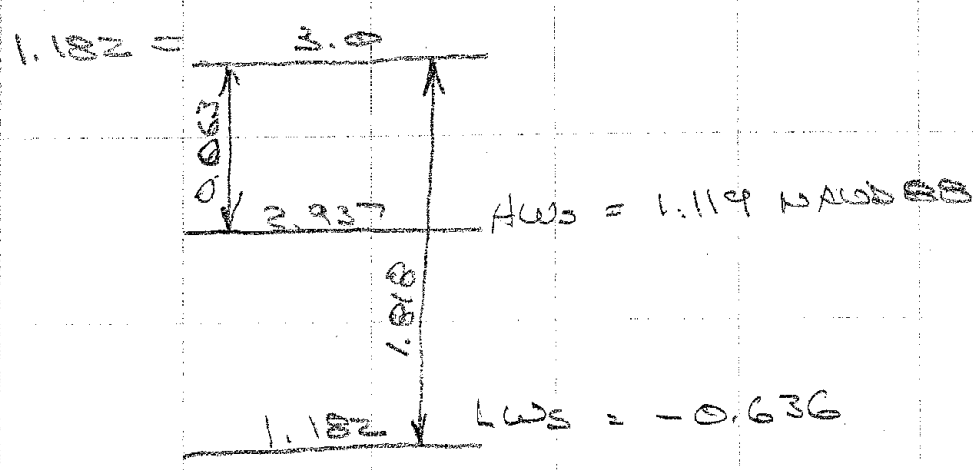
EAST:

ELEVATION:

CONTROL POINT #

El Sub

NAVD88 1.182 @ 3.0 MARK



LGA ENGINEERING, INC.
CONSULTING ENGINEERS & SURVEYORS

750 VASSAR AVENUE
LAKEWOOD, NEW JERSEY 08701
TEL: (732) 961-2162 FAX: (732) 961-2163

PROJECT #: DATE:

PROJECT NAME: SURVEY CREW:

STREET:

CITY/TOWN:

COUNTY: SHEET ___ OF ___

SURVEY CONTROL DATASHEET

HORIZONTAL DATUM (circle): NAD27 NAD83 ASSUMED OTHER (Describe)

VERTICAL DATUM (circle): NGVD29 NAVD88 ASSUMED OTHER (Describe)

POINT DESCRIPTION:

TIE #1 = ; TIE #2 = ; TIE #3 =

NORTH:

EAST:

ELEVATION:

CONTROL POINT #

(E) Such Sta

NAVD 88 1.182 @ 3.0 MHW

1.182 = 3.0'

0.495
0.448
2.552
~~2.505~~

HWS = ~~0.687~~ NAVD88
0.734

1.776

1.276 LWS = -0.542 NAVD 88

LGA ENGINEERING, INC.
CONSULTING ENGINEERS & SURVEYORS

750 VASSAR AVENUE
LAKEWOOD, NEW JERSEY 08701
TEL: (732) 961-2162 FAX: (732) 961-2163

PROJECT #: DATE:

PROJECT NAME: SURVEY CREW:

STREET:

CITY/TOWN:

COUNTY: SHEET ___ OF ___

SURVEY CONTROL DATASHEET

HORIZONTAL DATUM (circle): NAD27 NAD83 ASSUMED OTHER (Describe)

VERTICAL DATUM (circle): NGVD29 NAVD88 ASSUMED OTHER (Describe)

POINT DESCRIPTION:

TIE #1 = ; TIE #2 = ; TIE #3 =

NORTH:

EAST:

ELEVATION:

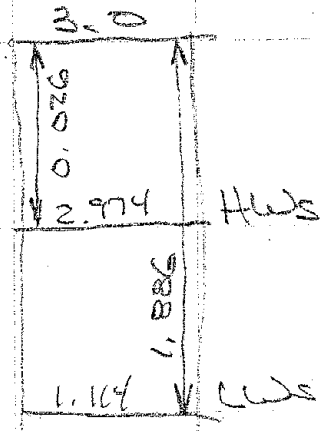
CONTROL POINT #

(3) Sub.

NAVD 88 1.182 @ 3.0 MARK

1

1.182 = 3.0'



1.156 NAVD 88

— 0.704 NAVD 88

5/13/09 3 Wire Bench Run # 1 M.R S.E. (1)

60°

Rt 72 - MANAHAWKIN

TP #	BS		FS	ELEV	DESC.
	2.226				
	1.941 ✓	20.451		18.51	MON # 13 ← JU0142 Y 54 Published EL= 18.52
	1.656				
			7.569		
#1			7.264 ✓	13.187	TG
			6.958		
	1.313				
	0.846 0.847	14.03			
	0.377				
			7.557		
#2			7.101 7.10	6.933	TC
			6.643		
	4.597				
	4.313 ✓	11.246			
	4.029				
			5.674		
#3			5.413	5.833	I.P. # 6
			5.153		

Subordinate Tide Station
3 wire bench run

1 of 4

(2)

TP #	BS	HI	FS	ELEV	DESC
	3.855 2.803 2.805			5.833	TP #6
	1.750				
			5.48		
#4			4.125 ✓	4.511	PK #7
			2.77		
	5.22 3.977 3.98	8.488			
	2.732				
			6.67		
#5			5.442 5.445	3.046	WV
			4.212		
	5.20				
	4.055 4.05	7.101			
	2.915				
			3.934		
SS. #6			3.572 ✓	3.529	mon # 07 PID JU0141 (07)
			3.21		(#11) ELEV = 3.59
					(MON #11) Published.

Subordinate Tide Station

3 wire bench run

2 of 4

TP #						
#7				6.325 5.36 5.363 4.392	1.74	
		5.391 493 4.928 4.463	6.669			
#8				3.259 2.904 2.803 2.349	3.865	CMP #5
		5.655 5.107 4.559	8.972			
#9				2.399 1.868 1.338	7.104	TC
		8.229 7.744 7.745 7.258	14.840			

Subordinate Tide Station

3 wire bench run

TP#	BS	HI	FS	ELEV	DESC
		14.848			
			1.503		
			1.050		
TP# 10			1.051	13.790	TP
			0.597		
	7.246				
	6.982	20.78			
	6.72				
			2.529		
TP# 11			2.27	18.510	✓ mon# 13 ← JU0142 Y54
			2.011		
				3.865	CAP 5
	3.791				
	3.637	7.502			
	3.483				
			7.08		
TP# n			6.32	1.182	TIDE Board (3' or 36")
			5.56		

Subordinate Tide Station

3 wire bench run

4 of 4

LGA ENGINEERING, INC.
CONSULTING ENGINEERS & SURVEYORS

750 VASSAR AVENUE
LAKEWOOD, NEW JERSEY 08701
TEL: (732) 961-2162 FAX: (732) 961-2163

PROJECT #: 5187100000100 DATE: 4.17.09

PROJECT NAME: RT. 72 BRIDGES SURVEY CREW: DG & CB

STREET:

CITY/TOWN: SHIP BOTTOM

COUNTY: OCEAN SHEET 5 OF 10

SURVEY CONTROL DATASHEET

HORIZONTAL DATUM (circle): NAD27 NAD83 ASSUMED OTHER (Describe)

VERTICAL DATUM (circle): NGVD29 NAVD88 ASSUMED OTHER (Describe)

POINT DESCRIPTION: IRON PIN w/CAP

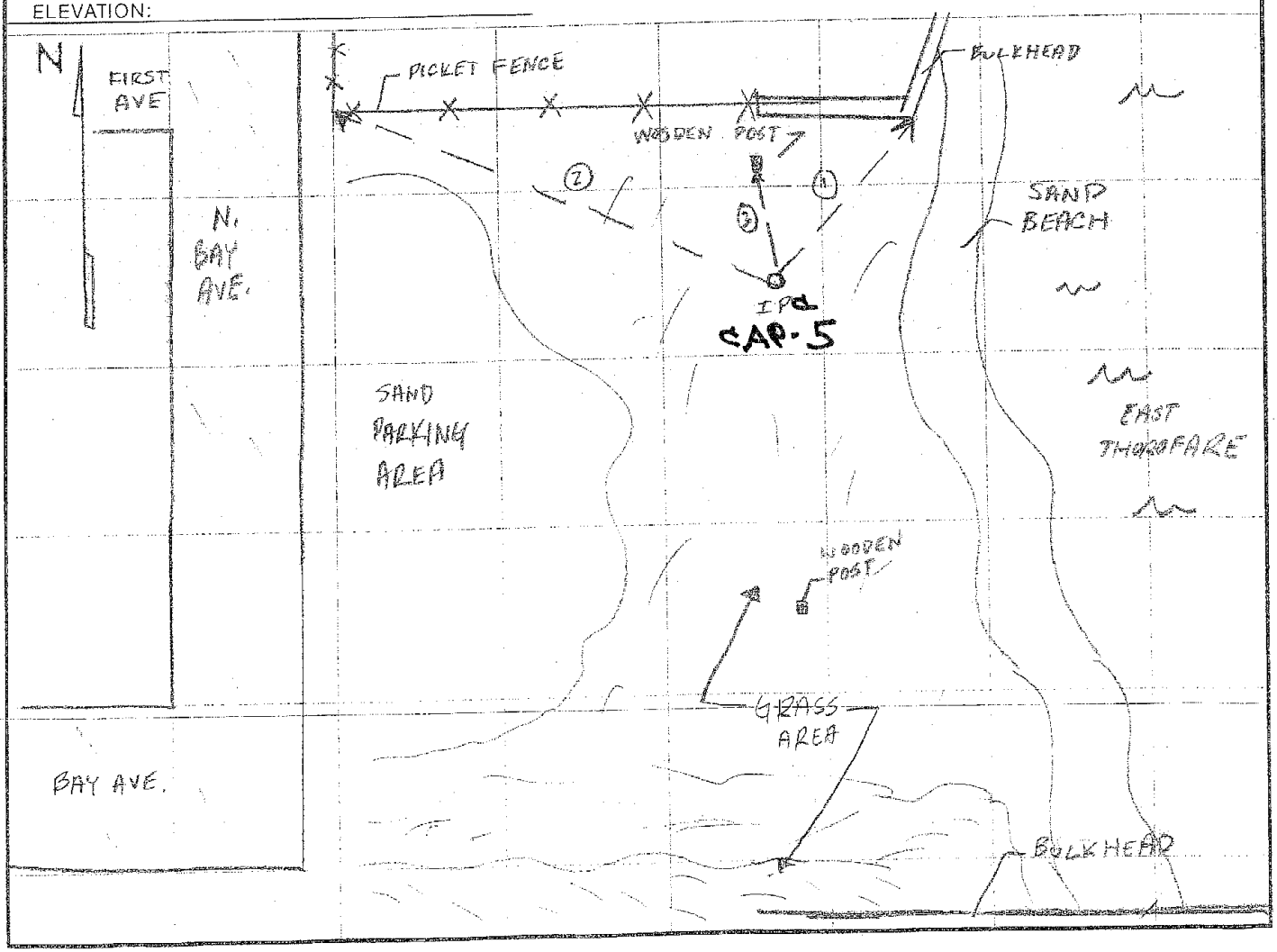
TIE #1 = 44' ; TIE #2 = 66.8' ; TIE #3 = 70.5'

CONTROL POINT # 5

NORTH:

EAST:

ELEVATION:



LGA ENGINEERING, INC.
CONSULTING ENGINEERS & SURVEYORS

750 VASSAR AVENUE
LAKEWOOD, NEW JERSEY 08701
TEL: (732) 961-2162 FAX: (732) 961-2163

PROJECT #: 508 710 000100 DATE: 4-16-09

PROJECT NAME: RT 72 BRIDGE SURVEY CREW: CB/DB

STREET: RT 72 / Bay Ave.

CITY/TOWN: Ship Bottom

COUNTY: OCEAN SHEET 6 OF 10

SURVEY CONTROL DATASHEET

HORIZONTAL DATUM (circle): NAD27 NAD83 ASSUMED OTHER (Describe)

VERTICAL DATUM (circle): NGVD29 NAVD88 ASSUMED OTHER (Describe)

POINT DESCRIPTION: ~~CAP SET~~ Iron Pin

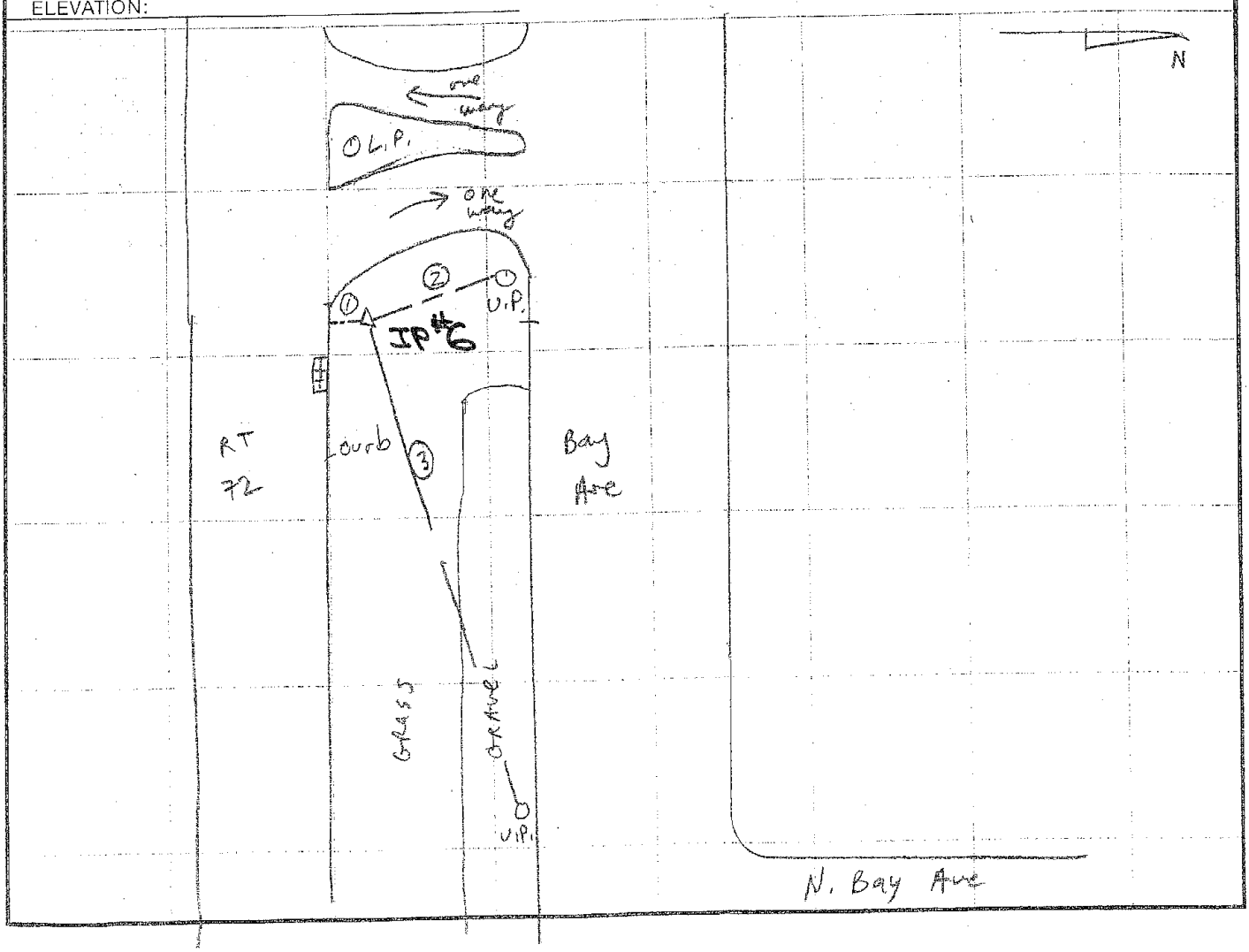
TIE #1 = 10.7' ; TIE #2 = 48' ; TIE #3 = 115'

CONTROL POINT # 6

NORTH:

EAST:

ELEVATION:



LGA ENGINEERING, INC.
CONSULTING ENGINEERS & SURVEYORS

750 VASSAR AVENUE
LAKEWOOD, NEW JERSEY 08701
TEL: (732) 961-2162 FAX: (732) 961-2163

PROJECT #: 50871000100

DATE: 4.16.09

PROJECT NAME: RT. 72 BRIDGES

SURVEY CREW: DB & CB

STREET: BAY AVE.

CITY/TOWN: SHIP BOTTOM

COUNTY: OCEAN

SHEET 7 OF 10

SURVEY CONTROL DATASHEET

HORIZONTAL DATUM (circle): NAD27 NAD83 ASSUMED OTHER (Describe)

VERTICAL DATUM (circle): NGVD29 NAVD88 ASSUMED OTHER (Describe)

POINT DESCRIPTION: PK

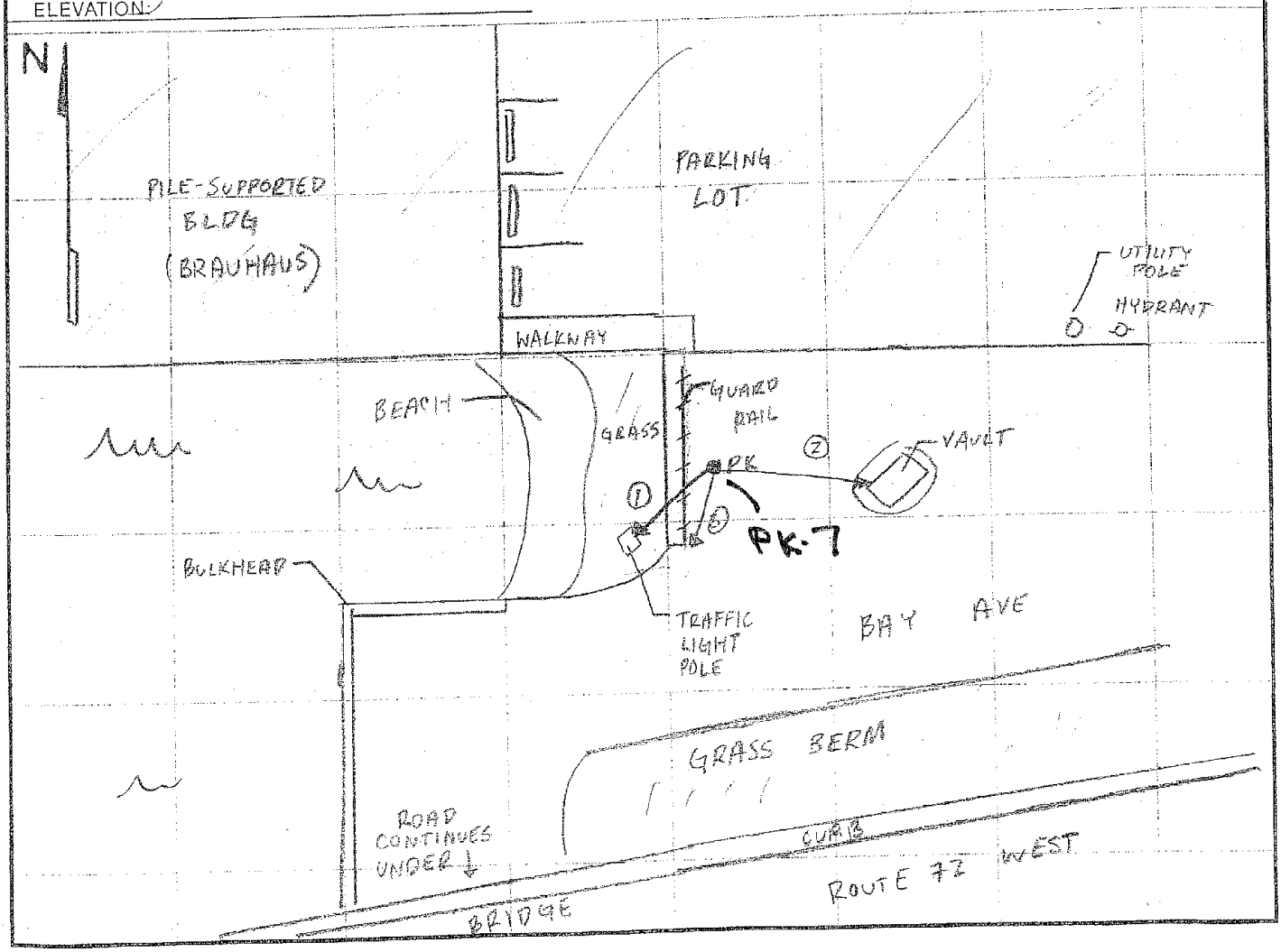
TIE #1 = 16' ; TIE #2 = 32' ; TIE #3 = 20'

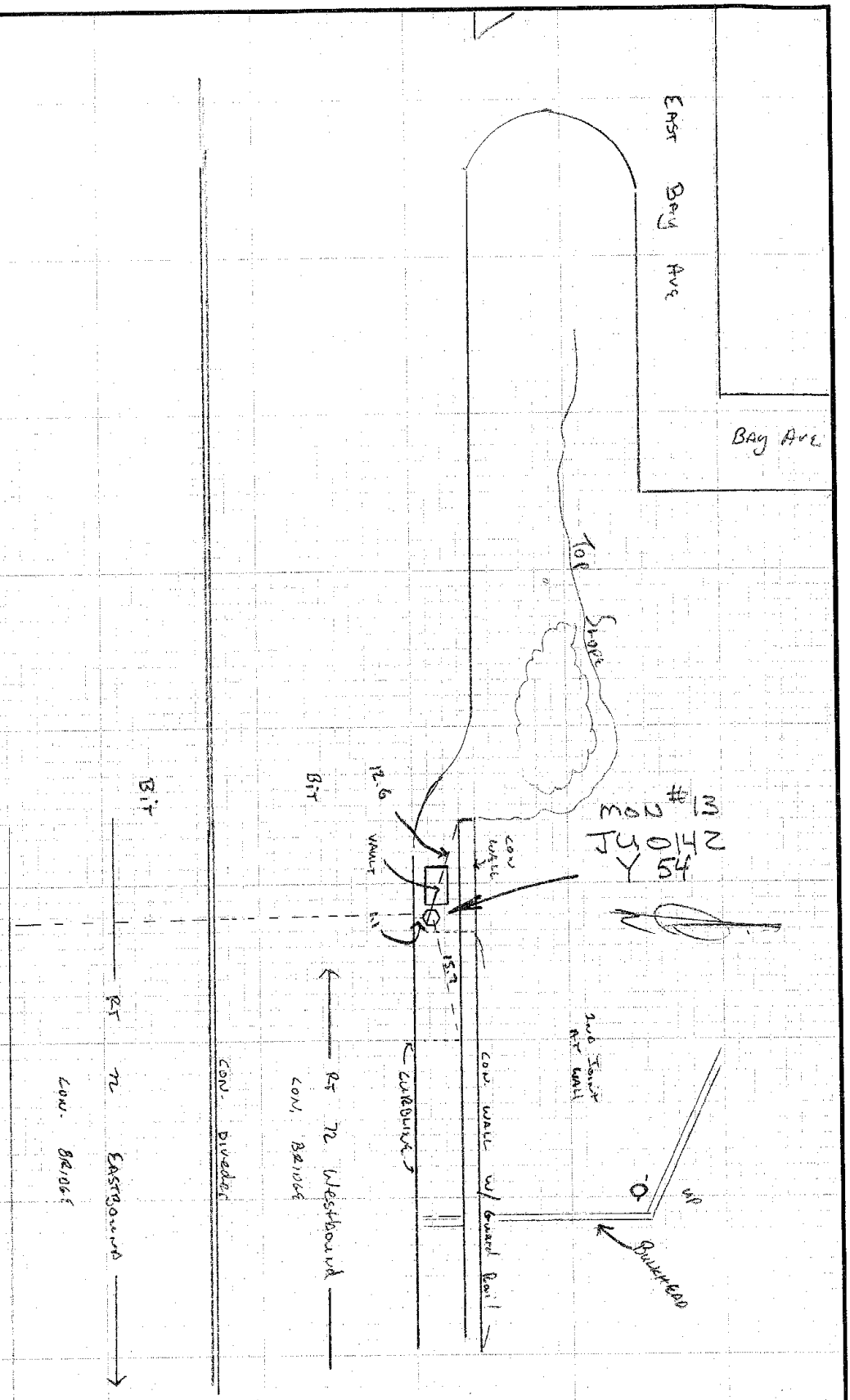
CONTROL POINT # 7

NORTH:

EAST:

ELEVATION:

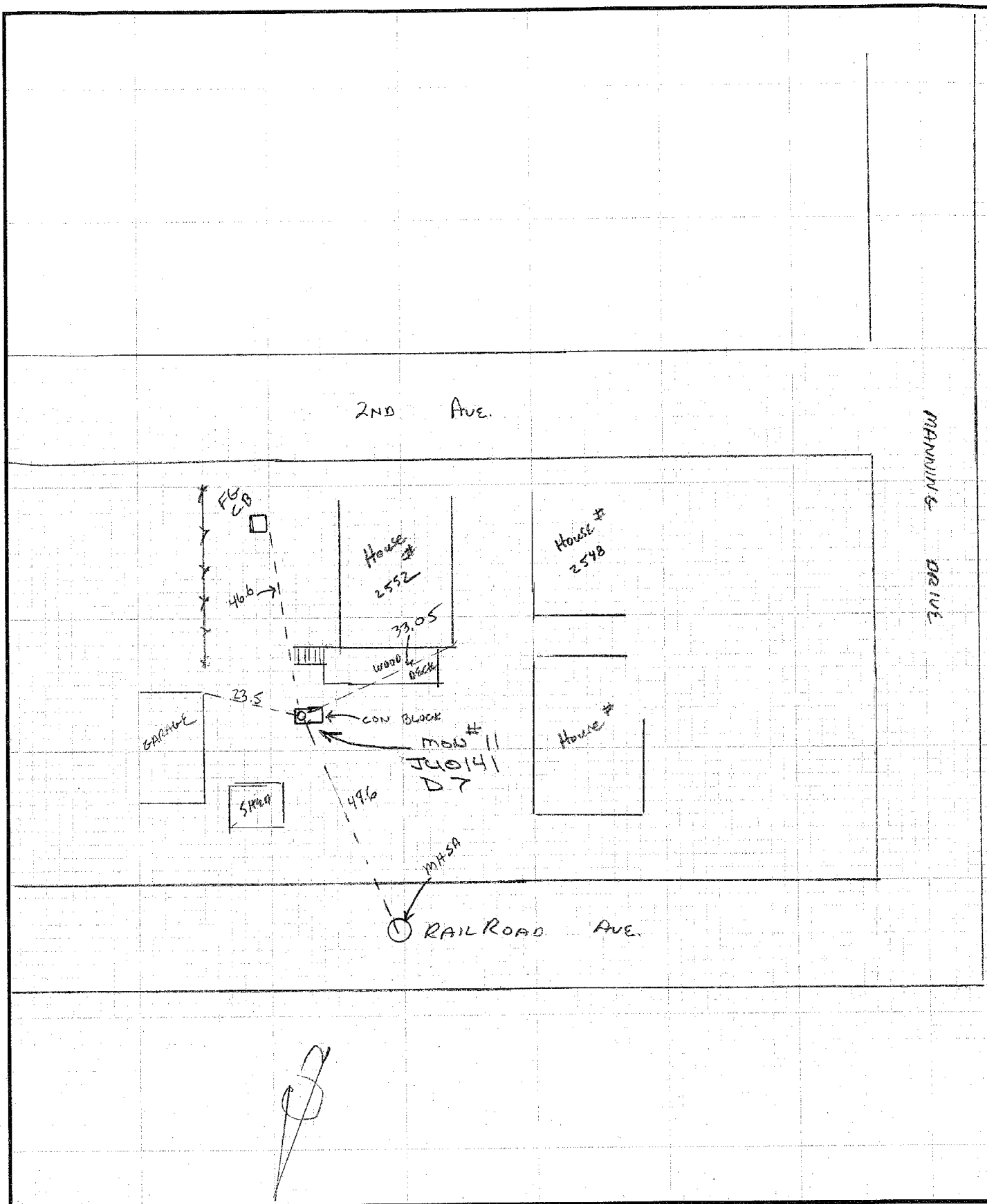




LGa LGA ENGINEERING, INC.
CONSULTING ENGINEERS & SURVEYORS

TEL: (732) 961-2162 FAX: (732) 961-2163

Project: TIES TO MON Y 54 JU0142		
Design: MR SE	Check:	Sheet No:
Date: 5/13/09	Date:	File No:



LGa LGA ENGINEERING, INC.
CONSULTING ENGINEERS & SURVEYORS

TEL: (732) 961-2162 FAX: (732) 961-2163

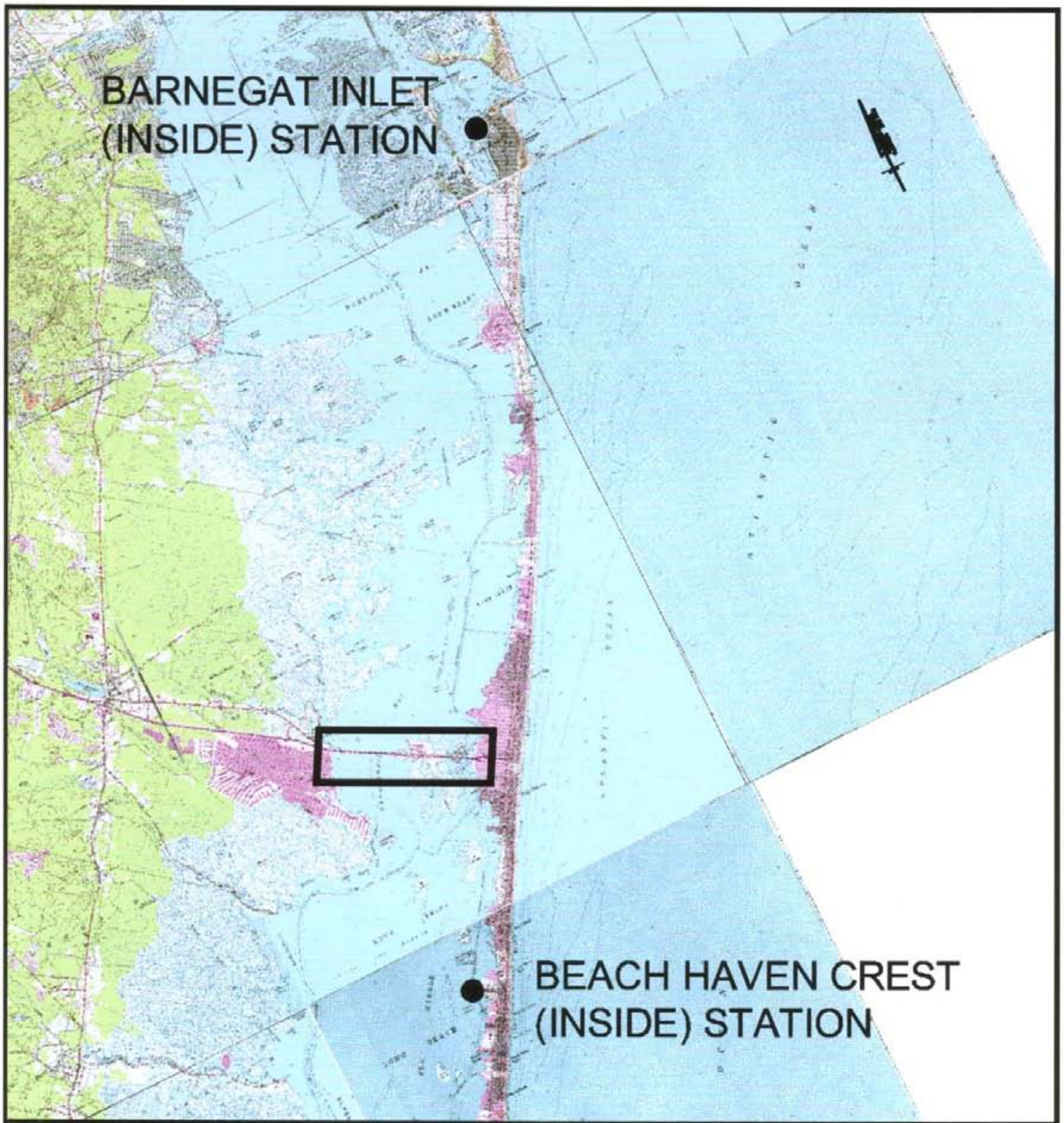
Project: MON D7 JU0141		
Design: M.R. SE	Check:	Sheet No:
Date: 5/13/09	Date:	File No:

Barnegat Island
Railroad
Wacanda Dr
Ave
st Ave
E Bay Ave
East Bay Ave
Bay Ave
Route 72
State Route 72
Shore Rd
Shore Road
W 8th Street
MON 11
J40141
D7
7PK.
6 I.P.
CAP 5
Tide Staff
MON 13
J40142
Y-54

EXHIBIT E

IMAGES

LOCATION MAPS
TIDE STAFF LOCATIONS
PHOTOS



SITE

USGS QUADRANGLE

NOS TIDAL CONTROL STATIONS

ROUTE 72 MANAHAWKING BAY BRIDGE REPLACEMENT

OCEAN COUNTY, NEW JERSEY

PREPARED BY

LGA ENGINEERING, INC.

A SUBSIDIARY OF BIRDSALL SERVICES GROUP, INC.

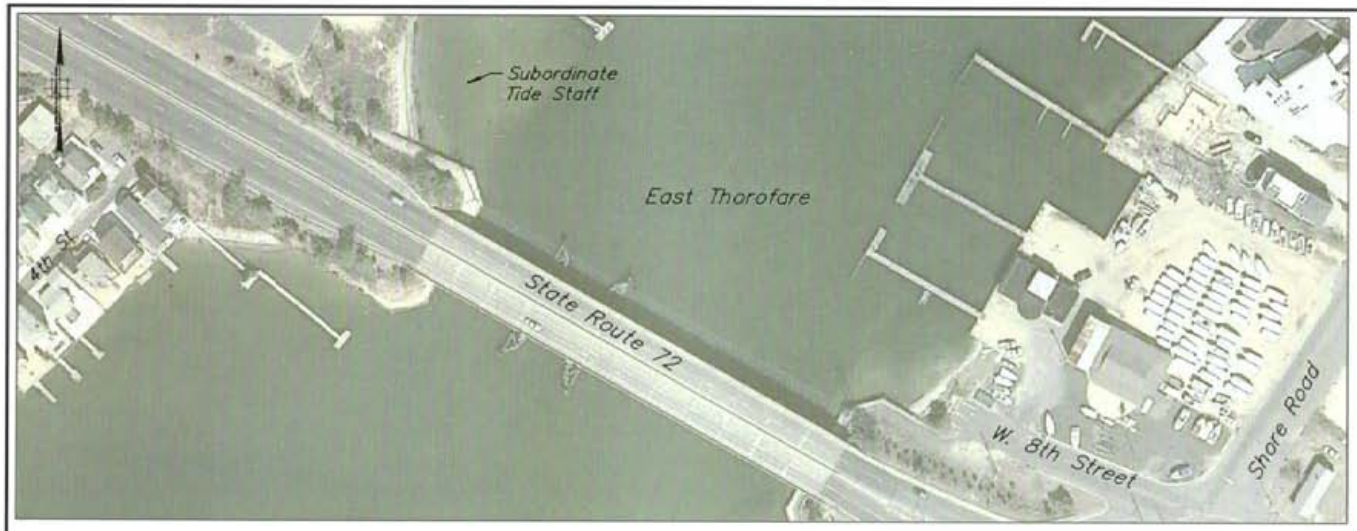
CONSULTING ENGINEERS & SURVEYORS

WWW.BIRDSALL.COM

DRAWN: AWR
DATE: 05/01/09
JOB NO. 50871000100

SCALE: 1" = 10,000'

Plotted: 05/01/09 - 3:42 PM, By: AWR
File: M:\Lakewood\Jobs\Bay Head Yacht Club\50243800200\Dwg\MAR-LOCATION MAPS.dwg, ---> QUADRANGLE
Copyright Birdsall Services Group, Inc., 2009



KEY MAP

PORTION OF USGS QUADRANGLE MAP
LOCATION: SHIP BOTTOM
SCALE: 1" = 5000'

GRAPHIC SCALE
1 inch=60 feet

LGA ENGINEERING, INC.
CONSULTING ENGINEERS & SURVEYORS

FRANK J. BARLOWSKI, P.L.S.
PROFESSIONAL LAND SURVEYOR
N.J. Lic. No. 39735

WWW.BEERALL.COM

Date	Scale (H) 1" = 40' (V)	Drawn	Checked	Reviewed
08/05/08		DG		

NO.	DATE	REVISION	DRAWN	CHK'D	REV'D

TIDE STAFF LOCATIONS
MEAN HIGH WATER
ELEVATION DETERMINATION
ROUTE 72 BRIDGES

STAFFORD & LONG BEACH TOWNSHIPS, OCEAN COUNTY, NJ

Job No. 50871-0000130 | Sheet Number | Drawing Name | 1 of 1

Control Tide Staff

Subordinate Station

Tidal Benchmark 4048 C 1976

Tidal Benchmark 4048 D 1976

TRAFFIC NOISE AND AIR QUALITY

TECHNICAL MEMORANDUM

New Jersey Route 72
Ship Bottom Operational and Drainage Improvements

Borough of Ship Bottom, Ocean County, New Jersey

Prepared for:

New Jersey Department of Transportation
Division of Environmental Resources
Third Floor, E&O Building
1035 Parkway Avenue, P.O. Box 600
Trenton, New Jersey 08625
and
Schoor DePalma, Inc.
200 State Highway 9, P.O. Box 900
Manalapan, New Jersey 07726

Prepared by:

Nathaniel Weinstock, Acoustics and Air Quality Specialist
A.D. Marble & Company
18000 Horizon Way
Suite 200
Mt. Laurel, New Jersey 08054

March 2006

ABSTRACT

The following report is the result of a Traffic Noise and Air Quality assessment conducted as part of the proposed operational and drainage improvements to New Jersey Route 72 and adjacent roadways in the Borough of Ship Bottom, Ocean County, New Jersey. A.D. Marble & Company completed this work for Schoor DePalma, Inc. and the New Jersey Department of Transportation (NJDOT). This analysis included data collection, predictive computer modeling, analysis of results, and documentation of conclusions as outlined in applicable U.S. Environmental Protection Agency (EPA), Federal Highway Administration (FHWA), and NJDOT guidelines. The purpose of this investigation was to identify any potential traffic noise or air quality impacts resulting from the proposed transportation improvement project.

The Air Quality analysis considered both regional ozone conformity analysis and a micro-scale carbon monoxide (CO) analysis at worst-case intersections with respect to the National Ambient Air Quality Standards (NAAQS). CO impacts are analyzed as the accepted indicator of vehicle-generated air pollution. The Traffic Noise analysis considered the eligibility of the project for mitigation in the form of vertical noise barriers.

There are no Air Quality impacts requiring administrative action as a result of this project. Regional conformity has been documented through review of the relevant sections of the 2006-2008 Final TIP Conformity Determination (July 2005).

Micro-scale CO analysis yields results well below the one-hour standard of 35 parts per million (ppm) as outlined in the EPA's NAAQS. Additionally, the predicted one-hour levels are lower than the eight-hour standards. Therefore, this analysis indicates that no local air quality impacts will occur as a result of this project. In fact, the project is anticipated to improve operations at highly congested intersections (and by extension lower air emissions) due to changes to intersection geometry and changes to signalization that will yield improved overall traffic flow through the corridor in both the Future Build and Future No-Build scenarios.

The Traffic Noise analysis considered the nature of the project improvements as well as overall traffic speeds and volumes. This project would be classified as a Type I improvement project by FHWA/NJDOT standards, and is therefore eligible for abatement consideration. However, due to traffic controls, the traffic speeds and volumes are not anticipated to generate noise levels that would exceed the Noise Abatement Criteria (NAC) at any sites within the project area. Additionally, continued local driveway access to the roadway would preclude the construction of effective mitigation. Effective noise barriers must be constructed to extend continuously for a length roughly four times the distance between the source (roadway) and receiver (noise-sensitive land usage). Therefore, noise mitigation is not recommended for this project.

INTRODUCTION

An Air Quality analysis and Traffic Noise analysis were conducted for the proposed operational and drainage improvements to New Jersey Route 72 and adjacent roadways in the Borough of Ship Bottom, Ocean County, New Jersey. These assessments were conducted by A.D. Marble & Company of Mt. Laurel, New Jersey, for Schoor DePalma, Inc., of Manalapan, New Jersey and the New Jersey Department of Transportation (NJDOT), Trenton, New Jersey.

Currently, Route 72 experiences flooding when heavy rainfall and high tide coincide. Low-lying areas along Long Beach Boulevard, 8th Street, and 9th Street trap water on the roadways during these events, to the extent that access to or from the island from the bridge is blocked. Furthermore, during peak summer months, traffic flow onto and off the island is very poor, resulting in traffic delays. The design of the Ship Bottom Circle on Long Beach Boulevard plays a significant part in this poor vehicular circulation.

The roadway improvements call for the addition of a third lane on 8th and 9th Streets from Shore Avenue to Long Beach Boulevard. The right turn lane from southbound Barnegat Avenue to 8th Street will be lengthened north of 7th Street, and northbound Barnegat Avenue will be widened to three lanes between 8th and 9th Streets. An additional northbound through lane on Long Beach Boulevard will be introduced at the 9th Street/Long Beach Boulevard intersection and will extend beyond the 8th Street/Long Beach Boulevard intersection. The Initially Preferred Alternative (IPA) calls for constructing Central Avenue and Long Beach Boulevard as two-way facilities, with a traffic light to be installed at the intersection of Long Beach Boulevard and 8th Street. The preferred drainage improvements consist of installing separate storm sewer systems along 8th and 9th Streets beginning at Long Beach Boulevard with the outfall along Manahawkin Bay. Both streets will have additional inlets to control the spread of water in the driving lanes according to NJDOT standards. According to the NJDOT-Bureau of Environmental Support (NJDOT-BES), all improvements are to be made within the existing right-of-way. The Air Quality and Traffic Noise analyses performed by A.D. Marble & Company are confined to the potential impact area of the Initially Preferred Alternative (IPA).

AIR QUALITY ANALYSIS

The project area is located in Ocean County, New Jersey, which is designated as part of the Philadelphia-Wilmington-Atlantic City PA-NJ-MD-DE 8-hour ozone non-attainment area. Additionally, the project area is part of an Environmental Protection Agency (EPA) designated "maintenance" area relative to Carbon Monoxide (CO) meaning that the region has achieved attainment status but needs to show that they can maintain CO attainment status for a period extending 20 years into the future.

Conformity with Regional Air Quality Planning

Ocean County falls under the jurisdiction of the North Jersey Transportation Planning Authority (NJTPA) relative to air quality compliance. Each year the NJTPA must demonstrate that the projects approved through its Transportation Improvement Plan (TIP) and Regional Transportation Plan (RTP) will have a net positive impact on air quality and contribute to the achievement of the air quality goals contained in the New Jersey State Implementation Plan (SIP). This project is included on the Final Project List on page 82 of the FY2006-2008 Final TIP Conformity Determination. The project is classified as exempt from regional planning analysis under Exemption Code 010a (planning and technical studies that do not involve or lead directly to construction).

Microscale CO "Hot Spot" Analysis

The EPA CAL3QHC dispersion model is used to predict CO concentrations for air quality sensitive receptors for both the existing year (2001 data set) and design year (2025 data set). The detailed analyses predict air quality impacts from CO vehicular emissions for the Existing facility, design year No-Build facility, and the design year Initially Preferred Alternative Build facility at each receptor location. Modeled 1-hour average CO concentrations are added to background CO concentrations for comparison to the State and National Ambient Air Quality Standards (S/NAAQS). Derivation of 8-hour average CO concentrations are accomplished through the application of a persistence factor to modeled 1-hour concentrations that represents the ratio of CO concentration between 1-hour and 8-hour time periods. The EPA prescribes the use of a .7 persistence factor as a conservative ratio based on studies of monitoring data from

various regions of the country. Typically the 8-hour concentrations are not a concern where the 1-hour concentrations do not exceed the NAAQS such as is the case for this project.

Each of the project intersections was evaluated to determine anticipated Level of Service for the Existing, Future No-Build, and Future Build facilities. Intersections anticipated to maintain a Level of Service 'C' or better are exempted from detailed analysis, as future traffic flow conditions would preclude the presence of CO impacts. However, in instances where one of the scenarios for the selected intersections resulted in a Level of Service necessitating analysis, the same intersection was modeled for all three scenarios for the purpose of comparative analysis. Based on these criteria, two intersections were selected for detailed analysis for all three build/year scenarios. The intersection of 8th Street and Barnegat Avenue operates below Level of Service 'C' for both Future No-Build and Future Build conditions. The intersection of 9th Street and Long Beach Boulevard operates below Level of Service 'C' for the Future Build condition. These two intersections represent the worst case operational Level of Service, and by extension represent the worst-case CO concentrations through the project area. The absence of air quality impacts at these locations would indicate that the project as a whole does not exceed the NAAQS.

The EPA's MOBILE6 program was used to identify CO emissions factors for the years of analysis. Relevant region-specific data (such as fleet-vehicle mix, anti-tampering programs, inspection maintenance programs, etc.) as supplied by the NJTPA was incorporated into the MOBILE6 model to assure the highest degree of accuracy in calculating the emissions factors. Additionally, the models were adjusted to reflect wintertime meteorological conditions as these yield the worst-case CO emissions factors. These emissions factors were then incorporated into the EPA's CAL3QHC intersection modeling application, which seeks to duplicate real-world geometric relationships between emissions sources (roadways) and receptor sites (areas of likely human access in close proximity to the source).

CO modeling sites at these intersections were chosen based on EPA guidance, requiring sites both in close proximity to the intersection quadrants (but no closer than 3 meters – approximately 10 feet from the roadway) and at mid-block areas between intersections. These

sites are intended to represent areas where the general public is likely to have access and CO concentrations are anticipated to be at or close to their maximum.

One-hour CO concentrations for the six build/year scenarios are presented in Table 1. None of the predicted CO concentrations exceeds the 1-hour NAAQS threshold, and therefore were not calculated for the 8-hour CO concentration levels. These 1-hour levels indicate that no air quality impacts are anticipated as a result of the proposed project improvements. This project would in fact improve transportation derived air quality through the project area.

Table 1. 1-hour Carbon Monoxide Maximum Concentrations (parts per million - ppm)

	Existing (2001)	Future No-Build (2025)	Future Build (2025)	National Ambient Air Quality Standards - 1 hour
8th Street and Barnegat Avenue	6.4	4.3	4.2	35
9th Street and Long Beach Boulevard	6.8	5.4	4.7	35

Please note that Future No-Build concentration levels are shown to decrease from the Existing concentration levels. This is due to application of improved signal timing to the 2025 No-Build traffic data.

TRAFFIC NOISE ANALYSIS

The Traffic Noise analysis considered the nature of the project improvements as well as overall traffic speeds and volumes. This project would be classified as a Type I project by FHWA/NJDOT standards, and is therefore eligible for abatement consideration.

The FHWA's Traffic Noise Model (TNM) Look-up Tables were used to perform a screening analysis for the project area. "Typical" traffic speeds, traffic volumes, and traffic composition

were used in conjunction with a reference distance to simulate traffic noise propagation through the corridor.

Due largely to traffic controls, the traffic speeds and volumes are not anticipated to generate noise levels that would exceed the Noise Abatement Criteria (NAC) of 66 dBA at any sites within the project area. Additionally, continued local driveway access would preclude the construction of effective mitigation even if the NAC were to be exceeded in the project area. Effective noise barriers must be constructed to extend unbroken for a length roughly four times the distance between the source (roadway) and receiver (noise-sensitive land usage). Therefore, noise mitigation is not warranted for this project due to anticipated noise levels not exceeding the 66 dBA FHWA/NJDOT Noise Abatement Criteria. Even if noise levels were loud enough to warrant mitigation analysis, feasible and reasonable mitigation could not be constructed in this project area due to local access considerations.

REFERENCES

Air Quality

U.S. Environmental Protection Agency (EPA-454/R-92-05), November 1992. Guideline for Modeling Carbon Monoxide from Roadway Intersections.

Title 23 of the Code of Federal Regulations (CFR), Part 770 (23 CFR Part 770) – Air Quality Conformity and Priority Procedures for use in Federal-aid Highway and Federally-funded Transit Programs.

The University of Central Florida, May 2004. Modeling of Mobile Source Air Quality Impacts.

Traffic Noise

Title 23 of the Code of Federal Regulations (CFR), Part 772 (23 CFR Part 772) – Procedures for Abatement of Highway Traffic Noise and Construction Noise.

U.S. Department of Transportation, Federal Highway Administration, Office of Environment and Planning. June 1995. Highway Traffic Noise Analysis and Abatement, Policy and Guidance.

New Jersey Department of Transportation, July 2003. Traffic Noise Management Policy and Noise Wall Design Guidelines.

JOB: 8th and Barnegat Existing RUN: 8th and Barnegat Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 10.-360.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12
10.	5.4	3.8	5.1	3.2	4.5	3.0	4.8	4.8	4.7	3.0	3.4	3.4
20.	5.5	3.9	5.0	3.1	4.4	3.0	5.2	4.3	4.6	3.0	3.5	3.3
30.	5.6	4.0	5.1	3.1	4.4	3.1	5.2	3.8	4.6	3.1	3.6	3.2
40.	5.6	4.3	5.2	3.1	4.5	3.1	5.2	3.6	4.7	3.2	3.6	3.1
50.	5.7	4.5	5.4	3.1	4.7	3.2	5.1	3.7	4.9	3.3	3.6	3.1
60.	6.0	4.6	5.5	3.3	4.7	3.4	5.1	3.5	5.1	3.6	3.6	3.0
70.	5.9	5.0	5.5	3.7	4.8	3.8	4.8	3.4	5.1	4.0	3.6	3.0
80.	6.1	5.4	5.3	4.2	4.7	4.2	4.5	3.3	5.2	4.6	3.7	3.1
90.	6.0	5.8	4.9	4.7	4.5	4.6	4.2	3.2	5.0	5.2	3.8	3.2
100.	5.8	6.0	4.4	5.1	4.1	4.8	4.0	3.1	4.6	5.4	4.0	3.3
110.	5.5	6.0	3.8	5.2	3.7	4.8	3.7	3.0	4.1	5.4	4.2	3.4
120.	5.1	6.0	3.5	5.2	3.4	4.8	3.7	3.0	3.6	5.3	4.4	3.7
130.	5.0	5.9	3.2	5.1	3.2	4.7	3.6	3.1	3.3	5.0	4.6	3.7
140.	4.9	6.0	3.2	5.1	3.1	4.5	3.5	3.1	3.2	4.8	4.9	3.7
150.	4.6	5.8	3.2	5.2	3.1	4.5	3.5	3.2	3.1	4.7	5.1	4.0
160.	4.2	5.6	3.4	5.3	3.0	4.4	3.4	3.2	3.0	4.7	5.1	4.0
170.	3.9	5.4	3.7	5.8	3.0	4.5	3.3	3.4	3.0	4.7	5.0	4.4
180.	3.5	5.3	4.3	6.0	3.0	4.5	3.2	3.5	3.0	4.8	4.8	4.8
190.	3.3	4.9	4.9	6.0	3.0	4.5	3.2	3.7	3.0	4.7	4.4	4.9
200.	3.1	4.6	5.2	6.0	3.0	4.4	3.1	3.7	3.0	4.7	3.9	4.9
210.	3.0	4.6	5.4	6.0	3.1	4.5	3.0	3.8	3.1	4.7	3.7	4.9
220.	3.1	4.7	5.7	5.6	3.1	4.5	3.0	3.8	3.1	4.8	3.6	4.8
230.	3.2	4.8	5.8	5.7	3.2	4.7	3.0	3.7	3.2	4.9	3.5	4.7
240.	3.4	4.9	5.9	5.8	3.4	4.8	3.0	3.8	3.4	5.0	3.5	4.5
250.	3.7	4.9	6.0	5.7	3.8	5.0	3.0	3.9	3.7	4.9	3.4	4.3
260.	4.2	4.9	6.3	5.7	4.3	5.0	3.1	4.1	4.0	4.9	3.3	4.1
270.	4.6	4.6	6.4	5.3	4.7	4.7	3.1	4.4	4.5	4.7	3.2	4.0
280.	4.9	4.1	6.3	5.3	4.8	4.3	3.2	4.8	4.7	4.2	3.1	3.8
290.	4.9	3.7	6.4	4.9	4.9	3.9	3.4	5.1	4.8	3.8	3.0	3.7
300.	4.9	3.4	6.1	4.6	4.7	3.4	3.4	5.4	4.9	3.5	3.0	3.7
310.	4.8	3.2	5.7	4.4	4.7	3.2	3.5	5.7	4.8	3.3	3.0	3.8
320.	4.7	3.1	5.6	4.1	4.5	3.1	3.5	5.8	4.7	3.2	3.1	3.8
330.	4.6	3.0	5.5	4.0	4.4	3.1	3.5	6.2	4.6	3.1	3.1	3.8
340.	4.8	3.0	5.5	3.8	4.4	3.0	3.5	6.3	4.6	3.0	3.1	3.7
350.	5.2	3.3	5.6	3.6	4.5	3.0	4.1	6.0	4.7	3.0	3.2	3.6
360.	5.2	3.4	5.4	3.4	4.5	3.0	4.4	5.4	4.7	3.0	3.3	3.5
MAX	6.1	6.0	6.4	6.0	4.9	5.0	5.2	6.3	5.2	5.4	5.1	4.9
DEGR.	80	100	270	180	290	250	20	340	80	100	150	190

THE HIGHEST CONCENTRATION OF 6.40 PPM OCCURRED AT RECEPTOR REC3 .

JOB: 8th and Barnegat Future No Build

RUN: 8th and Barnegat Future No Build

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 10.-360.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12
10.	4.0	3.3	4.0	3.1	3.6	3.0	3.5	3.7	3.7	3.0	3.2	3.2
20.	4.0	3.3	4.0	3.1	3.6	3.0	3.6	3.5	3.7	3.0	3.2	3.1
30.	3.9	3.3	4.0	3.0	3.6	3.0	3.6	3.4	3.7	3.0	3.2	3.1
40.	3.9	3.3	4.0	3.0	3.7	3.1	3.8	3.3	3.8	3.1	3.2	3.0
50.	4.1	3.3	4.1	3.1	3.7	3.1	3.8	3.3	3.8	3.1	3.2	3.0
60.	4.1	3.6	4.2	3.1	3.8	3.2	3.8	3.3	3.9	3.3	3.2	3.0
70.	4.1	3.8	4.2	3.3	3.8	3.3	3.7	3.2	4.0	3.4	3.2	3.0
80.	4.1	4.0	4.1	3.5	3.7	3.5	3.5	3.1	3.9	3.7	3.3	3.0
90.	4.0	4.2	3.9	3.8	3.7	3.7	3.5	3.1	3.8	3.9	3.3	3.1
100.	4.1	4.1	3.7	4.0	3.5	3.8	3.3	3.0	3.6	4.0	3.4	3.1
110.	3.9	4.2	3.4	4.0	3.3	3.8	3.3	3.0	3.3	4.0	3.5	3.2
120.	3.7	4.3	3.2	4.0	3.2	3.8	3.3	3.0	3.2	3.9	3.5	3.3
130.	3.6	4.0	3.1	4.0	3.1	3.7	3.3	3.0	3.1	3.9	3.5	3.3
140.	3.6	3.9	3.0	3.9	3.1	3.7	3.2	3.0	3.1	3.8	3.6	3.4
150.	3.6	3.9	3.0	3.8	3.0	3.6	3.2	3.1	3.0	3.7	3.7	3.4
160.	3.3	3.9	3.1	3.9	3.0	3.6	3.2	3.1	3.0	3.7	3.6	3.4
170.	3.2	3.9	3.2	4.0	3.0	3.6	3.1	3.2	3.0	3.7	3.6	3.6
180.	3.1	3.9	3.4	3.9	3.0	3.7	3.0	3.2	3.0	3.8	3.6	3.5
190.	3.0	3.7	3.4	4.1	3.0	3.6	3.0	3.3	3.0	3.7	3.4	3.5
200.	3.0	3.7	3.7	4.1	3.0	3.6	3.0	3.3	3.0	3.7	3.2	3.6
210.	3.0	3.7	3.7	4.0	3.0	3.6	3.0	3.3	3.0	3.7	3.2	3.7
220.	3.1	3.7	3.8	3.9	3.1	3.7	3.0	3.3	3.1	3.8	3.2	3.7
230.	3.1	3.8	3.8	4.0	3.1	3.7	3.0	3.3	3.1	3.8	3.2	3.5
240.	3.2	3.8	3.7	3.9	3.2	3.8	3.0	3.3	3.2	3.9	3.2	3.5
250.	3.3	3.8	3.9	4.0	3.3	3.8	3.0	3.3	3.3	3.8	3.2	3.5
260.	3.5	3.8	4.1	3.9	3.6	4.0	3.0	3.3	3.5	3.8	3.1	3.4
270.	3.7	3.7	4.2	4.0	3.9	3.9	3.1	3.4	3.6	3.7	3.1	3.4
280.	3.8	3.5	4.3	3.9	4.0	3.6	3.1	3.5	3.7	3.5	3.0	3.3
290.	3.8	3.3	4.1	3.7	3.8	3.3	3.2	3.6	3.8	3.4	3.0	3.3
300.	3.8	3.2	4.2	3.5	3.8	3.2	3.2	3.7	3.8	3.2	3.0	3.3
310.	3.8	3.1	4.0	3.4	3.7	3.1	3.2	3.7	3.8	3.1	3.0	3.3
320.	3.7	3.0	3.9	3.4	3.7	3.1	3.2	3.8	3.7	3.1	3.0	3.3
330.	3.7	3.0	3.9	3.3	3.6	3.0	3.2	3.8	3.7	3.0	3.0	3.3
340.	3.7	3.0	3.8	3.2	3.6	3.0	3.2	3.8	3.7	3.0	3.0	3.2
350.	3.7	3.0	3.9	3.2	3.6	3.0	3.2	3.8	3.7	3.0	3.1	3.2
360.	3.9	3.0	3.8	3.1	3.6	3.0	3.5	3.6	3.7	3.0	3.1	3.2
MAX	4.1	4.3	4.3	4.1	4.0	4.0	3.8	3.8	4.0	4.0	3.7	3.7
DEGR.	50	120	280	190	280	260	40	320	70	100	150	210

THE HIGHEST CONCENTRATION OF 4.30 PPM OCCURRED AT RECEPTOR REC2 .

JOB: 8th and Barnegat Future Build

RUN: 8th Street and Barnegat Future Build

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 10.-360.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10
10.	4.0	3.3	3.9	3.2	3.6	3.0	3.6	3.5	3.3	3.2
20.	4.0	3.3	3.9	3.1	3.6	3.0	3.6	3.5	3.3	3.1
30.	3.8	3.4	3.8	3.1	3.6	3.0	3.6	3.3	3.3	3.1
40.	3.9	3.5	3.9	3.0	3.6	3.1	3.6	3.2	3.2	3.0
50.	4.1	3.5	4.0	3.0	3.7	3.1	3.6	3.2	3.2	3.0
60.	4.1	3.6	4.0	3.1	3.7	3.2	3.6	3.2	3.2	3.0
70.	4.0	3.8	3.9	3.2	3.7	3.3	3.6	3.2	3.2	3.0
80.	4.2	3.8	3.9	3.5	3.7	3.5	3.7	3.2	3.3	3.1
90.	4.0	4.1	3.7	3.7	3.6	3.7	3.5	3.1	3.3	3.1
100.	3.9	4.2	3.5	3.9	3.5	3.7	3.5	3.0	3.4	3.2
110.	3.8	4.1	3.2	3.9	3.3	3.8	3.2	3.0	3.4	3.2
120.	3.7	4.2	3.1	3.9	3.2	3.8	3.2	3.0	3.5	3.2
130.	3.6	4.0	3.1	3.9	3.1	3.7	3.2	3.0	3.5	3.2
140.	3.6	4.0	3.0	3.8	3.1	3.7	3.2	3.0	3.5	3.3
150.	3.5	3.9	3.1	3.8	3.0	3.6	3.2	3.0	3.6	3.4
160.	3.3	3.9	3.2	4.0	3.0	3.6	3.2	3.1	3.7	3.4
170.	3.3	3.8	3.4	3.9	3.0	3.6	3.2	3.1	3.7	3.6
180.	3.2	3.9	3.5	4.1	3.0	3.6	3.1	3.2	3.5	3.7
190.	3.0	3.7	3.7	4.0	3.0	3.6	3.0	3.2	3.4	3.6
200.	3.0	3.7	3.7	4.0	3.0	3.6	3.0	3.2	3.4	3.5
210.	3.0	3.6	3.8	3.9	3.0	3.6	3.0	3.3	3.3	3.8
220.	3.0	3.7	3.8	3.9	3.1	3.7	3.0	3.3	3.3	3.7
230.	3.1	3.7	3.8	3.9	3.1	3.7	3.0	3.3	3.3	3.7
240.	3.1	3.8	3.9	4.0	3.2	3.8	3.0	3.2	3.2	3.7
250.	3.3	3.8	3.9	3.9	3.3	3.8	3.0	3.3	3.2	3.6
260.	3.5	3.7	4.1	4.0	3.6	3.8	3.0	3.4	3.2	3.5
270.	3.7	3.6	4.2	4.1	3.7	3.8	3.1	3.6	3.1	3.4
280.	3.8	3.4	4.0	3.9	3.8	3.6	3.1	3.7	3.0	3.4
290.	3.8	3.2	4.1	3.7	3.7	3.3	3.2	3.7	3.0	3.3
300.	3.8	3.1	4.0	3.6	3.7	3.2	3.2	3.8	3.0	3.3
310.	3.8	3.1	4.0	3.4	3.7	3.1	3.2	3.9	3.0	3.3
320.	3.7	3.0	4.0	3.4	3.6	3.1	3.2	3.9	3.0	3.4
330.	3.7	3.0	4.0	3.4	3.6	3.0	3.2	4.0	3.0	3.4
340.	3.7	3.0	4.0	3.4	3.6	3.0	3.2	3.8	3.1	3.4
350.	3.8	3.1	4.1	3.3	3.6	3.0	3.2	3.8	3.1	3.4
360.	4.0	3.3	3.9	3.2	3.6	3.0	3.4	3.8	3.2	3.3
MAX	4.2	4.2	4.2	4.1	3.8	3.8	3.7	4.0	3.7	3.8
DEGR.	80	100	270	180	280	110	80	330	160	210

THE HIGHEST CONCENTRATION OF 4.20 PPM OCCURRED AT RECEPTOR REC2 .

JOB: 9th and Long Beach Existing RUN: 9th and Long Beach Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 10.-360.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12
10.	4.9	3.3	3.8	3.7	3.0	3.0	4.9	4.7	3.5	4.0	5.4	3.0
20.	5.0	3.5	3.4	3.4	3.0	3.0	5.0	4.0	3.7	3.6	5.5	3.1
30.	5.0	3.6	3.2	3.2	3.0	3.0	5.2	3.5	3.9	3.4	5.6	3.1
40.	4.8	3.7	3.0	3.1	3.0	3.0	5.2	3.2	4.0	3.2	5.8	3.3
50.	5.0	3.8	3.0	3.0	3.0	3.0	5.2	3.1	4.1	3.1	6.0	3.5
60.	4.9	3.8	3.0	3.0	3.0	3.0	5.1	3.0	4.1	3.1	6.1	3.7
70.	4.8	3.9	3.0	3.0	3.0	3.0	5.1	3.0	4.2	3.0	6.0	4.2
80.	4.8	3.8	3.0	3.0	3.0	3.0	5.1	3.0	4.2	3.0	5.9	4.7
90.	4.7	3.9	3.0	3.0	3.0	3.0	5.2	3.0	4.2	3.0	5.5	5.4
100.	4.7	4.2	3.0	3.0	3.0	3.0	5.1	3.0	4.2	3.0	4.9	5.7
110.	4.6	4.3	3.0	3.0	3.0	3.0	5.0	3.0	4.2	3.0	4.4	6.0
120.	4.8	4.5	3.0	3.0	3.0	3.0	5.0	3.0	4.2	3.1	4.0	6.2
130.	4.8	4.9	3.0	3.0	3.0	3.0	5.1	3.1	4.1	3.1	3.7	6.1
140.	4.9	5.1	3.0	3.0	3.0	3.0	5.1	3.2	4.3	3.2	3.6	5.9
150.	4.8	5.3	3.3	3.3	3.0	3.0	5.1	3.5	4.5	3.4	3.5	5.8
160.	4.6	5.4	3.7	3.8	3.0	3.0	4.9	4.0	4.6	4.1	3.2	5.5
170.	4.3	5.2	4.2	4.1	3.0	3.0	4.6	4.5	4.5	4.5	3.1	5.5
180.	3.9	5.0	4.8	4.7	3.0	3.0	4.3	5.2	4.4	5.3	3.0	5.3
190.	3.6	4.8	5.3	5.2	3.1	3.1	3.8	5.8	4.1	5.6	3.0	5.3
200.	3.3	4.8	5.4	5.3	3.1	3.4	3.4	6.1	3.9	5.9	3.0	5.3
210.	3.1	4.6	5.6	5.6	3.4	3.4	3.2	6.2	3.9	5.8	3.1	5.4
220.	3.0	4.6	5.5	5.6	3.5	3.5	3.1	6.2	3.7	5.6	3.1	5.4
230.	3.0	4.6	5.5	5.5	3.5	3.5	3.1	6.1	3.6	5.5	3.2	5.5
240.	3.2	4.7	5.5	5.4	3.7	3.7	3.0	6.0	3.5	5.3	3.5	5.6
250.	3.4	4.5	5.6	5.7	3.7	3.8	3.0	6.0	3.4	5.3	3.9	5.4
260.	3.7	4.3	5.8	5.6	3.9	4.0	3.1	6.2	3.3	5.2	4.3	5.1
270.	4.1	4.1	5.8	5.4	4.0	3.7	3.2	6.2	3.2	5.2	4.9	4.8
280.	4.5	3.6	5.8	5.1	3.7	3.6	3.3	6.5	3.1	5.0	5.3	4.3
290.	4.7	3.3	5.4	4.8	3.6	3.4	3.4	6.5	3.0	4.8	5.4	3.7
300.	4.8	3.0	5.1	4.6	3.3	3.3	3.5	6.5	3.0	4.8	5.6	3.4
310.	4.7	3.0	4.8	4.6	3.3	3.2	3.6	6.6	3.0	4.8	5.6	3.1
320.	4.6	3.0	4.8	4.7	3.2	3.2	3.8	6.7	3.0	4.9	5.4	3.1
330.	4.5	3.0	4.6	4.7	3.1	3.1	3.9	6.8	3.0	4.9	5.4	3.0
340.	4.5	3.0	4.6	4.6	3.1	3.0	4.0	6.6	3.0	4.8	5.4	3.0
350.	4.5	3.1	4.6	4.4	3.0	3.0	4.3	6.0	3.1	4.7	5.4	3.0
360.	4.7	3.2	4.2	4.1	3.0	3.0	4.7	5.4	3.3	4.4	5.5	3.0
MAX	5.0	5.4	5.8	5.7	4.0	4.0	5.2	6.8	4.6	5.9	6.1	6.2
DEGR.	20	160	260	250	270	260	30	330	160	200	60	120

THE HIGHEST CONCENTRATION OF 6.80 PPM OCCURRED AT RECEPTOR REC8 .

JOB: 9th and Long Beach Future No Build RUN: 9th and Long Beach Future No Build

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 10.-360.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12
10.	3.9	3.1	3.4	3.3	3.0	3.0	3.9	3.9	3.2	3.4	4.9	3.0
20.	4.0	3.2	3.2	3.2	3.0	3.0	4.1	3.5	3.3	3.3	4.9	3.0
30.	4.0	3.3	3.1	3.1	3.0	3.0	4.1	3.2	3.4	3.2	5.0	3.1
40.	3.9	3.3	3.0	3.0	3.0	3.0	4.2	3.1	3.5	3.1	5.1	3.1
50.	3.9	3.3	3.0	3.0	3.0	3.0	4.2	3.0	3.5	3.1	5.2	3.2
60.	3.8	3.3	3.0	3.0	3.0	3.0	4.3	3.0	3.5	3.0	5.2	3.3
70.	3.9	3.3	3.0	3.0	3.0	3.0	4.3	3.0	3.5	3.0	5.1	3.6
80.	3.9	3.4	3.0	3.0	3.0	3.0	4.3	3.0	3.5	3.0	5.0	4.0
90.	3.8	3.5	3.0	3.0	3.0	3.0	4.3	3.0	3.5	3.0	4.7	4.6
100.	3.9	3.6	3.0	3.0	3.0	3.0	4.3	3.0	3.5	3.0	4.3	4.8
110.	3.9	3.7	3.0	3.0	3.0	3.0	4.2	3.0	3.5	3.0	3.9	5.1
120.	4.0	3.8	3.0	3.0	3.0	3.0	4.2	3.0	3.5	3.0	3.6	5.4
130.	4.0	3.9	3.0	3.0	3.0	3.0	4.2	3.0	3.6	3.1	3.4	5.3
140.	4.1	4.3	3.0	3.0	3.0	3.0	4.2	3.1	3.6	3.1	3.4	5.2
150.	4.0	4.5	3.2	3.3	3.0	3.0	4.1	3.3	3.8	3.2	3.2	5.1
160.	3.9	4.4	3.4	3.4	3.0	3.0	3.9	3.5	3.9	3.4	3.1	4.9
170.	3.6	4.4	3.8	3.8	3.0	3.0	3.8	3.8	3.8	3.8	3.0	4.8
180.	3.5	4.3	4.1	4.1	3.0	3.0	3.6	4.2	3.9	4.1	3.0	4.8
190.	3.3	4.3	4.3	4.1	3.0	3.0	3.3	4.6	3.6	4.3	3.0	4.8
200.	3.1	4.2	4.4	4.3	3.1	3.2	3.2	4.8	3.6	4.6	3.0	4.8
210.	3.0	4.2	4.5	4.4	3.2	3.2	3.1	4.9	3.5	4.4	3.0	4.9
220.	3.0	4.2	4.4	4.3	3.2	3.2	3.1	5.0	3.5	4.2	3.1	4.9
230.	3.0	4.2	4.4	4.2	3.2	3.2	3.0	5.0	3.5	4.2	3.1	4.9
240.	3.1	4.3	4.4	4.4	3.3	3.3	3.0	4.9	3.4	4.2	3.3	5.0
250.	3.4	4.2	4.3	4.5	3.3	3.5	3.0	4.9	3.4	4.2	3.7	4.9
260.	3.5	4.1	4.5	4.5	3.6	3.7	3.1	5.0	3.2	4.2	4.0	4.7
270.	3.9	3.9	4.6	4.2	3.7	3.5	3.2	5.0	3.2	4.0	4.4	4.4
280.	4.2	3.5	4.5	4.1	3.5	3.2	3.2	5.2	3.1	3.9	4.8	4.0
290.	4.3	3.3	4.2	3.8	3.2	3.2	3.4	5.3	3.0	3.8	4.9	3.5
300.	4.4	3.0	4.0	3.7	3.1	3.1	3.4	5.3	3.0	3.8	5.0	3.3
310.	4.3	3.0	3.8	3.7	3.1	3.1	3.4	5.3	3.0	3.8	5.0	3.1
320.	4.3	3.0	3.7	3.7	3.1	3.1	3.6	5.3	3.0	3.9	4.9	3.0
330.	4.1	3.0	3.7	3.7	3.1	3.0	3.6	5.4	3.0	3.9	4.9	3.0
340.	4.0	3.0	3.7	3.7	3.0	3.0	3.4	5.2	3.0	3.8	4.9	3.0
350.	4.0	3.0	3.7	3.6	3.0	3.0	3.7	4.7	3.1	3.8	4.9	3.0
360.	4.0	3.1	3.5	3.5	3.0	3.0	3.9	4.3	3.1	3.6	4.9	3.0
MAX	4.4	4.5	4.6	4.5	3.7	3.7	4.3	5.4	3.9	4.6	5.2	5.4
DEGR.	300	150	270	250	270	260	60	330	160	200	50	120

THE HIGHEST CONCENTRATION OF 5.40 PPM OCCURRED AT RECEPTOR REC12.

JOB: 9th and Long Beach Future Build RUN: 9th and Long Beach Future Build

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 10.-360.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10
10.	4.1	3.9	3.5	3.5	3.8	3.2	4.1	3.9	4.2	3.5
20.	4.1	4.0	3.3	3.3	4.0	3.2	4.2	3.6	4.4	3.3
30.	4.1	4.0	3.1	3.1	4.0	3.3	4.2	3.2	4.4	3.1
40.	4.0	3.9	3.0	3.1	4.1	3.3	4.2	3.1	4.5	3.1
50.	4.1	3.8	3.0	3.0	4.0	3.3	4.1	3.1	4.4	3.1
60.	3.8	3.7	3.0	3.0	4.0	3.4	4.1	3.0	4.3	3.0
70.	4.0	3.5	3.0	3.0	4.0	3.4	4.1	3.0	4.3	3.0
80.	3.9	3.7	3.0	3.0	4.1	3.5	4.1	3.0	4.3	3.0
90.	3.9	3.7	3.0	3.0	3.8	3.8	4.2	3.0	4.4	3.0
100.	4.0	3.7	3.0	3.0	3.7	4.0	4.1	3.0	4.3	3.0
110.	4.0	4.0	3.0	3.0	3.5	3.9	4.0	3.0	4.3	3.0
120.	4.0	3.9	3.0	3.0	3.4	4.0	4.0	3.0	4.3	3.0
130.	4.0	4.0	3.0	3.0	3.3	4.0	4.0	3.1	4.3	3.1
140.	4.1	4.0	3.1	3.2	3.3	3.8	3.9	3.1	4.5	3.1
150.	4.0	4.1	3.2	3.3	3.2	3.8	3.9	3.1	4.5	3.1
160.	3.9	4.1	3.3	3.5	3.0	3.4	3.7	3.3	4.4	3.4
170.	3.7	4.0	3.6	3.7	3.0	3.4	3.6	3.4	4.2	3.5
180.	3.5	3.9	3.9	4.0	3.0	3.4	3.4	3.7	3.9	3.8
190.	3.3	3.8	4.0	3.9	3.0	3.4	3.2	4.0	3.8	4.0
200.	3.1	3.7	4.0	3.9	3.0	3.4	3.2	4.1	3.5	4.1
210.	3.1	3.6	4.1	4.1	3.0	3.5	3.1	4.3	3.3	4.3
220.	3.0	3.7	4.1	3.9	3.0	3.5	3.1	4.4	3.3	4.2
230.	3.0	3.7	4.1	4.0	3.0	3.6	3.0	4.4	3.2	4.2
240.	3.0	3.8	4.0	4.0	3.2	3.6	3.0	4.4	3.2	4.2
250.	3.2	3.8	4.1	4.1	3.2	3.5	3.0	4.5	3.2	4.3
260.	3.2	3.8	4.1	4.1	3.4	3.5	3.0	4.5	3.1	4.2
270.	3.5	3.6	4.0	4.1	3.5	3.4	3.1	4.6	3.0	4.1
280.	3.5	3.4	4.0	4.2	3.6	3.3	3.1	4.6	3.0	4.1
290.	3.7	3.1	4.1	4.0	3.6	3.1	3.2	4.7	3.0	4.1
300.	3.7	3.1	3.8	4.1	3.6	3.1	3.2	4.7	3.0	4.1
310.	3.7	3.0	4.0	4.1	3.6	3.0	3.2	4.7	3.0	4.1
320.	3.6	3.0	4.0	4.1	3.6	3.0	3.4	4.7	3.0	4.1
330.	3.7	3.1	4.0	4.1	3.6	3.0	3.5	4.7	3.1	4.2
340.	3.8	3.2	4.1	4.1	3.6	3.0	3.5	4.7	3.4	4.1
350.	3.9	3.6	3.9	4.0	3.7	3.1	3.7	4.5	3.6	3.9
360.	4.1	3.8	3.7	3.8	3.7	3.1	3.9	4.1	3.9	3.8

THE HIGHEST CONCENTRATION OF 4.70 PPM OCCURRED AT RECEPTOR REC8 .

MOBILE
CO
CF

Skip Bldm RS

2001 & 2025
(existing) (future)

```
*************************************************************************
* MOBILE6.2.03 (24-Sep-2003)                                            *
* Input file: MOBILE6.IN (file 1, run 1).                               *
*************************************************************************
*   *** INPUT FILE: C:\MobDOS\p846SBR\SBTEST.in ***

* Reading I/M program description records from the following external
* data file: C:\MOBDOS\P846SBR\IMDATA.D

* Reading ASM I/M Test Credits from ASMDATA.D
  M601 Comment:
               User has enabled STAGE II REFUELING.


* Reading 94+ LEV IMPLEMENTATION SCHEDULE from the following external
* data file: C:\MOBDOS\P846SBR\NLEVNE.D

* # # # # # # # # # # # # # # # # # # # # # # # # # # #
* 2001I

* File 1, Run 1, Scenario 1.
* # # # # # # # # # # # # # # # # # # # # # # # # # # #
  M583 Warning:
            The user supplied arterial average speed of  2.5
            will be used for all hours of the day.  100% of VMT
            has been assigned to the arterial/collector roadway
            type for all hours of the day and all vehicle types.
*** I/M credits for Tech1&2 vehicles were read from the following external
    data file: TECH12.D
  M 48 Warning:
              there are no sales for vehicle class HDGV8b

 LEV phase-in data read from file C:\MOBDOS\P846SBR\NLEVNE.D
                    Calendar Year:  2001
                            Month:  Jan.
                         Altitude:  Low
              Minimum Temperature:  26.9 (F)
              Maximum Temperature:  40.7 (F)
                Absolute Humidity:   75. grains/lb
                 Nominal Fuel RVP:  15.0 psi
                    Weathered RVP:  15.0 psi
              Fuel Sulfur Content:  299. ppm

              Exhaust I/M Program:  Yes
                 Evap I/M Program:  Yes
                      ATP Program:  Yes
                 Reformulated Gas:  No

      Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All V
              GVWR:                <6000     >6000     (All)
                        ------    ------    ------    ------    ------    ------    ------    ------    ------    ----
  VMT Distribution:     0.4775    0.2953    0.1009              0.0357    0.0009    0.0016    0.0820    0.0061    1.00
 -----------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
    Composite CO  :     65.10     78.56    108.68     86.23    137.08     4.850     4.503    17.521    108.72    72.2
 -----------------------------------------------------------------------------------------------------------------------


* # # # # # # # # # # # # # # # # # # # # # # # # # # #
* 2001F

* File 1, Run 1, Scenario 2.
* # # # # # # # # # # # # # # # # # # # # # # # # # # #
  M583 Warning:
            The user supplied arterial average speed of 25.0
            will be used for all hours of the day.  100% of VMT
            has been assigned to the arterial/collector roadway
            type for all hours of the day and all vehicle types.
  M 48 Warning:
              there are no sales for vehicle class HDGV8b

 LEV phase-in data read from file C:\MOBDOS\P846SBR\NLEVNE.D
                    Calendar Year:  2001
                            Month:  Jan.
                         Altitude:  Low
              Minimum Temperature:  26.9 (F)
              Maximum Temperature:  40.7 (F)
                Absolute Humidity:   75. grains/lb
```

x2.5

180.5

2001 IDLE

```
                Nominal Fuel RVP:  15.0 psi
                   Weathered RVP:  15.0 psi
             Fuel Sulfur Content:  299. ppm

             Exhaust I/M Program:  Yes
                Evap I/M Program:  Yes
                     ATP Program:  Yes
                Reformulated Gas:  No

      Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All V
              GVWR:               <6000     >6000     (All)
                        ------    ------    ------    ------    ------    ------    ------    ------    ------    -----
  VMT Distribution:     0.4775    0.2953    0.1009              0.0357    0.0009    0.0016    0.0820    0.0061     1.00
 ---------------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
    Composite CO  :     25.13     31.24     38.93     33.20     29.85     1.803     1.603     4.248     15.85     26.6
 ---------------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # # #
* 2025I

* File 1, Run 1, Scenario 3.
* # # # # # # # # # # # # # # # # # # # # # # # # # #
  M583 Warning:
            The user supplied arterial average speed of  2.5
            will be used for all hours of the day.  100% of VMT
            has been assigned to the arterial/collector roadway
            type for all hours of the day and all vehicle types.
  M 48 Warning:
              there are no sales for vehicle class HDGV8b
  M 48 Warning:
              there are no sales for vehicle class LDDT12

 LEV phase-in data read from file C:\MOBDOS\P846SBR\NLEVNE.D
                   Calendar Year:  2025
                           Month:  Jan.
                        Altitude:  Low
             Minimum Temperature:  26.9 (F)
             Maximum Temperature:  40.7 (F)
               Absolute Humidity:   75. grains/lb
                Nominal Fuel RVP:  15.0 psi
                   Weathered RVP:  15.0 psi
             Fuel Sulfur Content:   30. ppm

             Exhaust I/M Program:  Yes
                Evap I/M Program:  Yes
                     ATP Program:  Yes
                Reformulated Gas:  No

      Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All V
              GVWR:               <6000     >6000     (All)
                        ------    ------    ------    ------    ------    ------    ------    ------    ------    -----
  VMT Distribution:     0.2790    0.4400    0.1500              0.0363    0.0003    0.0022    0.0872    0.0050     1.00
 ---------------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
    Composite CO  :     23.53     22.83     28.96     24.39     37.70     1.893     1.254     1.454    108.72     22.9
 ---------------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # # #
* 2025F

* File 1, Run 1, Scenario 4.
* # # # # # # # # # # # # # # # # # # # # # # # # # #
  M583 Warning:
            The user supplied arterial average speed of 25.0
            will be used for all hours of the day.  100% of VMT
            has been assigned to the arterial/collector roadway
            type for all hours of the day and all vehicle types.
  M 48 Warning:
              there are no sales for vehicle class HDGV8b
  M 48 Warning:
              there are no sales for vehicle class LDDT12

 LEV phase-in data read from file C:\MOBDOS\P846SBR\NLEVNE.D
                   Calendar Year:  2025
                           Month:  Jan.
                        Altitude:  Low
```

2001
25 MPH

x 2.5

57.25

2025 IDLE

```
Minimum Temperature:  26.9 (F)
Maximum Temperature:  40.7 (F)
  Absolute Humidity:   75. grains/lb
   Nominal Fuel RVP:  15.0 psi
      Weathered RVP:  15.0 psi
Fuel Sulfur Content:   30. ppm

Exhaust I/M Program:  Yes
   Evap I/M Program:  Yes
        ATP Program:  Yes
   Reformulated Gas:  No
```

Vehicle Type:	LDGV	LDGT12	LDGT34	LDGT	HDGV	LDDV	LDDT	HDDV	MC	All V
GVWR:		<6000	>6000	(All)						
VMT Distribution:	0.2790	0.4400	0.1500		0.0363	0.0003	0.0022	0.0872	0.0050	1.00
Composite Emission Factors (g/mi):										
Composite CO :	11.04	10.48	12.76	11.06	8.21	0.630	0.418	0.353	15.85	10.0

2025

25 MPH

2001 LOS and Delay Comparison for All Schemes

Intersection	Friday											
	No-Build*		Scheme A		Scheme B		Scheme C		Scheme D		Scheme E	
	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay
9th St and Barnegat Ave	C	21.6	B	17.0	B	16.6	B	16.3	B	16.0	B	16.2
9th St and Central Ave	C	21.3	C	22.4	B	15.9	B	18.6	B	12.1	B	16.2
9th St and Long Beach Blvd	C	33.3	C	29.4	C	30.3	C	32.5	C	31.6	C	28.2
8th St and Long Beach Blvd	-	-	B	17.0	-	-	-	-	B	15.6	-	-
8th St and Central Ave	C	25.2	B	12.6	C	20.6	C	21.3	B	13.0	B	18.0
8th St and Barnegat Ave	C	33.0	C	21.0	B	19.7	C	21.7	C	21.2	C	25.0
11th and Long Beach Blvd	C	32.4	B	11.3	B	15.3	B	15.0	B	16.2	B	13.9
5th and Long Beach Blvd	B	10.3	B	12.0	A	7.5	A	6.6	A	8.0	A	7.9

Intersection	Saturday											
	No-Build*		Scheme A		Scheme B		Scheme C		Scheme D		Scheme E	
	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay
9th St and Barnegat Ave	D	41.4	B	19.3	B	19.3	B	20.0	B	19.1	C	20.2
9th St and Central Ave	C	20.8	B	19.2	B	15.6	B	18.4	B	17.2	B	15.8
9th St and Long Beach Blvd	D	37.8	C	25.8	C	30.6	C	32.8	C	30.4	C	29.7
8th St and Long Beach Blvd	-	-	B	16.7	-	-	-	-	B	13.2	-	-
8th St and Central Ave	C	23.7	B	14.4	B	19.6	C	21.7	B	14.8	B	18.2
8th St and Barnegat Ave	D	35.7	C	21.7	C	20.7	C	22.8	C	21.9	C	20.5
11th and Long Beach Blvd	F	169.1	B	10.2	B	17.7	B	19.1	B	18.2	B	17.8
5th and Long Beach Blvd	B	12.1	B	15.5	A	9.8	A	9.0	A	8.1	A	9.5

Intersection	Sunday											
	No-Build*		Scheme A		Scheme B		Scheme C		Scheme D		Scheme E	
	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay
9th St and Barnegat Ave	C	26.0	B	17.7	B	18.1	B	18.0	B	18.3	B	19.0
9th St and Central Ave	C	22.9	C	21.9	B	17.2	C	20.8	B	15.8	B	17.5
9th St and Long Beach Blvd	D	38.5	C	27.1	C	29.4	C	29.9	C	28.4	C	30.0
8th St and Long Beach Blvd	-	-	B	18.0	-	-	-	-	B	15.9	-	-
8th St and Central Ave	C	26.7	B	17.8	C	22.8	C	26.9	B	15.1	C	20.3
8th St and Barnegat Ave	C	32.9	C	21.4	B	19.4	C	20.5	C	22.0	B	19.6
11th and Long Beach Blvd	F	258.5	B	12.4	C	20.0	B	19.0	B	18.4	C	21.3
5th and Long Beach Blvd	B	12.6	C	20.7	B	15.8	B	13.1	B	12.2	B	13.2

* 2001 No-Build network was analyzed with existing traffic signal timing.

Build HCS

2025 LOS and Delay Comparison for All Schemes

Intersection	Friday											
	No-Build**		Scheme A		Scheme B		Scheme C		Scheme D		Scheme E	
	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay
9th St and Barnegat Ave	C	25.3	C	25.4	B	20.0	C	20.2	C	21.5	C	20.6
9th St and Central Ave	B	16.2	B	19.9	B	18.4	C	21.1	B	12.7	B	19.3
9th St and Long Beach Blvd	C	34.2	D	41.3	C	33.2	D	37.5	C	34.5	C	31.0
8th St and Long Beach Blvd	-	-	B	18.1	-	-	-	-	B	17.7	-	-
8th St and Central Ave	E	61.1	C	26.9	C	23.6	C	26.4	B	14.3	C	20.5
8th St and Barnegat Ave	E	55.3	D	41.5	C	24.4	C	25.6	C	26.1	C	28.3
11th and Long Beach Blvd	F	150.8	C	28.0	C	23.7	C	32.7	C	24.5	B	18.5
5th and Long Beach Blvd	B	16.9	B	11.6	A	9.2	A	8.6	B	10.4	A	8.8

Intersection	Saturday											
	No-Build**		Scheme A		Scheme B		Scheme C		Scheme D		Scheme E	
	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay
9th St and Barnegat Ave	D	39.9	C	27.0	C	25.8	C	25.3	C	22.9	C	23.0
9th St and Central Ave	B	16.9	C	4.0	B	18.0	C	20.6	C	20.8	C	23.2
9th St and Long Beach Blvd	C	33.2	D	22.5	D	35.9	D	37.3	D	39.5	C	33.9
8th St and Long Beach Blvd	-	-	B	53.0	-	-	-	-	B	15.5	-	-
8th St and Central Ave	D	40.0	C	16.4	C	23.9	D	37.8	B	15.6	C	20.7
8th St and Barnegat Ave	D	46.1	D	22.2	C	24.8	C	27.2	C	29.6	C	22.7
11th and Long Beach Blvd	F	197.2	C	39.1	C	33.1	D	35.8	D	52.2	C	29.0
5th and Long Beach Blvd	C	23.4	C	33.4	B	13.7	B	12.4	B	10.2	B	14.6

Intersection	Sunday											
	No-Build**		Scheme A		Scheme B		Scheme C		Scheme D		Scheme E	
	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay
9th St and Barnegat Ave	E	57.9	C	24.2	C	21.7	C	23.8	C	20.9	C	21.1
9th St and Central Ave	C	24.1	C	25.8	C	21.0	C	25.1	B	18.7	C	21.2
9th St and Long Beach Blvd	C	33.6	D	47.3	D	36.5	D	43.9	D	35.7	C	34.0
8th St and Long Beach Blvd	-	-	B	19.3	-	-	-	-	B	17.4	-	-
8th St and Central Ave	E	62.2	C	25.1	C	27.8	D	39.8	B	16.1	C	23.6
8th St and Barnegat Ave	D	41.0	C	34.0	C	23.4	C	23.9	C	27.9	C	23.4
11th and Long Beach Blvd	F	313.2	C	32.4	D	52.9	F	140.6	D	50.9	D	46.9
5th and Long Beach Blvd	C	32.7	B	12.2	C	28.6	C	21.6	C	29.3	C	29.5

** 2025 No-Build network was analyzed with improved traffic signal timing.

Scenarios

Vehicular Process

PM 2.5 Data

CO microscale

GUI

Mobile

CO Calbee

Microscale

microscale

Quality Design

8th; Engl

HCS2000: Signalized Intersections Release 4.1e

Analyst: AJP
Agency: Saturday 2001 (9:30-10:30) - No
Date: 11/26/2001
Period: Sat Peak Hour
Project ID: Existing Volumes
E/W St: W. 8th St.

Inter.: W. 8th St. & Barnegat Ave
Area Type: All other areas
Jurisd:
Year : Baseline

N/S St: Barnegat Ave

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	0	0	2	0	0	2	0	0	1	1
LGConfig					LTR			LT			T	R
Volume				80	1666	39	161	563			119	221
Lane Width					11.8			11.8			11.8	11.8
RTOR Vol						1						24

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left					NB	Left	A			
Thru						Thru	A			
Right						Right				
Peds						Peds				
WB Left		P			SB	Left				
Thru		P				Thru	A			
Right		P				Right	A			
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right				
Green		78.0					30.0			
Yellow		5.0					3.0			
All Red		2.0					2.0			

Cycle Length: 120.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
Westbound								
LTR	2366	3505	0.79	0.68	26.3	C	26.3	C
Northbound								
LT	734	2841	1.04	0.26	85.2	F	85.2	F
Southbound								
T	478	1851	0.26	0.26	35.5	D	37.3	D
R	406	1573	0.51	0.26	38.5	D		

Intersection Delay = 42.6 (sec/veh) Intersection LOS = D

8 of 8

Fut N.B.

HCS2000: Signalized Intersections Release 4.1e

Analyst: AJP
Agency:
Date: 02/13/2006
Period: Fri Peak Hour
Project ID: No Build Volumes
E/W St: W. 8th St.

Inter.: W. 8th St. & Barnegat Ave
Area Type: All other areas
Jurisd:
Year : Baseline

N/S St: Barnegat Ave

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	0	0	2	0	0	2	0	0	1	1
LGConfig					LTR			LT			T	R
Volume				78	1935	44	201	634			94	225
Lane Width					11.8			11.8			11.8	11.8
RTOR Vol						1						3

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left					NB Left	A		
Thru					Thru	A		
Right					Right			
Peds					Peds			
WB Left	P				SB Left			
Thru	P				Thru	A		
Right	P				Right	A		
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	60.0				48.0			
Yellow	5.0				3.0			
All Red	2.0				2.0			

Cycle Length: 120.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
Westbound								
LTR	1841	3506	1.18	0.52	103.0	F	103.0	F
Northbound								
LT	1207	2955	0.73	0.41	31.2	C	31.2	C
Southbound								
T	756	1851	0.13	0.41	22.2	C	24.0	C
R	642	1573	0.36	0.41	24.8	C		

Intersection Delay = 76.5 (sec/veh) Intersection LOS = E

L:/Dominic's

Regusta

8B; B

Fut Build

HCS2000: Signalized Intersections Release 4.1e

Analyst: JPT
Agency: SCHOOR DEPALMA
Date: 12/29/2005
Period: SATURDAY PEAK HOUR
Project ID: 040476801
E/W St: 8th Street

Inter.: 1SAT
Area Type: All other areas
Jurisd:
Year : 2025 VOLUMES

N/S St: Barnegat Avenue

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	0	0	3	0	1	2	0	0	1	1
LGConfig					LTR		L	T			T	R
Volume				94	1966	46	190	664			140	261
Lane Width					12.0		12.0	12.0			12.0	12.0
RTOR Vol						3						8

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left					NB	Left	A			
Thru						Thru	A			
Right						Right				
Peds						Peds				
WB Left		A			SB	Left				
Thru		A				Thru	A			
Right		A				Right	A			
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right				
Green		55.4					22.6			
Yellow		4.0					4.0			
All Red		2.0					2.0			

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
Westbound								
LTR	3219	5047	0.71	0.64	5.7	A	5.7	A
Northbound								
L	309	1129	0.67	0.27	25.4	C		
T	970	3547	0.74	0.27	31.9	C	30.5	C
Southbound								
T	509	1863	0.30	0.27	26.2	C	29.8	C
R	433	1583	0.64	0.27	31.8	C		

Intersection Delay = 14.9 (sec/veh) Intersection LOS = B

9th & LB
Exist

HCS2000: Signalized Intersections Release 4.1e

Analyst: AJP
Agency: Sunday 2001 (1:00-2:00) - No-Bu
Date: 11/26/2001
Period: Sun Peak Hour
Project ID: Existing Volumes
E/W St: 9th St.

Inter.: 9th St. & Long Beach Boulevard
Area Type: All other areas
Jurisd:
Year : Baseline

N/S St: Long Beach Boulevard

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	1	0	1	0	0	2	0	0	0	0
LGConfig	L	LT	R		LTR			TR				
Volume	427	0	758	0	0	12		1845	0			
Lane Width	11.8	11.8	11.8		11.8			11.8				
RTOR Vol			608			12			0			

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4		5	6	7	8
EB Left	P				NB Left				
Thru	P				Thru	A			
Right	P				Right	A			
Peds					Peds	X			
WB Left		A			SB Left				
Thru		A			Thru				
Right		A			Right				
Peds		X			Peds				
NB Right					EB Right				
SB Right					WB Right				
Green	28.6	10.0				64.4			
Yellow	4.0	3.0				4.0			
All Red	2.0	3.0				1.0			

Cycle Length: 120.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
L	419	1758	0.54	0.24	44.3	D		
LT				0.24				
R	375	1573	0.42	0.24	49.9	D		
Westbound								
LTR	154	1851	0.00	0.08	50.4	D		
Northbound								
TR	1891	3524	1.03	0.54	52.6	D	52.6	D
Southbound								

Intersection Delay = (sec/veh) Intersection LOS =

9th : LB
Rt N.B.

HCS2000: Signalized Intersections Release 4.1e

Analyst: AJP
Agency:
Date: 02/13/2006
Period: Sat Peak Hour
Project ID: No Build Volumes
E/W St: 9th St.

Inter.: 9th St. & Long Beach Boulevard
Area Type: All other areas
Jurisd:
Year : Baseline

N/S St: Long Beach Boulevard

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	1	0	1	0	0	2	0	0	0	0
LGConfig	L	LT	R		LTR			TR				
Volume	634	0	873	2	0	28		2017	0			
Lane Width	11.8	11.8	11.8		11.8			11.8				
RTOR Vol			715			9			0			

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4		5	6	7	8
EB Left	P				NB Left				
Thru	P				Thru	A			
Right	P				Right	A			
Peds					Peds	X			
WB Left		A			SB Left				
Thru		A			Thru				
Right		A			Right				
Peds		X			Peds				
NB Right					EB Right				
SB Right					WB Right				
Green	26.6	12.6				63.8			
Yellow	4.0	3.0				4.0			
All Red	2.0	3.0				1.0			

Cycle Length: 120.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
L	390	1758	0.86	0.22	63.3	E		
LT				0.22				
R	349	1573	0.48	0.22	52.3	D		
Westbound								
LTR	170	1616	0.13	0.11	48.8	D	48.8	D
Northbound								
TR	1874	3524	1.13	0.53	85.4	F	85.4	F
Southbound								

Intersection Delay = (sec/veh) Intersection LOS =

9th & CB
Fut Bld

HCS2000: Signalized Intersections Release 4.1e

Analyst: JPT
Agency: SCHOOR DEPALMA
Date: 12/29/2005
Period: SUNDAY PEAK HOUR
Project ID: 040476801
E/W St: 9th Street

Inter.: 6SUN
Area Type: All other areas
Jurisd:
Year : 2025 VOLUMES

N/S St: Long Beach Boulevard

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	1	1	0	1	0	3	0	0	2	0
LGConfig	L	LT	R	L		R		TR			LT	
Volume	454	1	621	15		15		1617	1	12	463	
Lane Width	12.0	12.0	12.0	12.0		12.0		12.0			12.0	
RTOR Vol			296			0			0			

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4		5	6	7	8
EB Left	A				NB Left				
Thru	A				Thru	A			
Right	A				Right	A			
Peds					Peds				
WB Left		A			SB Left	A	A	A	
Thru					Thru	A	A	A	
Right		A			Right				
Peds					Peds				
NB Right					EB Right				
SB Right					WB Right				
Green	20.8	4.2				29.0	1.8	4.2	
Yellow	4.0	4.0				4.0	4.0	4.0	
All Red	2.0	2.0				2.0	2.0	2.0	

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
L	448	1770	0.55	0.25	31.5	C		
LT	449	1774	0.55	0.25	31.5	C	42.5	D
R	401	1583	0.88	0.25	57.8	E		
Westbound								
L	122	1770	0.13	0.07	39.9	D		
							39.9	D
R	109	1583	0.15	0.07	40.0	D		
Northbound								
TR	1748	5074	1.01	0.34	52.6	D	52.6	D
Southbound								
LT	1623	3542	0.32	0.54	14.7	B	14.7	B

Intersection Delay = 43.5 (sec/veh) Intersection LOS = D

CULTURAL RESOURCES SURVEY

New Jersey Route 72
Ship Bottom Operational and Drainage Improvements

Borough of Ship Bottom, Ocean County, New Jersey

Prepared for:

New Jersey Department of Transportation
Division of Environmental Resources
Third Floor, E&O Building
1035 Parkway Avenue, P.O. Box 600
Trenton, New Jersey 08625
and
Schoor DePalma, Inc.
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Manalapan, New Jersey 07726

Prepared by:

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December 2005

ABSTRACT

The following report is the result of a Cultural Resources Survey conducted as part of the proposed operational and drainage improvements to New Jersey Route 72 and adjacent roadways in the Borough of Ship Bottom, Ocean County, New Jersey. A.D. Marble & Company completed this work for Schoor DePalma, Inc. and the New Jersey Department of Transportation (NJDOT). This investigation included documentary research, field survey, the analysis of findings, and recommendations. The purpose of this investigation was to identify any cultural resources, either archaeological or architectural, located within the Area of Potential Effect (APE); to evaluate their eligibility for inclusion in the National Register of Historic Places; and to assess the effects of the project on any eligible resources.

Background research conducted for the cultural resources survey revealed that no archaeological sites had previously been reported within the APE. The APE was assessed to have low potential for undocumented prehistoric archaeological sites, and low to nil sensitivity for potentially significant historic archaeological deposits. Five shovel test pits (STPs) were excavated in grassy median areas where a new storm sewer inlet, pump station, and reinforced concrete sewer pipe will be installed. All STPs produced negative results in terms of potentially significant archaeological deposits, and no further archaeological investigations are recommended.

No previously identified historic architectural resources are located within the APE. During the historic architectural survey, a total of 26 properties were surveyed, 21 of which were surveyed at the intensive level and five of which were surveyed at the reconnaissance level only (due to extensive alterations). None of the properties are recommended eligible for listing in the New Jersey or National Registers of Historic Places.

Since no National Register-eligible historic properties were found within the APE, an assessment of effect was not conducted for this project.

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Appendix B: Project Documents
Appendix C: NJSHPO Survey Forms
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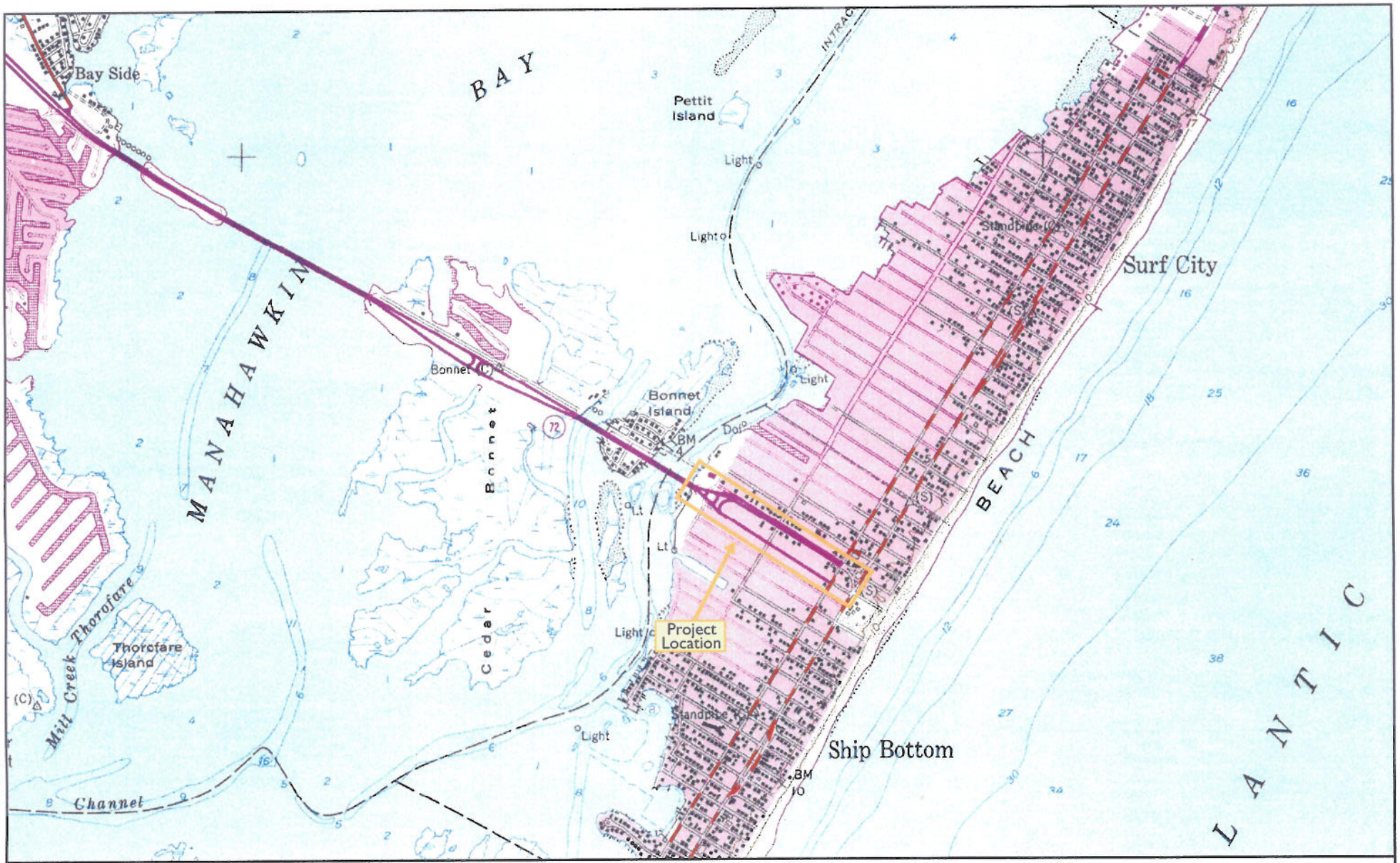
1.0 Introduction

1.0 INTRODUCTION

The following report summarizes the results of a Cultural Resources Survey conducted for the proposed operational and drainage improvements to New Jersey Route 72 and adjacent roadways in the Borough of Ship Bottom, Ocean County, New Jersey (Figure 1). This Cultural Resources Survey was conducted by A.D. Marble & Company of Mt. Laurel, New Jersey, for Schoor DePalma, Inc., of Manalapan, New Jersey and the New Jersey Department of Transportation (NJDOT), Trenton, New Jersey.

Currently, Route 72 experiences flooding when heavy rainfall and high tide coincide. Low-lying areas along Long Beach Boulevard, 8th Street, and 9th Street trap water on the roadways during these events, to the extent that access and/or egress to or from the island from the bridge is blocked. Furthermore, during peak summer months, traffic flow onto and off the island is very poor, resulting in traffic delays. The design of the Ship Bottom Circle on Long Beach Boulevard plays a significant part in this poor vehicular circulation (McCormick Taylor, Inc. 2004:3-5).

The roadway improvements call for the addition of a third lane on 8th and 9th Streets from Shore Avenue to Long Beach Boulevard. The right turn lane from southbound Barnegat Avenue to 8th Street will be lengthened north of 7th Street, and northbound Barnegat Avenue will be widened to three lanes between 8th and 9th Streets. An additional northbound through lane on Long Beach Boulevard will be introduced at the 9th Street/Long Beach Boulevard intersection and will extend beyond the 8th Street/Long Beach Boulevard intersection. The Initially Preferred Alternative (IPA) calls for constructing Central Avenue and Long Beach Boulevard as two-way facilities, with a traffic light to be installed at the intersection of Long Beach Boulevard and 8th Street (McCormick Taylor Inc. 2004:5-6). The preferred drainage improvements consist of installing separate storm sewer systems along 8th and 9th Streets beginning at Long Beach Boulevard with the outfall along Manahawkin Bay. Both streets will have additional inlets to control the spread of water in the driving lanes according to NJDOT standards (McCormick Taylor 2004:8). According to the NJDOT-Bureau of Environmental Support (NJDOT-BES), all improvements are to be made within the existing right-of-way (Figure 2).



Project Location

2000 0 1000 2000

1 inch = 2000 feet

Figure 1
Project Location Map
Cultural Resources Survey
New Jersey Route 72, Ship Bottom Operational and Drainage Improvements
Borough of Ship Bottom, Ocean County, New Jersey

Map Document: X:\Graphics\Projects\P-846\Mapping\Fig1PLM.ai

Source: Ship Bottom, New Jersey Topographic Quad, 1952 Photo-Revised 1972.

Figure 2
New Jersey Route 72,
Ship Bottom Borough
Ocean County, New Jersey

Existing on all-CableTV

Existing on all-Connectiv FO

Existing on all-Electric

Existing on all-Gas

Existing on all-Telephone

Existing on all-Water

Unknown

Project Limits

Sources:
2002 Ortho Photography

Project Base Map

300 0 300
Feet

December 2005

The present Cultural Resources Survey is confined to the potential impact area of the Initially Preferred Alternative (IPA). The Area of Potential Effect (APE) for the IPA was developed by NJDOT and includes all areas of direct and indirect impacts to cultural resources that may result from the implementation of this improvement project. This report contains archaeological, architectural, and historical investigations of the APE and surrounding environment. The purpose of the identification and evaluation-level archaeological survey is to determine the presence or absence of archaeological resources within the APE and evaluate their eligibility for inclusion in the National Register of Historic Places. The purpose of the architectural investigation is to assess the presence of historic buildings and structures within the APE, to evaluate their eligibility for inclusion in the National Register, and to assess the effects of the project on any eligible or potentially eligible resources. The historical investigation was performed to identify areas of cultural resources sensitivity within the APE and to provide an appropriate and accurate context in which to evaluate the historic significance of the buildings and structures within the APE.

The investigations were conducted in accordance with the 1996 New Jersey State Historic Preservation Office (NJSHPO) *Guidelines for Cultural Resources Investigations: Identification of Archaeological Resources* and *Guidelines for Architectural Survey*. In addition, all cultural resource evaluations were conducted in accordance with Section 106 of The National Historic Preservation Act of 1966, as amended; the Procedures for the Protection of Historic and Cultural Properties set forth in 36 CFR 800, as amended; 23 CFR 771, as amended; guidance published by the Advisory Council on Historic Preservation (ACHP); Sections 1(3) and 2(b) of Executive Order 11593; and the National Environmental Policy Act (NEPA) of 1966. This legislation requires that the effect(s) of any federally assisted undertaking on historically significant buildings, structures, objects, or sites be taken into account during the project planning process. Significant sites are those listed in, or eligible for listing in, the National Register of Historic Places.

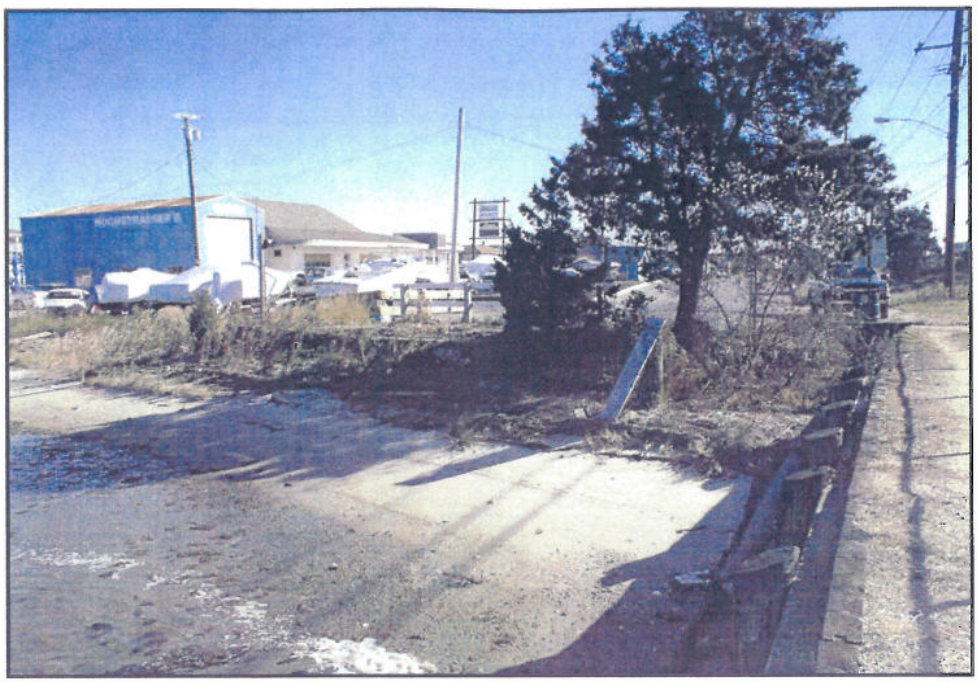
A.D. Marble & Company of Mt. Laurel, New Jersey prepared this report for Schoor DePalma, Inc., of Manalapan, New Jersey. A.D. Marble & Company conducted the survey between August and December 2005. John W. Lawrence was the Principal Investigator for the archaeological

2.0 Project Description

2.0 PROJECT DESCRIPTION

The Route 72 operational and drainage improvement project is situated exclusively in the Borough of Ship Bottom, beginning at the foot of the Route 72 bridge over Manahawkin Bay in the west to Long Beach Avenue at its eastern end, and extending north and south along three lateral roads: Barnegat Avenue, Central Avenue and Long Beach Boulevard. It is an exclusively mixed residential and retail urban environment, with a grid-type layout of streets, fronted by single-family homes and businesses.

The APE is uniformly flat, with evidence of in-filling of the natural ground surface along Manahawkin Bay (Photograph 1). The entire APE for both archaeology and architecture has been impacted to one extent or another by twentieth-century development. The most visible artifacts of this development are the standing buildings, parking lots and roadways in and around the APE (Photographs 2 and 3). Less visible, yet equally pervasive throughout the area, are the underground utilities (storm and sanitary sewer, electric, gas, and water) that are buried beneath the roads and road shoulders, with numerous lateral lines leading to the surrounding buildings (Figure 2 and Photograph 4). Overall, the project area is characterized by one-story single family residences intermingled with commercial properties. Eighth Street and 9th Street – the main thoroughfares leading on and off of Long Beach Island – contain predominantly commercial buildings, including several hotels, gas stations, retail shops, and restaurants dating from the fourth quarter of the twentieth century (Photographs 5 to 10). One of the hotels in the project area, the Quarter Deck Inn (Block 103/Lot 6) is a prominent building in Ship Bottom, as it is located at the entrance or "gateway" to the island between 8th and 9th Streets. Erected in 1967, the facility was built on a "zig-zag" layout (to maximize the views from the rooms), with an octagon-shaped dining area and an in-ground pool (Photograph 2). This property, although characteristic of later twentieth-century hotel/motel construction at the Jersey Shore, was not included in the survey because it did not meet the 50-year age criterion. Furthermore, although there has been a growing interest in motel and hotel architecture of the post-World War II-era, this property would nevertheless not be considered architecturally significant because it has been altered in the late twentieth century with replaced siding and other modern, materials.



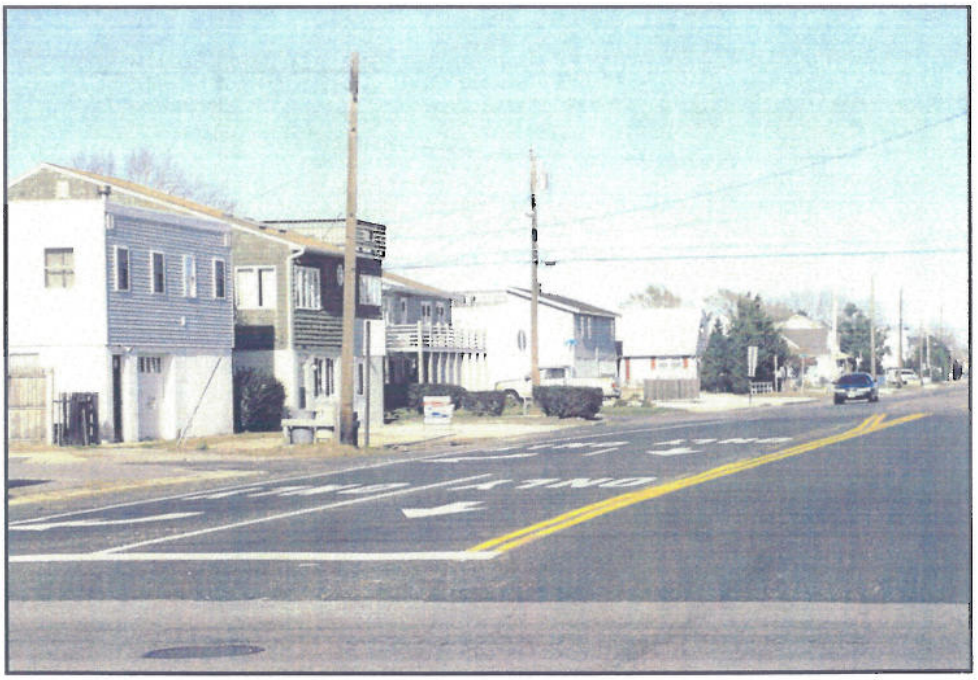
Photograph 1: View of retaining wall at west end of 8th Street at Manahawkin Bay, looking northeast (September 2005).

Photograph 2: View from Route 72 Bridge, looking northeast toward Shore Avenue (September 2005).

Photograph 3: View from corner of 8th Street and Beach Boulevard, looking west (September 2005).

Photograph 4: Corner of 12th Street and Barnegat Avenue, looking north down Barnegat Avenue (September 2005).

Photograph 5: Median, W. 8th Street, between Shore Avenue and Barnegat Avenue. View looking southeast (November 2005).



Photograph 6: Barnegat Avenue, between W. 6th Street and W. 7th Street, looking northwest (November 2005).

Photograph 7: W. 9th Street, between Central Avenue and Barnegat Avenue, view looking southwest (November 2005).

Photograph 8: Long Beach Boulevard, between E. 6th Street and E. 5th Street, view looking northwest (November 2005).

Photograph 9: Long Beach Boulevard, between E. 6th Street and E. 5th Street, view looking northeast (November 2005).

Photograph 10: W. 9th Street, between Central Avenue and Barnegat Avenue, view looking southeast (November 2005).

2.1 Definition of the Area of Potential Effect

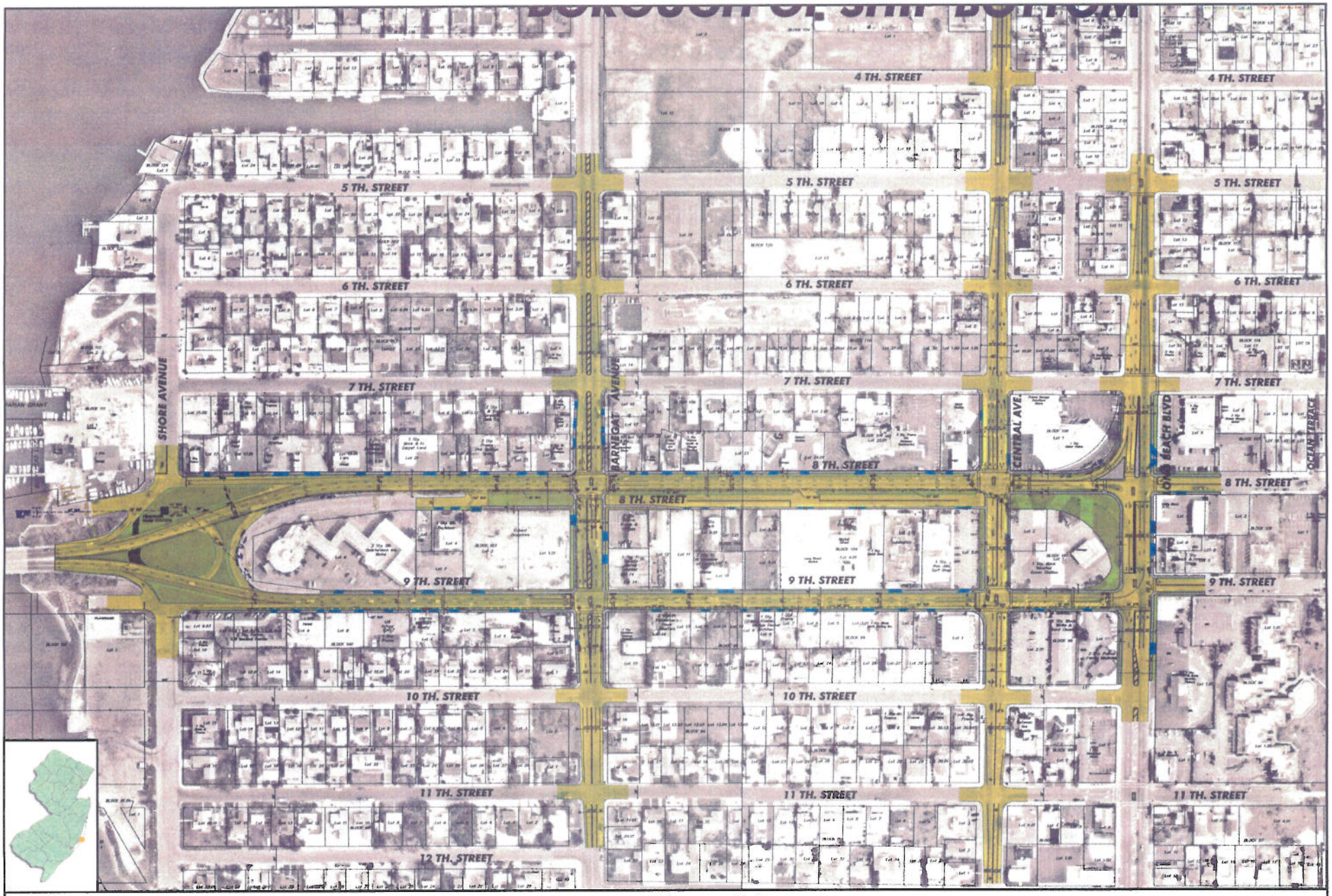
In a report dated January 2005, NJDOT-BES proposed the APE for both archaeological and architectural resources for the Route 72 Corridor in Stafford Township and Borough of Ship Bottom (Appendix B). Within the Route 72 Corridor described in that report, the current project is referred to as the "third section," which extends from M.P. 28.20 to the eastern limits of the project at M.P. 28.74.

According to the NJDOT-BES, the APE for archaeology includes all areas that will be directly impacted by the project (Figure 3A). The APE for architecture "is a considerably larger area in which the project may directly or indirectly cause changes in the character or use of historic properties. The APE [for architecture] for Ship Bottom begins at the eastern abutment of the East Thorofare and encompasses all properties fronting on 8th and 9th Streets from the bay to Long Beach Boulevard and roadway work abutting properties fronting on Barnegat and Central Avenues and Long Beach Boulevard from 12th Street to 3rd Street" (Appendix B, APE Report). See Figure 3B for the APE for architecture as defined by the NJDOT-BES.

In a letter dated June 6, 2005, the NJSHPO agreed with the proposed APE for the Route 72 Corridor (Appendix B). Consequently, the APE as defined by the NJDOT-BES for the Borough of Ship Bottom is used in this report to define the limits of the project.

2.2 Environmental Setting

The Borough of Ship Bottom lies within the Outer Coastal Plain Physiographic Province (Figure 4). All three landforms found on the Coastal Plain (inner lowland, outer lowland, central upland) formed during the Tertiary and resulted from fluvial erosion of earlier Tertiary and Cretaceous marine formations (Wolf 1977:278). The Tertiary and Cretaceous deposits consist of unconsolidated clays, sands, marls, and gravels deposited during alternating periods of marine transgression and regression (Widmer 1964). The Pleistocene interglacial Cape May Formation, composed of outwash gravels and sands, caps the Tertiary and Cretaceous deposits in the lower end of coastal rivers, such as the Great Egg Harbor River, along the southern coast of New Jersey (Wolfe 1977:288-289). The New Jersey coast exhibits characteristics of an emergent shoreline, and Ship Bottom is built on a barrier bar feature that is typical of emergent shorelines



Map Document X:\Graphics\Projects\P-8461\Mapping\Fig3AAPE Archaeology.ai

Figure 3A

Area of Potential Effect, Archaeology

Not to Scale

Cultural Resources Survey

New Jersey Route 72, Ship Bottom Operational and Drainage Improvements

Borough of Ship Bottom, Ocean County, New Jersey

LEGEND
- PROPOSED ROADWAY
- PROPOSED DRAINAGE
- PROPOSED SIDEWALK
- PROPOSED ACCESS
- EXISTING DRAINAGE
- PROPOSED BUFFER STRIP
- PROPOSED EMERGENCY ACCESS

Source: Aerial Photograph of Project Location

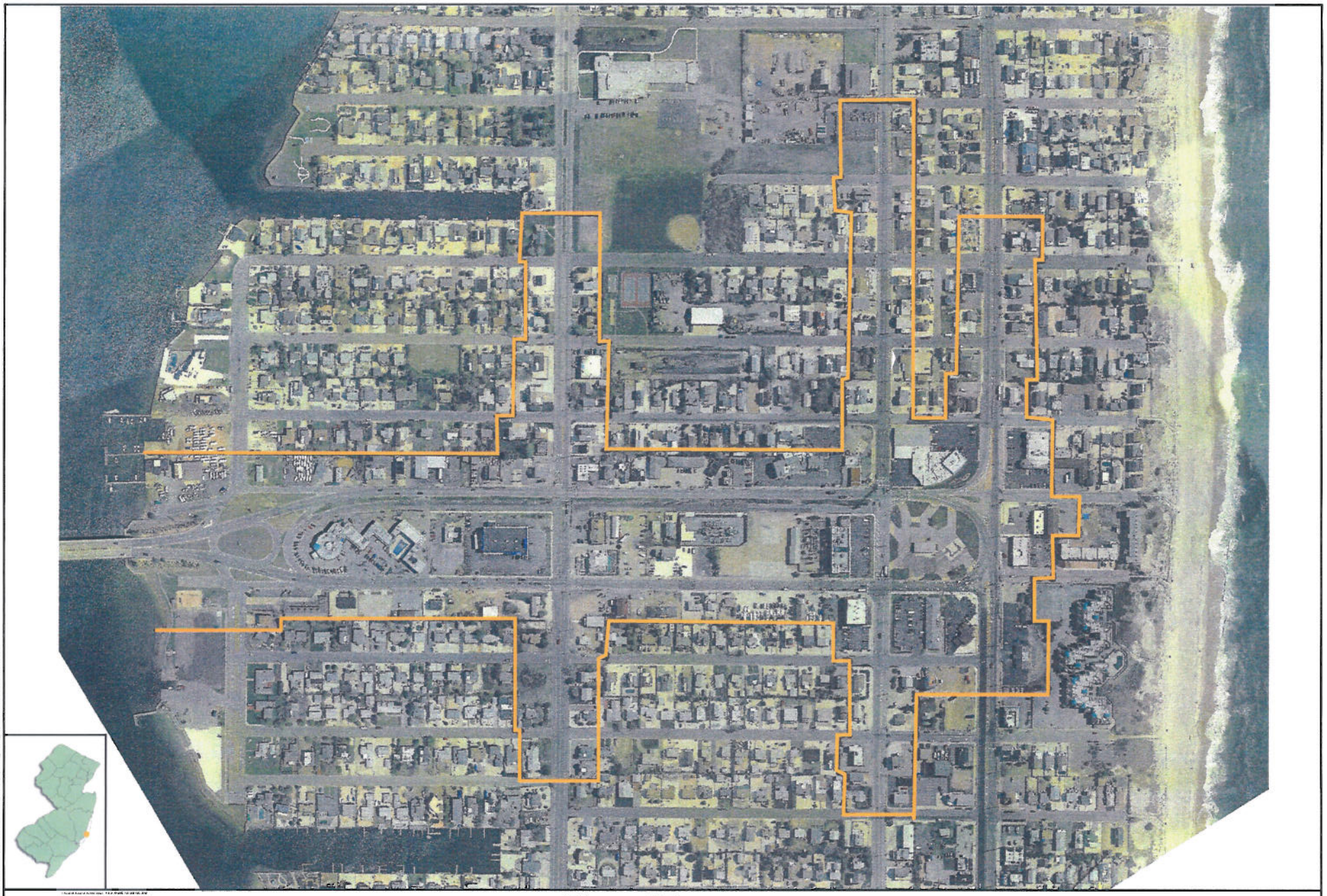


Figure 3B
Area of Potential Effects, Architecture

Not to Scale

Cultural Resources Survey
New Jersey Route 72, Ship Bottom Operational and Drainage Improvements
Borough of Ship Bottom, Ocean County, New Jersey

APE

Map Document X: Graphics\Projects\P-846\Mapping\Fig3BRevisedAPE.ai

Source: Aerial Photograph of Project Location

Figure 4
Physiographic Provinces of New Jersey

Cultural Resources Survey
New Jersey Route 72, Ship Bottom Operational and Drainage Improvements
Borough of Ship Bottom, Ocean County, New Jersey

Approximate Project Location

Not to Scale

Map Document: X:\Graphics\Projects\P-846\Mapping\Fig4Physiographic Provinces NJ.ai

Source: 1976, Wolfe, Peter. The Geology and Landscape of New Jersey.

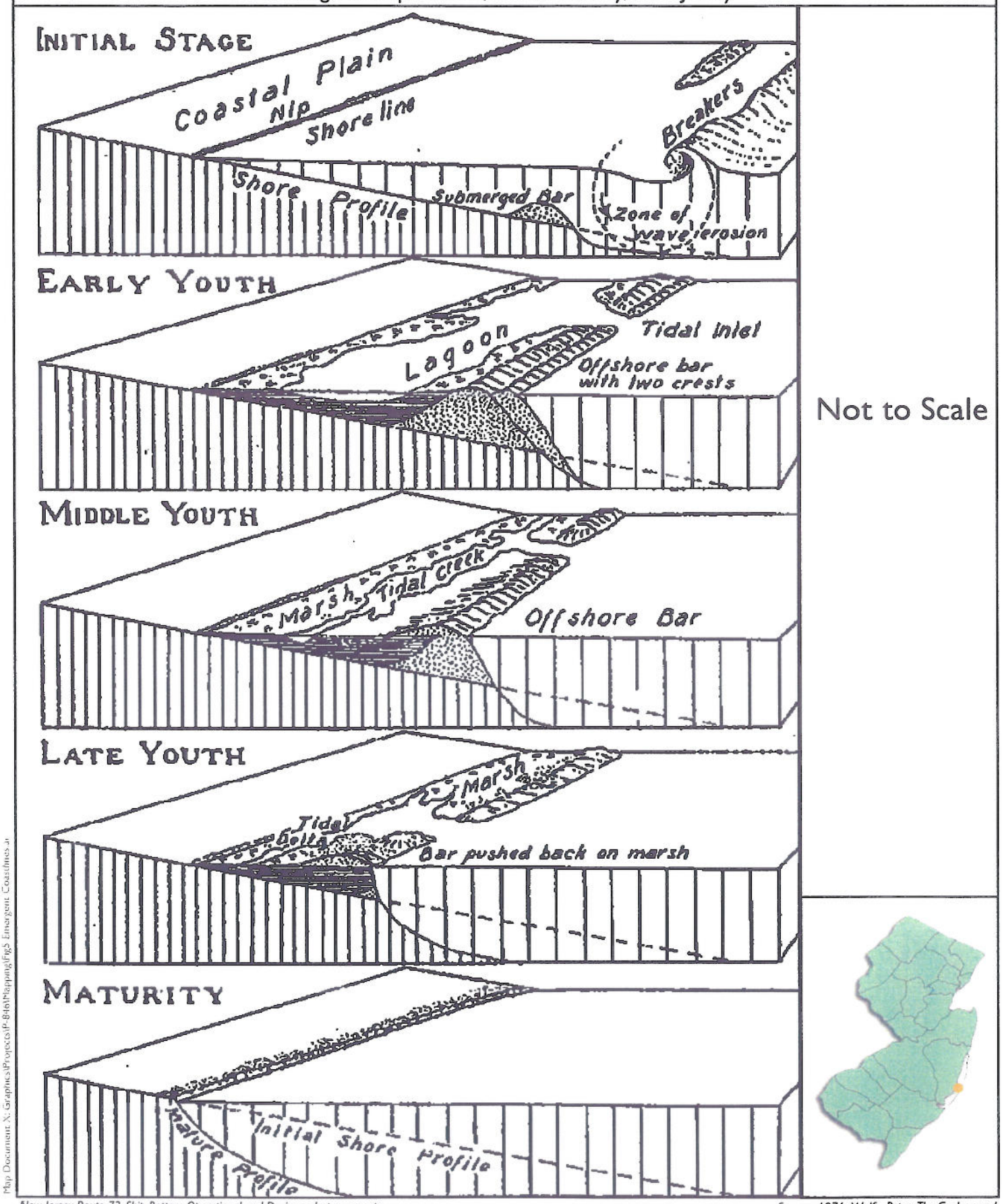
classified as being in a state of "Early Youth" in a time-progressive classification scheme ranging from "Initial" to "Maturity" (Figure 5). As the coast matures, barrier bars move inland, compressing and eventually destroying the waterways and tidal marshes that develop behind them. This process has been documented on the New Jersey coast (Ashley et al. 1991).

From an archaeological perspective, the most significant aspect of this dynamic coastal environment is the relative youth of these coastal landscapes *vis a vis* late to post-Pleistocene sea level changes. The late Pleistocene-Holocene marine transgression began ca. 14,000 years ago and proceeded rapidly until ca. 7,000 years ago (Milliman and Emery 1968; Kraft et al. 1983). Custer (1994:337-338) suggested the slowing of sea level rise did not occur until ca. 3,000 B.C., and Schuldenrein (1995) postulated that sea levels in the lower Hudson estuary stabilized between 5,000 and 3,000 years ago. Consequently, the current "youthful" configuration of the New Jersey coast did not emerge until late Middle to Late Archaic times, and perhaps the most significant aspect of that development, from a human ecological perspective, was the development of tidal marshes and the floral and faunal communities that they support. It is reasonable to assume that these resources would have been the focal point of human exploitation of the coastal margins during prehistoric times (Mounier 1982:74).

Two soil types have been mapped within the APE, the principal being Psamments, sulfidic substrate (PO) and the Urban land-Fripp complex, 0 to 5 percent slopes (UP) (Figure 6). Both soil types are anthropogenic to one extent, and also of modern alternation of this landscape. The large majority of the APE is mapped as Psamments, sulfidic substratum; they are characterized as "deep, moderately well-drained and somewhat poorly drained, sandy fill material over Sulfaquents and Sulfhemists. The surface of the areas has been smoothed, and most areas are nearly level" (Hole 1980:19). The Fripp series consists of very deep, excessively drained, rapidly permeable soils that formed in thick sandy sediments adjoining beaches and waterways along the coast (United States Department of Agriculture-Natural Resources Conservation Service [USDA-NRCS] website, accessed 29 September 2005).

Figure 5
Classification of Emergent Coastlines

Cultural Resources Survey
New Jersey Route 72, Ship Bottom Operational and Drainage Improvements
Borough of Ship Bottom, Ocean County, New Jersey



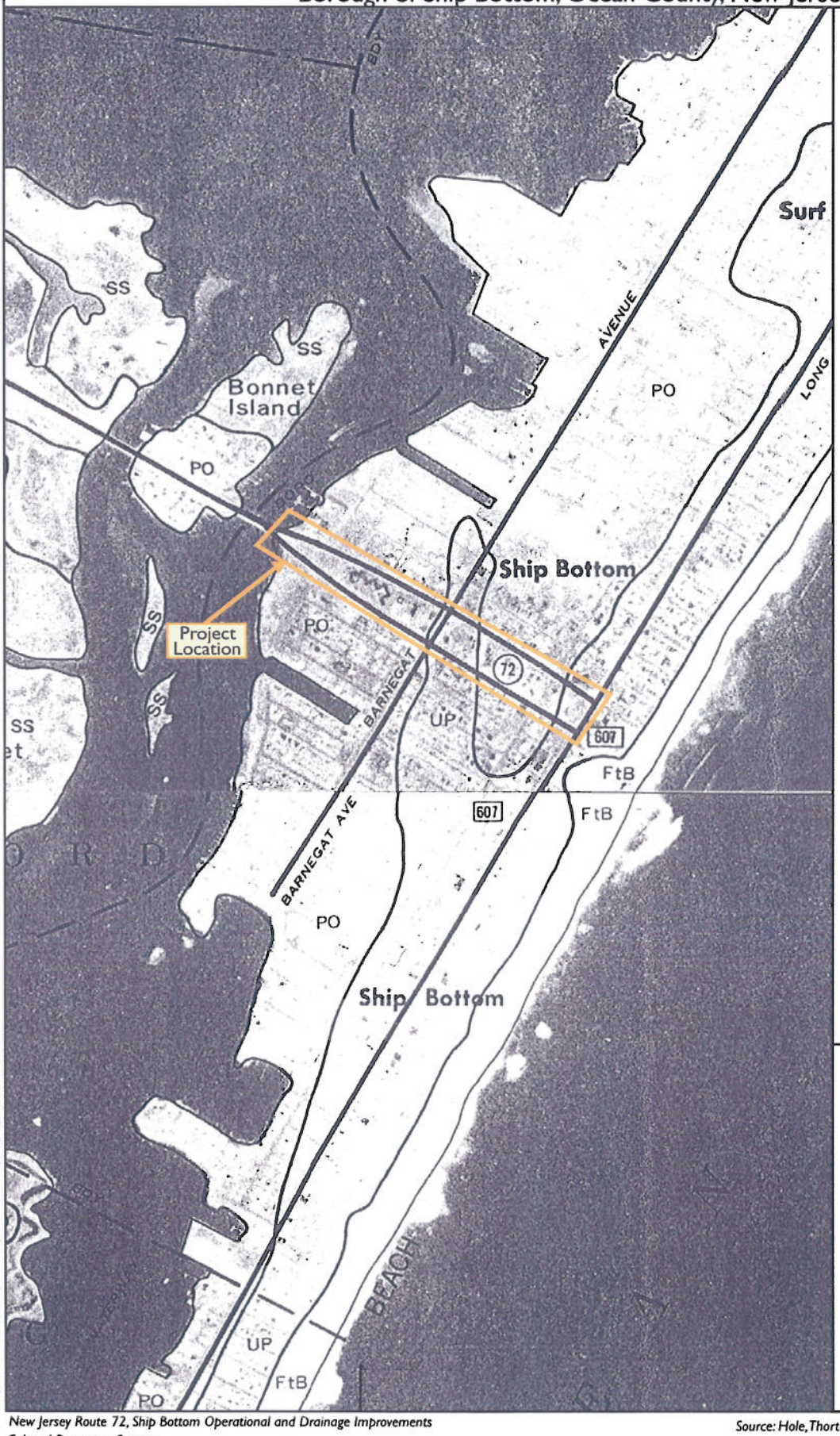
Map Document: X:\Graphics\Projects\P-816\Mapping\Fig5 Emergent Coastlines.ai

New Jersey Route 72, Ship Bottom Operational and Drainage Improvements
Cultural Resources Survey

Source: 1976, Wolfe, Peter. The Geology and Landscape of New Jersey.

Figure 6
Soil Survey Map

Cultural Resources Survey
New Jersey Route 72, Ship Bottom Operational and Drainage Improvements
Borough of Ship Bottom, Ocean County, New Jersey



Not to Scale

Project Location

New Jersey Route 72, Ship Bottom Operational and Drainage Improvements
Cultural Resources Survey

Source: Hole, Thorton 1980 Soil Survey of Ocean County, New Jersey, USDA

Map Document: X:\Graphics\Projects\P-846\Mapping\Figs\SoilSurvey\Map.aj

3.0 Survey Goals and Methodology

3.0 SURVEY GOALS AND METHODOLOGY

3.1 National Register of Historic Places Eligibility Criteria

The primary goal of this cultural resources investigation is the identification of known or previously unknown significant or potentially significant archaeological or architectural resources. Determinations of significance or potential significance are based on the National Register of Historic Places criteria. Potentially significant historic properties include districts, buildings, structures, objects, or sites that are at least 50 years old and meet at least one National Register criterion. Criteria used in the evaluation process are specified in the Code of Federal Regulations, Title 36, Part 60, National Register of Historic Places (36 CFR 60.4). To be eligible for inclusion on the National Register of Historic Places, a historic property(s) must possess

> the quality of significance in American History, architecture, archeology, engineering, and culture [that] is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association and:
>
> (A) that are associated with events that have made a significant contribution to the broad patterns of our history, or
> (B) that are associated with the lives of persons significant in our past, or
> (C) that embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components lack individual distinction, or
> (D) that have yielded, or may be likely to yield, information important in prehistory or history. (36 CFR 60.4)

There are several criteria considerations. Ordinarily, cemeteries, birthplaces, graves of historical figures, properties owned by religious institutions or used for religious purposes, structures that have been moved from their original locations, reconstructed historic buildings, properties primarily commemorative in nature, and properties that have achieved significance within the past 50 years, shall not be considered eligible for the National Register. However, such properties will qualify if they are integral parts of districts that meet the criteria or if they fall within the following categories:

> (a) a religious property deriving primary significance from architectural or artistic distinction or historical importance, or

(b) a building or structure removed from its original location but which is significant primarily for architectural value, or which is the surviving structure most importantly associated with a historic person or event, or
(c) a birthplace or grave of a historical figure of outstanding importance if there is no other appropriate site or building directly associated with his/her productive life, or
(d) a cemetery which derives its primary significance from graves of persons of transcendent importance, from age, from distinctive design features, or from association with historic events, or
(e) a reconstructed building when accurately executed in a suitable environment and presented in a dignified manner as part of a restoration master plan, and when no other building or structure with the same association has survived, or
(f) a property primarily commemorative in intent if design, age, tradition, or symbolic value has invested it with its own historic significance, or
(g) a property achieving significance within the past 50 years if it is of exceptional importance. (36 CFR 60.4)

The physical characteristics and historic significance of the overall property are examined when conducting National Register evaluations. While a property in its entirety may be considered eligible based on Criteria A, B, C, and/or D, specific data is also required for individual components therein based on date, function, history, physical characteristics, and other information. Resources that do not significantly relate to the overall property may contribute if they independently meet the National Register criteria.

A contributing building, site, structure, or object adds to the historic architectural qualities, historic associations, or archaeological values for which a property is significant because: a) it was present during the period of significance, and possesses historic integrity reflecting its character at that time or is capable of yielding important information about the period; or b) it independently meets the National Register criteria. A noncontributing building, site, structure, or object does not add to the historic architectural qualities, historic associations, or archaeological values for which a property is significant because: a) it was not present during the period of significance; b) due to alterations, disturbances, additions, or other changes, it no longer possesses historic integrity reflecting its character at that time or is incapable of yielding important information about the period; or c) it does not independently meet the National Register criteria.

As part of the initial field view, the entire APE was driven street-by-street to determine which buildings might meet the 50-year age criterion. In addition, the team also drove the nearby periphery of the APE to determine if any potential historic districts might exist near the project area. Due to the limited nature of the undertaking on this project, limited historic research was conducted for most of the properties. The Borough of Ship Bottom maintains individual records cards as well as copies of deeds for many (but not all) properties. When available, this information was useful in determining the specific ages of the buildings, early property owners, etc. In several cases where no deeds or other property history was available at the borough, deed research was conducted at the Ocean County Clerk's Office.

3.2 Existing Data Review

A.D. Marble & Company conducted research at several state and local repositories. Staff examined National Register files, survey reports, and maps related to the New Jersey Register of Historic Places and National Register of Historic Places, as well as cultural resource surveys and historic site surveys at the NJSHPO. Staff also consulted the New Jersey State Museum in Trenton for unpublished information on prehistoric and historic archaeological sites in the area surrounding the project. In order to provide contextual information, staff examined histories and historic maps of the project area. Repositories visited include the New Jersey State Library in Trenton, the Ocean County Historical Society, Ship Bottom Borough Hall, and the private collection of Paul W. Schopp in Riverton, New Jersey.

3.3 Archaeological Survey

Assessing sensitivity within the APE to archaeological deposits is one goal of the archaeological survey. Archaeological sensitivity is assessed through measuring two allied concepts: the *potential* for extant archaeological sites in a given area, and that area's *sensitivity* for intact cultural resources. In areas where no sites are documented, the potential for prehistoric resources is based primarily on environmental setting – topography, proximity to water, and soil quality. The potential presence of historic resources is usually determined through documentary research. In addition, the potential for prehistoric cultural resources to exist in a given area is measured on an ordinal scale as low, medium, or high.

For the purposes of this survey, sensitivity is defined as a measure of probability that *intact* cultural resources (prehistoric or historic) exist within the archaeological APE. Sensitivity is derived by measuring the potential presence of prehistoric resources against known modifications of naturally occurring landscapes (i.e., human or natural transformational processes) that may have destroyed (or be in the process of destroying) the archaeological value of those resources. Similar to measuring the potential for cultural resources, sensitivity is also ranked on an ordinal scale as low, medium, or high. A hypothetical illustration of the relation between these two measures would be a property located in a certain environmental setting that is assessed as having a high probability for prehistoric cultural resources based on the knowledge that archaeological sites are frequently found in those settings. Although a high probability exists, the property may possess a low sensitivity to prehistoric resources because modern activities specific to that property (e.g., grading and filling) have destroyed the original context of the cultural resources beyond the possibility of any meaningful archaeological reconstruction.

3.3.1 Measuring Prehistoric Archaeological Site Probability

The criteria used to evaluate the probability that prehistoric archaeological sites may be present in a given APE are twofold. The first criterion is whether any previously documented prehistoric sites exist within the APE. This is ascertained minimally through a review of archaeological site files archived at the New Jersey State Museum and reports deposited with the NJSHPO, but may include other sources including oral informants and published or unpublished documents. If a documented prehistoric archaeological site exists in or adjacent to the APE, the APE is said to have a high probability of containing prehistoric cultural resources. The second criterion is to establish the potential of the APE to contain undocumented prehistoric materials through background research. Background research involves using previous cultural resources surveys, published site reports and regional syntheses, and settlement pattern (or predictive) models to derive an understanding of the APE's regional prehistory. Several predictive models for prehistoric sites have been presented for the Coastal Plain that are pertinent to the current project (Cavallo and Mounier 1980; Ranere and Hansell 1987; Walwer and Pagaoulatos 1990). Based on these studies, archaeological sites are predicted in areas of elevated, well-drained soils within 300.0 feet of a source of water.

The prehistoric site settlement pattern is compared to geomorphologic variables to generate empirical generalizations associating prehistoric sites with the physiographic settings in which they are found. Predictive models will thereby make prognostic statements on undocumented prehistoric site locations through the associative strength of known sites with physiographic variables such as topography, hydrology, and pedology. Comparing the topographic, hydrologic, and pedologic settings in the APE with those discussed in pertinent settlement pattern studies can aid in assessing the potential for undocumented prehistoric sites within a given APE. The potential for undocumented prehistoric cultural resources is ranked on an ordinal scale as low, medium, or high.

3.3.2 Measuring Historic Archaeological Site Probability

The physiographic variables used to model prehistoric site locations are less useful in predicting the presence of historic sites. Instead of using physiographic variables, analyses of primary and secondary historic sources and historic cartographic materials provide a much more useful method for predicting the presence of historic cultural resources, often with great accuracy. Employing textual and cartographic documents usually permits a presence or absence evaluation for historic sites, rather than the ordinal scaling of probabilities (i.e., low, medium, high) typically used for predicting prehistoric sites.

To determine the presence or absence of historic cultural resources within a given APE, a variety of cartographic references are consulted. Large-scale historic maps should be utilized to determine the potential presence of early (i.e., pre-industrial) historic materials. Small-scale atlases, topographic maps, and insurance maps can be used for more detailed analyses of streetscapes beginning in the third quarter of the nineteenth century. In an area such as the Borough of Ship Bottom, which has experienced so much mid- to late-twentieth-century development, aerial photographs are another important informational source on landscape modification and its potential to affect the integrity of archaeological sites.

3.3.3 Measuring Prehistoric or Historic Archaeological Site Sensitivity

The project APE is located in an area that received enormous development, which did not begin in earnest until the mid-twentieth century. It is reasonable to assume that this development

destroys many prehistoric and/or historic archaeological sites; it also modifies the landscape to an extent that complicates the evaluation of where intact prehistoric (or historic) archaeological sites may be found. Furthermore, the potential presence of prehistoric resources in urban or suburban areas must be measured against known modifications of naturally occurring landscapes. The environment and land surfaces of today are not those of the prehistoric past. Therefore, an overall APE sensitivity assessment to undocumented prehistoric sites must evaluate the disruptive effects of historic activity in settings that exhibit the potential for prehistoric sites.

The potential presence of historic cultural resources within an APE must also be weighed against ground-moving activities that may destroy the site's contextual integrity. As with prehistoric cultural resources, the sensitivity for historic period cultural resources involves ascertaining the probable location of potentially significant historic sites and comparing those locations with areas of documented ground disturbance. Overall sensitivity to historic sites is a measure of the potential for intact cultural resources to be present within the APE.

Several sources of information may be consulted for a given area to determine the overall sensitivity to intact prehistoric or historic archaeological resources. A site reconnaissance of the APE is the first step in determining the extent to which the landscape has been altered since the prehistoric or historic past. Visual inspection of the APE is necessary for establishing the existing conditions within the APE and evaluating the possibility that the area has been comprehensively disturbed through construction or other activities. Historic maps and photographs and any other source(s) of information detailing subsurface utilities in or adjacent to the APE should also be reviewed to determine the extent to which the APE has been disturbed.

When assessing archaeological sensitivity, it should be noted that the advent of the internal combustion engine not only liberated the potential for growth of almost any place accessible by road, but also affected how that growth would be physically accomplished. Not only did the internal combustion engine lead to cars, it also helped produce bulldozers, backhoes, and other large earth-moving equipment that can transform the landscape rapidly. This is an important fact for the archaeologist to bear in mind when considering the sensitivity for intact cultural resources

in an area that has been subjected to modern development, such as Ship Bottom. Whereas older development forms may have simply built on top of previously existing archaeological sites, modern construction techniques typically call for topsoil stripping, soil stockpiling, and later re-contouring of the land with bulldozers over extensive areas prior to building. The potential for archaeological sites (historic or prehistoric) to remain at least partially intact after these operations is considered slight.

The need for Phase IB testing is typically based on the overall sensitivity, not probability, of the APE to either prehistoric or historic archaeological resources. The combination of background research, site reconnaissance, and the resulting sensitivity assessment ideally provides sufficient information to determine not only whether archaeological testing is recommended, but also what cultural resources are expected to be found in the APE and what testing strategy(ies) should be employed to find them.

3.3.4 Field Survey and Laboratory Methods

Staff members of A.D. Marble & Company conducted an initial field view of the project APE in September 2005. The pedestrian survey served to document existing conditions and assess the most appropriate archaeological testing strategy. A.D. Marble & Company conducted archaeological field testing on November 23, 2005. This field testing provided information on the presence or absence of archaeological deposits in those portions of the APE possessing potential for undisturbed archaeological resources and to assess their eligibility for inclusion in the National Register of Historic Places.

Archaeological field testing utilized shovel test pits (STPs) to determine the presence or absence of cultural materials or deposits. STPs were plotted at 15.2-meter (50.0-ft) intervals in those portions of the APE believed to contain previously undisturbed soil horizons. All STPs measured approximately 0.3 meter (1.0 ft) in diameter and were excavated using round-nosed shovels and pointed trowels. All sediments were screened through 0.64-centimeter (0.25-in) mesh hardware cloth. Changes in color or sediment type were measured and recorded on standardized STP forms to be kept on file at the A.D. Marble & Company offices. All artifacts recovered from shovel tests were retained regardless of age or cultural affiliation unless otherwise noted on the

STP recordation form. Each artifact collected was bagged and removed to the A.D. Marble & Company laboratory for processing. Laboratory processing consisted of cleaning and cataloging all artifacts.

3.4 Historic Architectural Investigation

The objectives of the architectural component of the cultural resources investigation were as follows:

1) to locate and identify all previously recorded and unrecorded structures and sites over 50 years of age;

2) to evaluate the potential eligibility of these resources for listing on the New Jersey Register and National Registers of Historic Places; and

3) to consider the potential effects of the project on any eligible resources located within the historic architectural APE according to the Criteria of Effect and Adverse Effect (36 CFR 800.9, as amended).

The historic architectural APE is defined as the area in which the introduction of elements, most often visual, but also atmospheric, including traffic, could produce effects that are likely to impact historic resources.

3.4.1 Previously Identified Historic Resources

An examination of NJSHPO records revealed no previously documented historic architectural resources within the APE.

3.4.2 Field Survey

As part of the historic architectural survey conducted in October and November 2005, A.D. Marble & Company identified 26 previously unsurveyed properties within the APE. Five of these were surveyed at the reconnaissance level and 21 of these properties were surveyed at the intensive level (Appendix C). Fieldwork conducted as part of the intensive-level survey included taking photographs, drawing site plans and sketches, and writing descriptions to be used in the completion of the survey forms. A.D. Marble & Company conducted research at the Ship Bottom tax assessor's office and, if necessary, conducted deed research to confirm or refute construction dates derived from the field inspection.

4.0 Prehistoric and Historic Overview

4.0 PREHISTORIC AND HISTORIC OVERVIEW

A.D. Marble & Company conducted background research for this report at several separate state and local repositories. Staff consulted the New Jersey State Museum and the NJSHPO, both located in Trenton, for unpublished information on prehistoric and historic archaeological sites, historic buildings, and historic structures in the area surrounding Route 72 in Ship Bottom. The authors also consulted historic documentary resources housed at the New Jersey State Library in Trenton and the Ocean County Historical Society in Toms River, and relied heavily on the private collection of Paul W. Schopp in Riverton, New Jersey. We would like to extend our appreciation to Mr. William (Bill) Procacci, Tax Assessor for the Borough of Ship Bottom, whose aid in retrieving tax records for individual properties within the APE helped immeasurably in the architectural survey for this project.

In addition, as part of the public outreach component of the cultural resources survey, letters were sent to the list of interested parties developed by the NJDOT as part of the APE documentation (Appendix B). The letters invited those interested parties to share any knowledge or concern they had in regards to cultural resources in the project APE, and that information was incorporated into the present report. Copies of the letters and the responses received by the date of this report are found in Appendix D.

4.1 Prehistoric Cultural Context

There are two sources of information currently available on prehistoric site locations in and around the area of Ship Bottom: 1) early-twentieth-century advocational and professional surveys, and; 2) compliance-related archaeological surveys conducted over the past 20 years. Theoretically, both sources of data should comprise a single body of information, and reflect increasing understanding of prehistoric settlement systems along the Outer Coastal Plain, commensurate with the increased time and effort spent in archaeological surveys throughout the second half of the twentieth century. In reality, there is a significant disparity between the findings of early-twentieth-century surveys and more recent cultural resource management investigations. In effect, the earlier surveys located almost all of the potentially significant

prehistoric sites in the area, and almost all of the more recent surveys have produced negative results in regards to prehistoric archaeological sites.

Early publications report four prehistoric sites (28Oc35, 28Oc37, 28Oc38, and 28Oc39) on Long Beach Island, north of Ship Bottom in the vicinity of Harvey Ceders and High Point (Table 1). The data available at the New Jersey State Museum suggests that 28Oc35 and 28Oc37 are in fact part of the same site, separate loci of shell discard within a larger site that produced ceramics in a third locus. All four sites were reported by Alanson Skinner and Max Schrabisch in 1913 and are reported to have been located on the bay-side of the island. Nothing else is known of these sites and it is unlikely that they still exist today.

Table 1. Previously Recorded Sites within a 2.0-Mi Radius of the Project APE.

Site	Date	Type	Reported	Description
28Oc35	Woodland	Shell midden	Skinner and Schrabisch 1913:49	"There is a small shell heap on a point near the brook below Barnegat and a smaller shell heap 100 feet from the last…In the sandy field nearby potsherds are fairly common."
28Oc37	Woodland	Shell midden	Skinner and Schrabisch 1913:49	
28Oc38	Unknown	Shell midden	Skinner and Schrabisch 1913:49	"A very small shell deposit is bisected by the road."
28Oc39	unknown	Shell midden	Skinner and Schrabisch 1913:49	"A shell heap, apparently large and thick, seems to cove a small rise in the meadow"

The next nearest prehistoric archaeological sites were reported by Dorothy Cross in 1941 and were found on the landward-side of the bays formed behind the barrier island at Little Egg Harbor and Barnegat Bay. Very little information is provided by Cross (1941:228) on these sites other than location.

None of the cultural resources surveys that have been conducted over the past two decades have reported a single significant prehistoric site in the region (ARCH^2 2002a, 2002b; Coxe 2001; Hunter Research 2003; Mounier 1977, 1988, 1990, 1993; Research and Archaeological Management, Inc. [RAM] 1987; Wilson 1977, 1980a, 1980b). These surveys have covered a variety of topographic settings, including tidal marsh and riparian settings where many recorded

sites are located. Regardless, no archaeological testing was conducted for a number of these surveys, and no prehistoric remains were found where testing was conducted (Table 2).[1]

Table 2. Previous Cultural Resources Surveys.

Date	Author(s)	Project and Location	Results/Recommendations
1977	B. Wilson	EIS Historical and Archaeological Resources for Sanitary Sewer System to Served Barnegat Center and the Bayshore Area of Barnegat Township	Recommended testing for historic and prehistoric deposits near Double Creek
1977	R.A. Mounier	Stage I Archaeological Survey of Portions of Stafford Township Ocean County	No prehistoric materials found during testing; potentially significant historic site found (Oliphant's Mill)
1980a	B. Wilson	Cultural Resource Survey Linpro Property South of Mill Creek Stafford Township	No cultural resources reported.
1980b	B. Wilson	Cultural Resource Survey Rose Hill Barnegat Township	No prehistoric remains, twentieth-century historic homes present
1987	RAM	Cultural Resource Survey Lumbermens Mortgage Corporation Project Block 174, Lots 35 and 37A Barnegat Township	No significant cultural remains reported
1988	R.A. Mounier	Archaeological Survey of Block 160, Lot 1; Block 161, Lot 1 Barnegat Township	No cultural resources reported
1990	R.A. Mounier	Archaeological Survey of Proposed AT&T Trans-Atlantic Telecommunications Cable No. 9 Stafford Township	No cultural resources reported
1993	R.A. Mounier	Archaeological Survey of Proposed Sewer Installation, Cedar Run Dock Road Eagleswood Township	No cultural resources reported
2001	Coxe	Supplemental Phase IB and Phase II Cultural Resources Investigations New Jersey Atlantic Coast Long Beach Island	Encountered historic shipwreck off barrier island, north of Ship Bottom
2002a	ARCH[2]	Cultural Resources Survey AT&T Wireless North Main Site, Township of Barnegat	No potential for archaeological deposits
2002b	ARCH[2]	Cultural Resources Survey AT&T Wireless Harvey Ceders Site, Borough of Harvey Ceders	No potential for archaeological deposits
2003	Hunter Research	Phase IB/II Submerged and Shoreline Cultural Resources Investigations, Long Beach Island	Encountered historic bell buoy, no prehistoric materials

Although neither the number of recorded sites nor the number of cultural resources surveys are great, it is somewhat difficult to reconcile the lack of positive results from these surveys with the number of previously recorded sites, particularly given the fact that the recorded sites were clearly visible on the ground surface when they were reported. When working in the Toms River area just south of Ship Bottom, Grossman and Associates (1992:6) stated that "the relatively limited visibility of cleared land has skewed the extent and relative 'visibility' of past survey

[1] The lack of testing in all cases appears to be completely justified as the project areas in question had been previously disturbed by modern development.

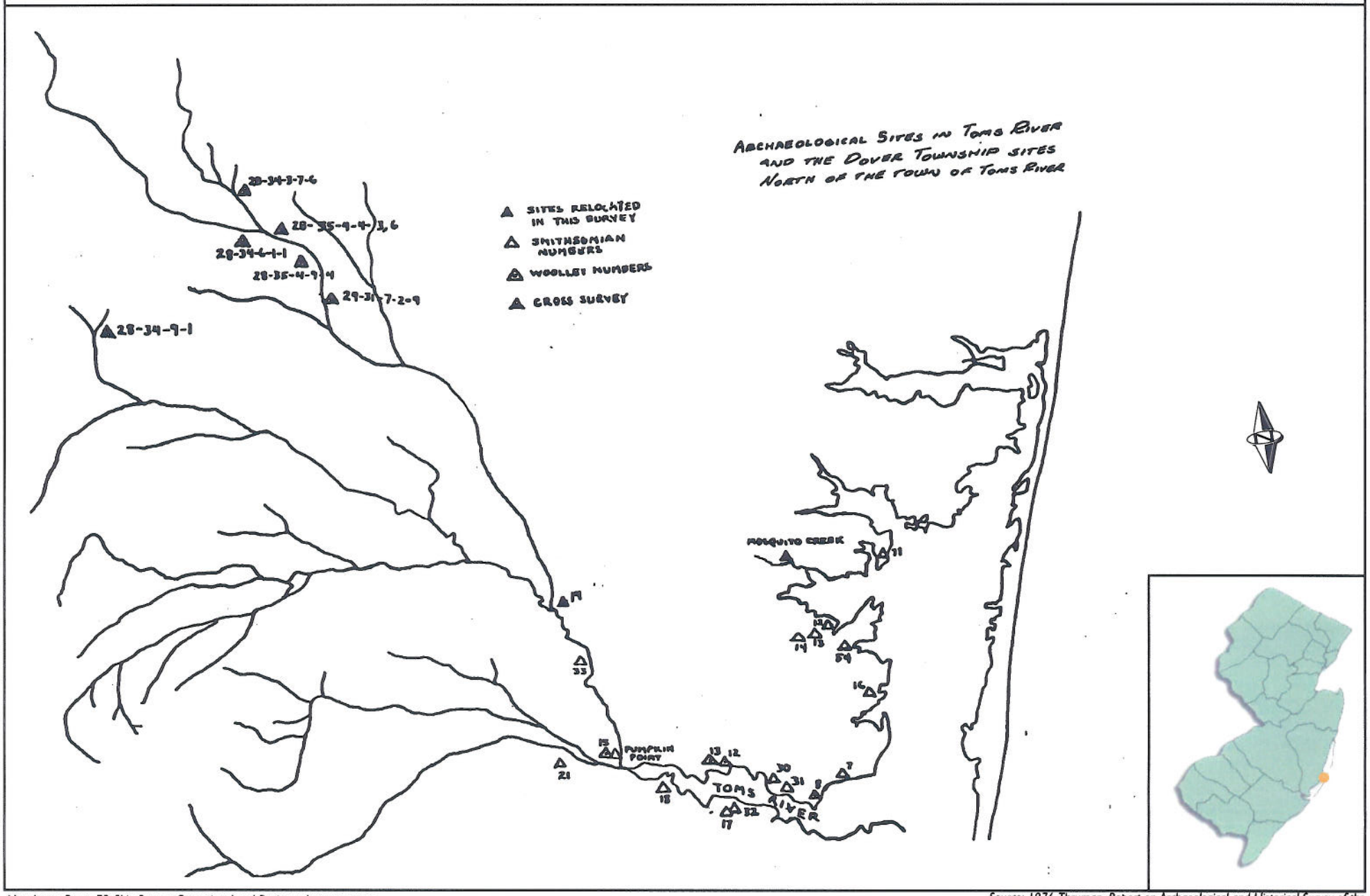
coverage," suggesting that implementation of unbiased sampling strategies would discover more unreported prehistoric sites in the area. As is evident, however, such expectations have not been met, and several investigators have expressed surprise and disappointment after obtaining negative test results from project areas assessed to have a high potential for prehistoric sites (Cultural Resource Consulting Group [CRCG] 1991; Kardas and Larrabee 1981; Wilson 1986, 1989). Kardas and Larrabee (1980:68-70) noted this phenomenon, and suggested that some confusion exists in site reports based on local informants which may in part explain the disparity between the number of reported sites and generally negative results of professional archaeological surveys using modern sampling techniques. The paradox may also reflect poorly on those sampling methods used in contemporary archaeological surveys, although this seems unlikely.

The lack of positive results from contemporary archaeological surveys may reflect an archaeological reality that the coastal margin was sparsely inhabited during prehistoric times. The current number of reported sites may therefore be an accurate representation of the prehistoric settlement pattern in the area, and inferences regarding the settlement system which produced that pattern may be drawn. Thurman (1976) has produced a site distribution map for the nearby Toms River drainage. With the exception of the few additional sites discovered over the past 20 years, it is probably a fair representation of the prehistoric settlement pattern in this area (Figure 7). As mentioned above, the large majority of recorded sites are located along the drowned mouth of Toms River and along Barnegat Bay. Many of these sites have been interpreted by their size as "villages," and shell middens are frequently referenced in relation to these sites. Relatively few sites are found along the mid-course of Toms River and its principal tributaries, with a larger number of smaller sites recorded by Cross (1941) in the interior at the headwaters of the drainage system.

The two-tier settlement pattern illustrated in Figure 7, with emphasis on coastal estuary exploitation measured by the size and density of sites adjacent to coastal estuary settings, has also been noted by Mounier (1978:65-66) within the Mullica River drainage further to the south. This pattern may be contrasted to a generally accepted three-tier settlement pattern noted along drainage systems of the Inner Coastal Plain (Fitting 1979:77) and may ultimately reflect

Figure 7
Prehistoric Settlement Patterns in the Toms River Drainage

Cultural Resources Survey
New Jersey Route 72, Ship Bottom Operational and Drainage Improvements
Borough of Ship Bottom, Ocean County, New Jersey



New Jersey Route 72, Ship Bottom Operational and Drainage Improvements
Cultural Resources Survey

Source: 1976 Thruman. Report on Archaeological and Historical Survey of the Proposed Sanitary Sewers in Dover Township, Ocean County, New Jersey

environmental differences between the two physiographic provinces. The pattern of prehistoric settlement observed along the coast probably reflects a settlement system which involved seasonal exploitation of estuarine/interior resources through seasonal fusion/fission of band-level social groups. No evidence has been produced to date which suggests that social groups inhabiting New Jersey's Outer Coastal Plain evolved more politically complex forms of organization (Custer 1988). Judging by the relative size of sites in estuarine settings versus inland settings, macrobands appear to have congregated along the coastal margins, with small kin groups leaving larger base camps for seasonal exploitation of inland resources. Thurman (1976:14-15) hypothesizes that during the Woodland Period, oyster exploitation may have occurred during late winter to early spring, a time of general resource scarcity. "The earlier archaic peoples, not having horticulture, may have exploited oysters during any period from the fall through early spring" (Thurman 1976:15). No studies are known which have conclusively demonstrated the periodicity of estuarine exploitation for either the Archaic or Woodland periods along the New Jersey coast, although Richard Grubb & Associates are currently investigating a shell midden site on the south bank of the Raritan River and may produce information pertinent to this issue (Ilene Grossman-Bailey, personal communication, 2005).

Regional archaeological and paleogeomorphological research has presented a convincing case that estuarine shellfish exploitation did not become a significant component of the prehistoric economy until the Late Archaic Period. Sea levels rose continuously during the early to mid-Holocene (10,000 to 2,000 B.P.)[2] as the Laurentide ice sheet completely ablated. On the passive margin of the continental shelf along the New Jersey coast, major eustatic sea level changes are correlated with glacial episodes during the Wisconsin and Holocene. Significant falls in sea level which exposed the continental shelf occurred around 70,000 and 20,000 B.P. (Ashley et al. 1991:1611). The exposed shelf along southern New Jersey is estimated to have been 50.0 miles wide (Hartzog 1981:8). Major rises in sea level occurred during interstadial episodes such as the Sangamon (120,000 B.P.), the mid-Wisconsin (50,000 B.P.) and the Holocene (12,000 B.P.). Seismic reflection studies of marine sediments in and around Barnegat Inlet have demonstrated that barrier island/lagoon complexes developed during each one of the interstadials. By the Middle Archaic (approx. 8,000 B.P.), a barrier/lagoon system had formed seaward of the existing

[2] B.P. = Before Present.

system; it is now located approximately 39.0 feet below modern sea levels (Ashley et al. 1991:1619). During the historic era, Barnegat Inlet has migrated northward, southward, and landward until it was stabilized in the 1940s (Ashley et al. 1991:1620). We may expect that the barrier island on which Ship Bottom is constructed has displaced in the same fashion. Under these conditions, rising sea levels would leave little evidence of human occupation in contemporary coastal areas from the Paleoindian through Middle Archaic times. Most sites dating from that time period are now probably located on the submerged continental shelf.

Significant changes in coastal morphology took place during the Late Archaic Period, around 3,000 B.P., at which time the rate of marine transgression subsided (Custer 1988). Extensive intertidal mud flats developed along coastal margins, sometimes so quickly that freshwater sedge communities once found at the water's edge were buried by silt and mud (Bloom 1964). These mud flats were quickly colonized by salt marsh species, and by 2,000 B.P. muddy estuaries had become high grass meadows. These estuarine ecosystems are characterized as relatively homogeneous environments poor in species but high in biomass (Barnes 1974:12). Estuarine faunal community structure is dominated by microfauna and meiofauna, detritus feeders that subsist on the sediments deposited on mud flats. This substrate also supports large populations of mollusca, and a diverse assemblage of predators (invertebrates, fish, birds) subsists on the detritus-feeding microfauna. Estuarine faunal species tend to be distributed in mosaics, with single species dominating specific areas in great numbers.

These coastal environments would have been more propitious to human exploitation, and the decrease in marine transgression means that prehistoric sites dating from this period (i.e., the Late Archaic) onward are less likely to be inundated. Regional models of Late Archaic subsistence systems emphasize the important role of fishing in the mid-Atlantic region and Custer (1984:40) follows Kinsey (1972:346-47) in interpreting the appearance of broadspear projectile points as morphological adaptations to a fishing industry. Stoltman and Baerreis (1983:258) feel that increased reliance on lacustrine and marine resources was partially responsible for the increase in human populations observed during the Late Archaic, and Custer (1988:126-129) attributes early (i.e., Early Woodland Period) florescence in social complexity on

the Delmarva Peninsula to higher population densities permitted through marine and riverine resource exploitation.

As mentioned above, no reliable dates are available on the archaeological sites recorded by Max Schrabisch and Alanson Skinner in the vicinity of Ship Bottom, although it may be assumed that they date from the Late Archaic Period onward. The only shell midden in the area known to have been radiocarbon dated, the Tuckerton shell mound, appears to have been formed during Middle Woodland times, 1530 ± 65 B.P. (Stanzeski 1981:17). Ideally, any sites within the coastal margin would provide an opportunity to analyze the coastal adaptations of prehistoric social groups on New Jersey's Outer Coastal Plain. The degree of historic disturbance to these sites makes any site with demonstrated integrity a significant source of information on the prehistory of the region.

4.2 Historic Cultural Context

4.2.1 Early Jersey Coast Resorts

During the nineteenth century, the New Jersey coast became a haven for those seeking healthy resorts for recreational purposes. Many Jersey Shore historians tout Cape May and Long Branch as the state's two oldest centers for seaside visitation. Harry and Grace Weiss wrote in their work, *Early Sports and Pastimes in New Jersey*, that Philadelphians began visiting Long Branch about 1788 and Cape May ca. 1801. However, the authors also state,

> For Philadelphians, Long Beach and Tucker's Beach were apparently the first resorts on the seaside. Long Branch, Squan, and Deal were not yet popular. Before the Revolution, Philadelphia residents and others from far-off places traveled to Long and Tucker's beaches in what were known as "shore wagons," taking blankets, stoves and other necessary articles. ...Some people who lived on the beaches began to take transient boarders. (Weiss and Weiss 1960:82)

In 1745, Reuben Tucker, a New York native, purchased Tucker's Beach, located at the southern tip of Long Beach Island, and began offering rooms in his house for boarders. By 1765, Tucker's Beach became "...a favorite health and pleasure resort for people from Burlington County and Pennsylvania" (Weiss and Weiss 1960:81). Rusticators continued visiting Tucker's Beach until a fire destroyed the old boardinghouse in 1845 (ibid.). Transportation to the coast proved to be a major impediment to full resort development. Stagecoach drivers provided a partial solution to

moving visitors to the coast. Beginning in 1820, a stage operated twice a week between the Arch Street ferry in Camden and Manahawkin, where those traveling to Long Beach Island used Elberson's Ferry to travel across the bay. The following year, a stage began operating from Burlington. Boardinghouses on the island at that time included James Cranmer's or Stephen Inman's. During 1825, James Cranmer formed the Great Swamp Long Beach Company and finished constructing a new hotel near his older boardinghouse on the island just north of Ship Bottom in present-day Surf City (Weiss and Weiss 1960:85; Brinckmann 1973:8).

4.2.2 Long Beach Island Railroad Service

The rise of railroads brought a distinct advantage over stagecoaches for the traveling public since the coaches and wagons used existing, poorly surfaced roadways for operations. With the chartering and construction of the Camden and Amboy Railroad (C&A), New Jersey's first, many other rail schemes came before the legislature for incorporation. While the Stevens family constructed their C&A diagonally across the state between Camden and South Amboy, the promoters of the Delaware and Atlantic Railroad sought to connect the Delaware River with the Jersey coast somewhere between Barnegat and Tuckerton for transshipments across the state. Unfortunately, the financial panic of 1837 prevented the company from extending its line beyond New Lisbon, Burlington County. In 1855, Barclay Haines, a prominent Burlington County citizen, obtained the legislative incorporation of the Mount Holly and Tuckerton Railroad, but the financial panic of 1857 rendered this enterprise stillborn. The 1860s brought a new flurry of railroad incorporations, but few concrete developments. Following the successful construction of the Raritan and Delaware Bay Railroad down through the middle of the state between Port Monmouth and Atsion in 1862, that corporation constructed a branch line to the Camden and Atlantic in 1864 and one to Toms River in 1866. These proposed railroads can be found on a map prepared for John Brinckmann's 1973 book, *The Tuckerton Railroad* (Figure 8). Finally, the New Jersey State Legislature incorporated the Tuckerton Railroad in 1871 as an amendment to the original Barnegat Railroad charter, first passed in 1866. At last the mid-Jersey Coast would receive rail service (Brinckmann 1973:11-17, 30).

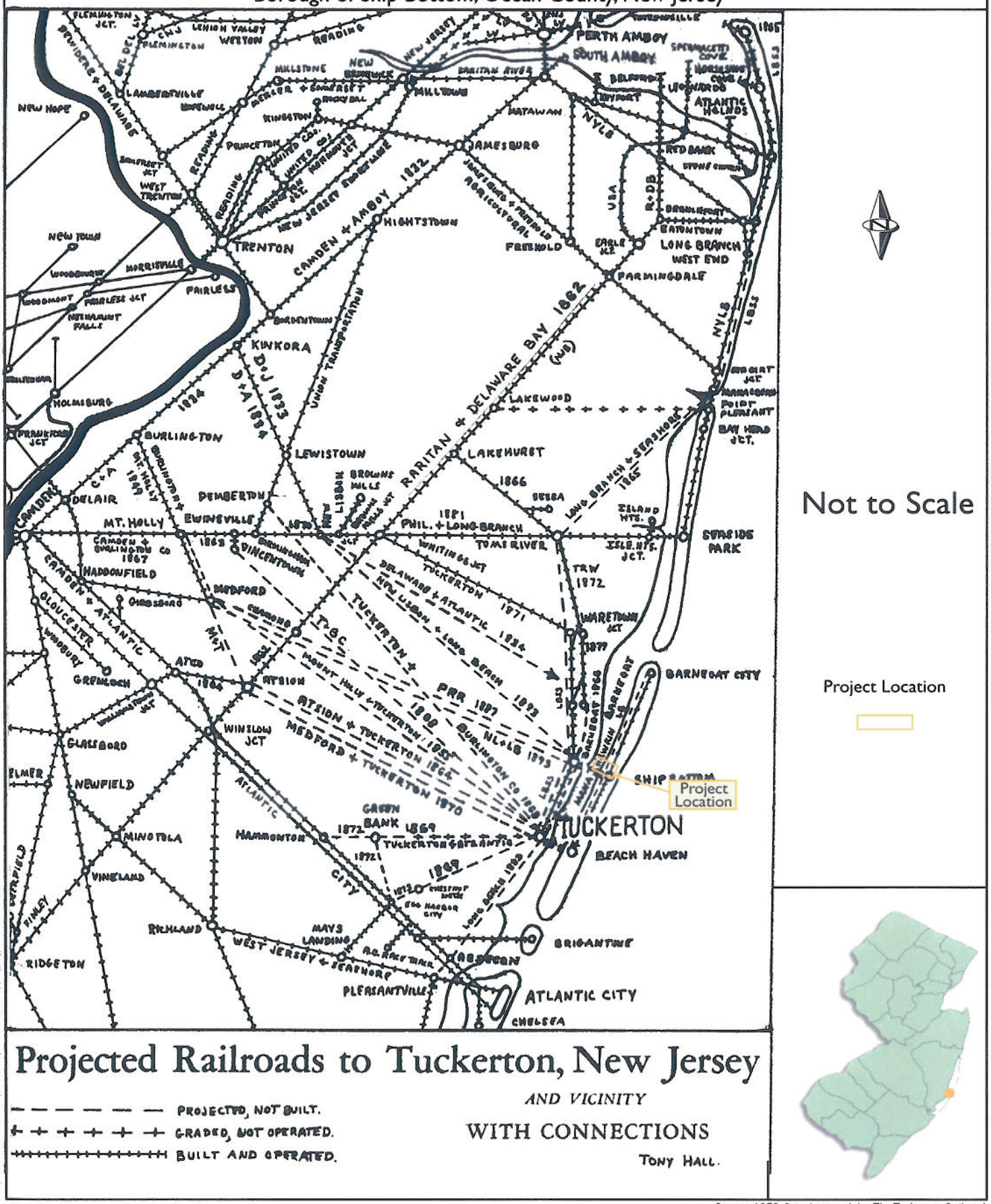
The legislature granted the Tuckerton Railroad a franchise to run a rail line between Whitings Junction, Manchester Township, Ocean County, where it met the New Jersey Southern Railway

Figure 8
Map of All Proposed and Constructed Railroads leading to the New Jersey Coast

Cultural Resources Survey

Route 72 - Ship Bottom Operational and Drainage Improvements

Borough of Ship Bottom, Ocean County, New Jersey



(successor to the Raritan and Delaware Bay), and the village of Tuckerton in Little Egg Harbor Township, then Burlington County. At Waretown, the Tuckerton Railroad connected with the Toms River and Waretown Railroad. With the mainline completed in November 1871, management at the Tuckerton Railroad immediately made plans for a two-mile branch extension to Edge Cove, located just north of Tuckerton village on Little Egg Harbor Bay, which workmen completed in August 1872. Barclay Haines sold the railroad one of his steamboats from the Rancocas Steamboat Company to use as a passenger ferry across the bay between Long Beach Island and Edge Cove, located across from Tucker's Beach and the south end of the island. Traffic to and from the island grew substantially, placing an increasing burden on the meager ferry service offered. As the island's popularity widened, Tuckerton Railroad officers obtained legislative incorporation of the Tuckerton and Long Beach Building and Land Improvement Association during 1873 to develop a new community called "Beach Haven" on the island, situated south of present-day Ship Bottom. Within a year, the development became a reality, and soon hotels appeared to offer rooms to visiting vacationers (Brinckmann 1973:30-47).

Using steamboats to ferry the growing number of summer visitors arriving for vacation on Long Beach Island proved daunting for the Tuckerton Railroad. The only permanent solution would be to construct trestling across Manahawkin Bay and run a rail line on the island. To accomplish this goal, a company of men aligned with the Pennsylvania Railroad (PRR) filed the necessary papers to incorporate the Long Beach Railroad Company in October 1883. Initially, the company faced a shortage of construction funds, but during July 1885, the railroad awarded contracts to a Philadelphia construction firm to complete the bridge spanning the bay. The Long Beach Railroad filed the required route survey plan with the New Jersey Secretary of State. The plan indicated the line would begin at a junction with the Tuckerton Railroad near the south end of Manahawkin. The route then turned southeast toward the bay, where it crossed on timber trestle bents in a straight line until it reached the island at a location originally known as "Surf," but later designated "Barnegat City Junction" in Ship Bottom. The alignment of the original railroad trestle bridge was north of the current causeway and outside the APE. From this junction, a branch line extended along the island north to Barnegat City, representing the route of the Barnegat Railroad while the mainline extended south to Beach Haven and beyond. Construction crews completed their work in June 1886 and trains began operating through from Camden to

Long Beach Island. The PRR struck an agreement to operate the Long Beach Railroad with Tuckerton Railroad management and the Tuckerton officials quickly acceded (Brinckmann 1973:61-74).

Although the railroad offered a more convenient way for vacationers seeking to visit Long Beach Island, the construction of the trestling across the bay and the rail line on the island initially failed to spur permanent growth. In his book on the Tuckerton Railroad, author John Brinckmann notes, "[The] Glitter of Long Beach operations wore off by 1892. The Tuckerton's annual report complained of slow development on the island and of operating this trackage more to accommodate [the] PRR than for profit" (Brinckmann 1973:85). The lack of residential and commercial growth on the island is readily apparent on the 1893 15-minute United States Geological Survey (USGS) *Long Beach* quadrangle map. The map features Beach Haven as the only platted community (Figure 9). The adjoining *Barnegat* quad shows a few streets in Barnegat City, located at the north end of the island. The map shows no development in the vicinity of present-day Ship Bottom. In 1893, the PRR formed the Philadelphia and Beach Haven Railroad Company to supplant the bankrupt Long Beach Railroad. A second map from Brinckmann's book shows the railroad as it existed on Long Beach Island during the early twentieth century (Figure 10). Passenger service did rebound from the early 1890s lull, and the Tuckerton Railroad posted a decent profit in most years between 1901 and 1930 (Brinckmann 1973:157-160).

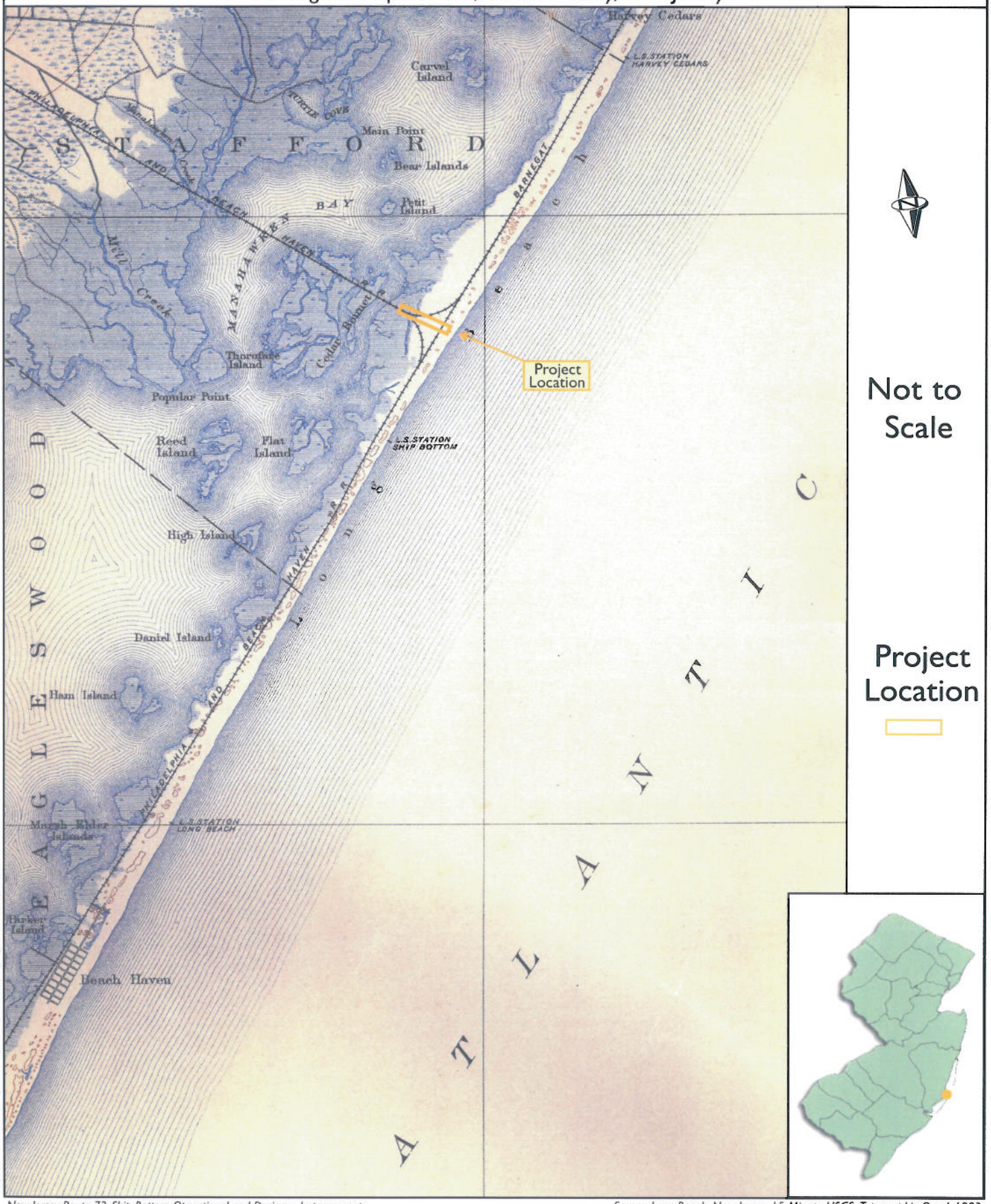
4.2.3 The First Road Causeway Across the Bay

With the rise in the popularity of automobiles, a group of investors from the mainland and the island incorporated the Long Beach Turnpike Company during August 1911 to construct a causeway and toll bridge across Manahawkin Bay between Manahawkin and what would become the Borough of Ship Bottom, along with a road down the island to Beach Haven. This early causeway is not in the alignment of the current causeway, but to the north and outside the APE. Mine Host[3] W. Mercer Baird, owner of the Baldwin Hotel in Beach Haven, served as the agent for the turnpike company upon its formation. To accomplish their goal, corporate officials sold certificates to the general public, thereby raising at least a portion of the $93,000 necessary

[3] The semi-formal title, "Mine Host" is a period descriptor of an inn or hotel keeper. According to the Oxford English Dictionary, the term originally came into use during the seventeenth century.

Figure 9
1893 Long Beach Quadrangle

Cultural Resources Survey
New Jersey Route 72, Ship Bottom Operational and Drainage Improvements
Borough of Ship Bottom, Ocean County, New Jersey



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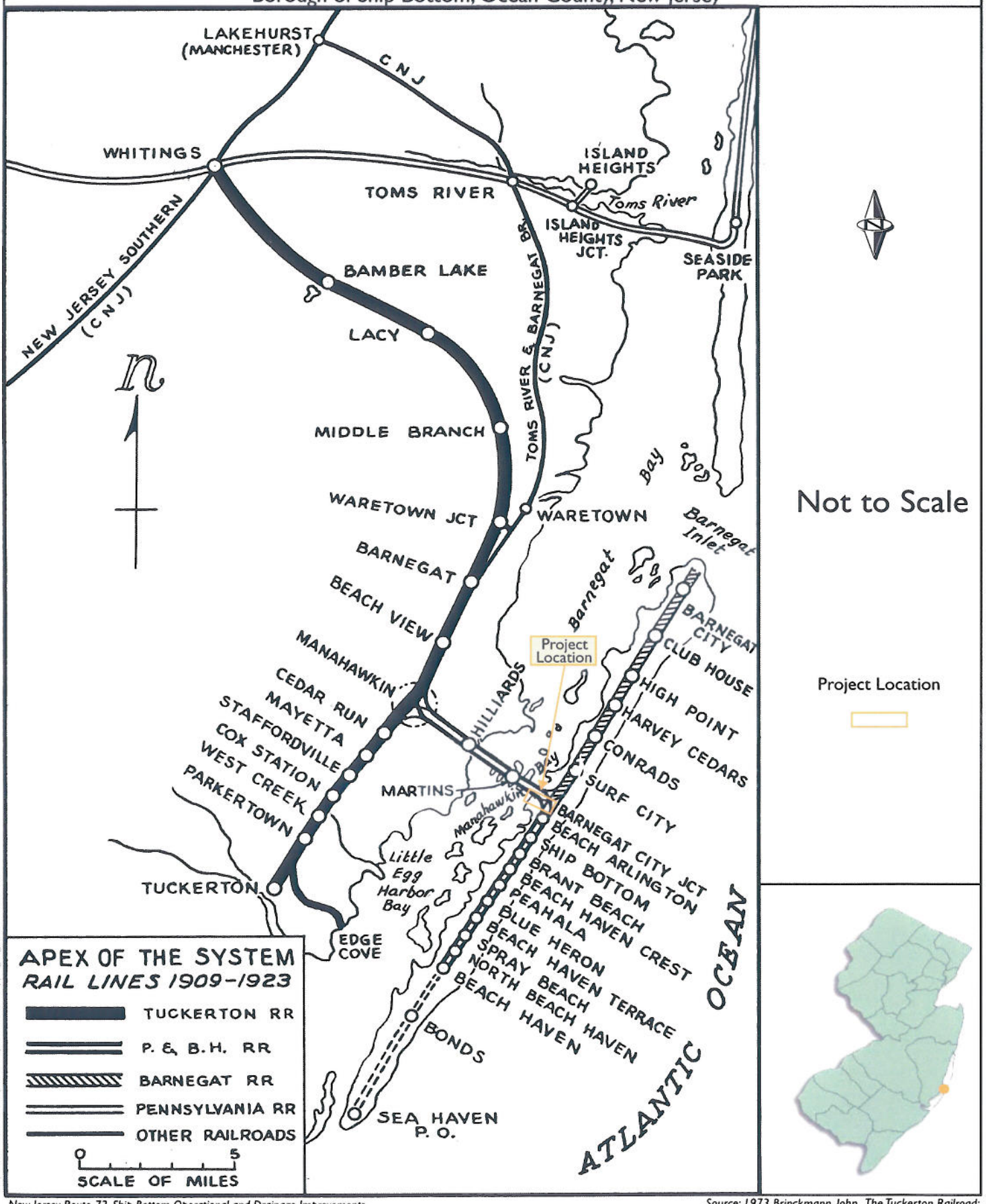
New Jersey Route 72, Ship Bottom Operational and Drainage Improvements
Cultural Resources Survey

Source: Long Beach, New Jersey 15 Minute USGS Topographic Quad, 1893.

Figure 10
Map Showing Railroads Leading to and on Long Beach Island

Cultural Resources Survey
New Jersey Route 72, Ship Bottom Operational and Drainage Improvements
Borough of Ship Bottom, Ocean County, New Jersey



New Jersey Route 72, Ship Bottom Operational and Drainage Improvements
Cultural Resources Survey

Source: 1973 Brinckmann, John. The Tuckerton Railroad: A Chronicle of Transportation to the New Jersey Seashore.

to complete the project, although the company did charge a toll for at least the first decade of operations (Anonymous 2001:26; New Jersey Secretary of State 1914:391; Lloyd 1990:97). To make the causeway more accessible to island residents and visitors, the New Jersey Commissioner of Public Roads, in conjunction with the Ocean County Board of Freeholders, funded the construction and improvement of South 8th Street for a distance of about 0.5 mile, extending from the foot of the causeway to Bay Avenue. In filing his annual report, Commissioner E.A. Stevens stated,

> The completion of this work gives the inhabitants of Beach Haven and Long Beach, as far as the line of Surf City, an easy and convenient mode of reaching the mainland over the toll bridge. Until the completion of this road to the bridge, the inhabitants of Long Beach had no means of reaching the mainland except by railroad or by boat. By the completion of this improvement this is all changed, and now vehicles may freely pass to and fro from the mainland to the bridge. The freeholders of Ocean county very wisely presumed that the building of roads by the State and county between the mainland and the beaches increases the ratables of the county more rapidly than any other means that they can employ. (Stevens 1914:40)

Mr. Stevens also provided state funding to Ocean County for improving two sections of Bay Avenue for a total distance of over 6.5 miles between South 8th Street and Beach Haven. Concerning this road improvement, Commissioner Stevens wrote:

> This improvement extends along Long Beach and connects the thriving borough of Beach Haven with the Long Beach turnpike bridge. The improvement covered by these two sections begins at the northeast borough line of Beach Haven and extends thence northeasterly to the south borough line of Surf City.
> The demands of the rapidly growing population of Beach Haven made the construction of this road almost a necessity, as Long Beach is composed of nothing but sand and the natural soil is practically impassable for automobiles or, in fact, any other vehicle except a very light horse-drawn one.
> ...What was an almost impassable wagon track is now converted into a smooth, hard highway, and is of very great value to the whole beach. (Stevens 1914:42)

The Tuckerton Railroad held little appreciation for what this road bridge meant for the future of rail transportation and for the island itself. John Brinckmann writes,

> Tuckerton Railroad officers were too busy accommodating peak traffic to cast more than a nod at the June 20, 1914 opening of Long Beach Turnpike Co.'s new highway bridges from Hilliard's to the vicinity of Barnegat City Jct. Autos were rather unreliable in those days so why care much? The only ones seen previously on the island were Model T's which coast guardsmen used to drive up and down the railroad tracks (ouch!) or race along the beach when the tide was out. Even though the motor age gained its toe hold, train service flourished with greater patronage during the immediate years ahead. (Brinckmann 1973:114)

Like the railroad that preceded it, the causeway initially failed to spur any sizeable growth outside of Beach Haven. According the Long Beach Island historian John Bailey Lloyd,

> A causeway was built across the bay in 1914, and the automobile came to the island on a narrow road paralleling the railroad tracks. There were very few changes in the war years, and it was not until the early twenties that any great influx of visitors and potential home buyers appeared. (Lloyd 1990:94)

However, the causeway, combined with state-funded highway improvements on the island, begat other road construction projects. Barnegat City sought a surfaced thoroughfare to connect this community at the north end of the island with the causeway. City council contracted for building a boulevard, and the contractor completed the work in 1920. Brinckmann notes, "Once the highway was completed in 1920, parallel to the railroad, bus service drained most of the local [train] traffic" (Brinckmann 1973:118-120). The PRR received permission from the New Jersey Public Utilities Commission in June 1923 to abandon all trackage north of Barnegat City Junction.

Starting in the late teens of the twentieth century, the State Highway Department, successor to the Commissioner of Public Roads, began planning a statewide highway route system. Initially, these routes connected major commercial centers. John Bailey Lloyd notes, "In 1918 there was still no direct highway across the state to Manahawkin, but the time getting to Beach Haven had been reduced to three hours" (Lloyd 1990:97). The completion of the Delaware River Bridge (now the Benjamin Franklin Bridge) in July 1926, reduced travel time between Philadelphia and Long Beach Island to a mere 1.5 hours, since drivers no longer depended on the relatively slow Camden ferries to cross the Delaware River (Lloyd 1990:97). During 1926, the New Jersey State Highway Department acquired the Manahawkin Bay causeway and thoroughfare lift bridge from

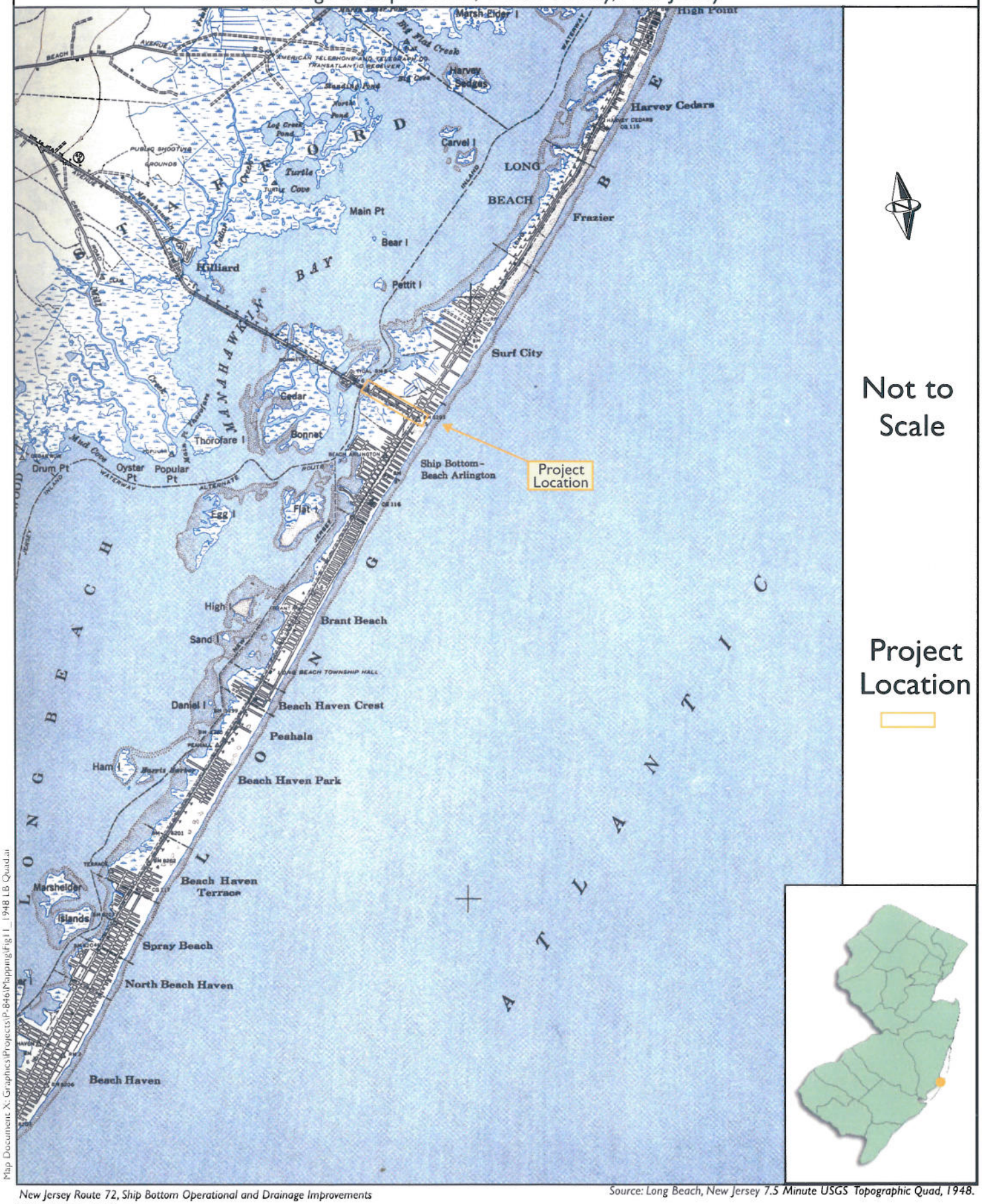
the Long Beach Turnpike Company. In 1928, the state widened the causeway from the original 18.0 feet to 30.0 feet to improve traffic safety (Anonymous 2001:26, 58).

In 1927 and 1929, the New Jersey State Legislature approved many new routes for the state highway system, including New Jersey Route 40, between Camden and Lakewood (now Route 70); and New Jersey Route S-40, between Route 40 at the Four Mile Circle and Manahawkin (now Route 72). Routes 40 and S-40 became a reality in 1935 and the motoring public now had a direct route between Philadelphia, Camden, and Long Beach Island (Lloyd 1990:97-99; State of New Jersey Highway Department 1929). The new highway construction brought much needed albeit temporary freight traffic to the Tuckerton Railroad in the form of road building materials, but, according to author John Brinckmann, "...autos, buses and trucks, using public roads from which the Tuckerton profited in their building, had grown sufficiently in numbers to effectively capture most business once monopolized by rails alone" (Brinckmann 1973:133). By the mid-1930s, modern highway construction and the growth of personal automobile ownership sounded the death knell for the Tuckerton Railroad and railroading on Long Beach Island. During the entire 1935 summer season, less than 1,600 people used the trains to arrive on the island. The Tuckerton and the PRR could no longer incur the costs involved in operating the route, but the end of the enterprise actually came at the hands of Mother Nature. A Nor'easter swept down the bay in November 1935, totally destroying the trestle, situated just above the road causeway. The PRR estimated the replacement cost at $100,000 and elected not to undertake reconstruction. The company expended one-tenth of that amount in removing the trestle remains and storm debris from the bay (Brinckmann 1973:138-140). The causeway now offered the only through route to the island.

Residential and commercial development on the island underwent tremendous growth during the twentieth century, particularly in the periods following both the First and Second World War as shown on the 1948 Army Mapping Service 15-minute *Long Beach, New Jersey* quadrangle map (Figure 11). When compared to Figure 9, the newer map shows many more communities and street grids than the late nineteenth-century map. The island's developments included such Long Beach Township settlements as Loveladies, Long Beach Park, High Point, Frazier, Brant Beach, Beach Haven Crest, Pehala, Beach Haven Park, Beach Haven Terrace, Spray Beach, and North

Figure 11
1948 Long Beach Quadrangle

Cultural Resources Survey
New Jersey Route 72, Ship Bottom Operational and Drainage Improvements
Borough of Ship Bottom, Ocean County, New Jersey



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New Jersey Route 72, Ship Bottom Operational and Drainage Improvements
Cultural Resources Survey

Source: Long Beach, New Jersey 7.5 Minute USGS Topographic Quad, 1948.

Beach Haven. The following developed boroughs separated out of Long Beach Township: Barnegat City/Barnegat Light (1904/1948), Harvey Cedars (1894), Long Beach City/Surf City (1894/1899), Ship Bottom-Beach Arlington/Ship Bottom (1925/1947), and Beach Haven (1890) (Snyder 1969:201-207). Harold F. Wilson, author of the 1953 three-volume set, *The Jersey Shore*, attributes the island's twentieth-century development specifically to the rise of car culture: "...in the present century the resort grew after the construction of the automobile bridge to the island" (Wilson 1953:520). On January 1, 1953, New Jersey undertook a grand renumbering scheme for its state highway system. What had been Route S-40 between Four-Mile Circle and Manahawkin became Route 72, and the state now extended this state route all the way across the bay to the island, terminating at Long Beach Boulevard (New Jersey Highways website, accessed 25 June 2005). The old causeway now carrying Route 72 continued in service until 1959, when the state dedicated and opened a new elevated causeway, constructed south of the old causeway (Anonymous 2001:26, 61-62). The 1959 elevated causeway remains in service today, but the NJDOT is currently in the process of preparing design to replace the structure because of its deteriorated condition..

4.2.4 Ship Bottom-Beach Arlington

Ship Bottom reputedly received its name for an 1817 beached shipwreck from which Captain Stephen Willets extracted a sole survivor—an unknown woman of foreign birth—through a hole he had cut through the hull. The place name of "Ship Bottom" first gained some prominence in 1849, when the United States Congress provided funds for the construction of 20 "House of Refuge" structures along the Jersey shore and the federal government acquired a parcel of land in what would become known as Ship Bottom. The initial funding source did not include money for salaries, so volunteers staffed the various locations, sometimes referred to as "Government Houses." According to Coast Guard records, the government appointed Edward Jennings as the keeper of the Ship Bottom House of Refuge. The House of Refuge system proved a good first step in developing a service along the coast to rescue passengers and crewmembers from stranded and beached vessels. In 1872, federal lawmakers authorized the Revenue Marine Service to establish the United States Life Saving Service. The stations established under this act included six on Long Beach Island: Barnegat, Loveladies Island, Harvey Cedars, Ship Bottom, Long Beach, and Bond's (Coast Guard history website, accessed 17 November 2005; Zinkin

1976:85, 154-155; Philadelphia Maritime Exchange 1895:65). Life Saving Station No. 20, the facility located in Ship Bottom, built on the site of the House of Refuge, served the maritime community from its construction in 1872 until the United States Coast Guard surrendered the facility to the General Services Administration in 1936 (Coast Guard history website, accessed 17 November 2005).

Known today as the "Gateway to the Island," the 1.3-mile-long Borough of Ship Bottom evolved from a number of planned developments, some successful and others not. Captain Isaac Wesley Truex, appointed to the position of Keeper at the Ship Bottom Life Saving Station in October 1896, constructed the first permanent dwelling in Ship Bottom as his residence during 1898. The following year, a small collection of buildings arose around the Truex house, as the railroad dropped off passengers on the platform at what would become 23rd Street. These vacationers apparently enjoyed the isolation and solitude in the sands surrounding the Ship Bottom Life Saving Station. Some chose to camp on the beach, while others constructed "a little colony of single-story summer bungalows along the oceanside streets" (Lloyd 1990:85, 87; Coast Guard history website, accessed 17 November 2005). Regular railroad passenger service certainly provided an impetus to real estate speculators to plan developments all along Long Beach Island, including sections of what today constitutes the community of Ship Bottom.

During the 1890s, promoters platted Bonnet City immediately south of Surf City, extending from 3rd Street to 7th Street, the point that the railroad reached Long Beach Island. The real estate company failed to sell a single lot. A Philadelphian purchased the entire development in 1908, renamed it Edgewater Beach, and built and sold 30 bungalows within two years. To the south, a Philadelphia lawyer named John T. Fish laid out Bonnet Beach during 1922, stretching from 8th Street to 14th Street. Fish also acquired the railroad right-of-way north of Barnegat City Junction after the PRR abandoned all service on the route in 1923. He also purchased other vacant land situated between the southerly line of Surf City and the development named Beach Arlington, a community first proposed in 1892. South of Beach Arlington, the small settlement of Ship Bottom extended to 31st Street. Beginning in 1886, the railroad initially provided transportation service to the island, but the construction of a causeway in 1914 greatly expanded opportunities for commercial and residential expansion. Starting in 1923, citizens of these various

developments sought to separate from Long Beach Township and form their own borough (Lloyd 1990:85-91). In May 1925, these residents approved a referendum creating Ship Bottom-Beach Arlington Borough (Snyder 1969:205). A review of Figure 10 correctly shows the original physical order of developments on the island, with Beach Arlington located south of Barnegat City Junction and above north of Ship Bottom. Survey work for Figure 11, the 1948 quadrangle, actually occurred in 1940 when the Army Mapping Service completed aerial photography and produced the finished map using photo-planimetric methods. This map clearly shows the preponderance of development, or at least the existing street grid, at the lower end of the municipality. A review of photographs in John Bailey Lloyd's 1990 book, *Six Miles at Sea*, seems to confirm that development occurred in this manner.

During the 1930 census year, the first decennial enumeration for the Borough of Ship Bottom-Beach Arlington, the census takers found that the newly incorporated community contained 277 permanent residents. Even though the 1930s held little economic promise due to the Great Depression, Ship Bottom gained 119 new citizens, a growth rate of 43 percent. During 1936, attorney John T. Fish, now of Fallsington, Bucks County, Pennsylvania, sold four parcels of his Ship Bottom-Beach Arlington landholdings to the borough. The borough retained the civil engineering firm of Sherman & Sleeper, C.E., to survey and draft a plan of lots for the land that Ship Bottom had acquired. Sherman & Sleeper completed their work in May of the same year and the engineering firm presented its drawing, "Plan of Lots Belonging to the Borough of Ship Bottom-Beach Arlington," to the borough, who filed the document at the Ocean County Clerk's Office. Through tax lien proceedings, the borough had also acquired land from the defunct development known as Barnegat Shore Acres (Ocean County Deed Book 994:451; 1470:304).

Following the end of World War II, U.S. car manufacturers retooled to again produce automobiles for the driving public. In 1953, the national population exceeded 157 million, a rise of 20 percent since World War II began. Wages rose and so did the standard of living. The country's citizens had more time for recreation and leisure than ever before (Lewis 1997:84). Improved highways made the New Jersey coast more accessible than formerly, leading former day trippers to purchase building lots and construct modest homes in Ship Bottom and other

seaside resorts along the Jersey shore. In 1947, the borough shortened its name to Ship Bottom Borough (Snyder 1969:205).

During June 1951, the borough of Ship Bottom passed an ordinance to set prices for the building lots it had held since the late 1930s. Apparently eschewing any entreaties from private developers, Ship Bottom became its own developer, selling many of the lots it owned to individuals and incorporated entities after the council approved the sale and set prices with passage of the ordinance (Ocean County Deed Book 1470:304). As a result, between 1950 and 1960, Ship Bottom's population grew 34.5 percent, rising from 533 to 717. However, a 1959 pamphlet titled *Long Beach Island: Business Directory and Guide Book* indicates that Ship Bottom had a winter population of 1,227, with summer visitors swelling that number to approximately 16,000 (Long Beach Island Board of Trade 1959:64). Residential growth continued unabated between 1960 and 1970, when the population increased 50.5 percent to 1,079 permanent residents. The borough added another 348 residents between 1970 and 1980, a decennial growth rate of 32.2 percent. Ship Bottom's population reversed its upward trend in 1990, losing 75 residents by that time. In the census year of 2000, the population again grew, albeit modestly, gaining 32 new citizens, for a total of 1,384 residents. Today, the 0.69-square-mile Borough of Ship Bottom "...has a thriving commercial district along Bay Avenue, the main concourse, but it is entirely residential on all its side streets from ocean to bay" (Lloyd 2004:737). The community's summer population ranges from 15,000 to 20,000 (Lloyd 2004:737).

4.3 Summary Assessment of Archaeological Sensitivity

Several cultural resources surveys have been conducted in the vicinity of the project APE over the past two decades. In spite of this research effort, most of the prehistoric sites in the area were recorded in the first half of the twentieth century. Only four prehistoric sites are recorded within a 2.0-mile radius of the project; all were recorded by Skinner and Schrabisch (1913) from a ground surface reconnaissance. It is unknown, but doubtful, whether any of these sites remains intact today. Numerous cultural resources surveys have been conducted within a 2.0-mile radius of the project area within the past two decades, but failed to produce positive results. Any intact prehistoric archaeological deposits encountered along the coastal margin would be considered highly significant due to their scarcity today.

Historical background research indicates very little to no sensitivity within the APE for historic archaeological resources. Although visited as a vacationing location since the beginning of the Federal period, this section of Long Beach island did not witness sustained human activity until the twentieth century, and most of that not until the second half of the century. The two principal transportation arteries which fed this development, the 1886 railroad causeway and the 1914 causeway for car traffic across the Manahawkin Bay, were not situated in the APE. Consequently, there is no potential for intact remnants of those structures to be present in the APE.

Considering the paucity of documented sites in the area, and the degree of historic disturbance associated with mid-twentieth-century development, the APE is assessed to exhibit a low to moderate potential for prehistoric archaeological materials, and a low to nil potential for historic archaeological deposits. Nonetheless, any intact prehistoric remains that may be located in the APE would be highly significant due to the rarity of this resource type.

Proposed impacts associated with the proposed improvement are limited to installation of curbing, some minor realignments and driveway entrance reconfigurations, and upgrading the storm sewer drainage system. The proposed storm sewer lines have the greatest potential to impact any undisturbed, potential artifact-bearing soils. The majority of the proposed new lines will replace and upgrade existing lines in existing trenches. New alignments, however, are found at the western end of the APE, where a new pump station will be installed, as well as a new tide flex valve to be installed in Manahawkin Bay just south of the existing flex valve (Figure 12). These areas are sensitive (albeit assessed to have low sensitivity) for prehistoric archaeological deposits.

LEGEND

- PROPOSED DRAINAGE PIPES
- PROPOSED STRIPING
- PROPOSED EDGE OF PAVEMENT
- PROPERTY LINES
- RIGHT-OF-WAY
- ADJUSTED ACCESS
- EXISTING DRAINAGE

100 0 100
SCALE IN FEET

FIGURE 12
PROPOSED IMPROVEMENTS
ROUTE 72- SHIP BOTTOM BOROUGH
OCEAN COUNTY, NEW JERSEY

5.0 Archaeological Survey Results

5.0 ARCHAEOLOGICAL SURVEY RESULTS

Archaeological testing was conducted on November 23, 2005. Testing was confined to a relatively small portion of the APE where proposed construction impacts what appear to have been previously undisturbed land surfaces. This area is confined to the western end of the APE, near the foot of the Route 72 bridge where it meets the western end of 8th and 9th Streets. New 42.0-inch reinforced concrete pipe, and new pumping station and tide flex valve are proposed in the median between 8th Street and the bridge access ramp and extending to the Manahawking Bay. Five STPs were excavated in the alignment of these proposed facilities, in those areas that are free of pre-existing utilities (Figure 13). Table 3 presents a description of the soil profiles encountered in each of the five STPs.

Table 3. Shovel Test Pit Excavation Results.

Depth*	STP1	STP2	STP3	STP4	STP5
0-5	10YR 7/? coarse sand	10YR 3/2 coarse sand	10YR 3/2 sand loam	10YR 3/2 sand	10YR 3/2 sand loam
5-10				10YR 5/4 sand and gravels	
10-15	10YR 4/2 sand	7.5YR 5/8 coarse sand	10YR 5/4 sand		
15-20				10YR 4/4 coarse sand	10YR 5/4 sand
20-25	10YR 6/3 sand	10YR 5/4 coarse sand			
25-30				2.5 Y 5/4 coarse sand	
30-35					
35-40		10YR 7/6 sand and gravels			
40-45					
45-50				10YR 6/8 wet coarse sand and gravels	
50-55		10YR 8/2 coarse sand			
55-60	10YR 7/2 sand				
60-65					
65-70			2.5Y 5/4 coarse sand		2.5Y 5/4 coarse sand
70-75		10YR 5/3 sand		*stopped by metal pipe*	
75-80					
80-85					
85-90					
90-95					
95-100					

* Centimeters below ground surface
Pink = Asphalt Present
Yellow = Modern artifact present
Green = Asphalt and modern artifact present
= Water table

Consistent with the *Ocean County Soil Survey*, which has mapped this portion of the APE as Psamments, sulfidic substrate (Figure 6), each STP soil profile exhibits extensive in-filling of the landscape. Fill materials range from sand to coarse sand in texture and range in color and hue from very pale brown (10YR 8/2) in STP2 to light olive brown (2.5Y 5/4) in STP 5. In some cases, a modern A-horizon of very dark grayish brown (19YR 3/2) sand loam was present (STPs 3 to 5). Pieces of asphalt were present in several horizons in two STPs, indicating a *terminus post quem* for deposition probably sometime in the 1950s. A very small quantity of modern artifacts (e.g., bottle glass, a nail, and asbestos shingle fragments) were also encountered in three of the STPs. One of those, a transparent bottle glass fragment, was encountered near the water table in STP 1, in a soil horizon that is interpreted to represent the natural sand upon which later fill soils were deposited.

None of the archaeological tests conducted for the cultural resources survey produced potentially significant deposits.

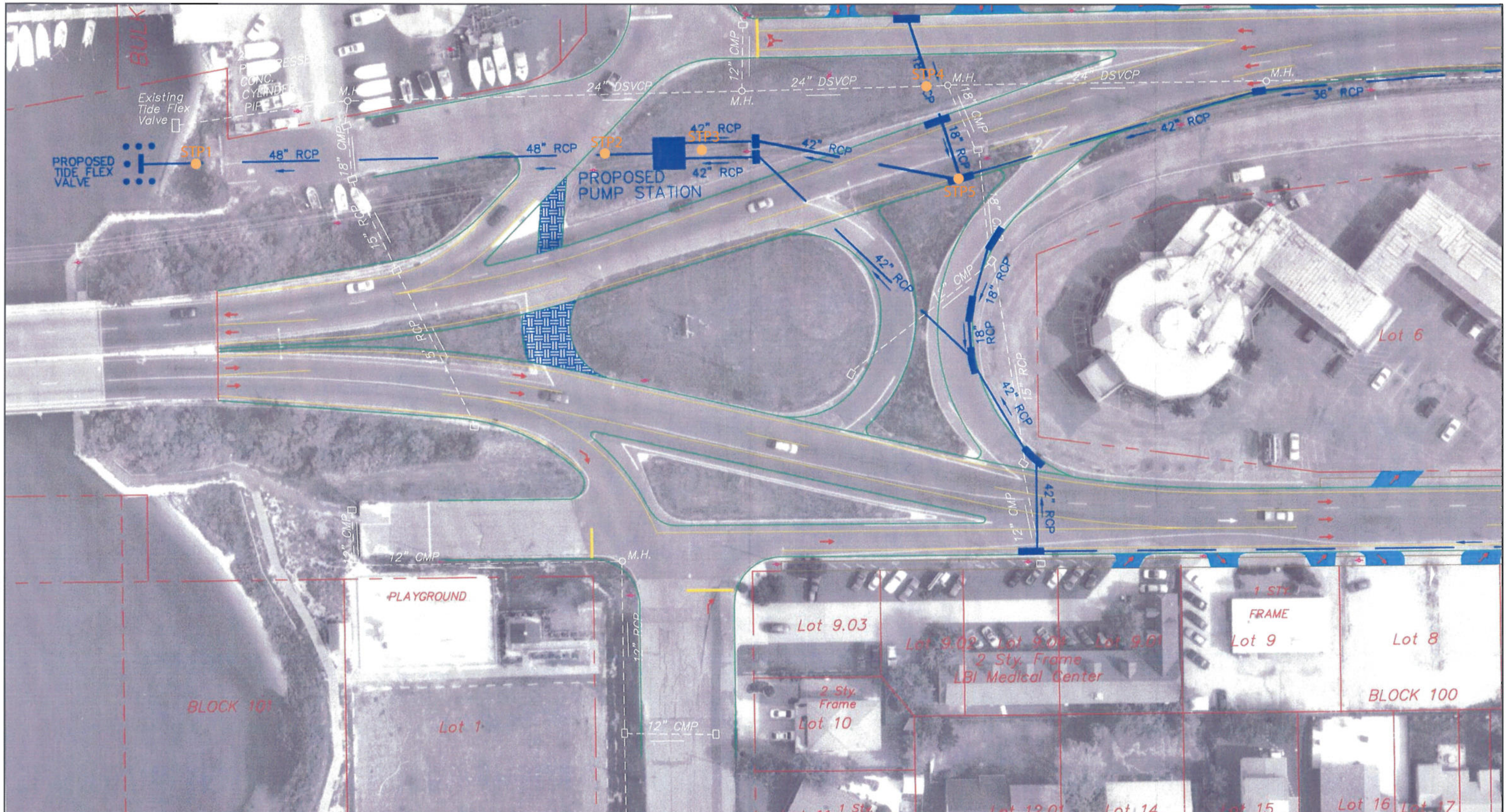


Figure 13
Archaeological Testing Locations
Cultural Resources Survey
Route 72 - Ship Bottom Operational and Drainage Improvements
Borough of Ship Bottom, Ocean County, New Jersey

Not to Scale

Shovel Test Pit (STP)

Map Document X:\Graphics\Projects\P-846\Mapping\Fig 13Archaeological Testing.ai

Source: Aerial Photograph of Project location

6.0 Historic Structures Survey Results

6.0 HISTORIC STRUCTURES SURVEY RESULTS

A.D. Marble & Company staff conducted an intensive-level historic architectural field survey within the proposed APE in October and November 2005. The survey initially identified approximately 30 to 35 properties that appeared to meet the 50-year age criterion. However, of these properties, some were discovered to not meet the age criterion (nor did they appear to meet Criterion Exception G of the National Register); therefore, these were not included in the survey. Also, five of the properties were so radically altered as to not be recognizable as historic buildings. Buildings in this category were photographed in the field and were surveyed at the reconnaissance level only, and full New Jersey Survey Forms were not prepared for these five properties. In summary, a total of 26 properties were ultimately surveyed: five at the reconnaissance level, and 21 properties at the standard intensive level (using full New Jersey Survey Forms).

Properties surveyed at the intensive level are recorded on New Jersey Survey Forms, and copies of the forms may be found in Appendix C of this report. These properties are also summarized in Table 4 and their locations are depicted in Figure 14. Overall, there were no properties found to be eligible for listing in the New Jersey or National Registers of Historic Places.

It was discovered during the field survey that some buildings from the mid-twentieth century were so extensively altered in the late twentieth century, that, in the absence of intensive documentary research, such buildings were not recognizable as being from that period. For example, in some cases, the roof shape would be rebuilt and/or enlarged from a flat roof to become a gable roof or a modified gable roof (Photographs 11 and 12). Ms. Andrea Tingey of the NJSHPO recommended that this trend should be described in this report along with photographs. Due to the radical alterations to the buildings, and owing to the fact that a building less than 50 years old would be required to pass a high bar of integrity to be considered eligible for listing in the New Jersey or National Registers of Historic Places, it was decided that such properties would be noted, but would not warrant documentation at the intensive level on New Jersey survey form (Tingey, personal communication 2005). Such buildings were noted in the field, photographed (most example photographs included within this report), and included in

Table 4. Historic Properties Surveyed in the Ship Bottom Project Area.

Block	Lot	Land Use	Building Type	Reconnaissance or Intensive Level	Year of Construction	Property Address	Recommended Eligibility
88	5	Residential	duplex with garage	Intensive	1953; 1955	1120 Central Ave.	Not Eligible
89	1	Residential	Ranch-type	Intensive	1950	1117 Central Ave.	Not Eligible
94	15	Residential	Ranch-type	Intensive	1954	1010 Barnegat Ave.	Not Eligible
99	7	Residential	vernacular	Intensive	1953	240 W. 9th St.	Not Eligible
108	1	Commercial	furniture store	Reconnaissance	1940	101 W. 8th St.	Not Eligible
109	17	Residential	2-story alt. res.; vernac.	Intensive	1950	708 Barnegat Ave.	Not Eligible
	20	Commercial	2-story Neo-Italianate-office	Intensive	1950	287 W. 8th St.	Not Eligible
	21	Commercial	1-story Neo-Victorian-shop	Intensive	1929	285 W. 8th St.	Not Eligible
	22	Commercial	1-story roofing shop	Intensive	1935	277 W. 8th St.	Not Eligible
110	1	Commercial	gas station	Reconnaissance	1955	301 W. 8th St.	Not Eligible
	2	Residential	2-story garage apartment	Intensive	1950	707 Barnegat Ave.	Not Eligible
	3	Residential	2-story garage apartment	Reconnaissance	1950	701 Barnegat Ave.	Not Eligible
	16	Residential	Bungalow/vernacular	Intensive	1940	399 W. 8th St.	Not Eligible
111	1	Commercial	marina store/office and repair shop/garage;	Intensive	ca. 1945	401 W. 8th St.	Not Eligible
114	2	Residential	Bungalow	Intensive	1920	607 Central Ave.	Not Eligible
	3	Residential	Vernacular	Intensive	1945	200 W. 6th St.	Not Eligible
	12	Commercial	Ocean County Garage	Intensive	1955	234-292 W. 6th St.	Not Eligible
115	1	Commercial	store with apartment	Intensive	1950	619 Boulevard	Not Eligible
116	13	Residential	Vernacular/Minimal Traditional	Intensive	1950	604 Long Beach Blvd.	Not Eligible
117	13	Residential	Bungalow	Intensive	1925	512 Long Beach Blvd.	Not Eligible
125	1	Residential	Ranch-type	Intensive	1950	407-417 Barnegat Ave.	Not Eligible
128	8	Commercial	shop	Intensive	1940	412 Central Ave.	Not Eligible
130	15	Commercial	shop/residence	Reconnaissance	1940	418 Boulevard	Not Eligible

Figure 14
New Jersey Route 72,
Ship Bottom Borough
Ocean County, New Jersey

N
W E
S

Architectural Resources Surveyed

Source:
2002 Ortho Photography

Location of Architectural Resources Surveyed at the Intensive Level

250 0 250
Feet

November 2005

Photograph 11: Block 110-Lot 1, gas station, view looking east (November 2005).

Photograph 12: Block 113-Lot 1, view looking north (November 2005).

Table 4 as having been surveyed at the "Reconnaissance" level. In addition, there were also several buildings that were initially thought to date from the mid-twentieth century, but were later discovered to post-date the 1955 cut-off date. These buildings were observed in the field, but since they were not over 50 years of age, they were not included in Table 4 as being surveyed at the reconnaissance level.

The property at 701 Barnegat Avenue (Block 110/Lot 3), Ship Bottom, New Jersey is an example of a mid-twentieth-century residential property containing a vernacular two-story building that has been drastically altered (Photograph 13). According to Edmund Lange, the tenant next door at 707 Barnegat Avenue, the property was originally built as a "twin" to its neighbor at 707 Barnegat Avenue, each with double garage door entrances on the ground floor (Photograph 14; Lange, personal communication November 2, 2005). Mr. Lange shared with the survey team a large-scale framed bird's eye view photograph, likely from the 1960s, that showed Barnegat Avenue around the intersections of 7th and 8th Streets. At that time, both buildings at 701 and 707 Barnegat Avenue indeed looked quite similar to one another. A residential building at 615 Barnegat Avenue was shown in the photograph as a modest two-story dwelling. Today, this property is not recognizable as a building from the mid-twentieth century (Photograph 12). Tax assessor files indicate it was built in 1955. Today it is a large building featuring a flat-roofed side addition with two drive-in garage bays, a full wraparound second-story deck, a very large "dormer" that has created another half-level on the building, etc.

A Sunoco service station shown in Mr. Lange's 1960s photograph at the corner of W. 8th Street at Barnegat Avenue (Lot 110/1; Photograph 11), looked like a typical mid-twentieth-century service station, with a flat roof and paired garage bays on the main (west) elevation. Tax assessor records indicate that the station was built in 1955. Today, the building bears scant similarity to its former image. The garage bays facing W. 8th Street have been removed and replaced with large sheet glass windows. Full banks of one-over-one windows, with attached non-operable shutters span the second floor level of the building. The building has been covered with cast stone siding resembling brick. The original flat roof has been removed and the roof height has been raised and replaced with a gable roof.

Photograph 13: Block 110-Lot 3, view looking north (November 2005).

Photograph 14: Block 110-Lot 2, view looking north, showing facade(s) and west elevation (November 2005).

While both of these properties have been altered, the changes to the property at 701 Barnegat Avenue have been substantial. For example, both garage doors have been removed and replaced with a single pedestrian door and a four-part modern window, respectively. Overall, the building has been converted to a duplex. Most, if not all of the original windows on the second floor, have been replaced with new types of windows. The combined changes with the doors and windows have effectively eradicated all original fenestration. In addition, the once-flat roof has been removed and rebuilt as an asymmetrical gable roof, skylights have been installed, the building has been re-sided with modern materials, and an upper level deck has been added. In cases where the main "historic" core of a building was recognizable, even if a substantial addition was present, the property was recorded on standard New Jersey survey forms. An example of this was found at 604 Long Beach Boulevard, which consisted of a small one-story cottage that has a large two-bay garage with an upper half-story attached to the gable end and a large dormer added on the roof (Photographs 15 and 16).

Another example was the Oskar Huber furniture store, located at 702 Central Avenue. This building was "flagged" during the reconnaissance survey due to its 1960s-era exterior, with the assumption that some of the skirting around the roof may have been added later, possibly masking an older building (Photograph 17). On closer inspection at the tax assessor's office, it was discovered that there was indeed a 1940 core at this building, but that large showrooms and a store were added in 1965, 1975, and 1977, giving the "C"-shaped building its present appearance. A large gable-roofed warehouse has also been attached to the store, as has a large blacktop parking lot around the building. At 405 Central Avenue, the age of the building was not readily apparent due to recent alterations. It seems that the building started as a side-gable, one-story cottage, and that sometime in the later twentieth century the rear half of the roof was raised, forming a sort of clerestory form (albeit with no windows showing) across the ridge line – completely changing the look of the building. In addition, a modern concrete porch/deck was added to the façade, etc. (Photograph 18). The date of the original core of the building is 1956, according to tax assessor information, and the property was not included in the survey.

Another trend observed in the field was that some properties had a relatively "traditional" appearance of a mid-twentieth century, Cape Cod-type cottage or a Ranch house, but that on

Photograph 15: Block 116-Lot 13, view looking northeast (November 2005).

Photograph 16: Block 116-Lot 13, view looking southeast (November 2005).

Photograph 17: Block 108-Lot 1, furniture store, view looking north (November 2005).

Photograph 18: Block 126-Lot 3, view looking north (November 2005).

further inspection at the tax assessor's office, these types of properties, too, were less than 50 years of age. For example, 350 W. 9th Street consists of a small, one-story, front-gable cottage (Photograph 19). Having been recently sheathed with vinyl siding, and featuring paired, double-hung windows on the façade (a common element in the latter part of the first quarter of the twentieth century), the building's age was not readily obvious. Research at the tax assessor's office revealed that this residence was not erected until 1964. At 242 W. 9th Street, there appeared to be a typical Ranch house that could have been built from the 1950s to the early 1960s, but according to tax assessor data, this residence was also not erected until 1964 (Photograph 20). In other cases, some buildings were converted from residential to commercial use, totally changing the façade of the structure. An example of this is at 1012 Central Avenue, where a one-story gable-roofed building that could have dated from the mid-twentieth century was later converted to a linen goods store with a new false front (Photograph 21). The construction date for the original part of the building is 1960, according to tax assessor data. In the case of 514 Long Beach Boulevard, a two-story, front-gabled building was converted to two apartments in 1980 (originally a single-family dwelling), a second-story deck was added to the façade, and a box-like, two-story frame addition and a one-story brick addition with a roof deck were added to the rear (Photograph 22). In this case, the building was investigated because the building inspector's record form at the tax assessor's office indicated that the building was "51+/" years of age. However, the deeds for this property suggest that it was not built until 1960, so this property was deleted from the survey. Examples such as these may abound throughout Ship Bottom, and there may also be other properties that have "historic" cores that were simply not recognized as being 50 years of age or older during the field survey.

During the background research, Sanborn maps for Long Beach Island were consulted. Unfortunately, very few historic Sanborn maps exist for the area that comprises present-day Ship Bottom, with the exception of a small area at the intersection of 5th and 6th Streets and Long Beach Boulevard (from 1930, updated 1954). If a building appeared on the Sanborn map, it was checked in the field. Today, most of the buildings depicted on the Sanborn maps have been demolished and replaced with newer buildings, while just one was still extant from the historic period (604 Long Beach Boulevard – Block 116 Lot 13; Appendix C). No. 418 Long Beach Boulevard appeared on the Sanborn maps as a one-story dwelling in 1930. By 1954, a store had

Photograph 19: Block 99-Lot 9, view looking southwest (November 2005).

Photograph 20: Block 99-Lot 8, view looking southwest (November 2005).

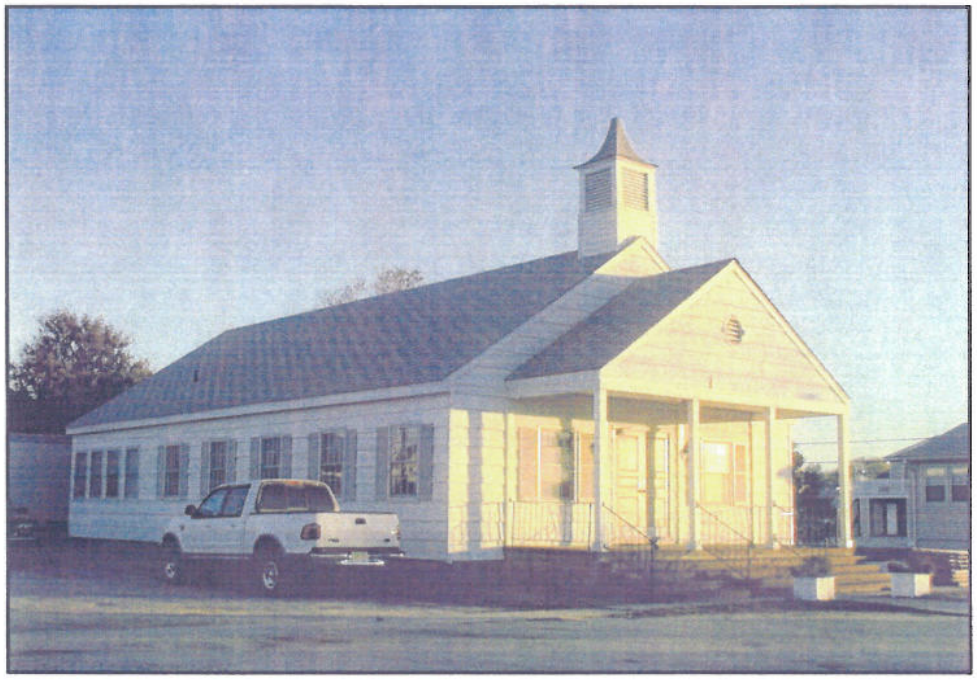
Photograph 21: Block 95-Lot 3, view looking south (November 2005).

Photograph 22: Block 117-14, view looking northeast (November 2005).

been attached to the north side of the building. Today, there is a two-story building on that lot, with a bicycle shop on the ground floor. According to tax assessor records, the building dates to 1940, and building permit records clearly indicate that it had one floor for many years. At some date over the last quarter of the twentieth century, a modern store front was added surrounding the ground floor, another floor was added to the core/center of the building with a mansard-like roof that includes an attic level, and a garage with an upper-level deck was added on the south elevation (Photographs 23 and 24). Although the building may indeed have a 1940s-era section, the building no longer retains any features or qualities from the historic period; therefore, it was not recorded at the intensive level. In the case of the Christian Science Library at 902-917 Barnegat Avenue, the building appeared to be a likely candidate as a mid-twentieth-century Colonial Revival structure (Photograph 25). Tax assessor data indicated that it was built in 1950, but as there was no deed information available at the borough office, a deed search was conducted at the Ocean County Clerk's Office in Tom's River. This research unequivocally showed that the edifice was not erected until 1962; therefore, this property was not included in the survey.

Photograph 23: Block 130-15, view looking north, showing south elevation (November 2005).

Photograph 24: Block 130-Lot 15, view looking southeast, showing facade (November 2005).



Photograph 25: Block 99-Lot 15, view looking southeast (November 2005).

7.0 Determination of Effect and Adverse Effect

7.0 DETERMINATION OF EFFECT AND ADVERSE EFFECT

An APE is defined as the area in which the introduction of new elements, such as the proposed intersection improvement project, will produce effects that are likely to impact historic resources. A historic property or resource is defined as "any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion on, the National Register of Historic Places" [36 CFR 800.2 (e)]. There are a number of effects that might be considered adverse effects and must be determined on a project-by-project basis, depending on the nature of the undertaking and the type and quality of the historic resource. For example, adverse effects are not limited to properties that will be physically destroyed or damaged by the proposed project. The *Criteria of Adverse Effect* (36 CFR 800.5 [1-2]: Protection of Historic Properties 1986, revised 1999) describes adverse effects:

> (1) *Criteria of adverse effect.* An adverse effect is found when an undertaking may alter, directly or indirectly, [and of [sic]] the characteristics of a historic property that qualify the property for inclusion on the National Register in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association....
> (2) *Examples of adverse effects.* Adverse effects on historic properties include, but are not limited to:
> (i) Physical destruction, damage, or alteration of all or part of the property;
> (ii) Alteration of a property, including restoration, rehabilitation, repair, maintenance, stabilization, hazardous materials remediation and provision of handicapped access, that is not consistent with the Secretary's Standards for the Treatment of Historic Properties (36 CFR part 68) and applicable guidelines;
> (iii) Removal of the property from its historic location;
> (iv) Change of the character of the property's use or of physical features within the property's setting that contribute to its historic significance;
> (v) Introduction of visual, atmospheric or audible elements that diminish the integrity of the property's significant historic features;
> (vi) Neglect of a property which causes its deterioration, except where such neglect and deterioration are recognized qualities of a property of religious and cultural significance to an Indian tribe or Native Hawaiian organization; and
> (vii) Transfer, lease, or sale of property out of Federal ownership or control without adequate and legally enforceable restrictions or

conditions to ensure long-term preservation of the property's historic significance.

Since no National Register-eligible historic properties were found within the APE, an assessment of effect was not conducted for this project.

8.0 Summary and Conclusions

8.0 SUMMARY AND CONCLUSIONS

8.1 Archaeological Resources

Background research conducted for the cultural resources survey revealed that no archaeological sites had previously been reported within the APE. The APE was also assessed to have low potential for undocumented prehistoric archaeological sites, and low to nil sensitivity for potentially significant historic archaeological deposits.

Identification-level archaeological testing was conducted in that portion of the APE where previously undisturbed ground surfaces will be impacted by proposed construction. Five STPs were excavated in grassy median areas where a new storm sewer inlet, pump station, and reinforced concrete sewer pipe will be installed. All STPs produced negative results in terms of potentially significant archaeological deposits, and no further archaeological investigations are recommended.

8.2 Historic Architectural Resources

A.D. Marble & Company staff conducted an intensive-level historic architectural field survey within the proposed APE in October and November 2005. In summary, a total of 26 properties were ultimately surveyed: five at the reconnaissance level, and 21 properties at the standard intensive level (using full New Jersey Survey Forms). Properties surveyed at the intensive level are recorded on New Jersey Survey Forms, and copies of the forms may be found in Appendix C of this report. These properties are also summarized in Table 4 and their locations are depicted in Figure 14. No previously identified National Register-listed or eligible historic properties exist within the APE. As a result of this survey, no properties were found to be eligible for listing in the New Jersey or National Registers of Historic Places.

References

REFERENCES

Anonymous

2001 *Stafford Chronicles: A History of Manahawkin, New Jersey.* Down the Shore Publishing, Harvey Cedars, New Jersey.

ARCH[2]

2002a Cultural Resources Survey for the AT&T Wireless North Main (Barnegat Mini Storage) #906-004-0044 Site, 85 South Main Street, Block 195, Lot 6.02, Township of Barnegat, Ocean County, New Jersey. Report on file, State Historic Preservation Office, Trenton, New Jersey.

2002b Cultural Resources Survey for the AT&T Wireless Harvey Cedars #906-004-074 Site, 1 West Salem Avenue, Block 1139, Lot 1.02, Borough of Harvey Cedars, Ocean County, New Jersey. Report on file, State Historic Preservation Office, Trenton, New Jersey.

Ashley, G.M., R.W. Wellner, D. Esker, and R.E. Sheridan

1991 Classtic sequences developed during late Quaternary glaci-eustatic seal-level fluctuations on a passive margin: Example from the inner continental shelf near Barnegat Inlet, New Jersey, *Geological Society of America Bulletin* 103:1607-1621.

Barnes, R.S.K.

1974 *Estuarine Biology.* Studies in Biology no. 49. Edward Arnold, London, England.

Bloom, Arthur L.

1964 Peat Accumulation and Compaction in a Connecticut Coastal Marsh, *Journal of Sedimentary Petrology* 34(3):599-603.

Brinckmann, John

1973 *The Tuckerton Railroad: A Chronicle of Transport to the New Jersey Seashore.* John Brinckmann, Edison, New Jersey.

Cavallo, John and R. Alan Mounier

1980 An Inventory and Assessment of Prehistoric Cultural Resources in the New Jersey Pinelands: Phase I of a Regional Predictive Survey. Unpub. ms. on file, New Jersey Pinelands Commission, New Lisbon, New Jersey.

Coxe, Lee

2001 Draft Supplemental Phase IB and Phase II Cultural Resources Investigation New Jersey Atlantic Coast Long Beach Island Ocean County, New Jersey. Report on file, State Historic Preservation Office, Trenton, New Jersey.

Cross, Dorothy
1941 *Archaeology of New Jersey, Volume One.* The Archaeological Society of New Jersey and the New Jersey State Museum, Trenton, New Jersey.

Cultural Resource Consulting Group
1991 Cultural Resource Identification Survey, Bay Plaza Development Project, Block 1501.09, Lots 1 and 2 and Block 445.09, Lots 69 and 70.02, Dover Township, Ocean County, New Jersey. Report on file, State Historic Preservation Office, Trenton, New Jersey.

Custer, Jay
1984 The Paleoecology of the Late Archaic: Exchange and Adaptation, *Pennsylvania Archaeologist* 54(3-4):32-47.

1988 Coastal Adaptations in the Middle Atlantic Region, *Archaeology of Eastern North America* 16:121-136.

1994 Current Archaeological Research in the Middle Atlantic Region of the Eastern United States, *Journal of Archaeological Research* 2(4):329-360.

Fitting, James E.
1979 Cultural Resources Overview and Sensitivity Analysis for the Delaware River and Bay. Report on file, State Historic Preservation Office, Trenton, New Jersey.

Gordon, Thomas F.
1834 *A Gazetteer of the State of New Jersey.* Daniel Fenton, Trenton, New Jersey.

Grossman and Associates, Inc.
1992 Archaeological Sensitivity Evaluation and Stage 1B Testing Workplan for the Proposed Well Head and Pipeline Impact Areas at the BIBA-GEIGY Toms River Plant, Dover Township, Ocean County, New Jersey. Report on file, State Historic Preservation Office, Trenton, New Jersey.

Grossman-Bailey, Ilene
2005 Archaeologist. Personal communication, October 21, 2005.

Hartzog, Sandra
1981 Palynology and Late Pleistocene-Holocene Environment on the New Jersey Coastal Plain, in *History, Culture and Archaeology of the New Jersey Pine Barrens: Essays from the Third Annual Pine Barrens Research Conference.* J.W. Sinton ed., pp. 6-14. Stockton State College, Pomona, New Jersey.

Hole, Thornton
1980 *Soils Survey of Ocean County, New Jersey.* United States Department of Agriculture, Soil Conservation Service, Washington, D.C.

Hunter Research, Inc.

2003 Phase IB/II Submerged and Shoreline Cultural Resources Investigations Beach Haven Borough, Long Beach Township Ship Bottom Borough and Surf City Borough (Long Beach Island) Ocean County, New Jersey. Report on file, State Historic Preservation Office, Trenton, New Jersey.

Kardas, S. and E. Larrabee

1980 Prehistoric and Historic Archaeological Survey of Three Project Sites in Ocean County. Report on file, State Historic Preservation Office, Trenton, New Jersey.

1981 Cultural Resource Survey, Holiday City South, Addendum to: Cultural Resource Survey, Holiday City West, Berkeley Township, Ocean County, New Jersey. Report on file, State Historic Preservation Office, Trenton, New Jersey.

Kinsey, W. Fred

1972 *Archaeology in the Upper Delaware Valley.* Anthropological Series, No. 2. Pennsylvania Historical and Museum Commission, Harrisburg, Pennsylvania.

Kraft, John, Daniel Belknap, and I. Kayan

1983 Potentials of Discovery of Human Occupation Sites on the Continental Shelves and Nearshore Coastal Zone. *Quaternary Coastlines and Marine Archaeology: Towards the Prehistory of Land Bridges and Continental Shelves,* edited by P. Masters and N. Flemming, pp. 87-100. Academic Press, London, England.

Lange, Edward

2005 Resident. Ship Bottom, New Jersey. Personal communication. November 2, 2005.

Lewis, Tom

1997 *Divided Highways: Building the Interstate Highways, Transforming American Life.* Viking, a member of Penguin Putnam, Incorporated, New York City, New York.

Long Beach Island Board of Trade

1959 *Long Beach Island: Business Directory and Guide Book.* Long Beach Island Board of Trade, Ship Bottom, New Jersey.

Lloyd, John Bailey

1990 *Six Miles at Sea: A Pictorial History of Long Beach Island, N.J.* Down the Shore Publishing, Harvey Cedars, New Jersey and The Sandpaper, Incorporated, Surf City, New Jersey.

2004 Ship Bottom. Published in *Encyclopedia of New Jersey.* Rutgers University Press, New Brunswick, New Jersey.

McCormick Taylor, Inc.

2004 Final Feasibility Assessment for N.J. Route 72/Ship Bottom Borough M.P. 28.20 to 28.74 Borough of Ship Bottom, Ocean County, New Jersey. Report prepared for New Jersey Department of Transportation Division of Project Planning and Development, Trenton, New Jersey.

Milliman, J. and K. Emery

1968 Sea Levels during the Past 35,000 Years, *Science* 162:1121-1123.

Mounier, R. Alan

1977 A Stage I Archaeological Survey of Portions of Stafford Township Ocean County, New Jersey. Report on file, State Historic Preservation Office, Trenton, New Jersey.

1978 The Environmental Basis of Prehistoric Occupation on the New Jersey Coastal Plains, *Man in the Northeast* 15/16:42-69.

1982 The Archaic Period in Southern New Jersey. *New Jersey's Archaeological Resources: A Review of Research Problems and Survey Priorities. The Paleoindian Period to the Present*. O. Chesler, ed., pp. 71-102. Historic Preservation Office, Trenton, New Jersey.

1988 An Archaeological Survey of Block 160, Lot 1; Block 161, Lot 1 Barnegat Township, Ocean County, New Jersey. Report on file, State Historic Preservation Office, Trenton, New Jersey.

1990 An Archaeological Survey of Proposed AT&T Trans-Atlantic Telecommunications Cable No. 9 (TAT-9) Stafford Township, Ocean County, N.J. Report on file, State Historic Preservation Office, Trenton, New Jersey.

1993 Archaeological Survey of Proposed Sewer Installation, Cedar Run Dock Road Eaglewood Township, Ocean County, New Jersey. Report on file, State Historic Preservation Office, Trenton, New Jersey.

National Park Service (NPS)

1997a *National Register Bulletin:* "How to Apply the National Register Criteria for Evaluation." United States Department of the Interior, Washington, D.C.

1997b *National Register Bulletin: "Defining Boundaries for National Register Properties*." United States Department of the Interior, Washington, D.C.

New Jersey Secretary of State

1914 *Corporations of New Jersey: List of Certificates to December 31, 1911.* MacCrellish and Quigley, State Printers, Trenton, New Jersey.

Ocean County Deed Book
Ocean County Clerk's Office, Toms River, New Jersey.

Philadelphia Maritime Exchange
1895 *Hand Book of the Lower Delaware River.* The Philadelphia Maritime Exchange, Philadelphia, Pennsylvania.

Ranere, Anthony J. and Patricia Hansell
1987 A Comprehensive World Plan for the Development of a Predictive Model of Prehistoric Site Occurrences within the Pinelands Area. Unpublished ms. on file, New Jersey Pinelands Commission, New Lisbon, New Jersey.

Research and Archaeological Management, Inc. (RAM)
1987 Cultural Resource Survey Lumbermens Mortgage Corporation Project Block 174, Lots 35 and 37A Barnegat Township Ocean County, New Jersey. Report on file, State Historic Preservation Office, Trenton, New Jersey.

Schuldenrein, Joseph
1995 Prehistory and the Changing Holocene Geography of Dogan Point, *Dogan Point: A Shell Matrix Site in the Lower Hudson Valley,* edited by Cheryl Classen, pp. 39-63. Occasional Publications in Northeastern Anthropology No. 14.

Snyder, John P.
1969 *The Story of New Jersey's Civil Boundaries.* New Jersey Geological Survey, Trenton, New Jersey.

State of New Jersey Highway Department
1929 *Road Map of New Jersey: Showing State Highway Routes and Other Principal Roads.* State Highway Commission, Trenton, New Jersey.

Skinner, Alanson and Max Schrabisch
1913 A Preliminary Report of the Archaeological Survey of the State of New Jersey, *Geological Survey of New Jersey, Bulletin No. 9.* Geological Survey of New Jersey, Trenton, New Jersey.

Stanzeski, Andrew J.
1981 Quahog "Shell Tools," *Bulletin of the Archaeological Society of new Jersey* 37:15-18.

Stevens, E.A.
1914 *Twenty-First Annual Report of the Commissioner of Public Roads for the Year Ending October 31st 1914.* State Gazette Publishing Company, Printers, Trenton, New Jersey.

Stoltman, James B. and David N. Baerreis

1983 The Evolution of Human Ecosystems in the Eastern United States, *Late Quaternary Environments of the United States*. Vol. 2. H.E. Wright Jr., ed., pp. 252-268. University of Minnesota Press, Minneapolis, Minnesota.

Thurman, Melburn

1976 Report on Archaeological and Historical Survey of the Proposed Sanitary Sewers in Dover Township, Ocean County. Report on file, State Historic Preservation Office, Trenton, New Jersey.

Tingey, Andrea

2005 Survey Coordinator, Historic Preservation Office, Department of Environmental Protection, Trenton, New Jersey. Personal Communication. November 3, 2005.

Walwer, Gregory and Peter Pagaoulatos

1990 Native American Land-Use Patterns of the Outer Coastal Plain of New Jersey. *Bulletin of the Archaeological Society of New Jersey*. 45:77-95.

Weiss, Harry and Grace M. Weiss

1960 *Early Sports and Pastimes in New Jersey.* The Past Times Press, Trenton, New Jersey.

Widmer, K.

1964 *The Geology and Geography of New Jersey*. D. Van Nostrand Co., Princeton, New Jersey.

Wilson, Budd

1977 EIS Historical and Archaeological Resources for Sanitary Sewer System to Serve Barnegat Center and the Bayshore Area of Barnegat Township (formerly Union) Ocean County. Report on file, State Historic Preservation Office, Trenton, New Jersey.

1980a Cultural Resource Survey Rose Hill Barnegat Township Ocean County, New Jersey. Report on file, State Historic Preservation Office, Trenton, New Jersey.

1980b Cultural Resource Survey Linpro Property South of Mill Creek Stafford Township Ocean County, New Jersey. Report on file, State Historic Preservation Office, Trenton, New Jersey.

1986 Cultural Resource Survey, The Woodlands, Block 394, Lots 68 and 69, Dover Township, Ocean County, New Jersey. Report on file, State Historic Preservation Office, Trenton, New Jersey.

1989 Cultural Resource Survey, Block 535, Lots 15, 16, 17, 21, 22, 24, and 31, Dover Township, Ocean County, New Jersey. Report on file, State Historic Preservation Office, Trenton, New Jersey.

Wilson, Harold F.
1953 *The Jersey Shore: A Social and Economic History of the Counties of Atlantic, Cape May, Monmouth, and Ocean.* Lewis Historical Publishing Company, New York City, New York.

Wolfe, Peter E.
1977 *The Geology and Landscape of New Jersey*. Crane, Russak & Company, New York.

Zinkin, Vivian
1976 *Place Names of Ocean County New Jersey : 1609-1849.* Ocean County Historical Society, Toms River, New Jersey.

Internet Resources:

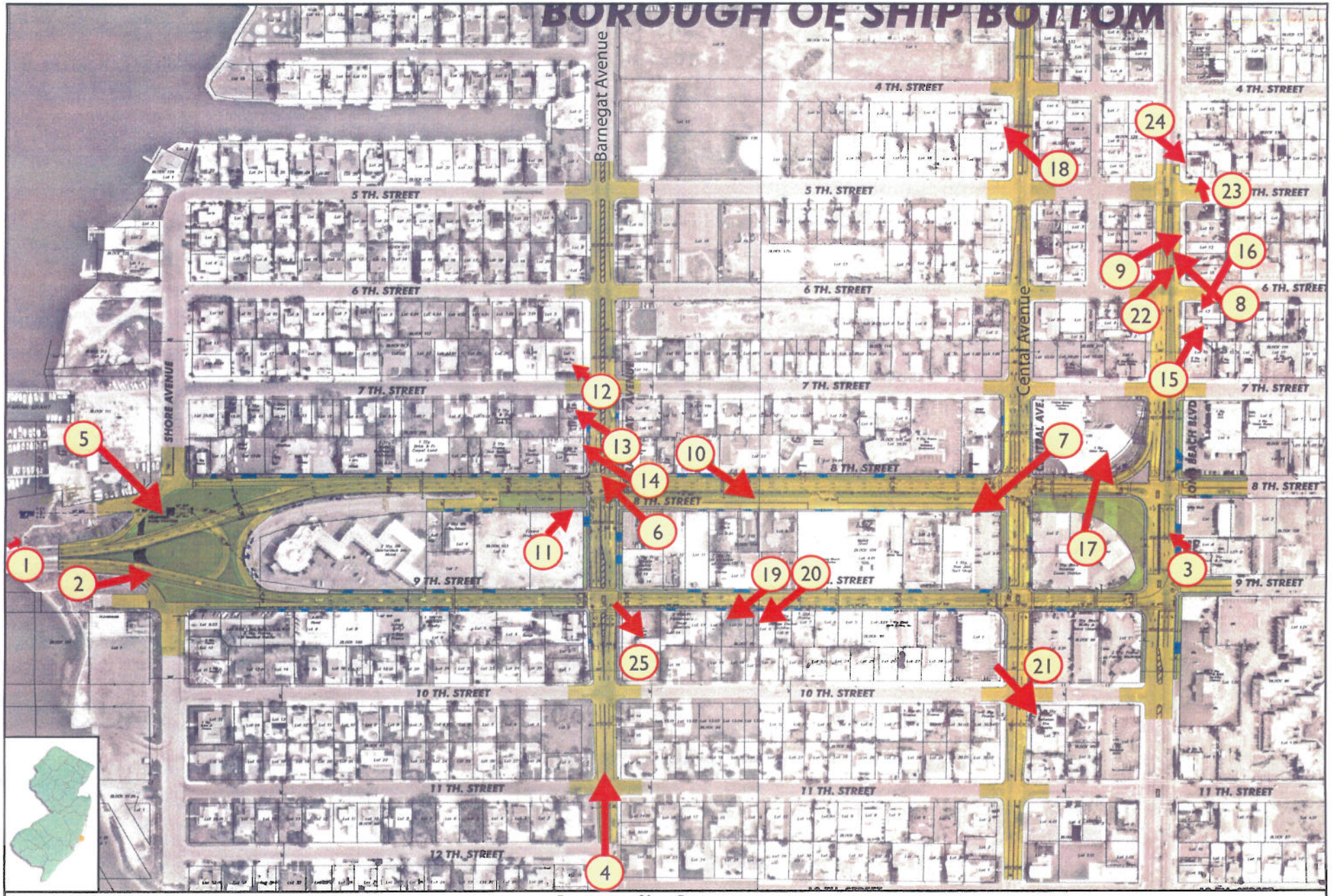
Coast Guard history website
2005 http://www.uscg.mil/hq/g-cp/history/STATIONS/SHIP%20BOTTOM.html [accessed 17 November 2005]

New Jersey Highways website
2005 http://web.mit.edu/smalpert/www/roads/spui/sr.html [accessed 25 June 2005]

USDA-NCRS
2005 Official Soil Series Descriptions. http://ortho.ftw.nrcs.usda.gov/cgi-bin/osd/osdname.cgi?-P [accessed 29 September 2005]

Workforce New Jersey Public Information Network website
2005 http://www.wnjpin.net/OneStopCareerCenter/LaborMarketInformation/lmi12/norlmr/sussex.htm [accessed 22 March 2005]

Appendix A: Photograph Location Key Sheet



Map Document X: Graphics\Projects\P-846\Mapping\Appendix A.ai

Not to Scale

LEGEND
PROPOSED ROADWAY
PROPOSED DRAINAGE
PROPOSED SIDEWALK
PROPOSED ACCESS
EXISTING DRAINAGE
PROPOSED BUFFER STRIP
PROPOSED EMERGENCY ACCESS

Appendix A
Photograph Location Key Sheet

Cultural Resources Survey
New Jersey Route 72, Ship Bottom Operational and Drainage Improvements
Borough of Ship Bottom, Ocean County, New Jersey

10 Photo Number and angle

Source: Aerial Photograph of Project Location

Appendix B:
Project Documents

AREA OF POTENTIAL EFFECTS REPORT
ROUTE 72 CORRIDOR IMPROVEMENTS

STAFFORD TOWNSHIP AND SHIP BOTTOM BOROUGH
OCEAN COUNTY

JANUARY 2005

Prepared by:
New Jersey Department
of Transportation
Bureau of Environmental
Project Support

Area of Potential Effects Report
Route 72 Corridor Improvements
Stafford Township and Ship Bottom Borough
Ocean County

Introduction

This report delineates the Area of Potential Effects (APE) for improvements to segments of the Route 72 corridor (milepost 25.5 to milepost 28.74) in Stafford Township and Ship Bottom Borough, Ocean County (see Figure 1). The need to improve segments of the Route 72 corridor was developed from the Regional Transportation Problem Statement covering Route 72, the latest Bridge Evaluation Survey Reports for the Route 72 structures over Manahawkin Bay and coordination with local officials and stakeholders. The problem statement notes unacceptable conditions for the physical aspects of Route 72 including structures, operational problems, capacity issues and safety (flooding) concerns. Also identified was the need to improve the facilities for pedestrian and bicycle compatibility and compliance with ADA requirements.

Route 72 is an east-west, four-lane rural principal arterial route, multi-functional roadway providing both local and regional accessibility to Long Beach Island in Ocean County. Route 72 provides access to numerous residential and commercial establishments within the project limits. In the project area from west to east, Route 72 is divided by a grass median until it crosses Manahawkin Bay, in Ship Bottom the highway divides again and is separated by commercial development. Route 72 terminates at a T intersection with Long Beach Boulevard.

Project Description

The project will consist of improving three distinct segments of Route 72. The limits of the first section include the intersection of Marsha Drive and extend from M.P. 25.50 to M.P. 25.85. The second section contains the portion of Route 72 beginning at M.P. 26.25, it includes the existing structures over Manahawkin Bay and terminates at the eastern end of the bridge over East Thorofare at M.P. 28.20. The third section extends the remainder of the project limits from M.P. 28.20 to the eastern project limit at M.P. 28.74. Continuous sidewalk will be provided where needed from Marsha Drive to Long Beach Boulevard.

The first section contains the signalized intersection of Route 72 and Marsha Drive where operational improvements are needed. The second section contains the four bridges over Manahawkin Bay for which structural and geometric issues need to be addressed. A new parallel structure to the south of the existing Manahawkin Bay Bridge is being considered for this section. The third section is the Long Beach Island portion where improvements to the drainage and operational issues are of primary concern. It is anticipated that all improvements will be made within the existing ROW of Route 72 and the local streets.

Area of Potential Effects

The APE is defined in 36 CFR 800.16(d) as "the geographic area or areas within which an undertaking may directly or indirectly cause changes in the character or use of historic properties, if any such properties exist. The area of potential effects is influenced by the scale and nature of the undertaking and may be different for different kinds of effects cause(d) by the undertaking." Included within the APE are all locations where an undertaking may result in disturbance of the ground, from which elements of the undertaking may be visible, and where the activity may result in changes in traffic patterns, land use, public access, etc. The APE for archaeology and architecture are often different as a result of this definition.

The APE footprint for archaeology includes the areas that will be directly impacted by the project as shown on map Figures 2, 3 & 4. Specifically, the APE includes an approximate 2.84-mile corridor of Route 72 from M.P. 25.5 to M.P. 25.85 and from M.P. 26.25 to M.P. 28.74, as well as intersecting street approaches.

The APE footprint for architecture is a considerably larger area in which the project may directly or indirectly cause changes in the character or use of historic properties, see map Figures 5, 6 & 7. The APE begins approximately 800 feet west of Marsha Drive and extends approximately 800 feet east beyond the signal along a 400-foot wide corridor centered on the center line of Route 72 and including the approaches. The APE resumes approximately 200 feet west of the Hillards Thorofare structure's western abutment and the 400-foot wide corridor extends to the eastern abutment of the East Thorofare structure. The APE for Ship Bottom begins at the eastern abutment of the East Thorofare and encompasses all properties fronting on 8th and 9th Streets from the bay to Long Beach Boulevard and roadway work abutting properties fronting on Barnegat and Central Avenues and Long Beach Boulevard from 12th Street to 3rd Street. A preliminary cultural resources screening of the project limits identified no listed properties on the National Register. However, three potentially eligible structures/districts were identified in both municipalities. Buildings more than 50 year of age within the APE will be documented on SHPO historic structure survey forms. Background research and fieldwork will be performed to provide a historic and architectural context in which to evaluate the National Register-eligibility of affected resources within the APE.

Consulting Parties

In accordance with 36 CFR 800.2 participation in the Section 106 process has been initiated via the Department's prior individual meetings with public officials of the affected municipalities. A project Kick-off Meeting (Manahawkin Bay structures) was held October 27, 1999 and subsequent officials meetings January 3, 2001, May 9, 2001 and November 9, 2004. Public Officials meetings for the Ship Bottom project were held April 2, 2002, March 5, 2004, May 20, 2004 and a Public Information Center (PIC) was held at the Long Beach Island Grade School on June 10, 2004. The PIC was held as part of the public outreach/consultation program to provide a means to keep stakeholders and the public informed of the progress and development of the project.

Consulting Parties

New Jersey Department of Transportation
PO Box 600
Trenton, New Jersey 08625-0600

New Jersey Department of Environmental Protection
Division of Parks and Forestry, Historic Preservation Office
PO Box 404
Trenton, New Jersey 08625-0404

Mr. Steven Pollock
Ocean County Administrator
PO Box 2191
Toms River, New Jersey 08754-2191

Mayor William Huelsenbeck
Borough of Ship Bottom
1621 Long Beach Boulevard
Ship Bottom, New Jersey 08008

Mayor Carl Block
Township of Stafford
260 East Bay Avenue
Manahawkin, New Jersey 08050

Identified local historic preservation groups/local individuals with an identified interest in preservation

Stafford Township Heritage Center
North Main Street (Route 9)
Manahawkin, New Jersey 08050

Barbara Hopkins, Director
Stafford Township Historical Society
27 Sycamore Road
Manahawkin, New Jersey 08050

Ms. Suzette Whiting
Long Beach Island Historical Association
Engleside and Beach Avenues
PO Box 1222
Beach Haven, New Jersey 08008

Ms. Cynthia H. Smith, Administrator
Ocean County Cultural and Heritage Commission
101 Hooper Avenue, Room 203-2
CN 2192
Toms River, New Jersey 08754-2192

Ms. Marian G. Moore
Ocean County Historical Society
26 Hadley Avenue
PO Box 2191
Toms River, New Jersey 08754-2191

Involvement of Public Participation

Pursuant to 36 CFR 800.3(e) and (f) consulting is to be performed with the public and interested parties to identify potential cultural resources and to determine the potential impacts that may be caused by the project.

Presentation of the Initially Preferred Alternative for the Ship Bottom project, developed as a result of the Feasibility Study, was made to the public via a Public Information Center on June 10, 2004. A project information handout was mailed to surrounding property owners and stakeholders. The project handout to be prepared for the next PIC will include a statement that the project will be developed in compliance with NEPA and more specifically, pursuant to the National Historic Preservation Act of 1966.

During data collection the interested parties and consultant parties noted above will be contacted to ensure the identification of known resources. Discussions will continue with these parties through the analysis phase to assist in the determination of effects.

Concurrent with the submission of the project's cultural resources report to the State Historic Preservation Office, the cultural resources report will be circulated to the organizations/individuals noted above for comments.

J. McC.

RECEIVED
JUN 13 2005
MAYOR'S OFFICE

04047680I-Sea
cc: PM Pook (NJDO
John Lawrence (AD Mar

State of New Jersey

Richard J. Codey
Acting Governor

Department of Environmental Protection
Natural and Historic Resources, Historic Preservation Office
PO Box 404, Trenton, NJ 08625
TEL: (609) 292-2023 FAX: (609) 984-0578
www.state.nj.us/dep/hpo

Bradley M. Campbell
Commissioner

HPO-F2005-25
June 6, 2005
Log # 05-0794-2

Note:
Rte 72 Ship Bottom
Project Limits = MP 28.25 to MP 28.74
79 Freq

Ms. Pamela Garrett
Environmental Team Leader, Group Six
Division of Environmental Resources
New Jersey Department of Transportation
1035 Parkway Avenue
Post Office Box 600
Trenton, New Jersey 08625-0600

Dear Ms. Garrett:

As Deputy State Historic Preservation Officer for New Jersey, in accordance with 36 CFR Part 800: Protection of Historic Properties, as published in the ***Federal Register*** on December 12, 2000 (65 FR 77725-77739) and amended on July 6, 2004 (69 FR 40544-40555), I am providing **Initial Consultation Comments** for the following proposed undertaking:

Route 72 Corridor (Roadway, Intersections, and Structures)
Mileposts 25.5 to 28.74
Borough of Ship Bottom and Township of Stafford, Ocean County.

This letter is in response to your submission of documents initiating consultation in accordance with 36 CFR Parts 800.3 and 800.4.

800.3 Initiation of the Section 106 Process

I concur that the New Jersey Department of Transportation (NJDOT), Historic Preservation Office (HPO), the County of Ocean, Borough of Ship Bottom, and Township of Stafford are the appropriate public agency consulting parties at this stage of the Section 106 consultation. Public involvement activities may identify or elicit additional consulting parties. The public involvement activities described on page 4 of your memorandum appear appropriate to the nature and magnitude of the proposed undertaking.

The cultural resources report(s) should acknowledge, in accordance with the public involvement plan, the comments and/or information provided by consulting parties and individuals and organizations with a knowledge of or an interest in historic properties within the project Area of Potential Effects (APE). The documentation of public participation in the evaluation of historic resources and project effects will substantially enhance the quality, timeliness, and public value of the Section 106 consultation. Please note that, as a result of the discussions between HPO and NJDOT staff at a Section 106 Implementation Procedures Meeting held on June 7, 2000, NJDOT agreed (as presented in a June 7, 2000 NJDOT memorandum of record) that "cultural resources survey reports will be sent to all consulting parties in order to solicit input on the various elements of the project [identification, evaluation, alternatives to avoid or minimize adverse effects if they are anticipated, and potential mitigation measures]." The HPO requests that all consulting parties be afforded a concurrent opportunity to review and comment on the cultural resources report(s).

I agree that the described and delineated historic archaeology and architecture Areas of Potential Effects (APE) are appropriate to the scale and nature of the proposed project and that the Ocean County Cultural and Heritage Commission, Ocean County Historical Society, Stafford Township Historical Society, Stafford Township Heritage Center, and Long Beach Island Historical Association may have an interest in or a knowledge of historic resources within the APE and should be involved in the identification and evaluation of historic properties.

Should you need any assistance in identifying or evaluating potential historic resources or if you have any questions regarding these comments, please contact Charles Scott at (609) 633-2396 or Steve Hardegen at (609) 984-0141.

Sincerely,

Dorothy P. Guzzo
Deputy State Historic
Preservation Officer

C: Elkins Green, NJDOT, BEPS
Jeanette Mar, Environmental Coordinator, FHWA
Lourdes Castaneda, Area Engineer, FHWA
Consulting and Interested Parties List

CS/C/NJDOTF2005-25Route72Bridges

Appendix C:
NJSHPO Survey Forms

BASE FORM

Historic Sites #:

Property Name: Haines Property

Street Address: *Street #:* 1120 *(Low)* *(High)* *Apartment #:* *(Low)* *(High)*

Prefix: *Street Name:* Central *Suffix:* *Type:* Ave.

County(s): Ocean **Zip Code:** 08008

Municipality(s): Ship Bottom Borough **Block(s):** 88

Local Place Name(s): Long Beach Island **Lot(s):** 5

Ownership:: Private **USGS Quad(s)** Ship Bottom

Description: This is a single-story, side gable duplex resting on a concrete block foundation. There are two pedestrian entrances on the façade, which faces south. There are several window types, including a five-part Chicago window and paired, 1/1 double-hung sash windows. The building is accessed on the façade by a raised concrete block deck, which has brick trim. On the north side of the building is a modern wood deck with a handicap ramp.

Registration and Status Dates:

National Historic Landmark: N/A

SHPO Opinion: N/A

National Register: N/A

Local Designation: N/A

New Jersey Register: N/A

Other Designation: N/A

Determination of Eligibility: N/A

Other Designation Date: N/A

Photograph 1: Overview of property, showing residence and garage looking northeast.

Survey Name: Route 72 Corridor Improvements Date: 12/13/05

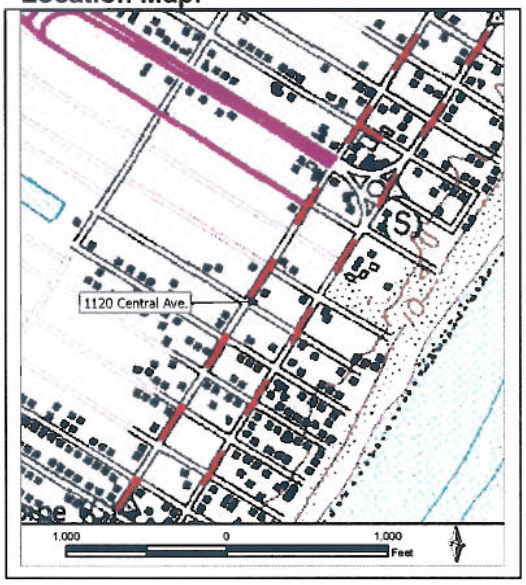
Surveyor: Lauren C. Archibald and Christopher Gebert

Organization: A. D. Marble & Company, 18000 Horizon Way, Ste. 200, Mt. Laurel, New Jersey 08054

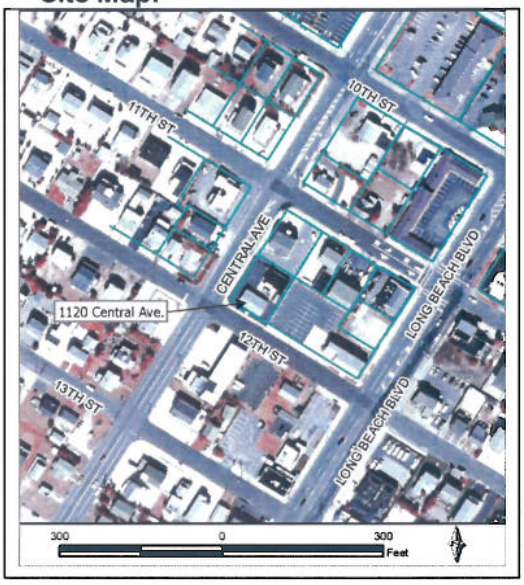
BASE FORM

Historic Sites #:

Location Map:



Site Map:



Bibliography/Sources:

Borough of Ship Bottom Tax Assessor files for individual properties. Borough of Ship Bottom Municipal Building, Ship Bottom, Ocean County, New Jersey.

Long Beach Island Board of Trade
1959 *Long Beach Island: Business Directory and Guide Book*. Long Beach Island Board of Trade, Ship Bottom, New Jersey.

National Park Service (NPS)
1997 National Register Bulletin, "How to Apply the National Register Criteria for Evaluation." United States Department of the Interior, Washington, D.C.

Snyder, John Parr
1969 *The Story of New Jersey's Civil Boundaries: 1606-1968*. Bulletin 67. Bureau of Geology and Topography, Trenton, New Jersey.

Additional Information:

More Research Needed? ☐ Yes ☒ No

INTENSIVE LEVEL USE ONLY

Attachments Included: ☒ Building ☐ Structure ☐ Object ☐ Bridge ☐ Landscape ☐ Industry

Within Historic District? ☐ Yes ☒ No

Status: ☐ Key-Contributing ☐ Contributing ☐ Non-Contributing

Associated Archaeological Site/Deposit? ☐ Yes
(Known or potential Sites – if yes, please describe briefly)

BUILDING ATTACHMENT

Historic Sites #:

Common Name: Haines Property
Historic Name: Brown Property
Present Use: residential activity/permanent
Historic Use: residential activity/permanent
Construction Date: 1953-1955 **Source:** tax assessment data
Alteration Date(s): **Source:**
Designer: **Physical Condition:** good
Builder: **Remaining Historic Fabric:** medium
Style: None
Form: Duplex **Stories:** 1
Type: **Bays:** 6
Roof Finish Materials: asphalt shingle
Exterior Finish Materials vinyl siding

Exterior Description: This is a single-story, side gable duplex resting on a concrete block foundation. There are two pedestrian entrances on the façade, which faces south. There are several window types, including a five-part Chicago window and paired, 1/1 double-hung sash windows. The building is accessed on the façade by a raised concrete block deck, which has brick trim. On the north side of the building is a modern wood deck with a handicap ramp.

Interior Description: N/A

Setting: The building is on a corner lot at 12th Street and Central Avenue. The residence faces 12th Street. There is a fairly large, asphalt parking lot to the rear (north of the building). A garage, which was formerly a commercial garage, is located in the northeast corner of the lot. A low, concrete block wall surrounds the north and east perimeters of the property.

ELIGIBILITY WORKSHEET

Historic Sites #:

History: The residence at 1120 Central Avenue was built in 1953 and 1955 according to the Ship Bottom Borough tax assessor files. In 1937, the borough retained the civil engineering firm of Sherman & Sleeper, C.E., to survey and draft a plan of lots for Ship Bottom. Sherman & Sleeper completed their work in May of the same year and the engineering firm presented its drawing, "Plan of Lots Belonging to the Borough of Ship Bottom-Beach Arlington," to the borough and then filed the document at the Ocean County Clerk's Office. In 1953, James and Edith Brown conveyed this lot to Earl and Florence Fitian. Upon Mr. Fitian's death in 1966, Cherie Marie Haines, the current owner, acquired the parcel. Ms. Haines indicated that the garage on this property formerly served as a boat repair shop, and that it is now used for storage. Ms. Haines indicated that her parents built the house, and that the garage was erected before the house was built. She also stated that she converted her duplex into a single residence.

Significance: The 1.3-mile-long Borough of Ship Bottom evolved from a number of planned developments, some successful and others not. Beginning in 1886, the railroad reached the island, and during the 1890s, promoters platted an area at the point that the railroad reached Long Beach Island, but no lots were sold. In 1908, that area (present-day Ship Bottom from 3rd to 7th Streets) was named "Edgewater Beach," and 30 bungalows were built and successfully sold within two years. However, relatively little construction occurred in this portion of Ship Bottom until after World War II. Following the end of the War, the national population rose dramatically, and improved highways made the New Jersey coast more accessible than ever, leading former day-trippers to purchase building lots and construct modest homes in Ship Bottom and other seaside resorts along the Jersey shore. In 1947, the borough shortened its name to Ship Bottom Borough (Snyder 1969:205). By 1959, Ship Bottom had a winter population of 1,227, but summer visitors swelled that number to about 16,000 (Long Beach Island Board of Trade 1959:64). Population growth continued into the 1980s, after which time it reversed its upward trend. During the last few decades of the twentieth century, some Ship Bottom residents remodeled and, in some cases, enlarged their properties in order to create one or more rental units for temporary summer residents.

Eligibility for New Jersey and National Registers: ☐ Yes ☒ No **National Register Criteria:** ☐ A ☐ B ☐ C ☐ D

Level of Significance ☐ Local ☐ State ☐ National

Justification of Eligibility/Ineligibility: See Attached Continuation Sheet

For Historic Districts Only:

Property Count: Key Contributing: _____ Contributing: _____ Non Contributing: _____

For Individual Properties Only:

List the completed attachments related to the property's significance:
Building Attachment (1)
Structure Attachment (1)

Narrative Boundary Description:

CONTINUATION SHEET

Historic Sites #:

Justification of Eligibility/Ineligibility: The property at 1120 Central Avenue, Ship Bottom, New Jersey is recommended not eligible for listing in the New Jersey and National Registers of Historic Places based on the criteria outlined in National Register Bulletin, "How to Apply the National Register Criteria for Evaluation" (National Park Service [NPS] 1997). The property does not appear to be significant under Criteria A, B, or C. Based on a review of the general history of the area, the property does not appear to be significant under Criterion A for its association with mid-twentieth-century development in the Borough of Ship Bottom or Ocean County. The property does not appear to have been associated with a historically significant individual; therefore, the resource is recommended not eligible under Criterion B. The dwelling and the garage are examples of common forms of the mid-twentieth century; they have been altered and renovated over time. The property is recommended not eligible for listing in the National Register under Criterion C due to a lack of architectural significance and integrity. The property is also ineligible for listing as part of a district. Although this area contains planned streets and many uniform lots sizes, it does not include design features (such as curbing and landscaping) and harmonious building types with common periods of construction and/or architectural styles of the mid-twentieth century. The property does not appear to be significant under Criterion D for its potential to yield information, as any previous archeological remains have likely been disturbed by recent earth removal and relocation.

CONTINUATION SHEET

Historic Sites #:

Photograph 2: Garage, looking southwest.

STRUCTURE ATTACHMENT

Historic Sites #:

Common Name: Haines Property
Historic Name: Brown Property
Present Use: residential activity/permanent
Historic Use: commercial activity/boat repair shop
Construction Date: 1953 **Source:** tax assessor data
Alteration Date(s): **Source:**
Designer: **Physical Condition:** fair
Builder: **Remaining Historic Fabric:** low
Type: garage
Roof Finish Materials: asphalt shingle
Exterior Finish Materials stucco

Exterior Description: This is a one-story, concrete block garage that is sheathed with stucco. There are a variety of window types on the building, including fixed 1/1, 1/1 paired, and a 10-pane fixed window. The overhead garage door has been replaced; there are also several pedestrian doors on the building.

Interior Description: N/A

Setting: The building is on a corner lot at 12th Street and Central Avenue, and the residence faces 12th Street. There is a fairly large, asphalt parking lot to the rear (north) of the building. A garage, which was formerly a commercial garage, is located in the northeast corner of the lot. A low, concrete block wall surrounds the north and east perimeters of the property.

BASE FORM

Historic Sites #:

Property Name: Chelis/Roper Property

Street Address: *Street #:* 1117 *(Low)* *(High)* *Apartment #:* *(Low)* *(High)*

Prefix: *Street Name:* Central *Suffix:* *Type:* Ave.

County(s): Ocean **Zip Code:** 08008

Municipality(s): Ship Bottom Borough **Block(s):** 89

Local Place Name(s): Long Beach Island **Lot(s):** 1

Ownership:: Private **USGS Quad(s)** Ship Bottom

Description: This is a one-story Ranch house, with a five-part Chicago window on the façade and an asymmetrical entrance. Other windows are generally the 1/1 double-hung sash type, which are adorned by inoperable shutters. The house has a side-gable roof with a cross-gable porch on the main elevation. The building is sheathed with asbestos shingles. The front porch has a replaced balustrade, as well as decorative trellis-like supports and corner brackets. There is a small wood deck in the rear of the house. There is also a modern two-story garage apartment on this property.

Registration and Status Dates:

National Historic Landmark: N/A SHPO Opinion: N/A

National Register: N/A Local Designation: N/A

New Jersey Register: N/A Other Designation: N/A

Determination of Eligibility: N/A Other Designation Date: N/A

Photograph 1: View of house, view to northwest.

Survey Name: Route 72 Corridor Improvements Date: 12/13/05

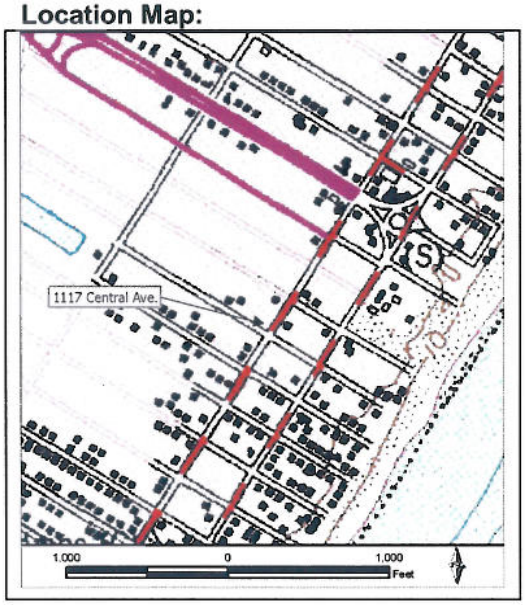
Surveyor: Lauren C. Archibald and Christopher Gebert

Organization: A. D. Marble & Company, 18000 Horizon Way, Ste. 200, Mt. Laurel, New Jersey 08054

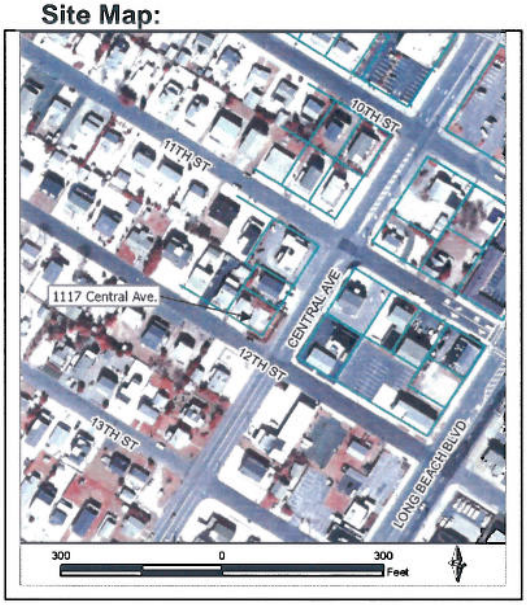
BASE FORM

Historic Sites #:

Location Map:



Site Map:



Bibliography/Sources:

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Long Beach Island Board of Trade
1959 *Long Beach Island: Business Directory and Guide Book*. Long Beach Island Board of Trade, Ship Bottom, New Jersey.

National Park Service (NPS)
1997 National Register Bulletin, "How to Apply the National Register Criteria for Evaluation." United States Department of the Interior, Washington, D.C.

Snyder, John Parr
1969 *The Story of New Jersey's Civil Boundaries: 1606-1968.* Bulletin 67. Bureau of Geology and Topography, Trenton, New Jersey.

Additional Information:

More Research Needed? ☐ Yes ☒ No

INTENSIVE LEVEL USE ONLY

Attachments Included: ☒ Building ☐ Structure ☐ Object ☐ Bridge
☐ Landscape ☐ Industry

Within Historic District? ☐ Yes ☒ No

Status: ☐ Key-Contributing ☐ Contributing ☐ Non-Contributing

Associated Archaeological Site/Deposit? ☐ Yes
(Known or potential Sites – if yes, please describe briefly)

BUILDING ATTACHMENT

Historic Sites #:

Common Name: Chelis/Roper Property
Historic Name: Fritzsche Property
Present Use: residential activity/permanent
Historic Use: residential activity/permanent
Construction Date: 1950 **Source:** tax assessment data
Alteration Date(s): **Source:**
Designer: **Physical Condition:** good
Builder: **Remaining Historic Fabric:** medium
Style: None
Form: Ranch **Stories:** 1
Type: **Bays:** 3
Roof Finish Materials: asphalt shingle
Exterior Finish Materials asbestos shingle

Exterior Description: This is a one-story Ranch house, with a five-part Chicago window on the façade and an asymmetrical entrance. Other windows are generally the 1/1, double-hung sash type, which are adorned by inoperable shutters. The house has a side-gable roof with a cross-gable porch on the main elevation. The building is sheathed with asbestos shingles. The front porch has a replaced balustrade, as well as decorative trellis-like supports and corner brackets. There is a small wood deck in the rear of the house. There is also a modern two-story garage apartment on this property.

Interior Description: N/A

Setting: This residence is situated at the northeast corner of Central Avenue and 13th Street in a residential area. Central Avenue is one of three primary north-south thoroughfares running through Ship Bottom; the other two being Barnegat Avenue and Long Beach Boulevard. Numbered cross streets are laid out in a grid pattern at right angles to these roads. The immediate locale is residential, and this property is on a 60.0-foot by 80.0-foot lot. The house faces east toward Central Avenue. The house is surrounded by a grassed lawn and some landscaped shrubs.

ELIGIBILITY WORKSHEET

Historic Sites #:

History: The residence at 1117 Central Avenue was built in 1950 according to the Ship Bottom Borough tax assessor files. In 1937, the borough retained the civil engineering firm of Sherman & Sleeper, C.E., to survey and draft a plan of lots for Ship Bottom. Sherman & Sleeper completed their work in May of the same year and the engineering firm presented its drawing, "Plan of Lots Belonging to the Borough of Ship Bottom-Beach Arlington," to the borough and then filed the document at the Ocean County Clerk's Office. In 1946, Bertha and Herbert Fritzsche of Philadelphia acquired this and several other nearby lots, which they may have been purchasing for investment purposes. In 1954, the Fritzsches sold this lot to Arthur and Sophie Hargis.

Significance: The 1.3-mile-long Borough of Ship Bottom evolved from several developments, some successful and others not. The railroad reached the island beginning in 1886, and during the 1890s promoters platted an area at the point that the railroad reached Long Beach Island, but no lots were sold. In 1908, that area (present-day Ship Bottom from 3rd to 7th Streets) was named "Edgewater Beach," and 30 bungalows were built and successfully sold within two years. In 1914, a causeway reached the island, and by 1925, "Ship Bottom-Beach Arlington" became an independent borough (Snyder 1969:205). However, relatively little construction occurred in most of Ship Bottom until after World War II. Following the end of the War, the national population rose dramatically, and improved highways made the New Jersey coast more accessible than ever, leading former day-trippers to purchase building lots and construct modest homes in Ship Bottom and other seaside resorts along the Jersey shore. In 1947, the borough shortened its name to Ship Bottom Borough (Snyder 1969:205). By 1959, Ship Bottom had a winter population of 1,227, but summer visitors swelled that number to about 16,000 (Long Beach Island Board of Trade 1959:64). Population growth continued into the 1980s, after which time it reversed its upward trend. During the last few decades of the twentieth century, some Ship Bottom residents remodeled and, in some cases, enlarged or rebuilt their properties in order to create one or more rental units for temporary summer residents.

Eligibility for New Jersey and National Registers: ☐ Yes ☒ No **National Register Criteria:** ☐ A ☐ B ☐ C ☐ D

Level of Significance ☐ Local ☐ State ☐ National

Justification of Eligibility/Ineligibility: See Attached Continuation Sheet.

For Historic Districts Only:

Property Count: Key Contributing: _____ Contributing: _____ Non Contributing: _____

For Individual Properties Only:

List the completed attachments related to the property's significance:
Building Attachment (1)

Narrative Boundary Description:

Survey Name: Route 72 Corridor Improvements Date: 12/13/05

Surveyor: Lauren C. Archibald and Christopher Gebert

Organization: A. D. Marble & Company, 18000 Horizon Way, Ste. 200, Mt. Laurel, New Jersey 08054

CONTINUATION SHEET

Historic Sites #:

Justification of Eligibility/Ineligibility:

The property at 1117 Central Avenue, Ship Bottom, New Jersey is recommended not eligible for listing in the New Jersey and National Registers of Historic Places based on the criteria outlined in National Register Bulletin, "How to Apply the National Register Criteria for Evaluation" (National Park Service [NPS] 1997). The property does not appear to be significant under Criteria A, B, or C. Based on a review of the general history of the area, the property does not appear to be significant under Criterion A for its association with mid-twentieth-century development in the Borough of Ship Bottom or Ocean County. The property does not appear to have been associated with a historically significant individual; therefore, the resource is recommended not eligible under Criterion B. The property at 1117 Central Avenue, Ship Bottom, New Jersey is an example of a mid-twentieth-century residential property containing a vernacular dwelling and a modern garage apartment. The residence is not remarkable in its execution and retains only modest integrity of materials due to renovations (such asbestos shingle siding, etc.). The resource is recommended not eligible for listing in the National Register under Criterion C due to a lack of architectural significance and integrity. The property is also ineligible for listing as part of a district. Although this area contains planned streets and many uniform lots sizes, it does not include design features (such as curbing and landscaping) and harmonious building types with common periods of construction and/or architectural styles of the mid-twentieth century. The property does not appear to be significant under Criterion D for its potential to yield information, as any previous archeological remains have likely been disturbed by recent earth removal and relocation.

CONTINUATION SHEET

Historic Sites #:

Photograph 2: View of property showing modern garage apartment and rear of house, view to northeast.

BASE FORM

Historic Sites #:

Property Name: Cassel Property

Street Address: *Street #:* 1010 *(Low)* *(High)* *Apartment #:* *(Low)* *(High)*

Prefix: *Street Name:* Barnegat *Suffix:* *Type:* Ave.

County(s): Ocean **Zip Code:** 08008

Municipality(s): Ship Bottom Borough **Block(s):** 94

Local Place Name(s): Long Beach Island **Lot(s):** 15

Ownership:: Private **USGS Quad(s)** Ship Bottom

Description: The building is a side gable, Minimal Traditional Cottage that has a five-bay façade with an off-center door; there is a picture window on the front, and three 1/1 windows. The exterior brick chimney on the south end may be a replacement. Other windows are also 1/1 type. The house rests on a concrete block foundation. A modern wood deck has been added to the rear of the house as well as a concrete deck added to the front. The front deck serves as an entrance to the house; there is no balustrade.

Registration and Status Dates:

National Historic Landmark: N/A SHPO Opinion: N/A

National Register: N/A Local Designation: N/A

New Jersey Register: N/A Other Designation: N/A

Determination of Eligibility: N/A Other Designation Date: N/A

Photograph 1: Residence, view to southwest.

Survey Name: Route 72 Corridor Improvements Date: 12/13/05

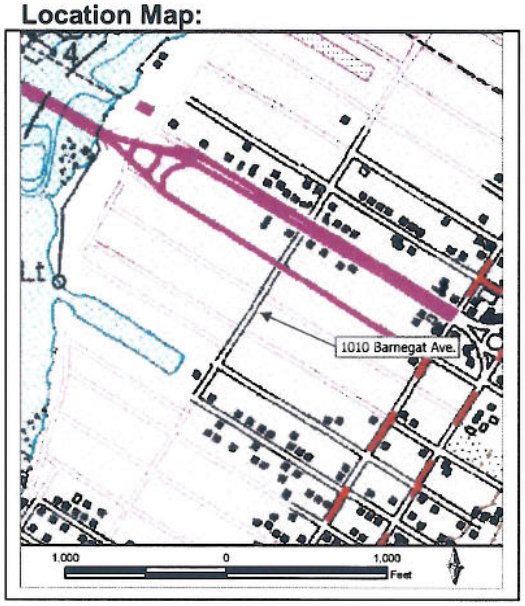
Surveyor: Lauren C. Archibald and Christopher Gebert

Organization: A. D. Marble & Company, 18000 Horizon Way, Ste. 200, Mt. Laurel, New Jersey 08054

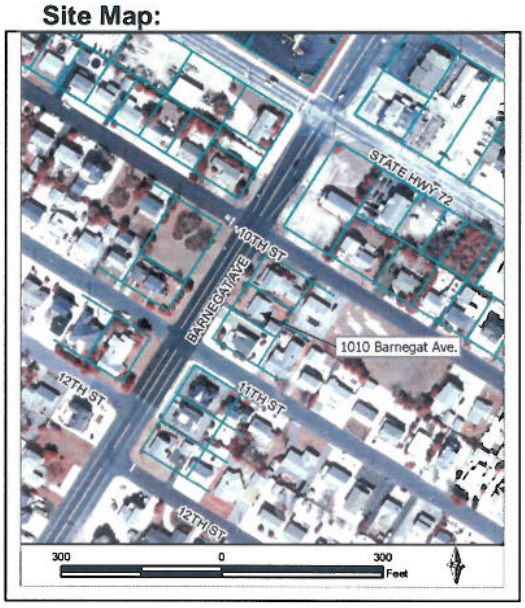
BASE FORM

Historic Sites #:

Location Map:



Site Map:



Bibliography/Sources:

Borough of Ship Bottom Tax Assessor files for individual properties. Borough of Ship Bottom Municipal Building, Ship Bottom, Ocean County, New Jersey.

Long Beach Island Board of Trade
1959 *Long Beach Island: Business Directory and Guide Book*. Long Beach Island Board of Trade, Ship Bottom, New Jersey.

National Park Service (NPS)
1997 National Register Bulletin, "How to Apply the National Register Criteria for Evaluation." United States Department of the Interior, Washington, D.C.

Snyder, John Parr
1969 *The Story of New Jersey's Civil Boundaries: 1606-1968.* Bulletin 67. Bureau of Geology and Topography, Trenton, New Jersey.

More Research Needed? ☐ Yes ☒ No

INTENSIVE LEVEL USE ONLY

Attachments Included: ☒ Building ☐ Structure ☐ Object ☐ Bridge
☐ Landscape ☐ Industry

Within Historic District? ☐ Yes ☒ No

Status: ☐ Key-Contributing ☐ Contributing ☐ Non-Contributing

Associated Archaeological Site/Deposit? ☐ Yes
(Known or potential Sites – if yes, please describe briefly)

BUILDING ATTACHMENT

Historic Sites #:

Common Name: Cassel Property
Historic Name: Bertha and Herbert Fritzsche Property
Present Use: residential activity/permanent
Historic Use: residential activity/permanent
Construction Date: 1950 **Source:** tax assessment data
Alteration Date(s): **Source:**
Designer: **Physical Condition:** good
Builder: **Remaining Historic Fabric:** low
Style: None
Form: Other **Stories:** 1
Type: **Bays:** 5
Roof Finish Materials: asphalt shingle
Exterior Finish Materials vinyl siding

Exterior Description: This property includes a residence and a garage. The residence is a side gable, Minimal Traditional Cottage that has a five-bay façade with an off-center door; there is a picture window on the front, and three 1/1 windows. The exterior brick chimney on the south end may be a replacement. Other windows are also 1/1 type. The house rests on a concrete block foundation. A modern wood deck has been added to the rear of the house, and a concrete deck was added to the front. The front deck serves as an entrance to the house; there is no balustrade.

Interior Description: Not Accessible

Setting: The house faces Barnegat Road and has a grassed yard with deciduous trees and minimal landscaping. An asphalt driveway on the south side of the lot leads to the garage. Fencing separates the property from adjacent residential development to the north and south.

ELIGIBILITY WORKSHEET

Historic Sites #:

History: The residence at 1010 Barnegat Avenue was built in 1954 according to the Ship Bottom Borough tax assessor files. In 1937, the Borough retained the civil engineering firm of Sherman & Sleeper, C.E., to survey and draft a plan of lots for Ship Bottom. Sherman & Sleeper completed their work in May of the same year and the engineering firm presented its drawing, "Plan of Lots Belonging to the Borough of Ship Bottom-Beach Arlington," to the borough and then filed the document at the Ocean County Clerk's Office. Helen J. Ludwig was the original purchaser of the lot, having acquired it from the Borough of Ship Bottom in 1954, who then contracted to have a home constructed.

Significance: The 1.3-mile-long Borough of Ship Bottom evolved from a number of planned developments, some successful and others not. Beginning in 1886, the railroad reached the island, and during the 1890s, promoters platted an area at the point that the railroad reached Long Beach Island, but no lots were sold. In 1908, that area (present-day Ship Bottom from 3rd to 7th Streets) was named "Edgewater Beach," and 30 bungalows were built and successfully sold within two years. However, relatively little construction occurred in this portion of Ship Bottom until after World War II. Following the end of the War, the national population rose dramatically, and improved highways made the New Jersey coast more accessible than ever, leading former day-trippers to purchase building lots and construct modest homes in Ship Bottom and other seaside resorts along the Jersey shore. In 1947, the borough shortened its name to Ship Bottom Borough (Snyder 1969:205). By 1959, Ship Bottom had a winter population of 1,227, but summer visitors swelled that number to about 16,000 (Long Beach Island Board of Trade 1959:64). Population growth continued into the 1980s, after which time it reversed its upward trend. During the last few decades of the twentieth century, some Ship Bottom residents remodeled and, in some cases, enlarged their properties in order to create one or more rental units for temporary summer residents.

Eligibility for New Jersey and National Registers: ☐ Yes ☒ No **National Register Criteria:** ☐ A ☐ B ☐ C ☐ D

Level of Significance ☐ Local ☐ State ☐ National

Justification of Eligibility/Ineligibility: See Attached Continuation Sheet

For Historic Districts Only:

Property Count: Key Contributing: _____ Contributing: _____ Non Contributing: _____

For Individual Properties Only:

List the completed attachments related to the property's significance:
Building attachment (1)

Narrative Boundary Description:

Survey Name: Route 72 Corridor Improvements Date: 12/13/05

Surveyor: Lauren C. Archibald and Christopher Gebert

Organization: A. D. Marble & Company, 18000 Horizon Way, Ste. 200, Mt. Laurel, New Jersey 08054

CONTINUATION SHEET

Historic Sites #:

Justification of Eligibility/Ineligibility:

The property at 1010 Barnegat Avenue, Ship Bottom, New Jersey is recommended not eligible for listing in the New Jersey and National Registers of Historic Places based on the criteria outlined in National Register Bulletin, "How to Apply the National Register Criteria for Evaluation" (National Park Service [NPS] 1997).

Based on a review of the general history of the area, the property does not appear to be significant under Criterion A for its association with mid-twentieth-century development in the Borough of Ship Bottom or Ocean County; therefore it is recommended not eligible under Criterion A. The property is unlikely to have been associated with a historically significant individual; therefore, the resource is recommended not eligible under Criterion B. The property is an example of a mid-twentieth-century residential property containing a vernacular dwelling and a modern garage. The residence has been altered with modern vinyl siding, replaced windows, etc. The resource is recommended not eligible for listing under Criterion C due to a lack of architectural significance and lack of integrity. The property is also ineligible for listing as part of a district. Although this area contains planned streets and many uniform lots sizes, it does not include design features (such as curbing and landscaping) and harmonious building types with common periods of construction and/or architectural styles of the mid-twentieth century. The property does not appear to be significant under Criterion D for its potential to yield information, as any previous archeological remains have likely been disturbed by recent earth removal and relocation.

CONTINUATION SHEET

Historic Sites #:

Photograph 2: Residence and modern garage, looking northeast.

BASE FORM

Historic Sites #:

Property Name: Hambleton Property

Street Address: *Street #:* 240 *(Low)* *(High)* *Apartment #:* *(Low)* *(High)*

Prefix: West *Street Name:* 9th *Suffix:* *Type:* St.

County(s): Ocean **Zip Code:** 08008

Municipality(s): Ship Bottom Borough **Block(s):** 99

Local Place Name(s): Long Beach Island **Lot(s):** 7

Ownership:: Private **USGS Quad(s)** Ship Bottom

Description: This is a small, one-story, Ranch-like cottage with a side gable roof. The façade has a central door, flanked by a Chicago window on one side and a paired, 1/1 window on the other. There is a small wing on the west end of the house. The house is accessed by a replaced, wood stairway. The building rests on a concrete block foundation. In the rear there is an outdoor, enclosed shower stall attached to the house. A wood entry deck has been added to this elevation. Other windows throughout the house are 1/1, double-hung sash and 1/1 paired, double-hung sash. There is a small concrete block pad in the rear and a concrete block walkway along side of the house.

Registration and Status Dates:

National Historic Landmark: N/A SHPO Opinion: N/A

National Register: N/A Local Designation: N/A

New Jersey Register: N/A Other Designation: N/A

Determination of Eligibility: N/A Other Designation Date: N/A

Photograph 1: View looking southwest.

Survey Name: Route 72 Corridor Improvements Date: 12/13/05

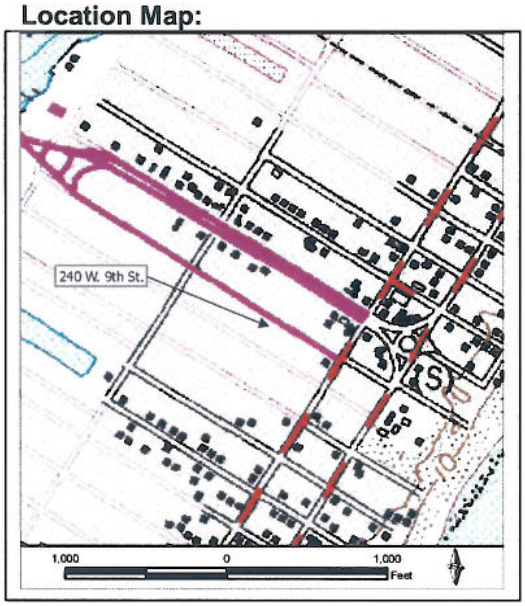
Surveyor: Lauren C. Archibald and Christopher Gebert

Organization: A. D. Marble & Company, 18000 Horizon Way, Ste. 200, Mt. Laurel, New Jersey 08054

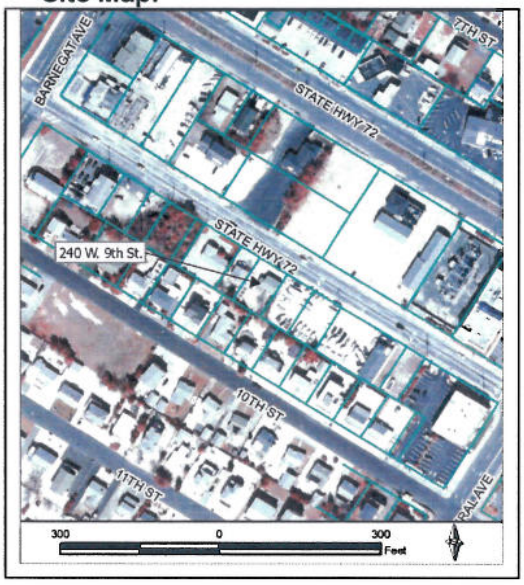
BASE FORM

Historic Sites #:

Location Map:



Site Map:



Bibliography/Sources:

Borough of Ship Bottom Tax Assessor files for individual properties. Borough of Ship Bottom Municipal Building, Ship Bottom, Ocean County, New Jersey.

Long Beach Island Board of Trade
1959 *Long Beach Island: Business Directory and Guide Book*. Long Beach Island Board of Trade, Ship Bottom, New Jersey.

National Park Service (NPS)
1997 National Register Bulletin, "How to Apply the National Register Criteria for Evaluation." United States Department of the Interior, Washington, D.C.

Snyder, John Parr
1969 *The Story of New Jersey's Civil Boundaries: 1606-1968.* Bulletin 67. Bureau of Geology and Topography, Trenton, New Jersey.

Additional Information:

More Research Needed? ☐ Yes ☒ No

INTENSIVE LEVEL USE ONLY

Attachments Included: ☒ Building ☐ Structure ☐ Object ☐ Bridge ☐ Landscape ☐ Industry

Within Historic District? ☐ Yes ☒ No

Status: ☐ Key-Contributing ☐ Contributing ☐ Non-Contributing

Associated Archaeological Site/Deposit? ☐ Yes
(Known or potential Sites – if yes, please describe briefly)

BUILDING ATTACHMENT

Historic Sites #:

Common Name: Hambleton Property
Historic Name: George and Gertrude Hambleton Property
Present Use: residential activity/permanent
Historic Use: residential activity/permanent
Construction Date: 1953 **Source:** tax assessment data
Alteration Date(s): **Source:**
Designer: **Physical Condition:** good
Builder: **Remaining Historic Fabric:** low
Style: None
Form: Ranch **Stories:** 1
Type: **Bays:** 3
Roof Finish Materials: asphalt shingle
Exterior Finish Materials vinyl siding

Exterior Description: This is a small, one-story Ranch-like cottage with a side gable roof. The façade has a central door, flanked by a Chicago window on one side and a paired, 1/1 window on the other. There is a small wing on the west end of the house. The house is accessed by a replaced, wood stairway. The building rests on a concrete block foundation. In the rear there is an outdoor, enclosed shower staff attached to the house. A wood entry deck has been added to this elevation. Other windows throughout the house are 1/1, double hung sash and 1/1 paired, double hung sash. There is a small concrete block pad in the rear and a concrete block walkway along side of the house.

Interior Description: N/A

Setting: The house faces directly onto 8th Street, a busy thoroughfare. There is a sandy lot behind the house with some planting beds, and some brick-lined planter beds surround the immediate perimeter of the house. A planter bed also helps screen the road from the house to the north of the building along 8th Street. Immediately adjacent, to the east, is a marine supply store with outboard boats in the parking lot.

ELIGIBILITY WORKSHEET

Historic Sites #:

History: The residence at 240 West 9th Street was built in 1953 according to the Ship Bottom Borough tax assessor files. In 1937, the Borough retained the civil engineering firm of Sherman & Sleeper, C.E., to survey and draft a plan of lots for Ship Bottom. Sherman & Sleeper completed their work in May of the same year and the engineering firm presented its drawing, "Plan of Lots Belonging to the Borough of Ship Bottom-Beach Arlington," to the borough and then filed the document at the Ocean County Clerk's Office. George B. Hambleton was the original purchaser of the lot, having acquired it from the Borough of Ship Bottom in 1953, who then contracted to have a home constructed. George and his wife Gertrude still reside at this property today.

Significance: The 1.3-mile-long Borough of Ship Bottom evolved from a number of planned developments, some successful and others not. Beginning in 1886, the railroad reached the island, and during the 1890s, promoters platted an area at the point that the railroad reached Long Beach Island, but no lots were sold. In 1908, that area (present-day Ship Bottom from 3rd to 7th Streets) was named "Edgewater Beach," and 30 bungalows were built and successfully sold within two years. However, relatively little construction occurred in this portion of Ship Bottom until after World War II. Following the end of the War, the national population rose dramatically, and improved highways made the New Jersey coast more accessible than ever, leading former day-trippers to purchase building lots and construct modest homes in Ship Bottom and other seaside resorts along the Jersey shore. In 1947, the borough shortened its name to Ship Bottom Borough (Snyder 1969:205). By 1959, Ship Bottom had a winter population of 1,227, but summer visitors swelled that number to about 16,000 (Long Beach Island Board of Trade 1959:64). Population growth continued into the 1980s, after which time it reversed its upward trend. During the last few decades of the twentieth century, some Ship Bottom residents remodeled and, in some cases, enlarged their properties in order to create one or more rental units for temporary summer residents.

Eligibility for New Jersey and National Registers: ☐ Yes ☒ No **National Register Criteria:** ☐ A ☐ B ☐ C ☐ D

Level of Significance ☐ Local ☐ State ☐ National

Justification of Eligibility/Ineligibility: See Attached Continuation Sheet.

For Historic Districts Only:

Property Count: Key Contributing: _____ Contributing: _____ Non Contributing: _____

For Individual Properties Only:

List the completed attachments related to the property's significance:
Building attachment (1)

Narrative Boundary Description:

Survey Name: Route 72 Corridor Improvements Date: 12/13/05

Surveyor: Lauren C. Archibald and Christopher Gebert

Organization: A. D. Marble & Company, 18000 Horizon Way, Ste. 200, Mt. Laurel, New Jersey 08054

CONTINUATION SHEET

Historic Sites #:

Justification of Eligibility/Ineligibility:

The property at 240 West 9th Street, Ship Bottom, New Jersey is recommended not eligible for listing in the New Jersey and National Registers of Historic Places based on the criteria outlined in National Register Bulletin, "How to Apply the National Register Criteria for Evaluation" (National Park Service [NPS] 1997).

Based on a review of the general history of the area, the property does not appear to be significant under Criterion A for its association with mid-twentieth-century development in the Borough of Ship Bottom or Ocean County; therefore, it is recommended not eligible under Criterion A. The property is unlikely to have been associated with a historically significant individual; therefore, the resource is recommended not eligible under Criterion B. It is recommended not eligible for listing under Criterion C due to a lack of architectural significance and integrity. It is a commonplace example of a vernacular mid-twentieth-century residence which retains little integrity of materials due to recent renovations (such as vinyl siding, replacement windows, encasement of eaves, etc.). The property is also ineligible for listing as part of a district. Although this area contains planned streets and many uniform lots sizes, it does not include design features (such as curbing and landscaping) and harmonious building types with common periods of construction and/or architectural styles of the mid-twentieth century. The property does not appear to be significant under Criterion D for its potential to yield information, as any previous archeological remains have likely been disturbed by recent earth removal and relocation.

CONTINUATION SHEET

Historic Sites #:

Photograph 2: Rear view looking east.

BASE FORM

Historic Sites #:

Property Name: Georgiou House

Street Address: *Street #:* 708 *(Low)* *(High)* *Apartment #:* *(Low)* *(High)*

Prefix: *Street Name:* Barnegat *Suffix:* *Type:* Ave.

County(s): Ocean **Zip Code:** 08008

Municipality(s): Ship Bottom Borough **Block(s):** 109

Local Place Name(s): Long Beach Island **Lot(s):** 17

Ownership:: Private **USGS Quad(s)** Ship Bottom

Description: This is a two-story, vernacular dwelling with an entrance on the south elevation, away from the road. Fenestration on the first floor appears to have been altered. There are new, nearly square, 1/1 double hung windows. The windows on the second floor are typical 1/1, double-hung sash types. All of the windows have vinyl frames and attached non-operable shutters. A second floor deck has been added to the rear to access the upper level.

Registration and Status Dates:

National Historic Landmark:	N/A	SHPO Opinion:	N/A
National Register:	N/A	Local Designation:	N/A
New Jersey Register:	N/A	Other Designation:	N/A
Determination of Eligibility:	N/A	Other Designation Date:	N/A

Photograph 1: View south, showing facade of building to left of camera.

Survey Name: Route 72 Corridor Improvements Date: 12/13/05

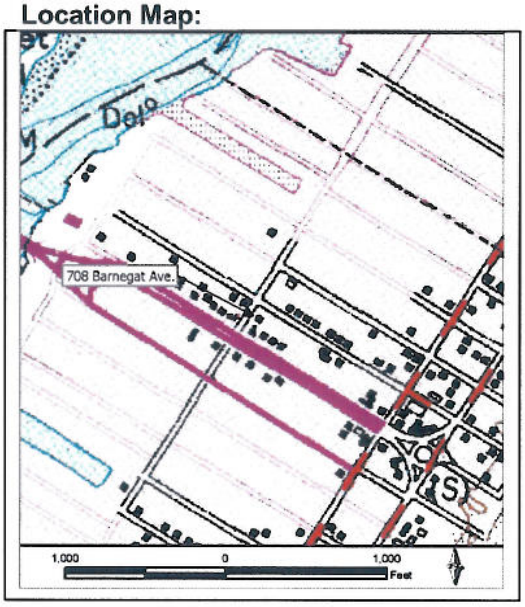
Surveyor: Lauren C. Archibald and Christopher Gebert

Organization: A. D. Marble & Company, 18000 Horizon Way, Ste. 200, Mt. Laurel, New Jersey 08054

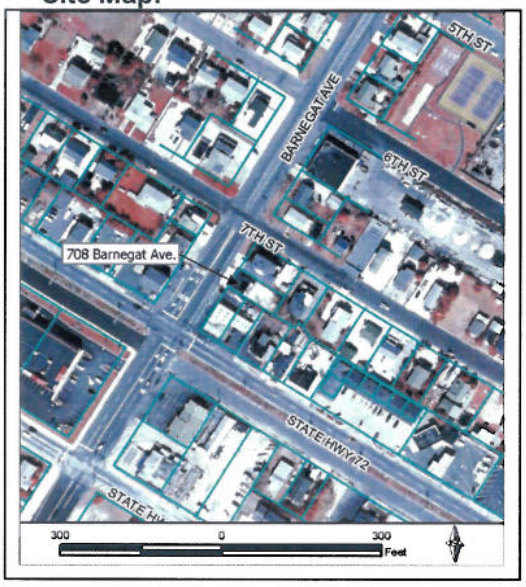
BASE FORM

Historic Sites #:

Location Map:



Site Map:



Bibliography/Sources:

Borough of Ship Bottom Tax Assessor files for individual properties. Borough of Ship Bottom Municipal Building, Ship Bottom, Ocean County, New Jersey.

Long Beach Island Board of Trade
1959 *Long Beach Island: Business Directory and Guide Book*. Long Beach Island Board of Trade, Ship Bottom, New Jersey.

National Park Service (NPS)
1997 National Register Bulletin, "How to Apply the National Register Criteria for Evaluation." United States Department of the Interior, Washington, D.C.

Snyder, John Parr
1969 *The Story of New Jersey's Civil Boundaries: 1606-1968*. Bulletin 67. Bureau of Geology and Topography, Trenton, New Jersey.

Additional Information:

More Research Needed? ☐ Yes ☒ No

INTENSIVE LEVEL USE ONLY

Attachments Included: ☒ Building ☐ Structure ☐ Object ☐ Bridge ☐ Landscape ☐ Industry

Within Historic District? ☐ Yes ☒ No

Status: ☐ Key-Contributing ☐ Contributing ☐ Non-Contributing

Associated Archaeological Site/Deposit? ☐ Yes
(Known or potential Sites – if yes, please describe briefly)

BUILDING ATTACHMENT

Historic Sites #:

Common Name: Georgiou House
Historic Name: Hoffman Property
Present Use: residential activity/permanent
Historic Use: residential activity/permanent
Construction Date: 1950 **Source:** tax assessment data
Alteration Date(s): **Source:**
Designer: **Physical Condition:** good
Builder: **Remaining Historic Fabric:** low
Style: None
Form: Other **Stories:** 2
Type: **Bays:** 4
Roof Finish Materials: not visible
Exterior Finish Materials vinyl siding

Exterior Description: This is a two-story, vernacular dwelling with an entrance on the south elevation, away from the road. Fenestration on the first floor appears to have been altered. There are new, nearly square, 1/1 double-hung windows. The windows on the second floor are typical 1/1, double-hung sash types. All of the windows have vinyl frames and attached non-operable shutters. A second floor deck has been added to the rear to access the upper level. There is an attached outdoor shower on the east elevation. The low-pitched hip (flat?) roof has an encapsulated cornice. The original front entrance has been removed, and ground floor is now accessed from the side.

Interior Description: N/A

Setting: The house is along Barnegat Avenue, one of the main streets in town. There is a white stone driveway and parking area in front and behind the house.

ELIGIBILITY WORKSHEET

Historic Sites #:

History: The residence at 708 Barnegat Avenue was built in 1950 according to the Ship Bottom Borough tax assessor files. In 1937, the Borough retained the civil engineering firm of Sherman & Sleeper, C.E., to survey and draft a plan of lots for Ship Bottom. Sherman & Sleeper completed their work in May of the same year and the engineering firm presented its drawing, "Plan of Lots Belonging to the Borough of Ship Bottom-Beach Arlington," to the borough and then filed the document at the Ocean County Clerk's Office. John and Mary Hoffman of Ship Bottom were the original purchasers of this and an adjacent lot, having acquired them from the Borough of Ship Bottom in 1946.

Significance: The 1.3-mile-long Borough of Ship Bottom evolved from a number of planned developments, some successful and others not. Beginning in 1886, the railroad reached the island, and during the 1890s, promoters platted an area at the point that the railroad reached Long Beach Island, but no lots were sold. In 1908, that area (present-day Ship Bottom from 3rd to 7th Streets) was named "Edgewater Beach," and 30 bungalows were built and successfully sold within two years. However, relatively little construction occurred in this portion of Ship Bottom until after World War II. Following the end of the War, the national population rose dramatically, and improved highways made the New Jersey coast more accessible than ever, leading former day-trippers to purchase building lots and construct modest homes in Ship Bottom and other seaside resorts along the Jersey shore. In 1947, the borough shortened its name to Ship Bottom Borough (Snyder 1969:205). By 1959, Ship Bottom had a winter population of 1,227, but summer visitors swelled that number to about 16,000 (Long Beach Island Board of Trade 1959:64). Population growth continued into the 1980s, after which time it reversed its upward trend. During the last few decades of the twentieth century, some Ship Bottom residents remodeled and, in some cases, enlarged their properties in order to create one or more rental units for temporary summer residents.

Eligibility for New Jersey and National Registers: ☐ Yes ☒ No **National Register Criteria:** ☐ A ☐ B ☐ C ☐ D

Level of Significance ☐ Local ☐ State ☐ National

Justification of Eligibility/Ineligibility: See Attached Continuation Sheet

For Historic Districts Only:

Property Count: Key Contributing: _____ Contributing: _____ Non Contributing: _____

For Individual Properties Only:

List the completed attachments related to the property's significance:
Building attachment (1)

Narrative Boundary Description:

Survey Name: Route 72 Corridor Improvements Date: 12/13/05

Surveyor: Lauren C. Archibald and Christopher Gebert

Organization: A. D. Marble & Company, 18000 Horizon Way, Ste. 200, Mt. Laurel, New Jersey 08054

CONTINUATION SHEET

Historic Sites #:

Justification of Eligibility/Ineligibility:

The property at 708 Barnegat Avenue, Ship Bottom, New Jersey is an example of a mid-twentieth-century residential property containing a vernacular two-story building. The property is recommended not eligible for listing in the New Jersey and National Registers of Historic Places based on the criteria outlined in National Register Bulletin, "How to Apply the National Register Criteria for Evaluation" (National Park Service [NPS] 1997).

Based on a review of the general history of the area, the property does not appear to be significant under Criterion A for its association with mid-twentieth-century development in the Borough of Ship Bottom or Ocean County; therefore, it is recommended not eligible under Criterion A. The property is unlikely to have been associated with a historically significant individual; therefore, the resource is recommended not eligible under Criterion B. The resource is recommended not eligible for listing under Criterion C due to a lack of architectural significance and integrity. The dwelling has been altered; the original front entrance has been removed, and the building appears to have been converted into a two-unit property. It is not remarkable in its execution and retains little integrity of materials due to these alterations and recent renovations, including vinyl siding and encapsulation of the cornice. The property is also ineligible for listing as part of a district. Although this area contains planned streets and many uniform lots sizes, it does not include design features (such as curbing and landscaping) and harmonious building types with common periods of construction and/or architectural styles of the mid-twentieth century. The property does not appear to be significant under Criterion D for its potential to yield information, as any previous archeological remains have likely been disturbed by recent earth removal and relocation.

CONTINUATION SHEET

Historic Sites #:

Photograph 2: View north, showing rear in foreground and main entrance on side (to left).

BASE FORM

Historic Sites #:

Property Name: Dooney Property

Street Address: *Street #:* 287 *(Low)* *(High)* *Apartment #:* *(Low)* *(High)*

Prefix: West *Street Name:* 8th *Suffix:* *Type:* St.

County(s): Ocean **Zip Code:** 08008

Municipality(s): Ship Bottom Borough **Block(s):** 109

Local Place Name(s): Long Beach Island **Lot(s):** 20

Ownership:: Private **USGS Quad(s)** Ship Bottom

Description: This is a two-story building that now serves as an office but was originally a residence. The building has been extensively altered and the fenestration has been changed, particularly on the façade. There is a one-story wing on the east side of the building, which has a modern glass door and two modern, single-pane windows. The main block is accessed by a replaced vinyl and wood deck leading to a vestibule.

Registration and Status Dates:

National Historic Landmark: N/A

SHPO Opinion: N/A

National Register: N/A

Local Designation: N/A

New Jersey Register: N/A

Other Designation: N/A

Determination of Eligibility: N/A

Other Designation Date: N/A

Photograph 1: View east, showing façade.

Survey Name: Route 72 Corridor Improvements Date: 12/13/05

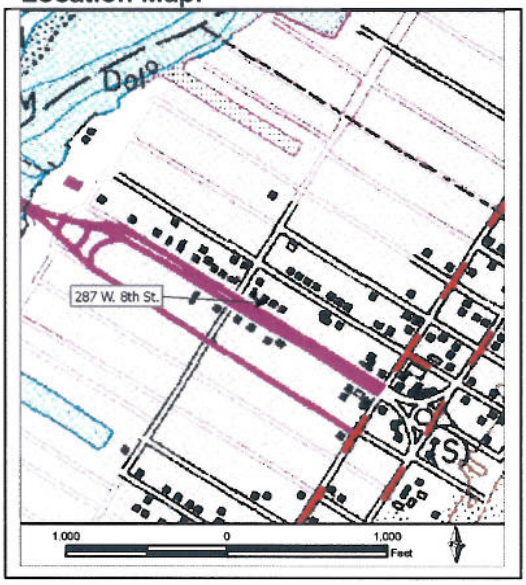
Surveyor: Lauren C. Archibald and Christopher Gebert

Organization: A. D. Marble & Company, 18000 Horizon Way, Ste. 200, Mt. Laurel, New Jersey 08054

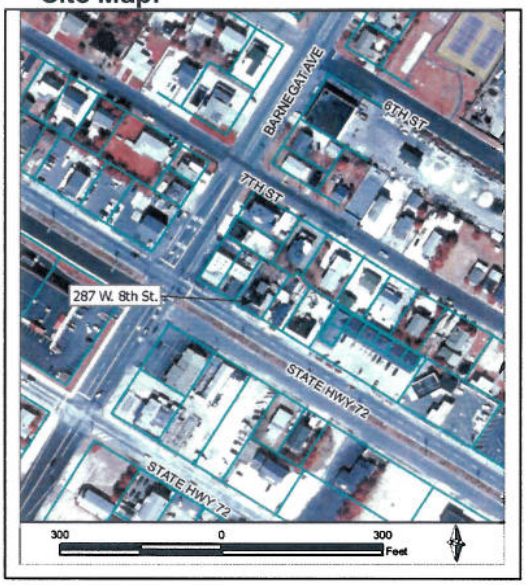
BASE FORM

Historic Sites #:

Location Map:



Site Map:



Bibliography/Sources:

Borough of Ship Bottom Tax Assessor files for individual properties. Borough of Ship Bottom Municipal Building, Ship Bottom, Ocean County, New Jersey.

Long Beach Island Board of Trade
1959 *Long Beach Island: Business Directory and Guide Book*. Long Beach Island Board of Trade, Ship Bottom, New Jersey.

National Park Service (NPS)
1997 *National Register Bulletin*, "How to Apply the National Register Criteria for Evaluation." United States Department of the Interior, Washington, D.C.

Snyder, John Parr
1969 *The Story of New Jersey's Civil Boundaries: 1606-1968*. Bulletin 67. Bureau of Geology and Topography, Trenton, New Jersey.

Additional Information:

More Research Needed? ☐ Yes ☒ No

INTENSIVE LEVEL USE ONLY

Attachments Included: ☒ Building ☐ Structure ☐ Object ☐ Bridge ☐ Landscape ☐ Industry

Within Historic District? ☐ Yes ☒ No

Status: ☐ Key-Contributing ☐ Contributing ☐ Non-Contributing

Associated Archaeological Site/Deposit? ☐ Yes
(Known or potential Sites – if yes, please describe briefly)

BUILDING ATTACHMENT

Historic Sites #:

Common Name: Dooney Property
Historic Name: John and Mary Hoffman Property
Present Use: residential activity/permanent
Historic Use: residential activity/permanent
Construction Date: 1945-1950 **Source:** tax assessment data
Alteration Date(s): 1966 **Source:** tax assessment data
Designer: **Physical Condition:** excellent
Builder: **Remaining Historic Fabric:** low
Style: None
Form: Other **Stories:** 2
Type: **Bays:** 4
Roof Finish Materials: Asphalt shingles
Exterior Finish Materials Asbestos shingles

Exterior Description: This is a two-story building that now serves as an office but was originally a residence. The building has been extensively altered and the fenestration has been changed, particularly on the façade. There is a one-story wing on the east side of the building, which has a modern glass door and two modern, single-pane windows. The main block is accessed by a replaced vinyl and wood deck leading to a vestibule. There are new, multi-pane windows on the vestibule. Other windows on the façade include 6/1, double-hung paired windows, a large single-pane commercial window, a glass block window and a porthole-type window. A small outside deck has been added above the vestibule. A variety of other window types have been installed throughout all of the other elevations. A second floor deck has also been added on the northeast corner of the building. The building sits on a concrete block foundation. The roof is hip and there is a higher, tower-like section in the rear.

Interior Description: N/A

Setting: The building faces 8th Street, a very busy road leading to the main causeway. It has a gravel stone area for parking in front and rear.

ELIGIBILITY WORKSHEET

Historic Sites #:

History: The residence at 287 West 8th Street was built between 1945-1950 according to the Ship Bottom Borough tax assessor files. In 1937, the Borough retained the civil engineering firm of Sherman & Sleeper, C.E., to survey and draft a plan of lots for Ship Bottom. Sherman & Sleeper completed their work in May of the same year and the engineering firm presented its drawing, "Plan of Lots Belonging to the Borough of Ship Bottom-Beach Arlington," to the borough and then filed the document at the Ocean County Clerk's Office. John and Mary Hoffman of Ship Bottom were the original purchasers of this and an adjacent lot, having acquired them from the Borough of Ship Bottom in 1944; however, the deed was not recorded until 1946. The building was originally constructed as a two-story, single family residence. According to tax assessor files, the one-story section on the east side of the building originally housed a garage. At present, the ground floor of the building serves as offices for two architects' firms.

Significance: The 1.3-mile-long Borough of Ship Bottom evolved from a number of planned developments, some successful and others not. Beginning in 1886, the railroad reached the island, and during the 1890s, promoters platted an area at the point that the railroad reached Long Beach Island, but no lots were sold. In 1908, that area (present-day Ship Bottom from 3rd to 7th Streets) was named "Edgewater Beach," and 30 bungalows were built and successfully sold within two years. However, relatively little construction occurred in this portion of Ship Bottom until after World War II. Following the end of the War, the national population rose dramatically, and improved highways made the New Jersey coast more accessible than ever, leading former day trippers to purchase building lots and construct modest homes in Ship Bottom and other seaside resorts along the Jersey shore. In 1947, the borough shortened its name to Ship Bottom Borough (Snyder 1969:205). By 1959, Ship Bottom had a winter population of 1,227, but summer visitors swelled that number to about 16,000 (Long Beach Island Board of Trade 1959:64). Population growth continued into the 1980s, after which time it reversed its upward trend. During the last few decades of the twentieth century, some Ship Bottom residents remodeled and, in some cases, enlarged their properties in order to create one or more rental units for temporary summer residents.

Eligibility for New Jersey and National Registers: ☐ Yes ☒ No **National Register Criteria:** ☐ A ☐ B ☐ C ☐ D

Level of Significance ☐ Local ☐ State ☐ National

Justification of Eligibility/Ineligibility: See Attached Continuation Sheet.

For Historic Districts Only:

Property Count: Key Contributing: _____ Contributing: _____ Non Contributing: _____

For Individual Properties Only:

List the completed attachments related to the property's significance:
Building attachment (1)

Narrative Boundary Description:

Survey Name: Route 72 Corridor Improvements Date: 12/13/05

Surveyor: Lauren C. Archibald and Christopher Gebert

Organization: A. D. Marble & Company, 18000 Horizon Way, Ste. 200, Mt. Laurel, New Jersey 08054

CONTINUATION SHEET

Historic Sites #:

Justification of Eligibility/Ineligibility:

The property at 287 West 8th Street, Ship Bottom, New Jersey is recommended not eligible for listing in the New Jersey and National Registers of Historic Places based on the criteria outlined in National Register Bulletin, "How to Apply the National Register Criteria for Evaluation" (National Park Service [NPS] 1997).

Based on a review of the general history of the area, the property does not appear to be significant under Criterion A for its association with mid-twentieth-century development in the Borough of Ship Bottom or Ocean County; therefore, it is recommended not eligible under Criterion A. The property is unlikely to have been associated with a historically significant individual; therefore, the resource is recommended not eligible under Criterion B. The resource is recommended not eligible for listing under Criterion C due to a lack of architectural significance and integrity. Originally constructed as a two-story, single family dwelling, the building has been completely remodeled and altered for commercial offices. It appears that a variety of new doors, windows, and exterior siding materials have obscured the original fenestration. The building lacks integrity of materials due to these alterations and renovations. The property is also ineligible for listing as part of a district. Although this area contains planned streets and many uniform lots sizes, it does not include design features (such as curbing and landscaping) and harmonious building types with common periods of construction and/or architectural styles of the mid-twentieth century. The property does not appear to be significant under Criterion D for its potential to yield information as any previous archeological remains have likely been disturbed by recent earth removal and relocation.

CONTINUATION SHEET

Historic Sites #:

Photograph 2: View looking south, showing rear elevation.

BASE FORM

Historic Sites #:

Property Name: Hotaling Property

Street Address: *Street #:* 285 *(Low)* *(High)* *Apartment #:* *(Low)* *(High)*

Prefix: West *Street Name:* 8th *Suffix:* *Type:* St.

County(s): Ocean **Zip Code:** 08008

Municipality(s): Ship Bottom Borough **Block(s):** 109

Local Place Name(s): Long Beach Island **Lot(s):** 21

Ownership:: Private **USGS Quad(s)** Ship Bottom

Description: The decorative building has a front-facing gable and features bargeboard (verge board?) trim, pendants, and wood pinnacles on the roof. There are many windows throughout the building which are of various types, including double-hung (typically 6/1 or 6/6) and multiple-pane storefront windows. Most of the windows have decorative frames such as molded pilasters and denticulated lintels. There is a replaced entry deck on the southwest corner (front) of the building. There is a very long concrete block section that was added to the north (rear) wall of the building, which is now used for a building/remodeling shop. An exterior brick chimney rises from the east wall of the main block.

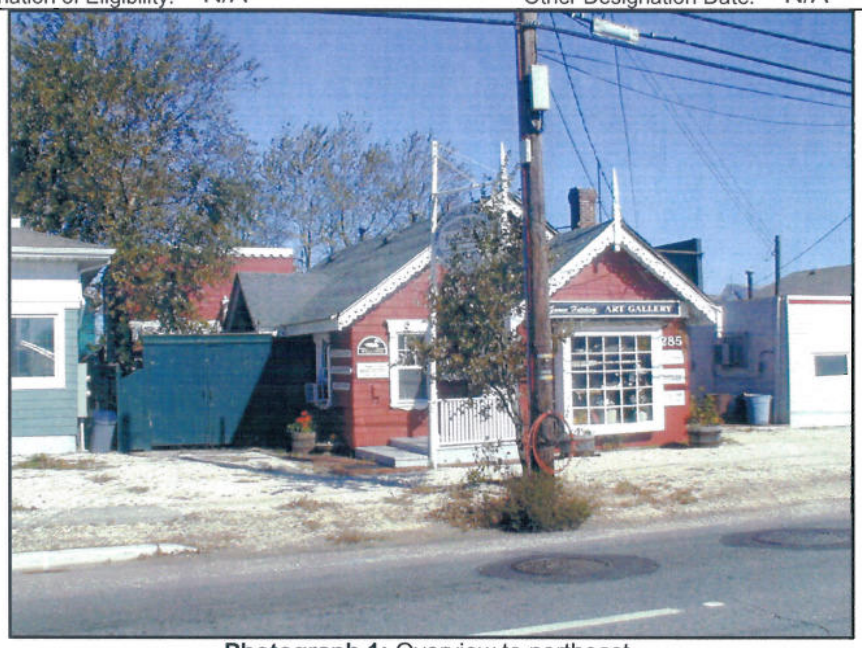
Registration and Status Dates:

National Historic Landmark: N/A SHPO Opinion: N/A

National Register: N/A Local Designation: N/A

New Jersey Register: N/A Other Designation: N/A

Determination of Eligibility: N/A Other Designation Date: N/A



Photograph 1: Overview to northeast.

Survey Name: Route 72 Corridor Improvements Date: 12/13/05

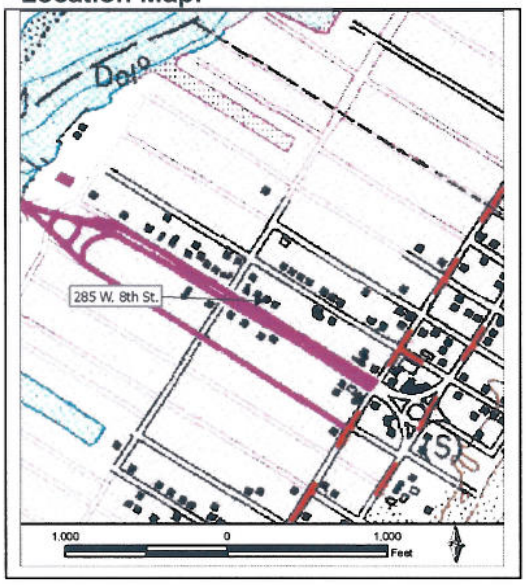
Surveyor: Lauren C. Archibald and Christopher Gebert

Organization: A. D. Marble & Company, 18000 Horizon Way, Ste. 200, Mt. Laurel, New Jersey 08054

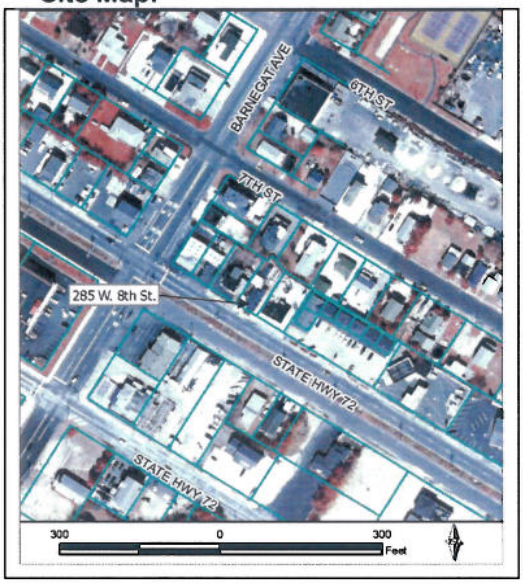
BASE FORM

Historic Sites #:

Location Map:



Site Map:



Bibliography/Sources:

Borough of Ship Bottom Tax Assessor files for individual properties. Borough of Ship Bottom Municipal Building, Ship Bottom, Ocean County, New Jersey.

Long Beach Island Board of Trade
1959 *Long Beach Island: Business Directory and Guide Book*. Long Beach Island Board of Trade, Ship Bottom, New Jersey.

National Park Service (NPS)
1997 National Register Bulletin, "How to Apply the National Register Criteria for Evaluation." United States Department of the Interior, Washington, D.C.

Snyder, John Parr
1969 *The Story of New Jersey's Civil Boundaries: 1606-1968.* Bulletin 67. Bureau of Geology and Topography, Trenton, New Jersey.

Additional Information:

More Research Needed? ☐ Yes ☒ No

INTENSIVE LEVEL USE ONLY

Attachments Included: ☒ Building ☐ Structure ☐ Object ☐ Bridge ☐ Landscape ☐ Industry

Within Historic District? ☐ Yes ☒ No

Status: ☐ Key-Contributing ☐ Contributing ☐ Non-Contributing

Associated Archaeological Site/Deposit? ☐ Yes
(Known or potential Sites – if yes, please describe briefly)

BUILDING ATTACHMENT

Historic Sites #:

Common Name: Hotaling Property
Historic Name: Property
Present Use: Commercial activity/single store
Historic Use: (unknown)
Construction Date: 1929 **Source:** tax assessment data
Alteration Date(s): **Source:**
Designer: **Physical Condition:** good
Builder: **Remaining Historic Fabric:** low
Style: Eastlake/Queen Anne
Form: Other **Stories:** 1
Type: **Bays:** 2
Roof Finish Materials: asphalt shingles
Exterior Finish Materials wood, shingles; and wood, clapboard

Exterior Description: The decorative building has a front-facing gable and features bargeboard (verge board?) trim, pendants, and wood pinnacles on the roof. There are many windows throughout the building which are of various types, including double-hung (typically 6/1 or 6/6) and multiple-pane storefront windows. Most of the windows have decorative frames such as molded pilasters and denticulated lintels. There is a replaced entry deck on the southwest corner (front) of the building. There is a very long concrete block section that was added to the north (rear) wall of the building, which is now used for a building/remodeling shop. An exterior brick chimney rises from the east wall of the main block.

Interior Description: N/A

Setting: The building faces a busy 8th Street. There is a white stone gravel lot in the front, brick patio to the side. There is a workshop in the rear with modern shed for the builder.

Survey Name: Route 72 Corridor Improvements Date: 12/13/05
Surveyor: Lauren C. Archibald and Christopher Gebert
Organization: A. D. Marble & Company, 18000 Horizon Way, Ste. 200, Mt. Laurel, New Jersey 08054

ELIGIBILITY WORKSHEET

Historic Sites #:

History: The property at 285 West 8th Street was built in 1929 according to the Ship Bottom Borough tax assessor files. In 1937, the borough retained the civil engineering firm of Sherman & Sleeper, C.E., to survey and draft a plan of lots of land for Ship Bottom. Sherman & Sleeper completed their work in May of the same year and the engineering firm presented its drawing, "Plan of Lots Belonging to the Borough of Ship Bottom-Beach Arlington," to the borough and then filed the document at the Ocean County Clerk's Office. During August 1943, the borough sold this lot to George H. Copper and his wife for $125, which likely signifies the lot being vacant land (Ocean County Deed Book 1139:307). In December 1944, George H. Copper sold this lot, along with two other lots, to Newell A. Middleton, *et ux*, *et. al*, for the nominal fee of $1.00 (Ocean County Deed Book 1162:348). (See Continuation Sheet.)

Significance: The 1.3-mile-long Borough of Ship Bottom evolved from a number of planned developments, some successful and others not. Beginning in 1886, the railroad reached the island, and during the 1890s, promoters platted an area at the point that the railroad reached Long Beach Island, but no lots were sold. In 1908, that area (present-day Ship Bottom from 3rd to 7th Streets) was named "Edgewater Beach," and 30 bungalows were built and successfully sold within two years. In 1914, a causeway reached the island, which further expanded opportunities for commercial and residential development. In 1922, lots from 8th to 14th Street were laid out as "Beach Arlington," and by 1925, "Ship Bottom-Beach Arlington" became an independent borough (Snyder 1969:205). However, relatively little construction occurred in most of Ship Bottom until after World War II.

Following the end of the War, the national population rose dramatically, and improved highways made the New Jersey coast more accessible than ever, leading former day-trippers to purchase building lots and construct modest homes in Ship Bottom and other seaside resorts along the Jersey shore. In 1947, the borough shortened its name to Ship Bottom Borough (Snyder 1969:205). By 1959, Ship Bottom had a winter population of 1,227, but summer visitors swelled that number to about 16,000 (Long Beach Island Board of Trade 1959:64). Population growth continued into the 1980s, after which time it reversed its upward trend. During the last few decades of the twentieth century, some Ship Bottom residents remodeled and, in some cases, enlarged or rebuilt their properties in order to create one or more rental units for temporary summer residents. In this case, the property was remodeled for a combination of commercial uses.

Eligibility for New Jersey and National Registers: ☐ Yes ☒ No **National Register Criteria:** ☐ A ☐ B ☐ C ☐ D

Level of Significance ☐ Local ☐ State ☐ National

Justification of Eligibility/Ineligibility: See Attached Continuation Sheet.

For Historic Districts Only:

Property Count: Key Contributing: _____ Contributing: _____ Non Contributing: _____

For Individual Properties Only:

List the completed attachments related to the property's significance:
Building Attachment (1)

Narrative Boundary Description:

Survey Name: Route 72 Corridor Improvements Date: 12/13/05

Surveyor: Lauren C. Archibald and Christopher Gebert

Organization: A. D. Marble & Company, 18000 Horizon Way, Ste. 200, Mt. Laurel, New Jersey 08054

CONTINUATION SHEET

Historic Sites #:

History (continued):

Newell A. Middleton and his wife, Ruth B., along with Joseph E. Lafferty and Ethel, his wife, sold five tracts of land, including lot No. 88, Block 109, to William Lukens in September 1945. On the same day, Lukens divided and sold a moiety interest in the five parcels to the Middletons and the other moiety interest to the Lafferty couple (Ocean County Deed Book 1188:122).

In February 1947, the Newell and Ruth Middleton, along with Joseph and Ethel Lafferty, conveyed all of lot no. 88, Block 109, and 30 feet of lot no. 34, Block 26, to Benjamin E. Ross and Effie Ross, his wife, for the nominal amount of $1 (Ocean County Deed Book 1275:431). Mr. and Mrs. Ross retained ownership for two years, before selling the same land to John Hoffman and wife for the nominal fee of $1 (Ocean County Deed Book 1319:364). The Hoffmans sold the property in October 1953 to Howard W. and Alma Reeve, husband and wife, also for $1 (Ocean County Deed Book 1522:318). Evidently Howard Reeve married a second time, for in December 1975, Myra S. Reeve, formerly Myra S. Reasinger, sold any interest or dower right in two parcels of land, including the lots that Howard had acquired from the Hoffmans, to her husband, Howard, for $1 (Ocean County Deed Book 3498:120). At the time of this transaction, Mr. and Mrs. Reeve resided in Barnegat, Union Township. During September 1981, Howard W. Reeve, now "an unmarried man," sold the property at 285 W. 8th Street, listed as Reeve's residence on the deed, to Ernest Hotaling and Elizabeth C. Hotaling, his wife, for $42,000 (Ocean County Deed Book 4020:705). Sometime in the 1970s or early 1980s, a large concrete block section was added to the rear of the building, nearly doubling its original size. Today, Mrs. Hotaling operates an art studio in the older portion of the building, while Mr. Hotaling has a construction firm that is headquartered in a concrete addition to the rear of the building (Gwen Hotaling Art Studios website).

It is currently unknown exactly when the building arose on the lot. The Ship Bottom Tax Assessor's records date the building to 1929. The extant structure with the rear addition does appear on a 1963 survey prepared and attached to the deed when Alma Reeve transferred her interest in the property to her husband, Howard. Considering the form and massing of the original front portion of the building, it appears that one of the owners, at some point, moved the structure from some other location. Based on an interpolation of the deeds recited above, the Middletons and the Lafferty couple are the likely people to have moved or, possibly, constructed the building on the property, since they are the first owners to hold title to the property as a single lot and the two couples held the land in half-shares or moieties.

Justification of Eligibility/Ineligibility:

The property at 287 West 8th Street, Ship Bottom, New Jersey is an example of a twentieth-century property that has been converted to a combination store/workshop, with a free-standing modern storage building on the lot. The resource is recommended not eligible for listing in the New Jersey and National Registers of Historic Places based on the criteria outlined in National Register Bulletin, "How to Apply the National Register Criteria for Evaluation" (National Park Service [NPS] 1997).

(See continuation sheet)

CONTINUATION SHEET

Historic Sites #:

Justification of Eligibility/Ineligibility (continued):

Based on a review of the general history of the area, the property does not appear to be significant under Criterion A for its association with mid-twentieth-century development in the Borough of Ship Bottom or Ocean County; therefore, it is recommended not eligible under Criterion A. The property is unlikely to have been associated with a historically significant individual; therefore, the resource is recommended not eligible under Criterion B. The building, which is an example of a neo-Victorian building, is recommended not eligible for listing under Criterion C due to a lack of architectural significance and integrity. The building has been completely remodeled and altered for commercial use, with a new entrance on the façade, storefront windows, new plate glass doors, etc. A large concrete block section was added to the rear of the building, nearly doubling its original size. The building lacks integrity of materials due to these alterations, renovations, and additions, as well as a large modern shed. The property is also ineligible for listing as part of a district. Although this area contains planned streets and many uniform lots sizes, it does not include design features (such as curbing and landscaping) and harmonious building types with common periods of construction and/or architectural styles of the mid-twentieth century. The property does not appear to be significant under Criterion D for its potential to yield information as any previous archeological remains have likely been disturbed by recent earth removal and relocation.

References (continued):

Gwen Hotaling Art Studios website:
2005 http://gwennhotaling.com/ [accessed 30 November 2005]

Ocean County Deed Books
Ocean County Clerk's Office, Toms River, New Jersey

CONTINUATION SHEET

Historic Sites #:

Photograph 2: View looking west, showing northeast portion of building with concrete block and frame sections.

Photograph 3: Showing southeast area of building with modern section in foreground.

Survey Name: Route 72 Corridor Improvements

Date: 12/13/05

Surveyor: Lauren C. Archibald and Christopher Gebert

Organization: A.D. Marble & Company, 18000 Horizon Way, Mt. Laurel, NJ 08054

CONTINUATION SHEET

Historic Sites #:

Photograph 4: View looking south, showing rear concrete block section.

BASE FORM

Historic Sites #:

Property Name: Plenge Property

Street Address: *Street #:* 277 *(Low)* *(High)* *Apartment #:* *(Low)* *(High)*

Prefix: West *Street Name:* 8th *Suffix:* *Type:* St.

County(s): Ocean **Zip Code:** 08008

Municipality(s): Ship Bottom Borough **Block(s):** 109

Local Place Name(s): Long Beach Island **Lot(s):** 22

Ownership:: Private **USGS Quad(s)** Ship Bottom

Description: This is a one-story commercial building with a flat roof. There are two main sections of the building, each with a single pedestrian entrance. There is a single pane window to the east of the easternmost door, and two of these flanking the western door. All windows throughout the building appear to be modern replacements. There are other pedestrian doors on the east side of the building and the north (rear). Parts of the rear (north) side of the building are sheathed with tar paper.

Registration and Status Dates:

National Historic Landmark: N/A SHPO Opinion: N/A

National Register: N/A Local Designation: N/A

New Jersey Register: N/A Other Designation: N/A

Determination of Eligibility: N/A Other Designation Date: N/A

Photograph 1: View looking north, showing facade and west elevation.

Survey Name: Route 72 Corridor Improvements Date: 12/13/05

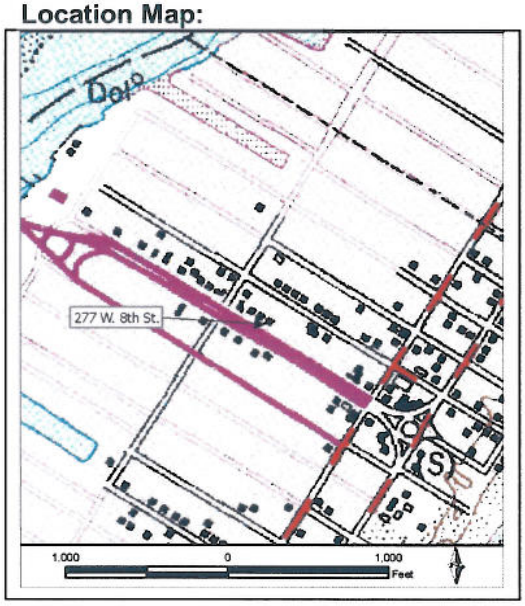
Surveyor: Lauren C. Archibald and Christopher Gebert

Organization: A. D. Marble & Company, 18000 Horizon Way, Ste. 200, Mt. Laurel, New Jersey 08054

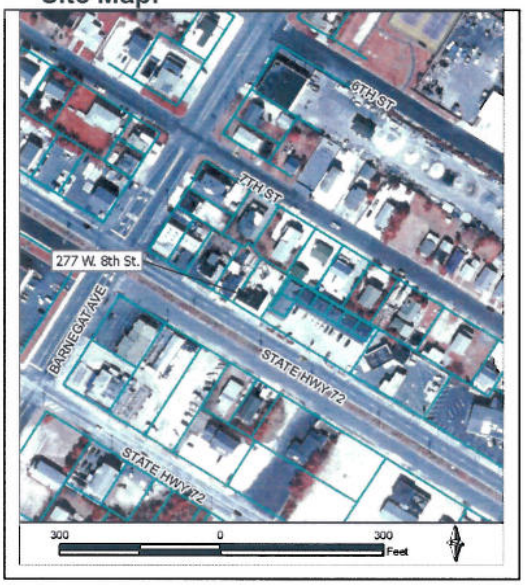
BASE FORM

Historic Sites #:

Location Map:



Site Map:



Bibliography/Sources:

Borough of Ship Bottom Tax Assessor files for individual properties. Borough of Ship Bottom Municipal Building, Ship Bottom, Ocean County, New Jersey.

Long Beach Island Board of Trade
1959 *Long Beach Island: Business Directory and Guide Book*. Long Beach Island Board of Trade, Ship Bottom, New Jersey.

National Park Service (NPS)
1997 National Register Bulletin, "How to Apply the National Register Criteria for Evaluation." United States Department of the Interior, Washington, D.C.

Snyder, John Parr
1969 *The Story of New Jersey's Civil Boundaries: 1606-1968*. Bulletin 67. Bureau of Geology and Topography, Trenton, New Jersey.

Additional Information:

More Research Needed? ☐ Yes ☒ No

INTENSIVE LEVEL USE ONLY

Attachments Included: ☒ Building ☐ Structure ☐ Object ☐ Bridge ☐ Landscape ☐ Industry

Within Historic District? ☐ Yes ☒ No

Status: ☐ Key-Contributing ☐ Contributing ☐ Non-Contributing

Associated Archaeological Site/Deposit? ☐ Yes
(Known or potential Sites – if yes, please describe briefly)

BUILDING ATTACHMENT

Historic Sites #:

Common Name: Plenge Property
Historic Name: Colonial Sheet Metal Property
Present Use: commercial activity/standalone
Historic Use: commercial activity/standalone
Construction Date: 1935 **Source:** tax assessment data
Alteration Date(s): **Source:**
Designer: **Physical Condition:** good
Builder: **Remaining Historic Fabric:** low
Style: None
Form: Other **Stories:** 1
Type: **Bays:** 5
Roof Finish Materials: not visible
Exterior Finish Materials vinyl siding and asbestos shingles

Exterior Description: This is a one-story commercial building with a flat roof. There are two main sections of the building, each with a single pedestrian entrance. There is a single-pane window to the east of the easternmost door, and two of these flanking the western door. All windows throughout the building appear to be modern replacements. There are other pedestrian doors on the east side of the building and the north (rear). Parts of the rear (north) side of the building are sheathed with tar paper.

Interior Description: N/A

Setting: The property faces 8th Street, a busy road from the main causeway to the island. There is a white stone driveway to the side and rear of the building. Roofing supplies are stored in the rear of the lot.

Survey Name: Route 72 Corridor Improvements Date: 12/13/05
Surveyor: Lauren C. Archibald and Christopher Gebert
Organization: A. D. Marble & Company, 18000 Horizon Way, Ste. 200, Mt. Laurel, New Jersey 08054

ELIGIBILITY WORKSHEET

Historic Sites #:

History: The property at 285 West 8th Street was built in 1935 according to the Ship Bottom Borough tax assessor files. The building was originally constructed as one-story frame store. Previously, this property was owned by the Colonial Sheet Metal Co., Inc. It appears that part of the building continues to be used for sheet metal work, and is currently owned by Plenge Roofing, and the building bears a "sheet metal" sign over one of the two entry doors on the facade.

Significance: The 1.3-mile-long Borough of Ship Bottom evolved from a number of planned developments, some successful and others not. Beginning in 1886, the railroad reached the island, and during the 1890s, promoters platted an area at the point that the railroad reached Long Beach Island, but no lots were sold. In 1908, that area (present-day Ship Bottom from 3rd to 7th Streets) was named "Edgewater Beach," and 30 bungalows were built and successfully sold within two years. In 1914, a causeway reached the island, which further expanded opportunities for commercial and residential development. In 1922, lots from 8th to 14th Street were laid out as "Beach Arlington," and by 1925, "Ship Bottom-Beach Arlington" became an independent borough (Snyder 1969:205). However, relatively little construction occurred in most of Ship Bottom until after World War II.

Following the end of the War, the national population rose dramatically, and improved highways made the New Jersey coast more accessible than ever, leading former day-trippers to purchase building lots and construct modest homes in Ship Bottom and other seaside resorts along the Jersey shore. In 1947, the borough shortened its name to Ship Bottom Borough (Snyder 1969:205). By 1959, Ship Bottom had a winter population of 1,227, but summer visitors swelled that number to about 16,000 (Long Beach Island Board of Trade 1959:64). Population growth continued into the 1980s, after which time it reversed its upward trend.

Eligibility for New Jersey and National Registers: ☐ Yes ☒ No **National Register Criteria:** ☐ A ☐ B ☐ C ☐ D

Level of Significance ☐ Local ☐ State ☐ National

Justification of Eligibility/Ineligibility: See Attached Continuation Sheet.

For Historic Districts Only:

Property Count: Key Contributing: _____ Contributing: _____ Non Contributing: _____

For Individual Properties Only:

List the completed attachments related to the property's significance:
Building attachment (1)

Narrative Boundary Description:

Survey Name: Route 72 Corridor Improvements Date: 12/13/05
Surveyor: Lauren C. Archibald and Christopher Gebert
Organization: A. D. Marble & Company, 18000 Horizon Way, Ste. 200, Mt. Laurel, New Jersey 08054

CONTINUATION SHEET

Historic Sites #:

Justification of Eligibility/Ineligibility:

The property at 277 West 8th Street, Ship Bottom, New Jersey is an example of a mid-twentieth-century commercial property that has been altered. The resource is recommended not eligible for listing in the New Jersey and National Registers of Historic Places based on the criteria outlined in National Register Bulletin, "How to Apply the National Register Criteria for Evaluation" (National Park Service [NPS] 1997).

Based on a review of the general history of the area, the property does not appear to be significant under Criterion A for its association with mid-twentieth-century development in the Borough of Ship Bottom or Ocean County; therefore it is recommended not eligible under Criterion A. The property is unlikely to have been associated with a historically significant individual; therefore, the resource is recommended not eligible under Criterion B. The resource is recommended not eligible for listing under Criterion C due to a lack of architectural significance and integrity. The building has been altered by the addition of modern plate glass windows, and it has been renovated with vinyl siding, modern signage, etc. The original fenestration and building fabric have been obscured by these changes, and overall, the building lacks integrity of materials. The property is also ineligible for listing as part of a district. Although this area contains planned streets and many uniform lots sizes, it does not include design features (such as curbing and landscaping) and harmonious building types with common periods of construction and/or architectural styles of the mid-twentieth century. The property does not appear to be significant under Criterion D for its potential to yield information, as any previous archeological remains have likely been disturbed by recent earth removal and relocation.

CONTINUATION SHEET

Historic Sites #:

Photograph 2: View south, showing east and rear elevations.

BASE FORM

Historic Sites #:

Property Name: Joerger House

Street Address: *Street #:* 707 *(Low)* *(High)* *Apartment #:* *(Low)* *(High)*

Prefix: *Street Name:* Barnegat *Suffix:* *Type:* Ave.

County(s): Ocean **Zip Code:** 08008

Municipality(s): Ship Bottom Borough **Block(s):** 110

Local Place Name(s): Long Beach Island **Lot(s):** 2

Ownership:: Private **USGS Quad(s)** Ship Bottom

Description: This is a two-story, flat-roofed building with a built-in garage on the ground floor. The building has been altered; it originally had two garage doors and one has been filled in. To the south of the garage door is a pedestrian door. There are 1/1, double-hung windows on the second floor and a pedestrian door on the second floor is accessed by a wood deck. The upper half is covered with vinyl siding, and the ground floor has a concrete exterior. A concrete block chimney rises from the north wall.

Registration and Status Dates:

National Historic Landmark: N/A SHPO Opinion: N/A

National Register: N/A Local Designation: N/A

New Jersey Register: N/A Other Designation: N/A

Determination of Eligibility: N/A Other Designation Date: N/A

Photograph 1: North, showing facade (south) and west elevations.

Survey Name: Route 72 Corridor Improvements Date: 12/13/05

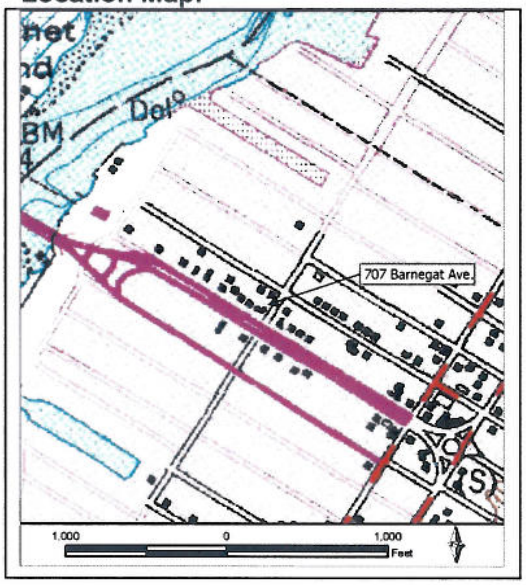
Surveyor: Lauren C. Archibald and Christopher Gebert

Organization: A. D. Marble & Company, 18000 Horizon Way, Ste. 200, Mt. Laurel, New Jersey 08054

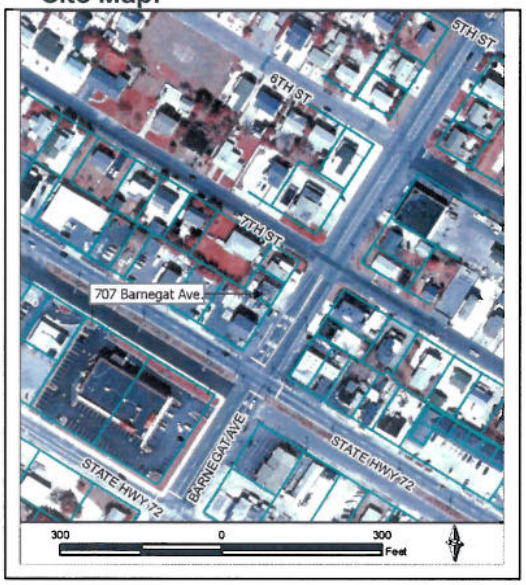
BASE FORM

Historic Sites #:

Location Map:



Site Map:



Bibliography/Sources:

Borough of Ship Bottom Tax Assessor files for individual properties. Borough of Ship Bottom Municipal Building, Ship Bottom, Ocean County, New Jersey.

Long Beach Island Board of Trade
1959 *Long Beach Island: Business Directory and Guide Book*. Long Beach Island Board of Trade, Ship Bottom, New Jersey.

National Park Service (NPS)
1997 National Register Bulletin, "How to Apply the National Register Criteria for Evaluation." United States Department of the Interior, Washington, D.C.

Snyder, John Parr
1969 *The Story of New Jersey's Civil Boundaries: 1606-1968*. Bulletin 67. Bureau of Geology and Topography, Trenton, New Jersey.

Additional Information:

More Research Needed? ☐ Yes ☒ No

INTENSIVE LEVEL USE ONLY

Attachments Included: ☒ Building ☐ Structure ☐ Object ☐ Bridge ☐ Landscape ☐ Industry

Within Historic District? ☐ Yes ☒ No

Status: ☐ Key-Contributing ☐ Contributing ☐ Non-Contributing

Associated Archaeological Site/Deposit? ☐ Yes
(Known or potential Sites – if yes, please describe briefly)

BUILDING ATTACHMENT

Historic Sites #:

Common Name: Joerger House
Historic Name: Lange Property
Present Use: residential activity/permanent
Historic Use: residential activity/permanent
Construction Date: 1950 **Source:** tax assessment data
Alteration Date(s): **Source:**
Designer: **Physical Condition:** good
Builder: **Remaining Historic Fabric:** low
Style: None
Form: Other **Stories:** 2
Type: **Bays:** 4
Roof Finish Materials: not visible
Exterior Finish Materials stucco (first floor) and vinyl siding (seconf floor)

Exterior Description: This is a two-story, flat-roofed building with a built-in garage on the ground floor. The building has been altered; it originally had two garage doors and one has been filled in. To the south of the garage door is a pedestrian door. There are 1/1, double-hung windows on the second floor and a pedestrian door on the second floor is accessed by a wood deck. The upper half is covered with vinyl siding, and the ground floor has a concrete exterior. A concrete block chimney rises from the north wall.

Interior Description: N/A

Setting: The building faces Barnegat Avenue, which is a fairly busy road. It is located adjacent to a two-story filling station. There is a yard in the rear, which is enclosed with a high fence.

ELIGIBILITY WORKSHEET

Historic Sites #:

History: The residence at 707 Barnegat Avenue was built in 1950 according to the Ship Bottom Borough tax assessor files. In 1937, the Borough retained the civil engineering firm of Sherman & Sleeper, C.E., to survey and draft a plan of lots for Ship Bottom. Sherman & Sleeper completed their work in May of the same year and the engineering firm presented its drawing, "Plan of Lots Belonging to the Borough of Ship Bottom-Beach Arlington," to the borough and then filed the document at the Ocean County Clerk's Office. Edmund and Kathryn Lange originally purchased the lot from the Borough of Ship Bottom, and by 1958, they had conveyed it to William and Ruth Kroeger. According to Eddy Lange, (who was at this property at the time of the survey) his father, Eddy Lange Sr., built the residence.

Significance: The 1.3-mile-long Borough of Ship Bottom evolved from a number of planned developments, some successful and others not. Beginning in 1886, the railroad reached the island, and during the 1890s, promoters platted an area at the point that the railroad reached Long Beach Island, but no lots were sold. In 1908, that area (present-day Ship Bottom from 3rd to 7th Streets) was named "Edgewater Beach," and 30 bungalows were built and successfully sold within two years. In 1914, a causeway reached the island, which further expanded opportunities for commercial and residential development. In 1922, lots from 8th to 14th Street were laid out as "Beach Arlington," and by 1925, "Ship Bottom-Beach Arlington" became an independent borough (Snyder 1969:205). However, relatively little construction occurred in most of Ship Bottom until after World War II.

Following the end of the War, the national population rose dramatically, and improved highways made the New Jersey coast more accessible than ever, leading former day-trippers to purchase building lots and construct modest homes in Ship Bottom and other seaside resorts along the Jersey shore. In 1947, the borough shortened its name to Ship Bottom Borough (Snyder 1969:205). By 1959, Ship Bottom had a winter population of 1,227, but summer visitors swelled that number to about 16,000 (Long Beach Island Board of Trade 1959:64). Population growth continued into the 1980s, after which time it reversed its upward trend. During the last few decades of the twentieth century, some Ship Bottom residents remodeled and, in some cases, enlarged or rebuilt their properties in order to create one or more rental units for temporary summer residents.

Eligibility for New Jersey and National Registers: ☐ Yes ☒ No **National Register Criteria:** ☐ A ☐ B ☐ C ☐ D

Level of Significance ☐ Local ☐ State ☐ National

Justification of Eligibility/Ineligibility: See Attached Continuation Sheet.

For Historic Districts Only:

Property Count: Key Contributing: _____ Contributing: _____ Non Contributing: _____

For Individual Properties Only:

List the completed attachments related to the property's significance:
Building Attachment (1)

Narrative Boundary Description:

Survey Name: Route 72 Corridor Improvements Date: 12/13/05
Surveyor: Lauren C. Archibald and Christopher Gebert
Organization: A. D. Marble & Company, 18000 Horizon Way, Ste. 200, Mt. Laurel, New Jersey 08054

CONTINUATION SHEET

Historic Sites #:

Justification of Eligibility/Ineligibility:

The property at 707 Barnegat Avenue, Ship Bottom, New Jersey is an example of a mid-twentieth-century residential property containing a vernacular two-story building that has been altered. The resource is recommended not eligible for listing in the New Jersey and National Registers of Historic Places based on the criteria outlined in National Register Bulletin, "How to Apply the National Register Criteria for Evaluation" (National Park Service [NPS] 1997).

Based on a review of the general history of the area, the property does not appear to be significant under Criterion A for its association with mid-twentieth-century development in the Borough of Ship Bottom or Ocean County; therefore, it is recommended not eligible under Criterion A. The property is unlikely to have been associated with a historically significant individual; therefore, the resource is recommended not eligible under Criterion B. The resource is recommended not eligible for listing under Criterion C due to a lack of architectural significance and integrity. The dwelling has been altered; one of the garage doors on the façade has been enclosed, the upper level of the building has been sheathed with vinyl siding, a large side deck has been added, etc. This property is not remarkable in its execution and retains little integrity of materials due to these alterations and renovations. The property is also ineligible for listing as part of a district. Although this area contains planned streets and many uniform lots sizes, it does not include design features (such as curbing and landscaping) and harmonious building types with common periods of construction and/or architectural styles of the mid-twentieth century. The property does not appear to be significant under Criterion D for its potential to yield information, as any previous archeological remains have likely been disturbed by recent earth removal and relocation.

CONTINUATION SHEET

Historic Sites #:

Photograph 2: View looking east, showing north (rear) and side elevation.

BASE FORM

Historic Sites #:

Property Name: Hochstrasser House

Street Address: *Street #:* 399 *(Low)* *(High)* *Apartment #:* *(Low)* *(High)*

Prefix: West *Street Name:* 8th *Suffix:* *Type:* St.

County(s): Ocean **Zip Code:** 08008

Municipality(s): Ship Bottom Borough **Block(s):** 110

Local Place Name(s): Long Beach Island **Lot(s):** 16

Ownership:: Private **USGS Quad(s)** Ship Bottom

Description: This building is one story high with a gable roof and faces 8th Street. There is both a pedestrian door and a garage door on the south gable end. There is another garage door on the east elevation. Windows are the 6/1 type. The primary entrance is on the north elevation and a storm door has been added. Replacement, metal steps lead up to the door. The building rests on a concrete block foundation. Exposed rafter tails are present, and a brick interior chimney rises from the west half of the building.

Registration and Status Dates:

National Historic Landmark: N/A SHPO Opinion: N/A

National Register: N/A Local Designation: N/A

New Jersey Register: N/A Other Designation: N/A

Determination of Eligibility: N/A Other Designation Date: N/A

Photograph 1: Overview showing east and south elevations.

Survey Name: Route 72 Corridor Improvements Date: 12/13/05

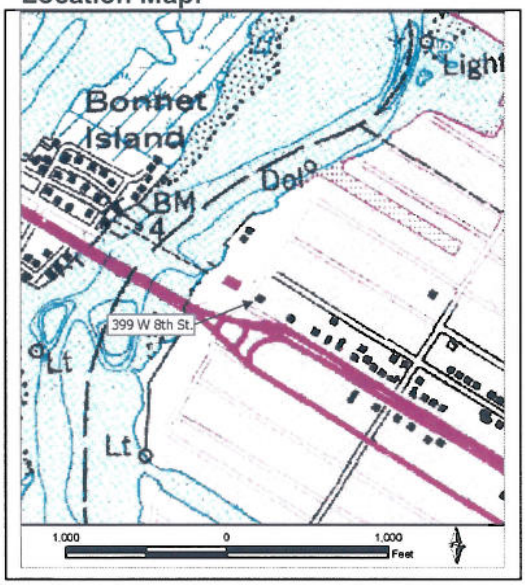
Surveyor: Lauren C. Archibald and Christopher Gebert

Organization: A. D. Marble & Company, 18000 Horizon Way, Ste. 200, Mt. Laurel, New Jersey **08054**

BASE FORM

Historic Sites #:

Location Map:



Site Map:

Bibliography/Sources:

Borough of Ship Bottom Tax Assessor files for individual properties. Borough of Ship Bottom Municipal Building, Ship Bottom, Ocean County, New Jersey.

Long Beach Island Board of Trade
1959 *Long Beach Island: Business Directory and Guide Book*. Long Beach Island Board of Trade, Ship Bottom, New Jersey.

National Park Service (NPS)
1997 *National Register Bulletin*, "How to Apply the National Register Criteria for Evaluation." United States Department of the Interior, Washington, D.C.

Snyder, John Parr
1969 *The Story of New Jersey's Civil Boundaries: 1606-1968.* Bulletin 67. Bureau of Geology and Topography, Trenton, New Jersey.

Additional Information:

More Research Needed? ☐ Yes ☒ No

INTENSIVE LEVEL USE ONLY

Attachments Included: ☒ Building ☐ Structure ☐ Object ☐ Bridge
☐ Landscape ☐ Industry

Within Historic District? ☐ Yes ☒ No

Status: ☐ Key-Contributing ☐ Contributing ☐ Non-Contributing

Associated Archaeological Site/Deposit? ☐ Yes
(Known or potential Sites – if yes, please describe briefly)

BUILDING ATTACHMENT

Historic Sites #:

Common Name: Hochstrasser House
Historic Name: Lieberum Property
Present Use: residential activity/permanent
Historic Use: residential activity/permanent
Construction Date: 1939 **Source:** tax assessment data
Alteration Date(s): **Source:**
Designer: **Physical Condition:** fair
Builder: **Remaining Historic Fabric:** low
Style: None
Form: Bungalow **Stories:** 1
Type: **Bays:** 2
Roof Finish Materials: asphalt shingles
Exterior Finish Materials wood, clapboard and asphalt shingles

Exterior Description: This building is one story high, has a gable roof, and faces 8th Street. There is both a pedestrian door and a garage door on the south gable end. There is another garage door on the east elevation. Windows are the 6/1 type. The primary entrance is on the north elevation and a storm door has been added. Replacement, metal steps lead up to the door. The building rests on a concrete block foundation. Exposed rafter tails are present, and a brick interior chimney rises from the west half of the building.

Interior Description: N/A

Setting: The building is situated very close to 8th Street at the corner of Shore Avenue. It is at the causeway entrance to the island. A grassed lawn surrounds the property.

ELIGIBILITY WORKSHEET

Historic Sites #:

History: The building at 399 West 8th Street was built in 1939 according to the Ship Bottom Borough tax assessor files. In 1937, the Borough retained the civil engineering firm of Sherman & Sleeper, C.E., to survey and draft a plan of lots for Ship Bottom. Sherman & Sleeper completed their work in May of the same year and the engineering firm presented its drawing, "Plan of Lots Belonging to the Borough of Ship Bottom-Beach Arlington," to the borough and then filed the document at the Ocean County Clerk's Office. Charles and Lillian Lieberum purchased this and several other lots from the Borough of Ship Bottom in 1939, and then proceeded to construct this building. Situated on a corner lot just off of the causeway, the property was noted on the tax assessor's Building Record form as containing a "store/ apartment" with attached garage. The building was then covered with wood shingles.

Significance: The 1.3-mile-long Borough of Ship Bottom evolved from a number of planned developments, some successful and others not. In 1914, a causeway reached the island, which expanded opportunities for commercial and residential development. However, relatively little construction occurred in most of Ship Bottom until after World War II. Following the end of the War, the national population rose dramatically, and improved highways made the New Jersey coast more accessible than ever, leading former day trippers to purchase building lots and construct modest homes in Ship Bottom and other seaside resorts along the Jersey shore. For the first time in American history, the country's citizens had more time for recreation and leisure (Lewis 1997:84). By 1959, Ship Bottom had a winter population of 1,227, but summer visitors swelled that number to about 16,000 (Long Beach Island Board of Trade 1959:64). Population growth continued into the 1980s, after which time it reversed its upward trend.

Eligibility for New Jersey and National Registers: ☐ Yes ☒ No **National Register Criteria:** ☐ A ☐ B ☐ C ☐ D

Level of Significance ☐ Local ☐ State ☐ National

Justification of Eligibility/Ineligibility: See Attached Continuation Sheet.

For Historic Districts Only:

Property Count: Key Contributing: _____ Contributing: _____ Non Contributing: _____

For Individual Properties Only:

List the completed attachments related to the property's significance:
Building Attachment (1)

Narrative Boundary Description:

Survey Name: Route 72 Corridor Improvements Date: 12/13/05
Surveyor: Lauren C. Archibald and Christopher Gebert
Organization: A. D. Marble & Company, 18000 Horizon Way, Ste. 200, Mt. Laurel, New Jersey 08054

CONTINUATION SHEET

Historic Sites #:

Justification of Eligibility/Ineligibility:

The property at 399 West 8th Street, Ship Bottom, New Jersey is recommended not eligible for listing in the New Jersey and National Registers of Historic Places based on the criteria outlined in *National Register Bulletin*, "How to Apply the National Register Criteria for Evaluation" (National Park Service [NPS] 1997.

Based on a review of the general history of the area, the property does not appear to be significant under Criterion A for its association with mid-twentieth-century development in the Borough of Ship Bottom or Ocean County; therefore it is recommended not eligible under Criterion A. The property is unlikely to have been associated with a historically significant individual; therefore, the resource is recommended not eligible under Criterion B. The resource is recommended not eligible for listing under Criterion C due to a lack of architectural significance and integrity. The wood shingles have been removed; the garage and the pedestrian doors have been replaced, etc. This property is not remarkable in its execution and retains little integrity of materials due to these changes. The property is also ineligible for listing as part of a district. Although this area contains planned streets and many uniform lots sizes, it does not include design features (such as curbing and landscaping) and harmonious building types with common periods of construction and/or architectural styles of the mid-twentieth twentieth century. The property does not appear to be significant under Criterion D for its potential to yield information as any previous archeological remains have likely been disturbed by recent earth removal and relocation.

CONTINUATION SHEET

Historic Sites #:

Photograph 2: Overview showing west and north elevations.

BASE FORM

Historic Sites #:

Property Name: Hochstrasser Marina

Street Address: *Street #:* 401 *(Low)* *(High)* *Apartment #:* *(Low)* *(High)*

Prefix: West *Street Name:* 8th *Suffix:* *Type:* St.

County(s): Ocean **Zip Code:** 08008

Municipality(s): Ship Bottom Borough **Block(s):** 111

Local Place Name(s): Long Beach Island **Lot(s):** 1

Ownership:: Private **USGS Quad(s)** Ship Bottom

Description: This is a marina located at the northwest corner of West 8th Street and the Manahawkin Bay. There are two large buildings on the property: a store/office and a workshop/garage. A substantial garage addition with a loft (for boats) has been added to the west side of the workshop/garage. The workshop/garage is rented by the owner.

Registration and Status Dates:

National Historic Landmark: N/A

SHPO Opinion: N/A

National Register: N/A

Local Designation: N/A

New Jersey Register: N/A

Other Designation: N/A

Determination of Eligibility: N/A

Other Designation Date: N/A

Photograph 1: View to north, showing workshop building.

Survey Name: Route 72 Corridor Improvements Date: 12/13/05

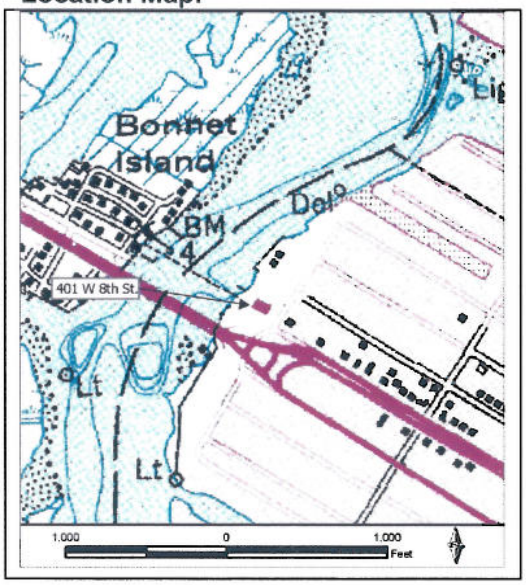
Surveyor: Lauren C. Archibald and Christopher Gebert

Organization: A. D. Marble & Company, 18000 Horizon Way, Ste. 200, Mt. Laurel, New Jersey 08054

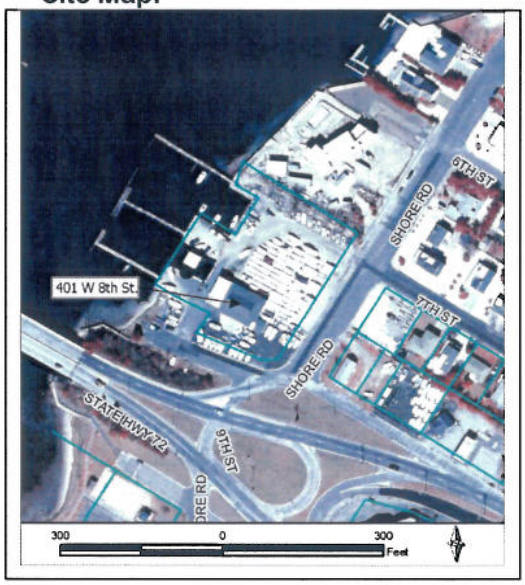
BASE FORM

Historic Sites #:

Location Map:



Site Map:



Bibliography/Sources:

Borough of Ship Bottom Tax Assessor files for individual properties. Borough of Ship Bottom Municipal Building, Ship Bottom, Ocean County, New Jersey.

Long Beach Island Board of Trade
1959 Long Beach Island: Business Directory and Guide Book. Long Beach Island Board of Trade, Ship Bottom, New Jersey.

National Park Service (NPS)
1997 National Register Bulletin, "How to Apply the National Register Criteria for Evaluation." United States Department of the Interior, Washington, D.C.

Snyder, John Parr
1969 The Story of New Jersey's Civil Boundaries: 1606-1968. Bulletin 67. Bureau of Geology and Topography, Trenton, New Jersey.

Lewis, Tom
1997 Divided Highways: Building the Interstate Highways, Transforming American Life. Viking, a member of Penguin Putnam, Incorporated, New York City, New York.

Additional Information:

More Research Needed? ☐ Yes ☒ No

INTENSIVE LEVEL USE ONLY

Attachments Included: ☒ Building ☒ Structure ☐ Object ☐ Bridge ☐ Landscape ☐ Industry

Within Historic District? ☐ Yes ☒ No

Status: ☐ Key-Contributing ☐ Contributing ☐ Non-Contributing

Associated Archaeological Site/Deposit? ☐ Yes
(Known or potential Sites – if yes, please describe briefly)

BUILDING ATTACHMENT

Historic Sites #:

Common Name: Hochstrasser Marina (Marina Store/office)
Historic Name: Horner Property
Present Use: Recreation activity/active recreation
Historic Use: Recreation activity/active recreation
Construction Date: 1945 **Source:** tax assessment data
Alteration Date(s): 1970 **Source:** tax assessment data
Designer: **Physical Condition:** good
Builder: **Remaining Historic Fabric:** low
Style: None
Form: Other **Stories:** 1
Type: **Bays:** 5
Roof Finish Materials: not visible
Exterior Finish Materials asbestos siding/other

Exterior Description: Marina – Store/office: This is a five-bay building with a circular (curved) display window. The display window area is fully glazed but is presently covered with plastic sheets. The building has been clad with asbestos panels, and the foundation is concrete block. There are large windows on most elevations of the building that are the standard plate-glass type. There is a two-story building with a flat roof that forms the northern core of the building. The marina building was probably built around this building. An eastern portion of the building consists of a three-bay commercial garage; the store area is within the western portion of the building.

Interior Description: N/A

Setting: The property is at the northeast corner of West 8th Street and bay front, directly at the causeway. Occupied boat slips extend into the bay to the west of the buildings. During the off-season, boats are stored throughout the marina on the gravel lot to the north of the buildings.

Survey Name: Route 72 Corridor Improvements Date: 12/13/05
Surveyor: Lauren C. Archibald and Christopher Gebert
Organization: A. D. Marble & Company, 18000 Horizon Way, Ste. 200, Mt. Laurel, New Jersey 08054

ELIGIBILITY WORKSHEET

Historic Sites #:

History: The buildings at 401 Barnegat Avenue were both built in 1945 according to the Ship Bottom Borough tax assessor files. In 1937, the Borough retained the civil engineering firm of Sherman & Sleeper, C.E., to survey and draft a plan of lots for Ship Bottom. Sherman & Sleeper completed their work in May of the same year and the engineering firm presented its drawing, "Plan of Lots Belonging to the Borough of Ship Bottom-Beach Arlington," to the borough and then filed the document at the Ocean County Clerk's Office. The first deed that could be found in the tax assessor's office indicated that the Borough of Ship Bottom conveyed the property to Russell and Thelma Horner in 1947 for a price of $8,000. Russell and Madeline Wilson took over the marina in 1954. This marina, then known as Wilson's Dock, catered to the influx of summer vacationers and sold new boats and featured overnight and weekly dockage. Louis and Ester Hochstrasser acquired the marina in 1962, and it continues to be owned by them. According to borough building records, the boat loft was added to the workshop in 1968, and the store/office building was remodeled during the 1970s.

Significance: The 1.3-mile-long Borough of Ship Bottom evolved from a number of planned developments, some successful and others not. In 1914, a causeway reached the island, which expanded opportunities for commercial and residential development. However, relatively little construction occurred in most of Ship Bottom until after World War II. Following the end of the War, the national population rose dramatically, and improved highways made the New Jersey coast more accessible than ever, leading former day trippers to purchase building lots and construct modest homes in Ship Bottom and other seaside resorts along the Jersey shore. For the first time in American history, the country's citizens had more time for recreation and leisure (Lewis 1997:84). This marina was built in response to this trend. By 1959, Ship Bottom had a winter population of 1,227, but summer visitors swelled that number to about 16,000 (Long Beach Island Board of Trade 1959:64). Population growth continued into the 1980s, after which time it reversed its upward trend.

Eligibility for New Jersey and National Registers: ☐ Yes ☒ No **National Register Criteria:** ☐ A ☐ B ☐ C ☐ D

Level of Significance ☐ Local ☐ State ☐ National

Justification of Eligibility/Ineligibility: See attached continuation sheet

For Historic Districts Only:

Property Count: Key Contributing: _____ Contributing: _____ Non Contributing: _____

For Individual Properties Only:

List the completed attachments related to the property's significance:

Building Attachment (1)
Structure Attachment (1)
Eligibility Worksheet (1)

Narrative Boundary Description:

Survey Name: Route 72 Corridor Improvements Date: 12/13/05

Surveyor: Lauren C. Archibald and Christopher Gebert

Organization: A. D. Marble & Company, 18000 Horizon Way, Ste. 200, Mt. Laurel, New Jersey 08054

CONTINUATION SHEET

Historic Sites #:

Justification of Eligibility/Ineligibility:

The property at 401 Barnegat Avenue New Jersey is an example of a mid-twentieth-century marina facility that has been altered. The resource is recommended not eligible for listing in the New Jersey and National Registers of Historic Places based on the criteria outlined in *National Register Bulletin*, "How to Apply the National Register Criteria for Evaluation" (National Park Service [NPS] 1997.

Although the marina is historically associated with the post-World War II affluence and attendant building boom in the area, it does not rise to the level of significance required for eligibility under Criterion A; therefore it is recommended not eligible under Criterion A. The property was not associated with a historically significant individual; therefore, the resource is recommended not eligible under Criterion B. The resource is recommended not eligible for listing under Criterion C due to lack of architectural significance and integrity. Both buildings have been remodeled and are in poor condition, etc. This property is not remarkable in its execution and retains little integrity of materials due to these alterations and renovations. The property is also ineligible for listing as part of a district. Although this area contains planned streets and many uniform lots sizes, the area lacks design features (such as curbing and landscaping) and harmonious building types with common periods of construction and/or architectural styles of the mid-twentieth century. The property does not appear to be significant under Criterion D for its potential to yield information as any previous archeological remains have likely been disturbed by recent earth removal and relocation.

CONTINUATION SHEET

Historic Sites #:

Photograph 2: View to northeast, showing marina store/office in foreground; two-story section is toward center of photograph.

Photograph 3: View to southwest, showing rear and west elevations of workshop.

CONTINUATION SHEET

Historic Sites #:

Photograph 4: View to northwest showing rear elevation of store/office building with attached garage in foreground. The marina and Manahawkin Bay are in the far background.

STRUCTURE ATTACHMENT

Historic Sites #:

Common Name: Hochstrasser Marina (Workshop/garage)
Historic Name: Horner Property
Present Use: Recreation activity/active recreation
Historic Use: Recreation activity/active recreation
Construction Date: 1945 **Source:** tax assessment data
Alteration Date(s): 1968 **Source:** tax assessment data
Designer: **Physical Condition:** fair
Builder: **Remaining Historic Fabric:** low
Type:
Roof Finish Materials: not visible
Exterior Finish Materials asbestos siding/other

Exterior Description: This is a large workshop/garage with three main bays on the façade and a later addition on the west, with a loft area for boats. There are two overhead wood garage doors on the façade (main block) and another, replaced garage door on the west addition. Customer restrooms are located between the addition and the main block. The core of the building consists of a gable-roof structure, with the metal loft area also featuring a gable roof. The projecting roof on the south side of the building has a rounded eave and is supported by square columns on stanchions. The building is covered with stucco and is of concrete block construction. Some of the windows on this building have been filled in.

Interior Description: N/A

Setting:

BASE FORM

Historic Sites #:

Property Name: Mastran House

Street Address: *Street #:* 607 *(Low)* *(High)* *Apartment #:* *(Low)* *(High)*

Prefix: *Street Name:* Central *Suffix:* *Type:* Ave.

County(s): Ocean **Zip Code:** 08008

Municipality(s): Ship Bottom Borough **Block(s):** 114

Local Place Name(s): Long Beach Island **Lot(s):** 2

Ownership:: Private **USGS Quad(s)** Ship Bottom

Description: This building is a small bungalow house facing Central Avenue and is built on a concrete block foundation. The central door is flanked by windows on each side; each set has three, 1/1 windows. Awnings have been added on the front windows and some of the side windows. There is a replacement exterior chimney on the south wall. The centrally-located dormer now has replaced windows, which has changed the fenestration. There is a two-story deck with stairs added to rear; the rear dormer now has a door access. There is a replacement wood stairway/entrance added on front of house.

Registration and Status Dates:

National Historic Landmark: N/A SHPO Opinion: N/A

National Register: N/A Local Designation: N/A

New Jersey Register: N/A Other Designation: N/A

Determination of Eligibility: N/A Other Designation Date: N/A

Photograph 1: View to north, showing facade and south elevation.

Survey Name: Route 72 Corridor Improvements Date: 12/13/05

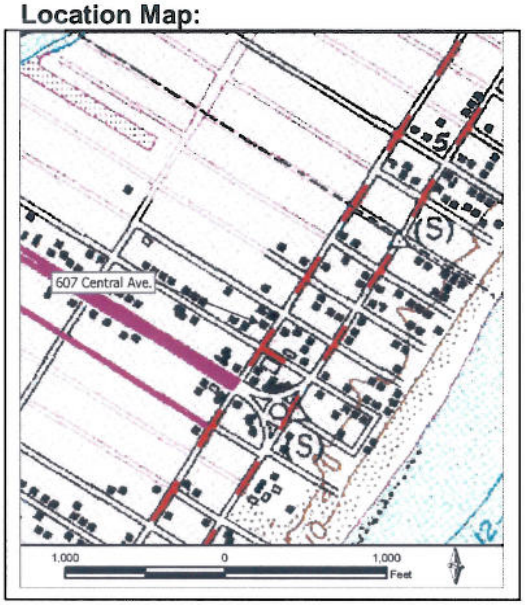
Surveyor: Lauren C. Archibald and Christopher Gebert

Organization: A. D. Marble & Company, 18000 Horizon Way, Ste. 200, Mt. Laurel, New Jersey 08054

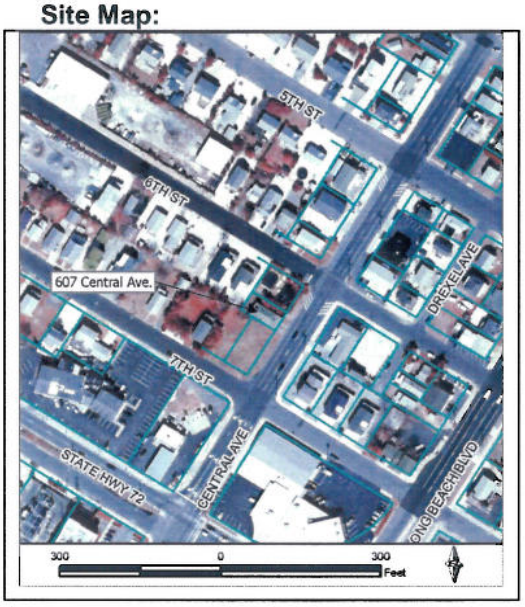
BASE FORM

Historic Sites #:

Location Map:



Site Map:



Bibliography/Sources:

Borough of Ship Bottom Tax Assessor files for individual properties. Borough of Ship Bottom Municipal Building, Ship Bottom, Ocean County, New Jersey.

Long Beach Island Board of Trade
1959 *Long Beach Island: Business Directory and Guide Book*. Long Beach Island Board of Trade, Ship Bottom, New Jersey.

National Park Service (NPS)
1997 *National Register Bulletin*, "How to Apply the National Register Criteria for Evaluation." United States Department of the Interior, Washington, D.C.

Snyder, John Parr
1969 *The Story of New Jersey's Civil Boundaries: 1606-1968*. Bulletin 67. Bureau of Geology and Topography, Trenton, New Jersey.

Additional Information:

More Research Needed? ☐ Yes ☒ No

INTENSIVE LEVEL USE ONLY

Attachments Included: ☒ Building ☐ Structure ☐ Object ☐ Bridge ☐ Landscape ☐ Industry

Within Historic District? ☐ Yes ☒ No

Status: ☐ Key-Contributing ☐ Contributing ☐ Non-Contributing

Associated Archaeological Site/Deposit? ☐ Yes
(Known or potential Sites – if yes, please describe briefly)

BUILDING ATTACHMENT

Historic Sites #:

Common Name: Mastran House
Historic Name: Ryan Property
Present Use: residential activity/permanent
Historic Use: residential activity/permanent
Construction Date: 1920 **Source:** tax assessment data
Alteration Date(s): **Source:**
Designer: **Physical Condition:** good
Builder: **Remaining Historic Fabric:** medium
Style: None
Form: Bungalow **Stories:** 1
Type: **Bays:** 3
Roof Finish Materials: asbestos shingle
Exterior Finish Materials asphalt shingle

Exterior Description: This building is a small bungalow house facing Central Avenue and is built on a concrete block foundation. The central door is flanked by windows on each side; each set has three, 1/1 windows. Awnings have been added on the front windows and some of the side windows. There is a replacement exterior chimney on the south wall. The centrally-located dormer now has replaced windows, which has changed the fenestration. There is a two-story deck with stairs added to rear; the rear dormer now has a door access. There is a replacement wood stairway/entrance added on front of house.

Interior Description: NA

Setting: The building faces Central Avenue. It is on small lot with some grass and plantings in front.

Survey Name: Route 72 Corridor Improvements Date: 12/13/05
Surveyor: Lauren C. Archibald and Christopher Gebert
Organization: A. D. Marble & Company, 18000 Horizon Way, Ste. 200, Mt. Laurel, New Jersey 08054

ELIGIBILITY WORKSHEET

Historic Sites #:

History: The building at 607 Central Avenue was built in 1920 according to the Ship Bottom Borough tax assessor files. Although it was not until 1922 that Haines and Sherman, C.E. surveyed and drafted a plan for this area of Ship Bottom – then known as Edgewater Beach – the building had already been built. John P. Ryan owned the property prior to 1949, after which the property was conveyed to another family.

Significance: The 1.3-mile-long Borough of Ship Bottom evolved from a number of planned developments, some successful and others not. Beginning in 1886, the railroad reached the island, and during the 1890s, promoters platted an area at the point that the railroad reached Long Beach Island, but no lots were sold. In 1908, that area (present-day Ship Bottom, from 3rd to 7th Streets) was named Edgewater Beach, and 30 bungalows were built and successfully sold within two years. In 1914, a causeway reached the island, which further expanded opportunities for commercial and residential development. In 1922, lots from 8th to 14th Street were laid out as Beach Arlington, and by 1925, Ship Bottom-Beach Arlington became an independent borough (Snyder 1969:205). However, relatively little construction occurred in most of Ship Bottom until after World War II.

Following the end of the War, the national population rose dramatically, and improved highways made the New Jersey coast more accessible than ever, leading former day trippers to purchase building lots and construct modest homes in Ship Bottom and other seaside resorts along the Jersey shore. In 1947, the borough shortened its name to Ship Bottom Borough (Snyder 1969:205). By 1959, Ship Bottom had a winter population of 1,227, but summer visitors swelled that number to about 16,000 (Long Beach Island Board of Trade 1959:64). Population growth continued into the 1980s, after which time it reversed its upward trend. During the last few decades of the twentieth century, some Ship Bottom residents remodeled and, in some cases, enlarged or rebuilt their properties in order to create one or more rental units for temporary summer residents.

Eligibility for New Jersey and National Registers: ☐ Yes ☒ No **National Register Criteria:** ☐ A ☐ B ☐ C ☐ D

Level of Significance ☐ Local ☐ State ☐ National

Justification of Eligibility/Ineligibility: See Attached Continuation Sheet.

For Historic Districts Only:

Property Count: Key Contributing: _____ Contributing: _____ Non Contributing: _____

For Individual Properties Only:

List the completed attachments related to the property's significance:
Building Attachment (1)

Narrative Boundary Description:

Survey Name: Route 72 Corridor Improvements Date: 12/13/05
Surveyor: Lauren C. Archibald and Christopher Gebert
Organization: A. D. Marble & Company, 18000 Horizon Way, Ste. 200, Mt. Laurel, New Jersey 08054

CONTINUATION SHEET

Historic Sites #:

Justification of Eligibility/Ineligibility:

The property at 399 West 8th Street, Ship Bottom, New Jersey, is an example of an early-twentieth-century property containing a vernacular one-story building and is recommended not eligible for listing in the New Jersey and National Registers of Historic Places based on the criteria outlined in *National Register Bulletin*, "How to Apply the National Register Criteria for Evaluation" (National Park Service [NPS] 1997.

Based on a review of the general history of the area, the property does not appear to be significant under Criterion A for its association with mid-twentieth-century development in the Borough of Ship Bottom or Ocean County; therefore it is recommended not eligible under Criterion A. The property is unlikely to have been associated with a historically significant individual; therefore, the resource is recommended not eligible under Criterion B. The resource is recommended not eligible for listing under Criterion C due to a lack of architectural significance. While the building retains its overall form – the building is a typical example of a Bungalow -- it has been re-sheathed with asbestos shingles, and unsympathetic awnings and a modern stair have been added, etc. The property is also ineligible for listing as part of a district. Although this parcel was historically associated with a community known as Edgewater Beach, there no longer appears to be a viable group of remaining bungalows that could constitute a district. Although this area does contain planned streets and many uniform lots sizes, it does not include design features (such as curbing and landscaping) and harmonious building types with common periods of construction and/or architectural styles of the mid-twentieth century. The property does not appear to be significant under Criterion D for its potential to yield information as any previous archeological remains have likely been disturbed by recent earth removal and relocation.

CONTINUATION SHEET

Historic Sites #:

Photograph 2: View to south, showing rear and side elevation.

BASE FORM

Historic Sites #:

Property Name: Trpisovsky and Bowers Property

Street Address: *Street #:* 200 *(Low)* *(High)* *Apartment #:* *(Low)* *(High)*

Prefix: West *Street Name:* 6th *Suffix:* *Type:* St.

County(s): Ocean **Zip Code:** 08008

Municipality(s): Ship Bottom Borough **Block(s):** 114

Local Place Name(s): Long Beach Island **Lot(s):** 3

Ownership:: Private **USGS Quad(s)** Ship Bottom

Description: This property consists of two one-story, vernacular frame, residential buildings situated on a corner lot. Building No. 1, which is closest to the corner of West 6th Street and Barnegat Avenue, is front-gabled and features four 1/1, double-hung windows across the façade, with an off-center door. Building No. 2 is situated slightly to the west along Central Avenue and is more or less a twin of the first building.

Registration and Status Dates:

National Historic Landmark: N/A

SHPO Opinion: N/A

National Register: N/A

Local Designation: N/A

New Jersey Register: N/A

Other Designation: N/A

Determination of Eligibility: N/A

Other Designation Date: N/A

Photograph 1: Building 1, view showing facade and side elevation.

Survey Name: Route 72 Corridor Improvements Date: 12/13/05

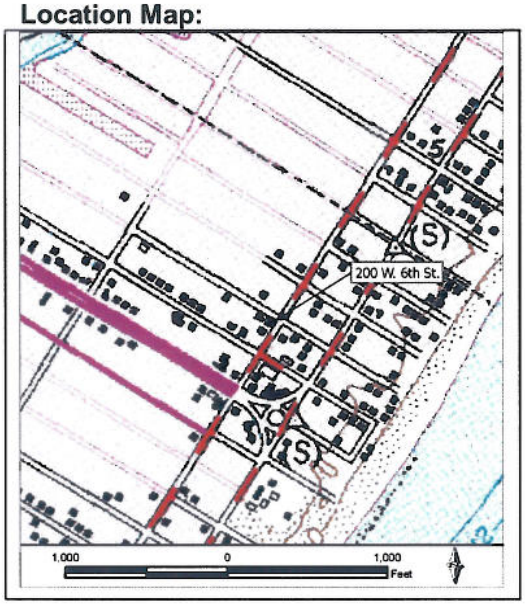
Surveyor: Lauren C. Archibald and Christopher Gebert

Organization: A. D. Marble & Company, 18000 Horizon Way, Ste. 200, Mt. Laurel, New Jersey 08054

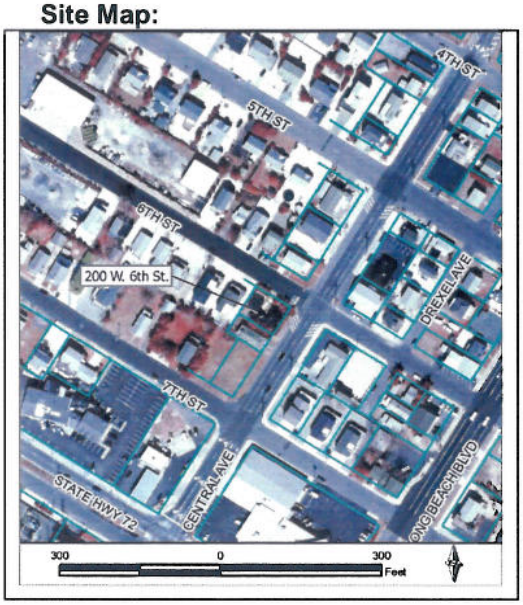
BASE FORM

Historic Sites #:

Location Map:



Site Map:



Bibliography/Sources:

Borough of Ship Bottom Tax Assessor files for individual properties. Borough of Ship Bottom Municipal Building, Ship Bottom, Ocean County, New Jersey.

Long Beach Island Board of Trade
1959 *Long Beach Island : Business Directory and Guide Book*. Long Beach Island Board of Trade, Ship Bottom, New Jersey.

National Park Service (NPS)
1997 *National Register Bulletin*, "How to Apply the National Register Criteria for Evaluation." United States Department of the Interior, Washington, D.C.

Snyder, John Parr
1969 *The Story of New Jersey's Civil Boundaries : 1606-1968.* Bulletin 67. Bureau of Geology and Topography, Trenton, New Jersey.

Additional Information:

More Research Needed? ☐ Yes ☒ No

INTENSIVE LEVEL USE ONLY

Attachments Included: ☒ Building ☐ Structure ☐ Object ☐ Bridge ☐ Landscape ☐ Industry

Within Historic District? ☐ Yes ☒ No

Status: ☐ Key-Contributing ☐ Contributing ☐ Non-Contributing

Associated Archaeological Site/Deposit? ☐ Yes
(Known or potential Sites – if yes, please describe briefly)

BUILDING ATTACHMENT

Historic Sites #:

Common Name: Trpisovsky and Bowers Property (Building 1)
Historic Name:
Present Use: residential activity/permanent
Historic Use: residential activity/permanent
Construction Date: 1945 **Source:** tax assessment data
Alteration Date(s): 2002 **Source:** tax assessment data
Designer: **Physical Condition:** fair
Builder: **Remaining Historic Fabric:** low
Style: None
Form: Other **Stories:** 1
Type: **Bays:** 4
Roof Finish Materials: asbestos shingle
Exterior Finish Materials Stucco

Exterior Description: This is a one-story vernacular frame building situated on a corner lot. This building (No. 1), which is closest to the corner of West 6th Street and Barnegat Avenue, is front-gabled and features four 1/1 double-hung windows across the façade, with an off-center door. Windows throughout the house appear to be replacements, and some of the fenestration, such as on the rear elevation, has been altered and that portion of the house is currently undergoing renovation. There is a large deck to the side of the building, which includes a long wood bench built at the edge of the deck near the house wall. There is also an enclosed, outside shower stall on the east elevation. On the west elevation, a double glass patio door has been added. The original cornice has been encased.

Interior Description:

Setting: This property is located at the southwest corner of West 6th Street and Central Avenue. Central Avenue is a well-traveled main thoroughfare through Ship Bottom. There are both commercial and residential buildings in this part of town.

BUILDING ATTACHMENT

Historic Sites #:

Common Name: Trpisovsky and Bowers Property (Building 2)
Historic Name:
Present Use: residential activity/permanent
Historic Use: residential activity/permanent
Construction Date: 1945 **Source:** tax assessment data
Alteration Date(s): 2002 **Source:** tax assessment data
Designer: **Physical Condition:** fair
Builder: **Remaining Historic Fabric:** low
Style: None
Form: Other **Stories:** 1
Type: **Bays:** 4
Roof Finish Materials: asbestos shingle
Exterior Finish Materials Stucco

Exterior Description: This building is situated slightly to the west along Central Avenue and is more or less a twin of the first building (Building No. 1), with a modern, glass, double-door patio door. It is front-gabled building, with 1/1 double-hung windows as well as numerous, single-pane replacement windows. Some of the elevations of this building are shielded by dense vegetation. A modern patio surrounds two sides of the building. The original cornice has been encased.

Interior Description: **N/A**

Setting: This property is located at the southwest corner of West 6th Street and Central Avenue. Central Avenue is a well-traveled, main thoroughfare through Ship Bottom. There are both commercial and residential buildings in this part of town.

ELIGIBILITY WORKSHEET

Historic Sites #:

History: The property at 200 West 6th Street was built in 1945 according to the Ship Bottom Borough tax assessor files. In 1922, Haines and Sherman, C.E., surveyed and drafted a plan for this area of Ship Bottom – then known as Edgewater Beach. The first owners appear to have been Margaret and Charles Ruckefus, and it is likely that they built the structures here. Later owners included Thomas and Barbara Gorman, Franklin and Rosemarie Ketterer, and John and Margaret Bowers. Building permit records for the property show that these buildings originally had flat roofs, and in 1986, the owners applied for a variance to add an additional full story the building(s). The application was denied. In 2002, a building permit was issued to build an "A" shaped roof, as seen on each of the buildings at the property today.

Significance: The 1.3-mile-long Borough of Ship Bottom evolved from a number of planned developments, some successful and others not. Beginning in 1886, the railroad reached the island, and during the 1890s, promoters platted an area at the point that the railroad reached Long Beach Island, but no lots were sold. In 1908, that area (present-day Ship Bottom from 3rd to 7th Streets) was named "Edgewater Beach," and 30 bungalows were built and successfully sold within two years. In 1914, a causeway reached the island, which further expanded opportunities for commercial and residential development. In 1922, lots from 8th to 14th Street were laid out as "Beach Arlington," and by 1925, "Ship Bottom-Beach Arlington" became an independent borough (Snyder 1969:205). However, relatively little construction occurred in most of Ship Bottom until after World War II.

Following the end of the War, the national population rose dramatically, and improved highways made the New Jersey coast more accessible than ever, leading former day-trippers to purchase building lots and construct modest homes in Ship Bottom and other seaside resorts along the Jersey shore. In 1947, the borough shortened its name to Ship Bottom Borough (Snyder 1969:205). By 1959, Ship Bottom had a winter population of 1,227, but summer visitors swelled that number to about 16,000 (Long Beach Island Board of Trade 1959:64). Population growth continued into the 1980s, after which time it reversed its upward trend. During the last few decades of the twentieth century, some Ship Bottom residents remodeled and, in some cases, enlarged or rebuilt their properties in order to create one or more rental units for temporary summer residents.

Eligibility for New Jersey and National Registers: ☐ Yes ☐ No **National Register Criteria:** ☐ A ☐ B ☐ C ☐ D

Level of Significance ☐ Local ☐ State ☐ National

Justification of Eligibility/Ineligibility: See attached continuation sheet

For Historic Districts Only:

Property Count: Key Contributing: _____ Contributing: _____ Non Contributing: _____

For Individual Properties Only:

List the completed attachments related to the property's significance:
Building Attachment (2)

Narrative Boundary Description:

Survey Name: Route 72 Corridor Improvements Date: 12/13/05

Surveyor: Lauren C. Archibald and Christopher Gebert

Organization: A. D. Marble & Company, 18000 Horizon Way, Ste. 200, Mt. Laurel, New Jersey 08054

CONTINUATION SHEET

Historic Sites #:

Justification of Eligibility/Ineligibility:

The property at 200 West 6th Street, Ship Bottom, New Jersey is recommended not eligible for listing in the New Jersey and National Registers of Historic Places based on the criteria outlined in National Register Bulletin, "How to Apply the National Register Criteria for Evaluation" (National Park Service [NPS] 1997).

Based on a review of the general history of the area, the property does not appear to be significant under Criterion A for its association with mid-twentieth-century development in the Borough of Ship Bottom or Ocean County; therefore, it is recommended not eligible under Criterion A. The property is unlikely to have been associated with a historically significant individual; therefore, the resource is recommended not eligible under Criterion B. The resource is recommended not eligible for listing under Criterion C due to a lack of architectural significance. The building is an unexceptional example of a mid-twentieth-century residence. It is not remarkable in its execution and retains little integrity of materials due to recent renovations (stucco exterior, replacement windows, added patio doors, etc.). The property is also ineligible for listing as part of a district. Although this area contains planned streets and many uniform lots sizes, it does not include design features (such as curbing and landscaping) and harmonious building types with common periods of construction and/or architectural styles of the mid-twentieth century. The property does not appear to be significant under Criterion D for its potential to yield information as any previous archeological remains have likely been disturbed by recent earth removal and relocation.

CONTINUATION SHEET

Historic Sites #:

Photograph 2: Building 1, view showing side elevation with outside shower.

Photograph 3: Building 1, view showing rear elevation.

CONTINUATION SHEET

Historic Sites #:

Photograph 4: Building 2, view looking northwest, showing east elevation.

BASE FORM

Historic Sites #:

Property Name: Ocean County Garage Property

Street Address: *Street #:* 234-292 *(Low)* *(High)* *Apartment #:* *(Low)* *(High)*

Prefix: West *Street Name:* 6th *Suffix:* *Type:* St.

County(s): Ocean **Zip Code:** 08008

Municipality(s): Ship Bottom Borough **Block(s):** 114

Local Place Name(s): Long Beach Island **Lot(s):** 12

Ownership:: Private **USGS Quad(s)** Ship Bottom

Description: This is a single-level municipal garage that features four rounded pilasters on the façade. The building is painted a bright blue and there are three sets of original multiple-pane windows with metal mullions on the façade. The west elevation has an overhead garage door and a pedestrian door, both replacements. Large banks of original windows, six total, are present on the south elevation. Four of these are present on the north elevation, with the other two having been partially enclosed and filled in with later 2/2 windows. There are four replaced overhead garage doors on the east elevation, and two new windows replacing an original window bank.

Registration and Status Dates:

National Historic Landmark: N/A SHPO Opinion: N/A

National Register: N/A Local Designation: N/A

New Jersey Register: N/A Other Designation: N/A

Determination of Eligibility: N/A Other Designation Date: N/A

Photograph 1: Looking north, showing facade and south elevation.

Survey Name: Route 72 Corridor Improvements Date: 12/13/05

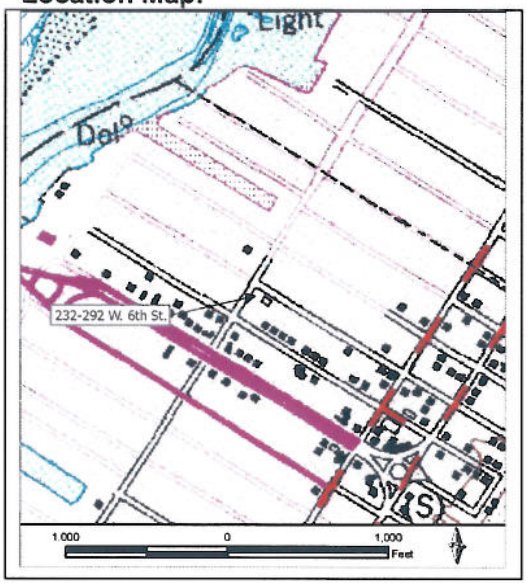
Surveyor: Lauren C. Archibald and Christopher Gebert

Organization: A. D. Marble & Company, 18000 Horizon Way, Ste. 200, Mt. Laurel, New Jersey 08054

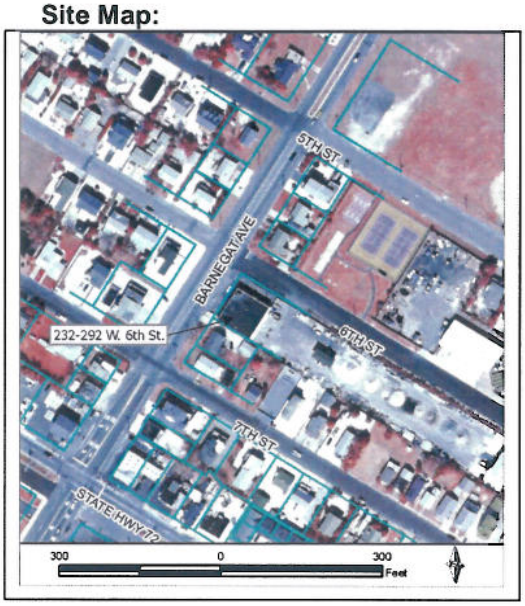
BASE FORM

Historic Sites #:

Location Map:



Site Map:



Bibliography/Sources:

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Long Beach Island Board of Trade
1959 *Long Beach Island: Business Directory and Guide Book*. Long Beach Island Board of Trade, Ship Bottom, New Jersey.

National Park Service (NPS)
1997 National Register Bulletin, "How to Apply the National Register Criteria for Evaluation." United States Department of the Interior, Washington, D.C.

Snyder, John Parr
1969 *The Story of New Jersey's Civil Boundaries : 1606-1968.* Bulletin 67. Bureau of Geology and Topography, Trenton, New Jersey.

Additional Information:

More Research Needed? ☐ Yes ☒ No

INTENSIVE LEVEL USE ONLY

Attachments Included: ☒ Building ☐ Structure ☐ Object ☐ Bridge
☐ Landscape ☐ Industry

Within Historic District? ☐ Yes ☒ No

Status: ☐ Key-Contributing ☐ Contributing ☐ Non-Contributing

Associated Archaeological Site/Deposit? ☐ Yes
(Known or potential Sites – if yes, please describe briefly)

BUILDING ATTACHMENT

Historic Sites #:

Common Name: Ocean County Garage
Historic Name:
Present Use: Institutional Activity/Government Services
Historic Use: Institutional Activity/Government Services
Construction Date: Ca. 1955 **Source:** stylistic evidence
Alteration Date(s): **Source:**
Designer: **Physical Condition:** good
Builder: **Remaining Historic Fabric:** low
Style: Art Deco
Form: Other **Stories:** 1
Type: **Bays:** 5
Roof Finish Materials: not visible
Exterior Finish Materials concrete

Exterior Description: This is a single-level, municipal garage that features four rounded pilasters on the façade. The building is painted a bright blue and there are three sets of original multiple-pane windows with metal mullions on the façade. The west elevation has an overhead garage door and a pedestrian door, both replacements. Large banks of original windows, six total, are present on the south elevation. Four of these are present on the north elevation, with the other two having been partially enclosed and filled in with later 2/2 windows. There are four replaced overhead garage doors on the east elevation and two new windows replacing an original window bank.

Interior Description: N/A

Setting: The building faces Barnegat Avenue, a fairly busy road in town. There is a fenced-in yard in the rear; trucks and equipment are stored there.

ELIGIBILITY WORKSHEET

Historic Sites #:

History: The building at 234-292 West 6th Street was built in 1930 according to the Ship Bottom Borough tax assessor files; however, this likely referred to an earlier building that was on the lot. The building appears to have been erected at a much later time, ca. 1955; The building serves as the department garage, and the county continues using this facility today (2005) in connection with road maintenance on Long Beach Island.

Significance: The 1.3-mile-long Borough of Ship Bottom evolved from a number of planned developments, some successful and others not. In 1914, a causeway reached the island, which expanded opportunities for commercial and residential development. However, relatively little construction occurred in most of Ship Bottom until after World War II. Following the end of the War, the national population rose dramatically, and improved highways made the New Jersey coast more accessible than ever, leading former day-trippers to purchase building lots and construct modest homes in Ship Bottom and other seaside resorts along the Jersey shore. For the first time in American history, the country's citizens had more time for recreation and leisure, and were able to acquire automobiles in greater numbers than before (Lewis 1997:84). By 1959, Ship Bottom had a winter population of 1,227, but summer visitors swelled that number to about 16,000 (Long Beach Island Board of Trade 1959:64). Population growth continued into the 1980s, after which time it reversed its upward trend.

Eligibility for New Jersey and National Registers: ☐ Yes ☒ No **National Register Criteria:** ☐ A ☐ B ☐ C ☐ D

Level of Significance ☐ Local ☐ State ☐ National

Justification of Eligibility/Ineligibility: See attached continuation sheet

For Historic Districts Only:

Property Count: Key Contributing: _____ Contributing: _____ Non Contributing: _____

For Individual Properties Only:

List the completed attachments related to the property's significance:
Building Attachment (1)

Narrative Boundary Description:

Survey Name: Route 72 Corridor Improvements Date: 12/13/05

Surveyor: Lauren C. Archibald and Christopher Gebert

Organization: A. D. Marble & Company, 18000 Horizon Way, Ste. 200, Mt. Laurel, New Jersey 08054

ELIGIBILITY WORKSHEET

Historic Sites #:

Justification of Eligibility/Ineligibility:

The property at 234-292 West 6th Street, Ship Bottom, New Jersey is recommended not eligible for listing in the New Jersey and National Registers of Historic Places based on the criteria outlined in National Register Bulletin, "How to Apply the National Register Criteria for Evaluation" (National Park Service [NPS] 1997).

Based on a review of the general history of the area, the property does not appear to be significant under Criterion A for its association with mid-twentieth-century development in the Borough of Ship Bottom or Ocean County; therefore, it is recommended not eligible under Criterion A. The property is unlikely to have been associated with a historically significant individual; therefore, the resource is recommended not eligible under Criterion B. The resource is recommended not eligible for listing under Criterion C due to a lack of architectural significance. While the building is an example of an Art Deco-influenced municipal garage that retains its overall form, the building has been altered by the in-filling of some of the bays, including many of the windows (particularly on the east elevation), the replacement of various doors, etc. The property is also ineligible for listing as part of a district. Although this area contains planned streets and many uniform lots sizes, it does not include design features (such as curbing and landscaping) and harmonious building types with common periods of construction and/or architectural styles of the mid-twentieth twentieth century. The property does not appear to be significant under Criterion D for its potential to yield information, as any previous archeological remains have likely been disturbed by recent earth removal and relocation.

CONTINUATION SHEET

Historic Sites #:

Photograph 2: Looking west, showing side (north) elevation.

Photograph 3: Looking west, showing rear (east) elevation and east elevation.

BASE FORM

Historic Sites #:

Property Name: Thulin Property

Street Address: *Street #:* 619 *(Low)* *(High)* *Apartment #:* *(Low)* *(High)*

Prefix: *Street Name:* Boulevard *Suffix:* *Type:*

County(s): Ocean **Zip Code:** 08008

Municipality(s): Ship Bottom Borough **Block(s):** 115

Local Place Name(s): Long Beach Island **Lot(s):** 1

Ownership:: Private **USGS Quad(s)** Ship Bottom

Description: The property at 611 Long Beach Boulevard contains a two-story building that serves as a general photo shop (Lynn Photo1-Hour Processing), with a residence on the second floor. There is a small, modern, one-story commercial building just to the northwest of the main building that is used for "Custom Sound and Entertainment Systems." The building, which has a gable roof, has a one-story ell on the west side, and a longer, one-story addition has been attached to the ell. The main building features a corner entrance, and an exterior stair with second story deck has been added on the north side. The vinyl windows, which include the 8/8 and 6/6 double-hung sash type, appear to be replacements. There are fixed windows on the one-story addition. A cast stone planter bed surrounds the building. The side parking lot features colored multi-colored paving stones.

Registration and Status Dates:

National Historic Landmark: N/A SHPO Opinion: N/A

National Register: N/A Local Designation: N/A

New Jersey Register: N/A Other Designation: N/A

Determination of Eligibility: N/A Other Designation Date: N/A

Photograph 1: View looking northeast showing south elevation.

Survey Name: Route 72 Corridor Improvements Date: 12/13/05

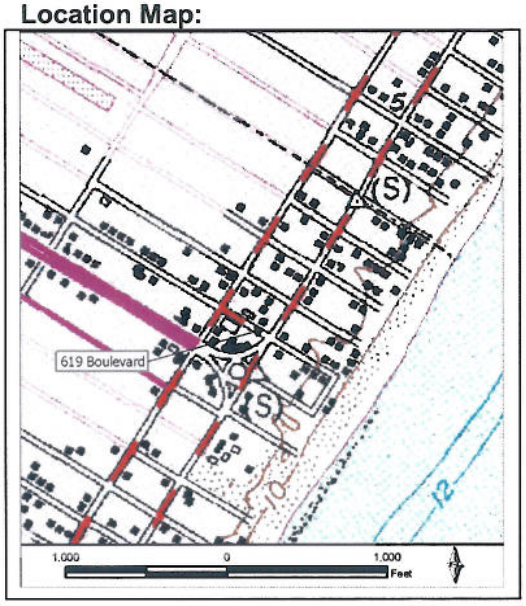
Surveyor: Lauren C. Archibald and Christopher Gebert

Organization: A. D. Marble & Company, 18000 Horizon Way, Ste. 200, Mt. Laurel, New Jersey 08054

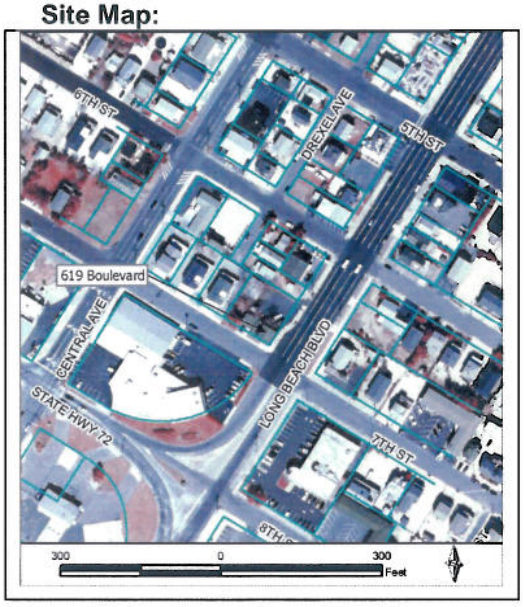
BASE FORM

Historic Sites #:

Location Map:



Site Map:



Bibliography/Sources:

Borough of Ship Bottom Tax Assessor files for individual properties. Borough of Ship Bottom Municipal Building, Ship Bottom, Ocean County, New Jersey.

Long Beach Island Board of Trade
1959 *Long Beach Island: Business Directory and Guide Book*. Long Beach Island Board of Trade, Ship Bottom, New Jersey.

National Park Service (NPS)
1997 National Register Bulletin, "How to Apply the National Register Criteria for Evaluation." United States Department of the Interior, Washington, D.C.

Snyder, John Parr
1969 *The Story of New Jersey's Civil Boundaries: 1606-1968*. Bulletin 67. Bureau of Geology and Topography, Trenton, New Jersey.

Additional Information:

More Research Needed? ☐ Yes ☒ No

INTENSIVE LEVEL USE ONLY

Attachments Included: ☒ Building ☐ Structure ☐ Object ☐ Bridge ☐ Landscape ☐ Industry

Within Historic District? ☐ Yes ☒ No

Status: ☐ Key-Contributing ☐ Contributing ☐ Non-Contributing

Associated Archaeological Site/Deposit? ☐ Yes
(Known or potential Sites – if yes, please describe briefly)

BUILDING ATTACHMENT

Historic Sites #:

Common Name: Thulin Property
Historic Name: Lynn Property
Present Use: commercial activity/office/private business
Historic Use: residential activity/permanent
Construction Date: 1950 **Source:** tax assessment data
Alteration Date(s): **Source:**
Designer: **Physical Condition:** good
Builder: **Remaining Historic Fabric:** low
Style: None
Form: Other **Stories:** 2
Type: **Bays:** 2
Roof Finish Materials: asphalt shingle
Exterior Finish Materials asbestos siding

Exterior Description: The property at 611 Long Beach Boulevard contains a two-story building that serves as a general photo shop (Lynn Photo1-Hour Processing), with a residence on the second floor. There is a small, modern, one-story commercial building just to the northwest of the main building that is used for "Custom Sound and Entertainment Systems." The building, which has a gable roof, has a one-story ell on the west side, and a longer, one-story addition has been attached to the ell. The main building features a corner entrance, and an exterior stair with second-story deck has been added on the north side. The vinyl windows, which include the 8/8 and 6/6 double-hung sash type, appear to be replacements. There are fixed windows on the one-story addition. A cast stone planter bed surrounds the building. The side parking lot features colored multi-colored paving stones.

Interior Description: N/A

Setting: This property is situated at northwest corner of Long Beach Boulevard and 7th Street in a commercial area. Long Beach Boulevard is one of three primary north-south thoroughfares running through Ship Bottom; the other two being Barnegat Avenue and Central Avenue. Numbered cross streets are laid out in a grid pattern at right angles to these roads. The property is on a 100.0-foot by 100.0-foot lot. There is a small parking lot to the north of the building.

ELIGIBILITY WORKSHEET

Historic Sites #:

History: The property at 619 Long Beach Boulevard was built in 1950 according to the Ship Bottom Borough tax assessor files. The lot was originally laid out in the "Plan of Lots Belonging to the Borough of Ship Bottom-Beach Arlington," prepared by Sherman & Sleeper, C. E., in May 1937 and filed at the County Clerk's Office of Ocean County. Deed abstracts indicate that the borough sold this and several other lots to Harold D. Lynn between 1945-1947.

Significance: The 1.3-mile-long Borough of Ship Bottom evolved from a number of planned developments, some successful and others not. Beginning in 1886, the railroad reached the island, and during the 1890s, promoters platted an area at the point that the railroad reached Long Beach Island, but no lots were sold. In 1908, that area (present-day Ship Bottom from 3rd to 7th Streets) was named "Edgewater Beach," and 30 bungalows were built and successfully sold within two years. In 1914, a causeway reached the island, which further expanded opportunities for commercial and residential development. In 1922, lots from 8th to 14th Street were laid out as "Beach Arlington", and by 1925, "Ship Bottom-Beach Arlington" became an independent borough (Snyder 1969:205). However, relatively little construction occurred in most of Ship Bottom until after World War II.

Following the end of the War, the national population rose dramatically, and improved highways made the New Jersey coast more accessible than ever, leading former day-trippers to purchase building lots and construct modest homes in Ship Bottom and other seaside resorts along the Jersey shore. In 1947, the borough shortened its name to Ship Bottom Borough (Snyder 1969:205). By 1959, Ship Bottom had a winter population of 1,227, but summer visitors swelled that number to about 16,000 (Long Beach Island Board of Trade 1959:64). Population growth continued into the 1980s, after which time it reversed its upward trend. During the last few decades of the twentieth century, some Ship Bottom residents remodeled and, in some cases, enlarged or rebuilt their properties in order to create one or more rental units for temporary summer residents.

Eligibility for New Jersey and National Registers: ☐ Yes ☒ No **National Register Criteria:** ☐ A ☐ B ☐ C ☐ D

Level of Significance ☐ Local ☐ State ☐ National

Justification of Eligibility/Ineligibility: See attached continuation sheet

For Historic Districts Only:

Property Count: Key Contributing: _____ Contributing: _____ Non Contributing: _____

For Individual Properties Only:

List the completed attachments related to the property's significance:
Building Attachment (1)

Narrative Boundary Description:

Survey Name: Route 72 Corridor Improvements Date: 12/13/05
Surveyor: Lauren C. Archibald and Christopher Gebert
Organization: A. D. Marble & Company, 18000 Horizon Way, Ste. 200, Mt. Laurel, New Jersey 08054

CONTINUATION SHEET

Historic Sites #:

Justification of Eligibility/Ineligibility:

The property at 619 Long Beach Boulevard, Ship Bottom, New Jersey is recommended not eligible for listing in the New Jersey and National Registers of Historic Places based on the criteria outlined in National Register Bulletin, "How to Apply the National Register Criteria for Evaluation" (National Park Service [NPS] 1997). The property does not appear to be significant under Criteria A, B, or C. Based on a review of the general history of the area, the property does not appear to be significant under Criterion A for its association with mid-twentieth-century development in the Borough of Ship Bottom or Ocean County. The property does not appear to have been associated with a historically significant individual; therefore, the resource is recommended not eligible under Criterion B. The property is an example of a mid-twentieth-century residential property containing an altered commercial/residential building and a modern commercial structure. The building has been completely re-sided with modern materials, some of the windows appear to have been changed, a one-story addition and a porch deck have been added to the building, etc. The resource is recommended not eligible for listing in the National Register under Criterion C due to a lack of architectural significance and integrity. The property does not appear to be significant under Criterion D for its potential to yield information, as any previous archeological remains have likely been disturbed by recent earth removal and relocation.

CONTINUATION SHEET

Historic Sites #:

Photograph 2: View looking southwest, showing east and north elevations.

BASE FORM

Historic Sites #:

Property Name: Stipicevic Property

Street Address: *Street #:* 604 *(Low)* *(High)* *Apartment #:* *(Low)* *(High)*

Prefix: *Street Name:* Long Beach *Suffix:* *Type:* Blvd.

County(s): Ocean **Zip Code:** 08008

Municipality(s): Ship Bottom Borough **Block(s):** 116

Local Place Name(s): Long Beach Island **Lot(s):** 13

Ownership:: Private **USGS Quad(s)** Ship Bottom

Description: This side-gabled building faces north, with an off-center door. A five-light Chicago window and two, 1/1, double-hung windows flank the door. There is an exterior brick chimney on the east end; the building rests on a concrete block foundation. There are brick steps leading up to the house. A two-bay garage has been added to the east side of the house and there is a rear, one-story ell, as well as a large shed-roof dormer, on the southwest side of the house.

Registration and Status Dates:

National Historic Landmark: N/A SHPO Opinion: N/A

National Register: N/A Local Designation: N/A

New Jersey Register: N/A Other Designation: N/A

Determination of Eligibility: N/A Other Designation Date: N/A

Photograph 1: Looking south, showing facade (north elevation).

Survey Name: Route 72 Corridor Improvements Date: 12/13/05

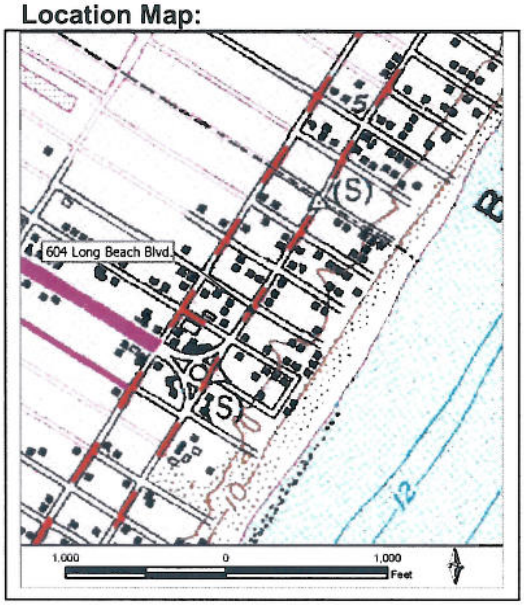
Surveyor: Lauren C. Archibald and Christopher Gebert

Organization: A. D. Marble & Company, 18000 Horizon Way, Ste. 200, Mt. Laurel, New Jersey 08054

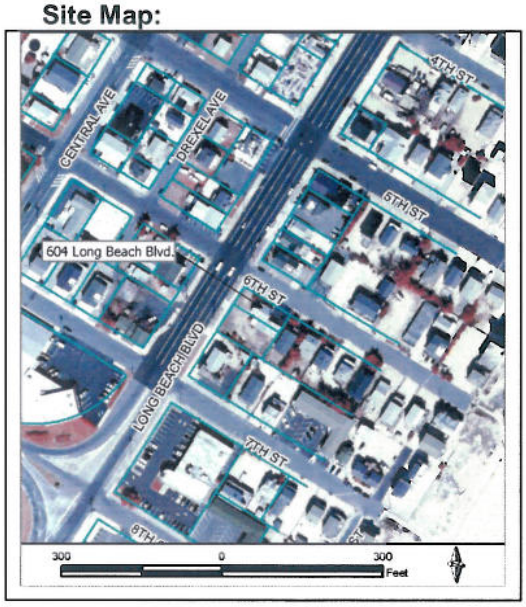
BASE FORM

Historic Sites #:

Location Map:



Site Map:



Bibliography/Sources:

Borough of Ship Bottom Tax Assessor files for individual properties. Borough of Ship Bottom Municipal Building, Ship Bottom, Ocean County, New Jersey.

Long Beach Island Board of Trade
1959 *Long Beach Island: Business Directory and Guide Book*. Long Beach Island Board of Trade, Ship Bottom, New Jersey.

National Park Service (NPS)
1997 National Register Bulletin, "How to Apply the National Register Criteria for Evaluation." United States Department of the Interior, Washington, D.C.

Snyder, John Parr
1969 *The Story of New Jersey's Civil Boundaries: 1606-1968.* Bulletin 67. Bureau of Geology and Topography, Trenton, New Jersey.

Additional Information:

More Research Needed? ☐ Yes ☒ No

INTENSIVE LEVEL USE ONLY

Attachments Included: ☒ Building ☐ Structure ☐ Object ☐ Bridge ☐ Landscape ☐ Industry

Within Historic District? ☐ Yes ☒ No

Status: ☐ Key-Contributing ☐ Contributing ☐ Non-Contributing

Associated Archaeological Site/Deposit? ☐ Yes
(Known or potential Sites – if yes, please describe briefly)

BUILDING ATTACHMENT

Historic Sites #:

Common Name: Stipicevic Property
Historic Name: Unknown
Present Use: residential activity/permanent
Historic Use: residential activity/permanent
Construction Date: 1950 **Source:** tax assessment data
Alteration Date(s): **Source:**
Designer: **Physical Condition:** good
Builder: **Remaining Historic Fabric:** low
Style: None
Form: Gable Ell **Stories:** 1
Type: **Bays:** 4 (plus attached garage)
Roof Finish Materials: asbestos shingles
Exterior Finish Materials aluminum siding

Exterior Description: This side-gabled building faces north, with an off-center door. A five-light Chicago window and two 1/1 double-hung windows flank the door. There is an exterior brick chimney on the east end; the building rests on a concrete block foundation. There are brick steps leading up to the house. A two-bay garage has been added to the east side of the house and there is a rear, one-story ell, as well as a large shed-roof dormer on the southwest side of the house.

Interior Description: N/A

Setting: The building is in a commercial/residential area surrounded by a gravel yard and white plastic picket fence. There is a sidewalk along the Long Beach Avenue side. There is a modern shed in the rear of the property.

ELIGIBILITY WORKSHEET

Historic Sites #:

History: The building at 604 Long Beach Boulevard was built in 1950 according to the Ship Bottom Borough tax assessor files. No other historic deed information was located for this property at the tax assessor's office. The property is currently owned by Marijan and Veronica Stipicevic. Originally built as a one-story, single-family residence, a large attached garage with an upper level was added later, and a full-length dormer was also built onto the house, providing a second floor for the residence.

Significance: The 1.3-mile-long Borough of Ship Bottom evolved from a number of planned developments, some successful and others not. Beginning in 1886, the railroad reached the island, and during the 1890s, promoters platted an area at the point that the railroad reached Long Beach Island, but no lots were sold. In 1908, that area (present-day Ship Bottom from 3rd to 7th Streets) was named "Edgewater Beach," and 30 bungalows were built and successfully sold within two years. In 1914, a causeway reached the island, which further expanded opportunities for commercial and residential development. In 1922, lots from 8th to 14th Street were laid out as "Beach Arlington," and by 1925, "Ship Bottom-Beach Arlington" became an independent borough (Snyder 1969:205). However, relatively little construction occurred in most of Ship Bottom until after World War II.

Following the end of the War, the national population rose dramatically, and improved highways made the New Jersey coast more accessible than ever, leading former day trippers to purchase building lots and construct modest homes in Ship Bottom and other seaside resorts along the Jersey shore. In 1947, the borough shortened its name to Ship Bottom Borough (Snyder 1969:205). By 1959, Ship Bottom had a winter population of 1,227, but summer visitors swelled that number to about 16,000 (Long Beach Island Board of Trade 1959:64). Population growth continued into the 1980s, after which time it reversed its upward trend. During the last few decades of the twentieth century, some Ship Bottom residents remodeled and, in some cases, enlarged or rebuilt their properties in order to create one or more rental units for temporary summer residents.

Eligibility for New Jersey and National Registers: ☐ Yes ☒ No **National Register Criteria:** ☐ A ☐ B ☐ C ☐ D

Level of Significance ☐ Local ☐ State ☐ National

Justification of Eligibility/Ineligibility: See Attached Continuation Sheet

For Historic Districts Only:

Property Count: Key Contributing: _____ Contributing: _____ Non Contributing: _____

For Individual Properties Only:

List the completed attachments related to the property's significance:
Building attachment (1)

Narrative Boundary Description:

Survey Name: Route 72 Corridor Improvements Date: 12/13/05
Surveyor: Lauren C. Archibald and Christopher Gebert
Organization: A. D. Marble & Company, 18000 Horizon Way, Ste. 200, Mt. Laurel, New Jersey 08054

CONTINUATION SHEET

Historic Sites #:

Justification of Eligibility/Ineligibility:

The property at 234-292 West 6th Street, Ship Bottom, New Jersey is recommended not eligible for listing in the New Jersey and National Registers of Historic Places based on the criteria outlined in National Register Bulletin, "How to Apply the National Register Criteria for Evaluation" (National Park Service [NPS] 1997).

Based on a review of the general history of the area, the property does not appear to be significant under Criterion A for its association with mid-twentieth-century development in the Borough of Ship Bottom or Ocean County; therefore, it is recommended not eligible under Criterion A. The property is unlikely to have been associated with a historically significant individual; therefore, the resource is recommended not eligible under Criterion B. The resource is recommended not eligible for listing under Criterion C due to a lack of architectural significance and integrity. It is a commonplace example of a vernacular mid-twentieth-century residence that has been altered and renovated by the addition of a full-length second floor dormer, a large garage attached via a breezeway, vinyl siding, etc. The property is also ineligible for listing as part of a district. Although this area contains planned streets and many uniform lots sizes, it does not include design features (such as curbing and landscaping) and harmonious building types with common periods of construction and/or architectural styles of the mid-twentieth century. The property does not appear to be significant under Criterion D for its potential to yield information, as any previous archeological remains have likely been disturbed by recent earth removal and relocation.

CONTINUATION SHEET

Historic Sites #:

Photograph 2: Looking north, showing south and east elevations.

BASE FORM

Historic Sites #:

Property Name: Talbot Property

Street Address: *Street #:* 512 *(Low)* *(High)* *Apartment #:* *(Low)* *(High)*

Prefix: *Street Name:* Long Beach *Suffix:* *Type:* Blvd.

County(s): Ocean **Zip Code:** 08008

Municipality(s): Ship Bottom Borough **Block(s):** 117

Local Place Name(s): Long Beach Island **Lot(s):** 13

Ownership:: Private **USGS Quad(s)** Ship Bottom

Description: This building is a front-gabled Bungalow cottage, with a symmetrical façade and a central door flanked by paired, 1/1 windows with non-operable shutters. There is an engaged porch that is part of the house. It has a very simple form with three side bays, including the enclosed front porch. The cornice is now covered with aluminum; the building has a concrete block foundation and small bump out in the rear on the northeast corner of the house. There is a modern deck added to the rear.

Registration and Status Dates:

National Historic Landmark: N/A SHPO Opinion: N/A

National Register: N/A Local Designation: N/A

New Jersey Register: N/A Other Designation: N/A

Determination of Eligibility: N/A Other Designation Date: N/A

Photograph 1: Looking south, showing facade and side elevations.

Survey Name: Route 72 Corridor Improvements Date: 12/13/05

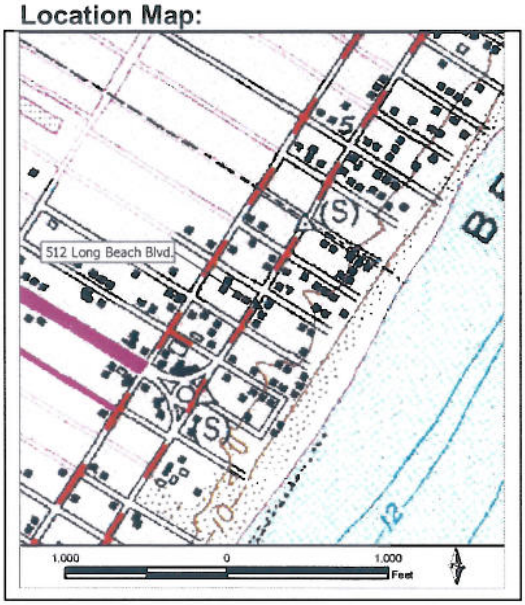
Surveyor: Lauren C. Archibald and Christopher Gebert

Organization: A. D. Marble & Company, 18000 Horizon Way, Ste. 200, Mt. Laurel, New Jersey 08054

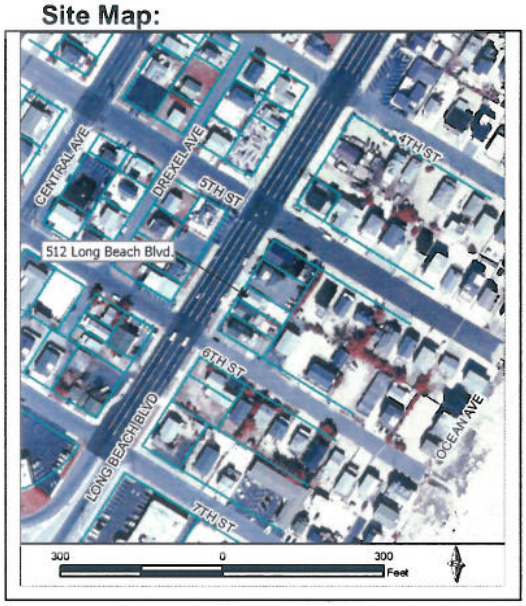
BASE FORM

Historic Sites #:

Location Map:



Site Map:



Bibliography/Sources:

Borough of Ship Bottom Tax Assessor files for individual properties. Borough of Ship Bottom Municipal Building, Ship Bottom, Ocean County, New Jersey.

Long Beach Island Board of Trade
1959 *Long Beach Island: Business Directory and Guide Book*. Long Beach Island Board of Trade, Ship Bottom, New Jersey.

National Park Service (NPS)
1997 National Register Bulletin, "How to Apply the National Register Criteria for Evaluation." United States Department of the Interior, Washington, D.C.

Snyder, John Parr
1969 *The Story of New Jersey's Civil Boundaries: 1606-1968*. Bulletin 67. Bureau of Geology and Topography, Trenton, New Jersey.

Additional Information:

More Research Needed? ☐ Yes ☒ No

INTENSIVE LEVEL USE ONLY

Attachments Included: ☒ Building ☐ Structure ☐ Object ☐ Bridge
☐ Landscape ☐ Industry

Within Historic District? ☐ Yes ☒ No

Status: ☐ Key-Contributing ☐ Contributing ☐ Non-Contributing

Associated Archaeological Site/Deposit? ☐ Yes
(Known or potential Sites – if yes, please describe briefly)

BUILDING ATTACHMENT

Historic Sites #:

Common Name: Talbot Property
Historic Name: Cox Property
Present Use: Residential Activity/Permanent
Historic Use: Residential Activity/Permanent
Construction Date: 1925 **Source:** tax assessment data
Alteration Date(s): **Source:**
Designer: **Physical Condition:** good
Builder: **Remaining Historic Fabric:** medium
Style: None
Form: Bungalow **Stories:** 1
Type: **Bays:** 3
Roof Finish Materials: asphalt shingle
Exterior Finish Materials asbestos shingle

Exterior Description: This building is a front-gabled Bungalow cottage with a symmetrical façade and a central door flanked by paired 1/1 windows with non-operable shutters. There is an engaged porch that is part of the house. It has a very simple form with three side bays, including the enclosed front porch. The cornice is now covered with aluminum; the building has a concrete block foundation and small bump out in the rear on the northeast corner of the house. There is a modern deck added to the rear.

Interior Description: N/A

Setting: The house faces west to Bay Beach Avenue; there is a modern shed in the rear and modern shower enclosed shower stall. There is a white stone pebble driveway alongside of the house and into the new lot.

Survey Name: Route 72 Corridor Improvements Date: 12/13/05
Surveyor: Lauren C. Archibald and Christopher Gebert
Organization: A. D. Marble & Company, 18000 Horizon Way, Ste. 200, Mt. Laurel, New Jersey 08054

ELIGIBILITY WORKSHEET

Historic Sites #:

History: The building at 512 Long Beach Boulevard was built in 1925 according to the Ship Bottom Borough tax assessor files. In 1924, Raymond Edge and his wife acquired this property from Zippie A. Cox, suggesting that the Edges built the property. After Mr. Cox's death, the property was conveyed to Florence M. Cramer in 1939.

Significance: The 1.3-mile-long Borough of Ship Bottom evolved from a number of planned developments, some successful and others not. Beginning in 1886, the railroad reached the island, and during the 1890s, promoters platted an area at the point that the railroad reached Long Beach Island, but no lots were sold. In 1908, that area (present-day Ship Bottom from 3rd to 7th Streets) was named "Edgewater Beach," and 30 bungalows were built and successfully sold within two years. In 1914, a causeway reached the island, which further expanded opportunities for commercial and residential development. In 1922, lots from 8th to 14th Street were laid out as "Beach Arlington," and by 1925, "Ship Bottom-Beach Arlington" became an independent borough (Snyder 1969:205). However, relatively little construction occurred in most of Ship Bottom until after World War II.

Following the end of the War, the national population rose dramatically, and improved highways made the New Jersey coast more accessible than ever, leading former day-trippers to purchase building lots and construct modest homes in Ship Bottom and other seaside resorts along the Jersey shore. In 1947, the borough shortened its name to Ship Bottom Borough (Snyder 1969:205). By 1959, Ship Bottom had a winter population of 1,227, but summer visitors swelled that number to about 16,000 (Long Beach Island Board of Trade 1959:64). Population growth continued into the 1980s, after which time it reversed its upward trend. During the last few decades of the twentieth century, some Ship Bottom residents remodeled and, in some cases, enlarged or rebuilt their properties in order to create one or more rental units for temporary summer residents.

Eligibility for New Jersey and National Registers: ☐ Yes ☒ No **National Register Criteria:** ☐ A ☐ B ☐ C ☐ D

Level of Significance ☐ Local ☐ State ☐ National

Justification of Eligibility/Ineligibility: See Attached Continuation Sheet

For Historic Districts Only:

Property Count: Key Contributing: _____ Contributing: _____ Non Contributing: _____

For Individual Properties Only:

List the completed attachments related to the property's significance:
Building Attachment (1)

Narrative Boundary Description:

Survey Name: Route 72 Corridor Improvements Date: 12/13/05
Surveyor: Lauren C. Archibald and Christopher Gebert
Organization: A.D. Marble & Company, 18000 Horizon Way, Ste. 200, Mt. Laurel, NJ 08054

CONTINUATION SHEET

Historic Sites #:

Justification of Eligibility/Ineligibility:

The property at 512 Long Beach Boulevard, Ship Bottom, New Jersey is recommended not eligible for listing in the New Jersey and National Registers of Historic Places based on the criteria outlined in National Register Bulletin, "How to Apply the National Register Criteria for Evaluation" (National Park Service [NPS] 1997).

Based on a review of the general history of the area, the property does not appear to be significant under Criterion A for its association with mid-twentieth-century development in the Borough of Ship Bottom or Ocean County; therefore, it is recommended not eligible under Criterion A. The property is unlikely to have been associated with a historically significant individual; therefore, the resource is recommended not eligible under Criterion B. The resource is recommended not eligible for listing under Criterion C due to a lack of architectural significance and integrity. It is a commonplace example of a bungalow form that is unremarkable in its execution and which lacks a high degree of architectural integrity. The property is also ineligible for listing as part of a district. Although this area contains planned streets and many uniform lots sizes, it does not include design features (such as curbing and landscaping) and harmonious building types with common periods of construction and/or architectural styles of the mid-twentieth century. The property does not appear to be significant under Criterion D for its potential to yield information, as any previous archeological remains have likely been disturbed by recent earth removal and relocation.

CONTINUATION SHEET

Historic Sites #:

Photograph 2: Looking north, showing south (rear) and west elevations.

BASE FORM

Historic Sites #:

Property Name: Siok/Sekella Property

Street Address: *Street #:* 407-417 *(Low)* *(High)* *Apartment #:* _____ *(Low)* _____ *(High)*

Prefix: _____ *Street Name:* Barnegat *Suffix:* _____ *Type:* Ave.

County(s): Ocean **Zip Code:** 08008

Municipality(s): Ship Bottom Borough **Block(s):** 125

Local Place Name(s): Long Beach Island **Lot(s):** 1

Ownership:: Private **USGS Quad(s)** Ship Bottom

Description: This is a one-story ranch house with a large garage attached to the north side and an ell and ground-level deck on the rear. A full deck has been added on the top of the garage; the deck is accessed via a modern stairway on the rear. There is some altered fenestration on the façade, which includes a three-part picture window. A pedestrian door is located to the south of the garage, and a modern deck (PVC) has been added in this area.

Registration and Status Dates:

National Historic Landmark: N/A SHPO Opinion: N/A

National Register: N/A Local Designation: N/A

New Jersey Register: N/A Other Designation: N/A

Determination of Eligibility: N/A Other Designation Date: N/A

Photograph 1: Looking north showing façade.

Survey Name: Route 72 Corridor Improvements Date: 12/13/05

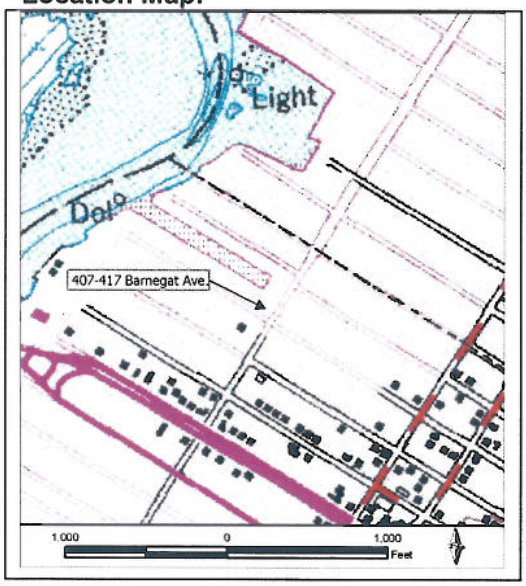
Surveyor: Lauren C. Archibald and Christopher Gebert

Organization: A. D. Marble & Company, 18000 Horizon Way, Ste. 200, Mt. Laurel, New Jersey 08054

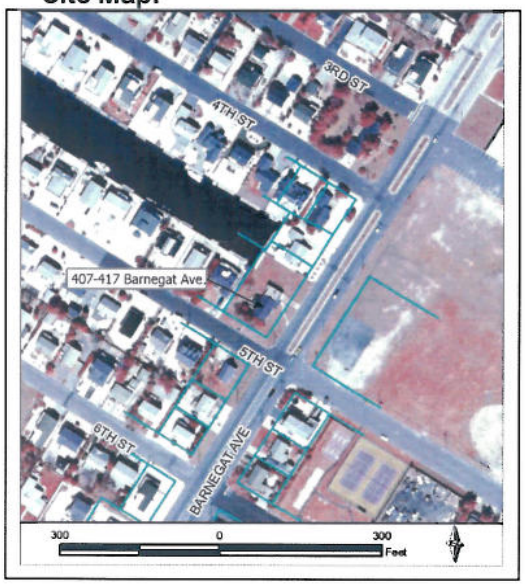
BASE FORM

Historic Sites #:

Location Map:



Site Map:



Bibliography/Sources:

Borough of Ship Bottom Tax Assessor files for individual properties. Borough of Ship Bottom Municipal Building, Ship Bottom, Ocean County, New Jersey.

Long Beach Island Board of Trade
1959 *Long Beach Island: Business Directory and Guide Book*. Long Beach Island Board of Trade, Ship Bottom, New Jersey.

National Park Service (NPS)
1997 National Register Bulletin, "How to Apply the National Register Criteria for Evaluation." United States Department of the Interior, Washington, D.C.

Snyder, John Parr
1969 *The Story of New Jersey's Civil Boundaries: 1606-1968*. Bulletin 67. Bureau of Geology and Topography, Trenton, New Jersey.

Additional Information:

More Research Needed? ☐ Yes ☒ No

INTENSIVE LEVEL USE ONLY

Attachments Included: ☒ Building ☐ Structure ☐ Object ☐ Bridge
☐ Landscape ☐ Industry

Within Historic District? ☐ Yes ☒ No

Status: ☐ Key-Contributing ☐ Contributing ☐ Non-Contributing

Associated Archaeological Site/Deposit? ☐ Yes
(Known or potential Sites – if yes, please describe briefly)

BUILDING ATTACHMENT

Historic Sites #:

Common Name: Siok and Sekella Property
Historic Name: Eichenloub Property
Present Use: Residential Activity/Permanent
Historic Use: Residential Activity/Permanent
Construction Date: 1950-1954 **Source:** tax assessment data
Alteration Date(s): **Source:**
Designer: **Physical Condition:** fair
Builder: **Remaining Historic Fabric:** low
Style: None
Form: Ranch **Stories:** 1
Type: **Bays:** 4
Roof Finish Materials: asbestos shingle
Exterior Finish Materials aluminum siding

Exterior Description: This is a one-story ranch house with a large garage attached to the north side and an ell and ground-level deck on the rear. A full deck has been added on the top of the garage; the deck is accessed via a modern stairway on the rear. There is some altered fenestration on the façade, which includes a three-part picture window. A pedestrian door is located to the south of the garage, and a modern deck (PVC) has been added in this area.

Interior Description: N/A

Setting: The building faces Barnegat Avenue, and there is a fenced-in gravel yard surrounding the property. The rear side of the property fronts on a lagoon and there is a small marina.

Survey Name: Route 72 Corridor Improvements Date: 12/13/05
Surveyor: Lauren C. Archibald and Christopher Gebert
Organization: A. D. Marble & Company, 18000 Horizon Way, Ste. 200, Mt. Laurel, New Jersey 08054

ELIGIBILITY WORKSHEET

Historic Sites #:

History: The building at 407-417 Barnegat Avenue was built in 1950-1954 according to the Ship Bottom Borough tax assessor files. It is unclear who built this property. Tax assessor files from the 1970s-1980s show that Adolph Eichenloub owned the property, and that in 1976, the rear ell was open (now enclosed as part of the house).

Significance: The 1.3-mile-long Borough of Ship Bottom evolved from a number of planned developments, some successful and others not. Beginning in 1886, the railroad reached the island, and during the 1890s, promoters platted an area at the point that the railroad reached Long Beach Island, but no lots were sold. In 1908, that area (present-day Ship Bottom from 3rd to 7th Streets) was named "Edgewater Beach," and 30 bungalows were built and successfully sold within two years. In 1914, a causeway reached the island, which further expanded opportunities for commercial and residential development. In 1922, lots from 8th to 14th Street were laid out as "Beach Arlington," and by 1925, "Ship Bottom-Beach Arlington" became an independent borough (Snyder 1969:205). However, relatively little construction occurred in most of Ship Bottom until after World War II.

Following the end of the War, the national population rose dramatically, and improved highways made the New Jersey coast more accessible than ever, leading former day-trippers to purchase building lots and construct modest homes in Ship Bottom and other seaside resorts along the Jersey shore. In 1947, the borough shortened its name to Ship Bottom Borough (Snyder 1969:205). By 1959, Ship Bottom had a winter population of 1,227, but summer visitors swelled that number to about 16,000 (Long Beach Island Board of Trade 1959:64). Population growth continued into the 1980s, after which time it reversed its upward trend. During the last few decades of the twentieth century, some Ship Bottom residents remodeled and, in some cases, enlarged or rebuilt their properties in order to create one or more rental units for temporary summer residents.

Eligibility for New Jersey and National Registers: ☐ Yes ☒ No **National Register Criteria:** ☐ A ☐ B ☐ C ☐ D

Level of Significance ☐ Local ☐ State ☐ National

Justification of Eligibility/Ineligibility: See Attached Continuation Sheet

For Historic Districts Only:

Property Count: Key Contributing: _____ Contributing: _____ Non Contributing: _____

For Individual Properties Only:

List the completed attachments related to the property's significance:
Building Attachment (1)

Narrative Boundary Description:

Survey Name: _____ Date: 12/13/05

Surveyor: _____

Organization: _____

CONTINUATION SHEET

Historic Sites #:

Justification of Eligibility/Ineligibility:

The property at 407-417 Barnegat Avenue, Ship Bottom, New Jersey is recommended not eligible for listing in the New Jersey and National Registers of Historic Places based on the criteria outlined in National Register Bulletin, "How to Apply the National Register Criteria for Evaluation" (National Park Service [NPS] 1997). Based on a review of the general history of the area, the property does not appear to be significant under Criterion A for its association with mid-twentieth-century development in the Borough of Ship Bottom or Ocean County; therefore, it is recommended not eligible under Criterion A. The property is unlikely to have been associated with a historically significant individual; therefore, the resource is recommended not eligible under Criterion B. The resource is recommended not eligible for listing under Criterion C due to a lack of architectural significance and integrity. The dwelling is an undistinguished example of Ranch house that has been altered. The dwelling is not remarkable in its execution and retains little integrity of materials due to renovations (re-siding, new windows, a large, modern deck on the garage roof and in the rear, etc.). The property is also ineligible for listing as part of a district. Although this area contains planned streets and many uniform lots sizes, it does not include design features (such as curbing and landscaping) and harmonious building types with common periods of construction and/or architectural styles of the mid-twentieth century. The property does not appear to be significant under Criterion D for its potential to yield information, as any previous archeological remains have likely been disturbed by recent earth removal and relocation.

CONTINUATION SHEET

Historic Sites #:

Photograph 2: View looking northwest, showing facade and garage with roof deck.

BASE FORM

Historic Sites #:

Property Name: Cole Property

Street Address: *Street #:* 412 *(Low)* *(High)* *Apartment #:* *(Low)* *(High)*

Prefix: *Street Name:* Central *Suffix:* *Type:* Ave.

County(s): Ocean **Zip Code:** 08008

Municipality(s): Ship Bottom Borough **Block(s):** 128

Local Place Name(s): Long Beach Island **Lot(s):** 8

Ownership:: Private **USGS Quad(s)** Ship Bottom

Description: This is a side-gable, vernacular building with an off-center door. The building is single-pile with a rear ell (two story). The windows are 1/1 sash, double-hung type with attached storm windows and shutters (decorative only); the windows have wood frames. An encircling pent has been added around the building above the first floor. There is a five-part Chicago window on the second floor that was added later. On the front of the building is an added/replaced porch with wood latticework trim, and a concrete deck. The building has a side stairwell accessing the second floor, which was probably the residence. There is a semi-detached shed on the north side of the building; the roof of this forms an outside deck accessed from the second floor.

Registration and Status Dates:

National Historic Landmark: N/A SHPO Opinion: N/A

National Register: N/A Local Designation: N/A

New Jersey Register: N/A Other Designation: N/A

Determination of Eligibility: N/A Other Designation Date: N/A

Photograph 1: Looking north, showing facade and west elevation.

Survey Name: Route 72 Corridor Improvements Date: 12/13/05

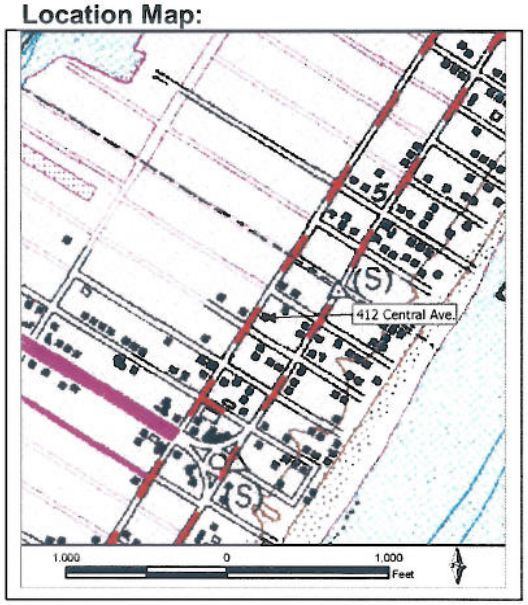
Surveyor: Lauren C. Archibald and Christopher Gebert

Organization: A. D. Marble & Company, 18000 Horizon Way, Ste. 200, Mt. Laurel, New Jersey 08054

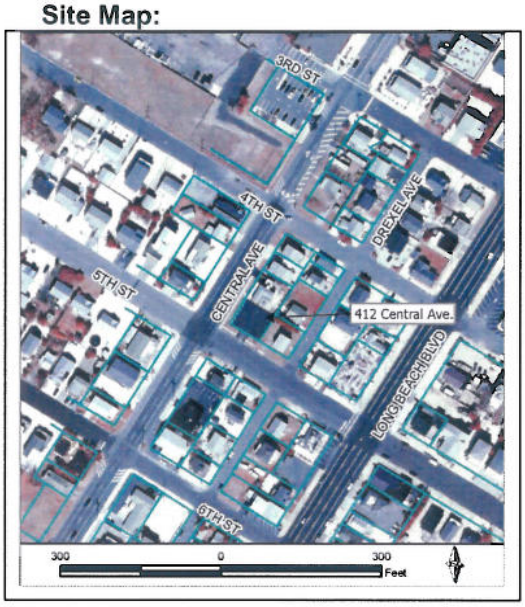
BASE FORM

Historic Sites #:

Location Map:



Site Map:



Bibliography/Sources:

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Long Beach Island Board of Trade
1959 *Long Beach Island: Business Directory and Guide Book*. Long Beach Island Board of Trade, Ship Bottom, New Jersey.

National Park Service (NPS)
1997 National Register Bulletin, "How to Apply the National Register Criteria for Evaluation." United States Department of the Interior, Washington, D.C.

Snyder, John Parr
1969 *The Story of New Jersey's Civil Boundaries: 1606-1968*. Bulletin 67. Bureau of Geology and Topography, Trenton, New Jersey.

Additional Information:

More Research Needed? ☐ Yes ☒ No

INTENSIVE LEVEL USE ONLY

Attachments Included: ☒ Building ☐ Structure ☐ Object ☐ Bridge
☐ Landscape ☐ Industry

Within Historic District? ☐ Yes ☒ No

Status: ☐ Key-Contributing ☐ Contributing ☐ Non-Contributing

Associated Archaeological Site/Deposit? ☐ Yes
(Known or potential Sites – if yes, please describe briefly)

BUILDING ATTACHMENT

Historic Sites #:

Common Name: The Scoop Ice Cream Parlor
Historic Name: Edge Property
Present Use: commercial activity/stand alone/single store
Historic Use: residential activity/permanent
Construction Date: 1940 **Source:** Tax Assessor data
Alteration Date(s): 1979 **Source:** Tax Assessor data
Designer: **Physical Condition:** Fair
Builder: **Remaining Historic Fabric:** Low
Style: None
Form: Gable ell **Stories:** 2
Type: **Bays:** 3
Roof Finish Materials: Asphalt shingles
Exterior Finish Materials Asbestos shingles

Exterior Description: This is a side-gable, vernacular building with an off-center door. The building is single-pile with a rear ell (two story). The windows are 1/1 sash, double-hung type with attached storm windows and shutters (decorative only); the windows have wood frames. An encircling pent has been added around the building above the first floor. There is a five-part Chicago window on the second floor that was added later. On the front of the building is an added/replaced porch with wood latticework trim, and a concrete deck. The building has a side stairwell accessing the second floor. There is a semi-detached shed on the north side of the building; the roof of this forms an outside deck accessed from the second floor.

Interior Description: N/A

Setting: The building faces Central Avenue. There is a sidewalk in front of the building and is located in a commercial/resident area. There is a macadam parking lot (commercial) adjacent to the building on the same lot. There is a small, modern shed in the rear.

Survey Name: Route 72 Corridor Improvements Date: 12/13/05
Surveyor: Lauren C. Archibald and Christopher Gebert
Organization: A. D. Marble & Company, 18000 Horizon Way, Ste. 200, Mt. Laurel, New Jersey 08054

ELIGIBILITY WORKSHEET

Historic Sites #:

History: The building at 412 Central Avenue was built in 1940 according to the Ship Bottom Borough tax assessor files. The original builder of the property is not known, but one of the earliest deeds on file indicate that Raymond Edge conveyed this property to Ella Schaffer in 1932. This part of town had been known as the Edgewater Beach Section, and that section had been drafted in 1922 by Haines and Sherman, C. E.. Tax assessor files specify that this was originally built as a residence, and that it was converted to a store in 1979.

Significance: The 1.3-mile-long Borough of Ship Bottom evolved from a number of planned developments, some successful and others not. Beginning in 1886, the railroad reached the island, and during the 1890s, promoters platted an area at the point that the railroad reached Long Beach Island, but no lots were sold. In 1908, that area (present-day Ship Bottom from 3rd to 7th Streets) was named "Edgewater Beach," and 30 bungalows were built and successfully sold within two years. In 1914, a causeway reached the island, which further expanded opportunities for commercial and residential development. In 1922, lots from 8th to 14th Street were laid out as "Beach Arlington," and by 1925, "Ship Bottom-Beach Arlington" became an independent borough (Snyder 1969:205). However, relatively little construction occurred in most of Ship Bottom until after World War II.

Following the end of the War, the national population rose dramatically, and improved highways made the New Jersey coast more accessible than ever, leading former day-trippers to purchase building lots and construct modest homes in Ship Bottom and other seaside resorts along the Jersey shore. In 1947, the borough shortened its name to Ship Bottom Borough (Snyder 1969:205). By 1959, Ship Bottom had a winter population of 1,227, but summer visitors swelled that number to about 16,000 (Long Beach Island Board of Trade 1959:64). Population growth continued into the 1980s, after which time it reversed its upward trend. During the last few decades of the twentieth century, some Ship Bottom residents remodeled and, in some cases, enlarged or rebuilt their properties in order to create one or more rental units for temporary summer residents.

Eligibility for New Jersey and National Registers: ☐ Yes ☒ No **National Register Criteria:** ☐ A ☐ B ☐ C ☐ D

Level of Significance ☐ Local ☐ State ☐ National

Justification of Eligibility/Ineligibility: See attached continuation sheet

For Historic Districts Only:

Property Count: Key Contributing: _____ Contributing: _____ Non Contributing: _____

For Individual Properties Only:

List the completed attachments related to the property's significance:
Building Attachment (1)

Narrative Boundary Description:

Survey Name: Route 72 Corridor Improvements Date: 12/13/05

Surveyor: Lauren C. Archibald and Christopher Gebert

Organization: A. D. Marble & Company, 18000 Horizon Way, Ste. 200, Mt. Laurel, New Jersey 08054

CONTINUATION SHEET

Historic Sites #:

Justification of Eligibility/Ineligibility:

The property at 412 Central Avenue, Ship Bottom, New Jersey is recommended not eligible for listing in the New Jersey and National Registers of Historic Places based on the criteria outlined in National Register Bulletin, "How to Apply the National Register Criteria for Evaluation" (National Park Service [NPS] 1997). Based on a review of the general history of the area, the property does not appear to be significant under Criterion A for its association with mid-twentieth-century development in the Borough of Ship Bottom or Ocean County; therefore, it is recommended not eligible under Criterion A. The property is unlikely to have been associated with a historically significant individual; therefore, the resource is recommended not eligible under Criterion B. The resource is recommended not eligible for listing under Criterion C due to a lack of architectural significance and integrity. It is an undistinguished example of a two-story residence that was converted to a store about 35 years ago. It is not a good historic example of either a commercial building, particularly because the conversion was made during modern time. The building retains little integrity of materials due to these alterations (including an encircling pent roof, a modern full-front porch, side addition, deck, etc.). The property is also ineligible for listing as part of a district. Although this area contains planned streets and many uniform lots sizes, it does not include design features (such as curbing and landscaping) and harmonious building types with common periods of construction and/or architectural styles of the mid-twentieth century. The property does not appear to be significant under Criterion D for its potential to yield information, as any previous archeological remains have likely been disturbed by recent earth removal and relocation.

CONTINUATION SHEET

Historic Sites #:

Photograph 2: Looking south, showing facade and side elevation with semi-detached shed.

Photograph 3: Looking north, showing west and south elevations.

Survey Name: Route 72 Corridor Improvements

Date: 12/13/05

Surveyor: Lauren C. Archibald and Christopher Gebert

Organization: A.D. Marble & Company, 18000 Horizon Way, Ste. 200, Mt. Laurel, NJ 08054

Appendix D: Public Outreach Documents

October 3, 2005

Mayor Carl Block
Township of Stafford
260 East Bay Avenue
Manahawkin NJ 08050

RE: NJ Route 72 – Ship Bottom Operations and Drainage Improvement Project
NJDOT Cultural Resources Survey

Dear Mayor Block:

As a consultant to the New Jersey Department of Transportation, A.D. Marble & Company is currently conducting a cultural resources survey for the proposed drainage and roadway improvement project for NJ Route 72, Borough of Ship Bottom, Ocean County, New Jersey. The improvements encompass 8th and 9th streets from the Manahawkin Bay Bridge to Long Beach Boulevard, and several blocks north and south of these two streets along Barnegat Avenue, Central Avenue and Long Beach Boulevard. Our work involves both an architectural assessment of potentially affected buildings for National Register of Historic Places eligibility and an archaeological investigation of areas that may be disturbed during the construction phase of the project.

We are trying to compile the most complete and accurate historical information about this area as possible. I am writing to you as a possible interested party in this cultural resources survey and request that you contact me if you possess any historical knowledge and/or photographs of this area. Any historical information that you can share about the area would be greatly appreciated and assist A.D. Marble & Company personnel with compiling more complete documentation. I can be reached at (856) 273-3733.

If you have no information about this area, please indicate so by signing the statement at the end of this letter and returning it to my attention at A. D. Marble & Company. I appreciate your thoughtful attention to this matter.

Most sincerely yours,

John W. Lawrence
Principal Investigator/Project Manager

Township of Stafford has no historical information related to this project.

By: _____, Date:_____

October 3, 2005

Ms. Suzette Whiting
Long Beach Island Historical Association
Engleside and Beach Avenues
P.O. Box 1222
Beach Heaven, NJ 08008

RE: NJ Route 72 – Ship Bottom Operations and Drainage Improvement Project
NJDOT Cultural Resources Survey

Dear Ms. Whiting:

As a consultant to the New Jersey Department of Transportation, A.D. Marble & Company is currently conducting a cultural resources survey for the proposed drainage and roadway improvement project for NJ Route 72, Borough of Ship Bottom, Ocean County, New Jersey. The improvements encompass 8th and 9th streets from the Manahawkin Bay Bridge to Long Beach Boulevard, and several blocks north and south of these two streets along Barnegat Avenue, Central Avenue and Long Beach Boulevard. Our work involves both an architectural assessment of potentially affected buildings for National Register of Historic Places eligibility and an archaeological investigation of areas that may be disturbed during the construction phase of the project.

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Most sincerely yours,

John W. Lawrence
Principal Investigator/Project Manager

Long Beach Island Historical Association has no historical information related to this project.

By: _____, Date:_____

October 3, 2005

Mayor William Huelsenbeck
Borough of Ship Bottom
1621 Long Beach Boulevard
Ship Bottom, NJ 08008

RE: NJ Route 72 – Ship Bottom Operations and Drainage Improvement Project
NJDOT Cultural Resources Survey

Dear Mayor Huelsenbeck:

As a consultant to the New Jersey Department of Transportation, A.D. Marble & Company is currently conducting a cultural resources survey for the proposed drainage and roadway improvement project for NJ Route 72, Borough of Ship Bottom, Ocean County, New Jersey. The improvements encompass 8th and 9th streets from the Manahawkin Bay Bridge to Long Beach Boulevard, and several blocks north and south of these two streets along Barnegat Avenue, Central Avenue and Long Beach Boulevard. Our work involves both an architectural assessment of potentially affected buildings for National Register of Historic Places eligibility and an archaeological investigation of areas that may be disturbed during the construction phase of the project.

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Most sincerely yours,

John W. Lawrence
Principal Investigator/Project Manager

Borough of Ship Bottom has no historical information related to this project.

By: _____, Date:_____

October 3, 2005

New Jersey Department of Environmental Protection
Division of Parks and Forestry
Historic Preservation Office
P.O. Box 404
Trenton, NJ 08625-0404

RE: NJ Route 72 – Ship Bottom Operations and Drainage Improvement Project
NJDOT Cultural Resources Survey

Dear Sir or Madam:

As a consultant to the New Jersey Department of Transportation, A.D. Marble & Company is currently conducting a cultural resources survey for the proposed drainage and roadway improvement project for NJ Route 72, Borough of Ship Bottom, Ocean County, New Jersey. The improvements encompass 8th and 9th streets from the Manahawkin Bay Bridge to Long Beach Boulevard, and several blocks north and south of these two streets along Barnegat Avenue, Central Avenue and Long Beach Boulevard. Our work involves both an architectural assessment of potentially affected buildings for National Register of Historic Places eligibility and an archaeological investigation of areas that may be disturbed during the construction phase of the project.

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If you have no information about this area, please indicate so by signing the statement at the end of this letter and returning it to my attention at A. D. Marble & Company. I appreciate your thoughtful attention to this matter.

Most sincerely yours,

John W. Lawrence
Principal Investigator/Project Manager

NJ Department of Environmental Protection has no historical information related to this project.

By: _____, Date:_____

October 3, 2005

Stafford Township Heritage Center
North Main Street (Route 9)
Manahawkin NK 08050

RE: NJ Route 72 – Ship Bottom Operations and Drainage Improvement Project
NJDOT Cultural Resources Survey

Dear Sir or Madam:

As a consultant to the New Jersey Department of Transportation, A.D. Marble & Company is currently conducting a cultural resources survey for the proposed drainage and roadway improvement project for NJ Route 72, Borough of Ship Bottom, Ocean County, New Jersey. The improvements encompass 8th and 9th streets from the Manahawkin Bay Bridge to Long Beach Boulevard, and several blocks north and south of these two streets along Barnegat Avenue, Central Avenue and Long Beach Boulevard. Our work involves both an architectural assessment of potentially affected buildings for National Register of Historic Places eligibility and an archaeological investigation of areas that may be disturbed during the construction phase of the project.

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If you have no information about this area, please indicate so by signing the statement at the end of this letter and returning it to my attention at A. D. Marble & Company. I appreciate your thoughtful attention to this matter.

Most sincerely yours,

John W. Lawrence
Principal Investigator/Project Manager

Stafford Township Heritage Center has no historical information related to this project.

By: _____, Date:_____

October 3, 2005

Mr. Steven Pollock
Ocean County Administrator
P.O. Box 2191
Toms River NJ 08754-2191

RE: NJ Route 72 – Ship Bottom Operations and Drainage Improvement Project
NJDOT Cultural Resources Survey

Dear Mr. Pollock:

As a consultant to the New Jersey Department of Transportation, A.D. Marble & Company is currently conducting a cultural resources survey for the proposed drainage and roadway improvement project for NJ Route 72, Borough of Ship Bottom, Ocean County, New Jersey. The improvements encompass 8th and 9th streets from the Manahawkin Bay Bridge to Long Beach Boulevard, and several blocks north and south of these two streets along Barnegat Avenue, Central Avenue and Long Beach Boulevard. Our work involves both an architectural assessment of potentially affected buildings for National Register of Historic Places eligibility and an archaeological investigation of areas that may be disturbed during the construction phase of the project.

We are trying to compile the most complete and accurate historical information about this area as possible. I am writing to you as a possible interested party in this cultural resources survey and request that you contact me if you possess any historical knowledge and/or photographs of this area. Any historical information that you can share about the area would be greatly appreciated and assist A.D. Marble & Company personnel with compiling more complete documentation. I can be reached at (856) 273-3733.

If you have no information about this area, please indicate so by signing the statement at the end of this letter and returning it to my attention at A. D. Marble & Company. I appreciate your thoughtful attention to this matter.

Most sincerely yours,

John W. Lawrence
Principal Investigator/Project Manager

Ocean County has no historical information related to this project.

By: _____, Date:_____

October 3, 2005

Ms. Barbara Hopkins, Director
Stafford Township Historical Society
27 Sycamore Road
Manahawkin NJ 08050

RE: NJ Route 72 – Ship Bottom Operations and Drainage Improvement Project
NJDOT Cultural Resources Survey

Dear Ms. Hopkins:

As a consultant to the New Jersey Department of Transportation, A.D. Marble & Company is currently conducting a cultural resources survey for the proposed drainage and roadway improvement project for NJ Route 72, Borough of Ship Bottom, Ocean County, New Jersey. The improvements encompass 8th and 9th streets from the Manahawkin Bay Bridge to Long Beach Boulevard, and several blocks north and south of these two streets along Barnegat Avenue, Central Avenue and Long Beach Boulevard. Our work involves both an architectural assessment of potentially affected buildings for National Register of Historic Places eligibility and an archaeological investigation of areas that may be disturbed during the construction phase of the project.

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If you have no information about this area, please indicate so by signing the statement at the end of this letter and returning it to my attention at A. D. Marble & Company. I appreciate your thoughtful attention to this matter.

Most sincerely yours,

John W. Lawrence
Principal Investigator/Project Manager

Stafford Township Historical Society has no historical information related to this project.

By: _____, Date:_____

County of Ocean
Cultural & Heritage Commission
~~101~~ 14 Hooper Avenue, P.O. Box 2191
Toms River, NJ 08754-2191

Cynthia H. Smith
Administrator

Tel: 732-929-4779
1-800-722-0291
Fax: 732-288-7871
CulturalHeritage@co.ocean.nj.us
www.co.ocean.nj.us/cultural

November 22, 2005

John W. Lawrence
Principal Investigator/Project Manager
A.D. Marble Company
18000 Horizon Way
Mount Laurel, NJ 08054

RE: NJ route 72 – Ship Bottom Operations and Drainage Improvement Project
NJDOT Cultural Resources Survey

Dear Mr. Lawrence:

The Ocean County Cultural & Heritage Commission does not have sufficient staff available to provide a research service that assists in evaluating properties for potential cultural resources. You or another representative of your company may arrange to visit our office to access our files during normal work hours. To schedule a research appointment, please call 732-929-4779.

I also suggest that you contact the Ocean County Historical Society, 26 Hadley Avenue, Toms River, NJ 08754-2191. The curator of the museum, Patricia H. Burke, is available to assist you in conducting research there. It is also possible that the Society will assign a staff member to provide cultural resource research for a nominal hourly rate/fee. The telephone number of the Society is 732-341-1880.

Sincerely,

Cynthia H. Smith

Cynthia H. Smith
Administrator

cc: Patricia H. Burke, Curator
Ocean County Historical Society

Special Assistance/Accommodations Available Upon Request.

A.D. MARBLE & COMPANY

ENVIRONMENTAL PLANNING AND STUDIES

18000 Horizon Way
Suite 200
Mt. Laurel, NJ 08054
Tel. 856.273.3733
Fax 856.273.9455

October 3, 2005

Ms. Suzette Whiting
Long Beach Island Historical Association
Engleside and Beach Avenues
P.O. Box 1222
Beach Heaven, NJ 08008

RE: NJ Route 72 – Ship Bottom Operations and Drainage Improvement Project
NJDOT Cultural Resources Survey

Dear Ms. Whiting:

As a consultant to the New Jersey Department of Transportation, A.D. Marble & Company is currently conducting a cultural resources survey for the proposed drainage and roadway improvement project for NJ Route 72, Borough of Ship Bottom, Ocean County, New Jersey. The improvements encompass 8th and 9th streets from the Manahawkin Bay Bridge to Long Beach Boulevard, and several blocks north and south of these two streets along Barnegat Avenue, Central Avenue and Long Beach Boulevard. Our work involves both an architectural assessment of potentially affected buildings for National Register of Historic Places eligibility and an archaeological investigation of areas that may be disturbed during the construction phase of the project.

We are trying to compile the most complete and accurate historical information about this area as possible. I am writing to you as a possible interested party in this cultural resources survey and request that you contact me if you possess any historical knowledge and/or photographs of this area. Any historical information that you can share about the area would be greatly appreciated and assist A.D. Marble & Company personnel with compiling more complete documentation. I can be reached at (856) 273-3733.

If you have no information about this area, please indicate so by signing the statement at the end of this letter and returning it to my attention at A. D. Marble & Company. I appreciate your thoughtful attention to this matter.

Most sincerely yours,

John W. Lawrence
Principal Investigator/Project Manager

Long Beach Island Historical Association has no historical information related to this project.

By: [illegible] Date: 10-25-05
President
None that we are aware of.

Appendix E: Qualifications of Researchers

John W. Lawrence
Principal Investigator /Archaeologist

Mr. Lawrence has the education, training, and experience to serve as Principal Investigator on historic and prehistoric archaeological sites in the Mid-Atlantic Region. He has conducted archaeological investigations and original research in Central America and has managed all aspects of identification, evaluation, and mitigation-level cultural resource management projects in Pennsylvania, New Jersey, Maryland, New York, and West Virginia. His primary interests lie in historical archaeology and the role of industrialization in the transformation of rural lifeways in the eighteenth and nineteenth centuries.

Mr. Lawrence joined the firm as Principal Investigator. His role in this position includes managing Phase I Surveys, Phase II investigations, and Phase III data recoveries, and is frequently the senior author in the resulting technical reports. He is also the senior archaeologist with the firm, in which capacity he provides general technical advice and oversight to the archaeology group at A.D. Marble & Company.

Education

1989 M.A., Anthropology, University of Pennsylvania

1980 B.A., Anthropology, University of Texas at Austin

Employment

1998 – Present	A.D. Marble & Company	*Principal Investigator/Archaeologist*
2002 – 2005	Pennsylvania State University	*Adjunct Professor, Anthropology*
1992 – 1998	Richard Grubb & Associates	*Principal Investigator/Archaeologist*

Publications

2004 Rural Tenant Laborers and the Rise of the Industrial Economy: Historical Ethnography of the Heminitz Property Site (36Lh267), Upper Macungie Township, Lehigh County, Pennsylvania, *Northeast Historical Archaeology*, 33:91-110.

2001 Raritan-in-the-Hills: Salvage Archaeology of a pre-Revolutionary War German Lutheran Cemetery, *Archaeological Society of New Jersey Bulletin* 56:11-21.

in press Archaeology and Ethnohistory on the Spanish Colonial Frontier: Excavations at the *Templo Colonial* in Nicoya, Guanacaste, Costa Rica. *Historical Archaeology.*

in press "They Even Threaten the Sick That They Will not be Buried in the Churchyard:" Salvage Archaeology of the Raritan-in-the-Hills Cemetery, Somerset County, New Jersey, *Historical Archaeology.*

Papers Presented

2005 "From Log House to Brick Mansion, Continuity and Contradiction in Quaker Life and Thought: The Hoopes House site in Chester County, Pennsylvania." Paper Presented at the Annual Meeting for the Society for Historical Archaeology, York England, January 6, 2004.

2004 "Rescue Archaeology of an Eighteenth Century Lutheran Cemetery, Somerset County, New Jersey."
Paper Presented at the Delaware County Institute of Science, Media, PA., March 8, 2004.

2004 "Rural Tenant Laborers and the Rise of the Industrial Economy: Historical Ethnography of the Heminitz Property Site (36Lh267) Upper Macungie Township, Lehigh County, Pennsylvania." Paper Presented at the Annual Meeting for the Society for Historical Archaeology, St. Louis, MI., January 9, 2004.

2003 "Deductive Approaches to Predictive Modeling in a Watershed Context." Paper Presented at the Eastern States Archaeological Federation Conference, Mt. Laurel, New Jersey, November 15, 2003.

2003 "La Arqueología, la historia y la memoria: Interfaces interpretativas en la historiografía colonial de Nicoya, Guanacaste, Costa Rica." Paper Presented at the Coloquio Internacional 'Universos Coloniales Centroamericanos.' Universidad Rafael Landívar, Guatemala City, Guatemala. October 27-29, 2003.

2003 "The Three Blind Men and the Elephant: Archaeologists, Collectors And The State In The Tioga Point Area-An Archaeological Parable." With David Weinberg. Paper Presented at the Annual Meeting of the Society for Pennsylvania Archaeology, State College, Pennsylvania, May 11, 2003

2003 "Last of the Linseed Oil Mills: Excavations of the Kingtown Mill, Hunterdon County, New Jersey." Paper Presented at the Annual Meetings of the Society for Historical Archaeology, Milwaukee, WI, April 10, 2003.

2003 "Mitigation Alternatives In Archaeology: New Tricks For Old Dogs." Paper Presented at the Fourth Annual Byways to the Past Conference Indiana, PA, March 6, 2003.

1989 "Datos y utilización del ambiente por pueblos precolombinos en Guanacaste," El Primer Seminario del Desarrollo Agrícola, Recuperación y Conservación del Medio Ambiente: alternativas para Guanacaste. Universidad de Costa Rica.

1985 "La aplicación de datos palinográficos a la arqueología," Universidad de Costa Rica, San Jose.

Professional Associations
Member, Society for American Archaeology
Member, Society for Historical Archaeology
Member, Archaeological Society of New Jersey
Member, American Anthropological Association
Member, Council for Northeast Historical Archaeology
Board Member, Burlington City Historical Commission

Lauren C. Archibald, Ph.D.
Senior Architectural Historian/Preservation Planner

Dr. Archibald has 26 years of experience in historic preservation planning, architectural history, and anthropology. She has served as Principal Investigator and has conducted and supervised surveys on a variety of historic property types including rural, urban, commercial, residential, and industrial sites. Dr. Archibald has coordinated all aspects of architectural surveys in site-specific locations as well as in larger, county-wide settings in the Mid-Atlantic including NJ, PA, MD, and DE. She has produced historic mitigation documentation (HABS/HAER) and developed archaeological and preservation management plans for Florida, Virginia, and elsewhere. She is extensively trained in transportation issues relating to cultural resource management (CRM), and legislative issues including Section 106, NEPA, Section 4(f), and state laws. Dr. Archibald meets the National Park Service's professional requirements as specified in 36 CFP Part 61.

Education

1995 Ph.D., Department of City and Regional Planning, University of Pennsylvania

1985 M.A., College of Urban Affairs and Public Policy, Program in Historic Architecture and Engineering, University of Delaware

1976 B.A., Anthropology, Kutztown University (Cum Laude)

Professional Experience

1999 – Present	A.D. Marble & Company, Inc.	*Sr. Architectural Historian/Preservation Planner*
1998 – 1999	MAAR Associates, Inc. (MAI)	*Preservation Planner*
1997 – 1998	Goucher College	*Adjunct Assistant Professor*
1995 – 1998	McCormick, Taylor & Associates, Inc.	*Historic Preservation Specialist*
1987 – 1995	Consultant	*Architectural History/Preservation Planning*
1985 – 1987	MAAR Associates, Inc.	*Senior Architectural Historian*
1984 – 1985	City of Wilmington, Delaware	*Preservation Planning Intern*
1980 – 1984	MAAR Associates, Inc.	*Archaeologist*
1976 – 1980	American Museum of Natural History, NYC	*Administrative and Field Assistant*

National Register Nominations

Marydel Farm, St. Georges Hundred, New Castle County, Delaware.
Williamstown Free Library, Williamstown, New Jersey.
Pitman Grove Camp Meeting, Pittman, New Jersey.

Fort Belvoir Historic District Nomination, Virginia. Co-authored with Sheryl N. Hack.
Mansion Park, New Castle, Delaware. Co-authored with Betty Zebooker.
Volunteer Firehouses of Wilmington, Wilmington, Delaware.
Colonial Theatre, Lebanon, Pennsylvania.

Publications

"Prettyboy Dam." In *History Trails*, published by the Baltimore County Historical Society, Volume 30, Summer 1996, No. 4.

"Historic Preservation in the 1990s," with G. F. Esterman, J.Z. Mintz, and C. R. Tilley. *Wharton Working Paper No. 125*, 1992. Wharton Real Estate Center, University of Pennsylvania. Won award for Excellence in Real Estate.

"Archaeology and Planning at the Tocobaga Bay Subdivision, City of Sarasota." In *The Florida Anthropologist*. Volume 45, Number 3, 1992.

"Landscape Archaeology at the Clam Shell Pool, Historic Spanish Point, Osprey, Florida." In *The Florida Anthropologist*, Volume 44, Number 1, 1990.

"Working to Save the Past in Sarasota County, Florida." In *The Florida Anthropologist*. Volume 44, Number 1, 1990.

Paul W. Schopp
Senior Historian

Mr. Schopp is employed as a senior historian by A.D. Marble & Company to conduct historic background research, property specific research, and historic context development. He has more than 25 years of experience in American history and the American historic landscape. His work has been primarily within the transportation industry, working closely with engineering firms, state departments of transportation, and state historic preservation offices to prepare Section 106 documentation and related reports for highway improvements projects, bridge replacement and rehabilitation projects, and other transportation related projects.

Professional Experience

2000 - Present	A.D. Marble & Company	*Senior Historian*
1998 - 2000	Richard Grubb & Associates, Inc.	*Historian*
1996 - 2000	Camden County Historical Society	*Executive Director*
1987 – 2000	Paul W. Schopp, Historical Consultant	*Historical Consultant*

Professional and Historical Organization Memberships

Atlantic County Historical Society
Batsto Citizens Committee
Burlington County Historical Society
Camden County Historical Society
Delaware Valley Archives Group
Gloucester County Historical Society
Friends of the Pennsylvania State R.R. Museum
Historical Society of Pennsylvania
Historical Society of Riverton
National Railway Historical Society (National)
New Jersey Historical Society
New Jersey Postal History Society
Ocean County Historical Society
Pennsylvania Railroad Technical & Historical Society (National)
Pennsylvania Railroad Technical & Historical Society (Philadelphia Chapter)
Railroad & Locomotive Historical Society
Society for Industrial Archaeology (National)
Society for Industrial Archaeology (Oliver Evans Chapter, Philadelphia)
Society for Industrial Archaeology (Roebling Chapter, New York City)
Steamship Historical Society of America (National)
Steamship Historical Society of America (Delaware Valley Chapter, Philadelphia)
Walt Whitman Association
West Jersey Chapter, National Railway Historical Society (Palmyra, New Jersey)
West Jersey History Roundtable

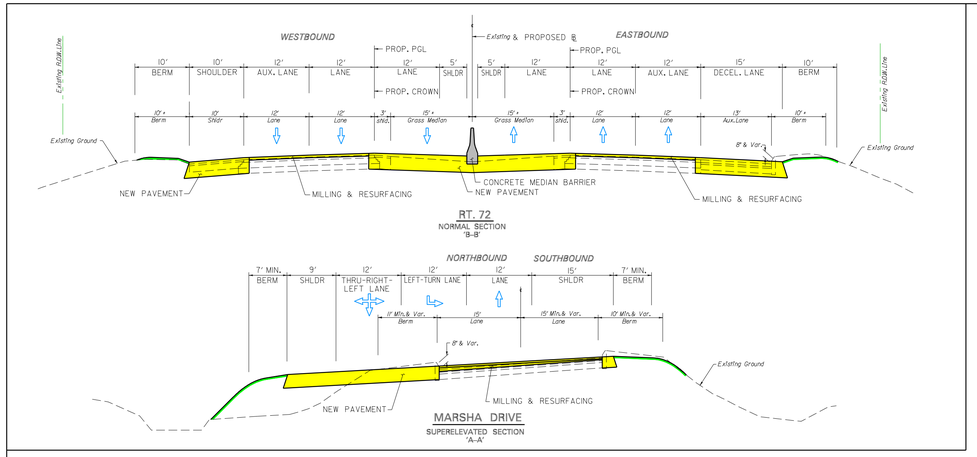
Professional Appointments

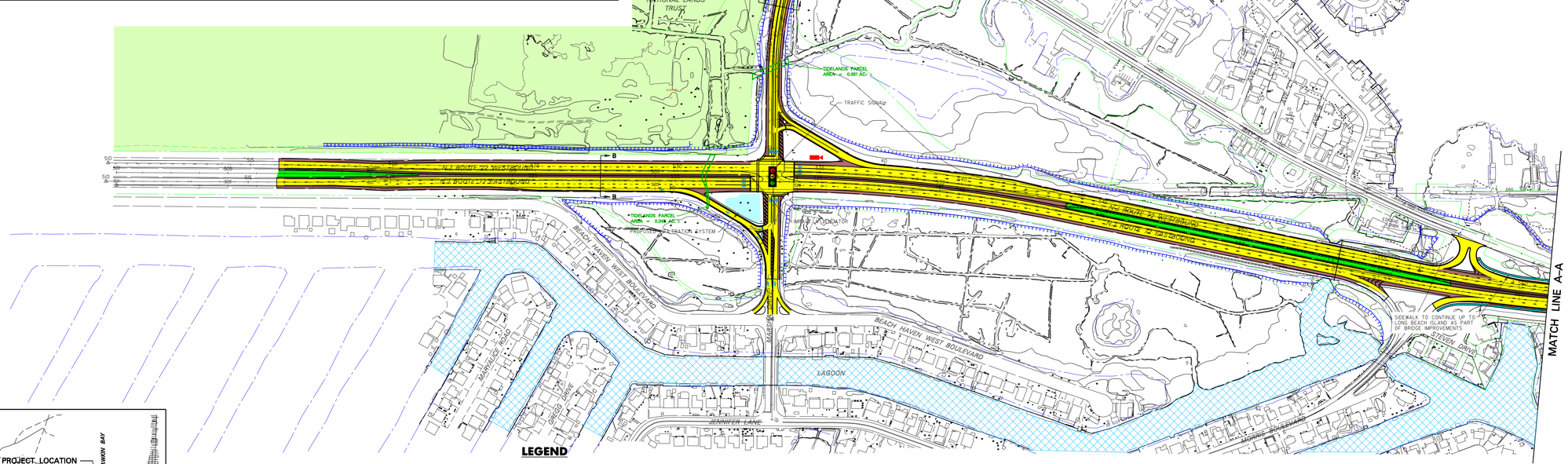
2001	Appointed by Mayor Faison to the Camden City Historic Preservation Commission
2001	Reappointed by Governor Whitman to the New Jersey State Historic Records Advisory Board
2000	Camden County Open Space Preservation Trust Fund Advisory Committee
1999	Camden County Millennium Sub-Committee on History
1998	Appointed by Governor Whitman to the New Jersey State Historic Records Advisory Board

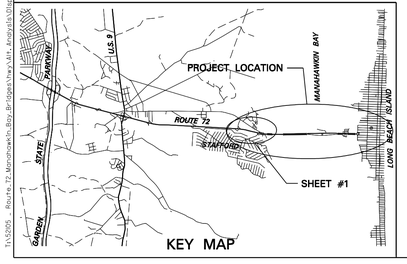
Attachment A – Preferred Alternative Plans

TOWNSHIP OF STAFFORD

OCEAN COUNTY







LEGEND

- NATIONAL WILDLIFE REFUGE
- PROPERTIES OF EVIRONMENTAL CONCERN (HAZARDOUS WASTE)
- PARKLAND
- WATER AND SHELLFISH
- PROPOSED BASIN
- SHOULDER IMPROVEMENTS
- STRUCTURAL IMPROVEMENTS
- ROADWAY IMPROVEMENTS
- SIDEWALK IMPROVEMENTS
- GRASS MEDIAN
- TIDELANDS PARCEL
- PROPOSED SAND FILTER
- COASTAL WETLANDS
- FRESHWATER WETLANDS
- SUBMERGED AQUATIC VEGETATION
- ITS LOCATION
- EXISTING R.O.W. LINE
- PROPOSED R.O.W. LINE
- EXISTING EASEMENT LINE
- MEAN HIGH WATER LINE
- TEMPORARY CONSTRUCTION EASEMENT
- RIPARIAN BUFFER

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ROUTE 72 MANAHAWKIN BAY BRIDGES

PREFERRED ALTERNATIVE PLANS

TOWNSHIP OF STAFFORD
BOROUGH OF SHIP BOTTOM

MARCH, 2011

OCEAN COUNTY

1/4

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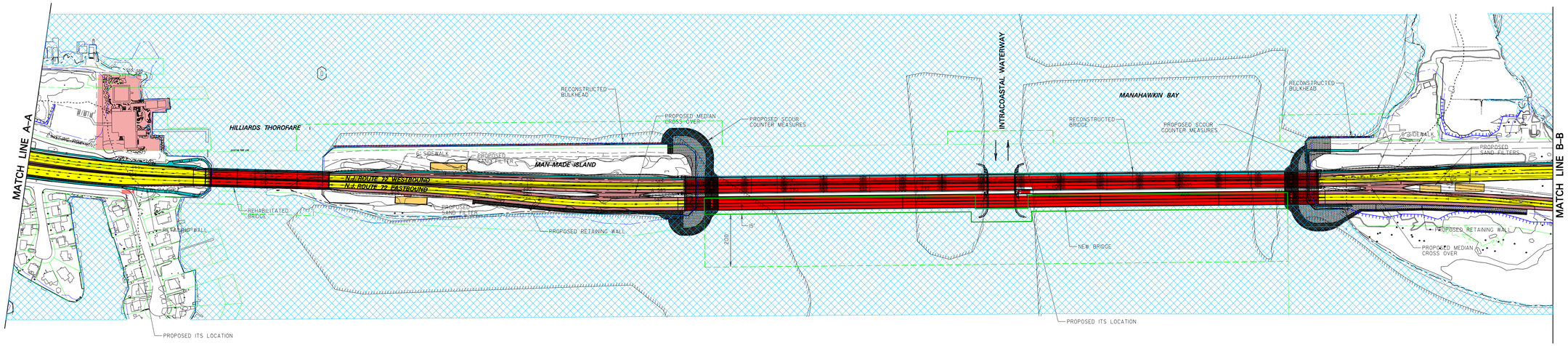
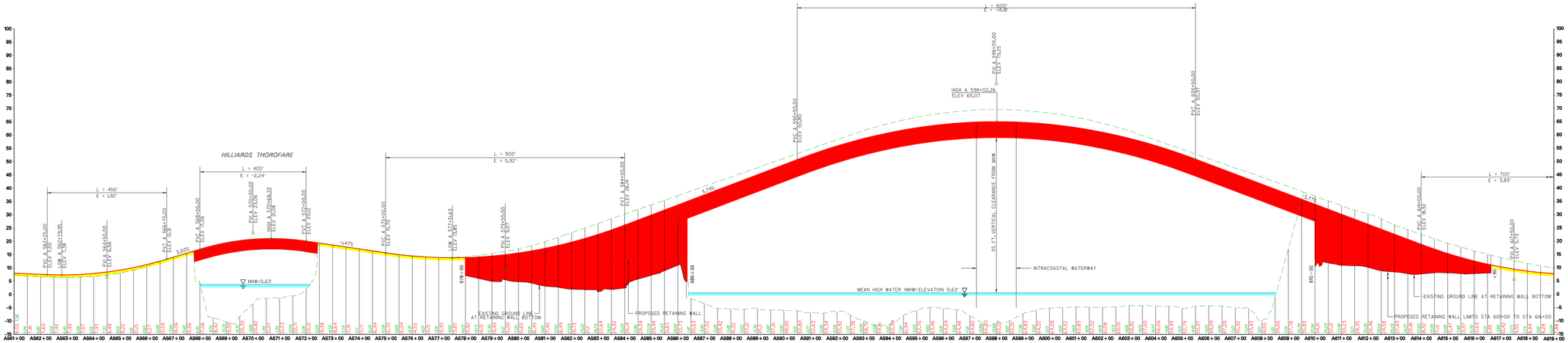
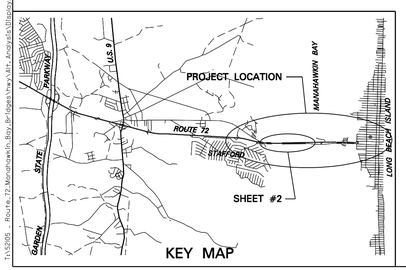




ROUTE 72



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SCALE IN FEET
100' 0 100' 200'

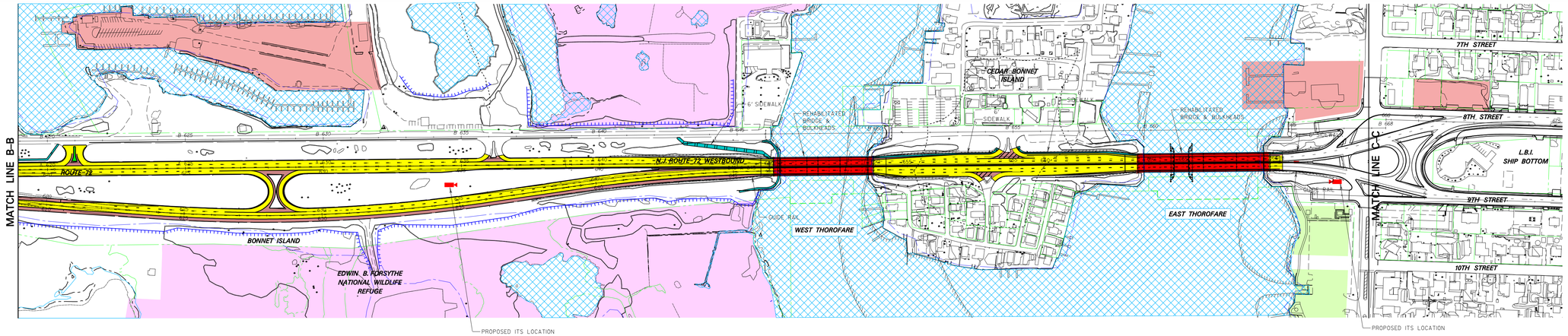
ROUTE 72
MANAHAWKIN BAY BRIDGES
PREFERRED ALTERNATIVE PLANS

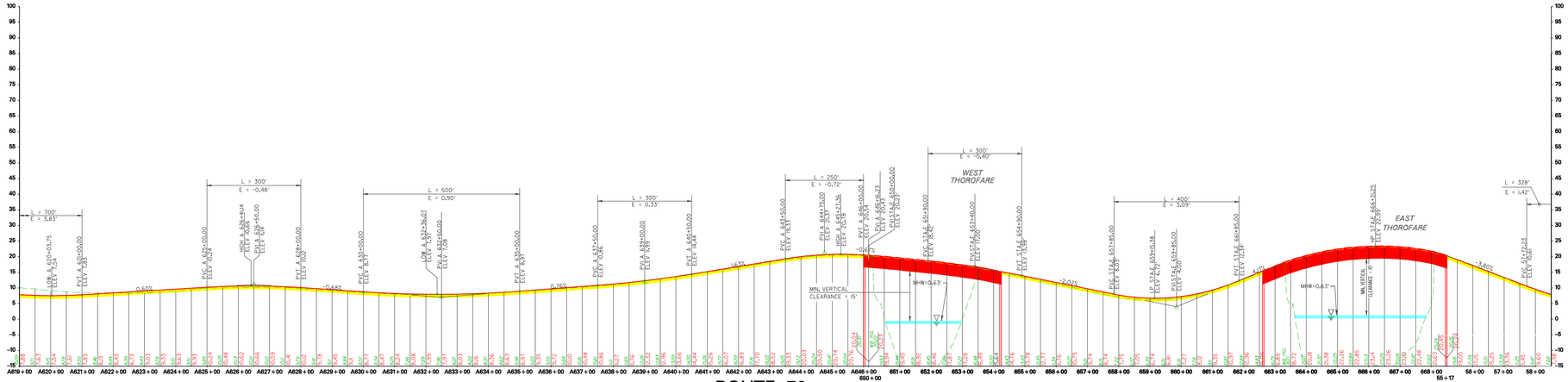
TOWNSHIP OF STAFFORD
BOROUGH OF SHIP BOTTOM

MARCH, 2011

OCEAN COUNTY

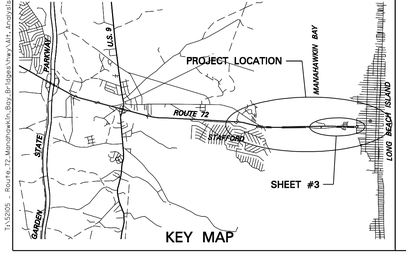
2/4





ROUTE 72

NOTE: ONE PUMPSTATION TO BE INSTALLED. FINAL LOCATION SUBJECT TO NEGOTIATIONS.



KEY MAP

LEGEND

- NATIONAL WILDLIFE REFUGE
- PROPERTIES OF EVIRONMENTAL CONCERN (HAZARDOUS WASTE)
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- WATER AND SHELLFISH
- PROPOSED BASIN
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- RIPARIAN BUFFER

SCALE IN FEET
100' 0 100' 200'

ROUTE 72
MANAHAWKIN BAY BRIDGES
PREFERRED ALTERNATIVE PLANS

TOWNSHIP OF STAFFORD
BOROUGH OF SHIP BOTTOM

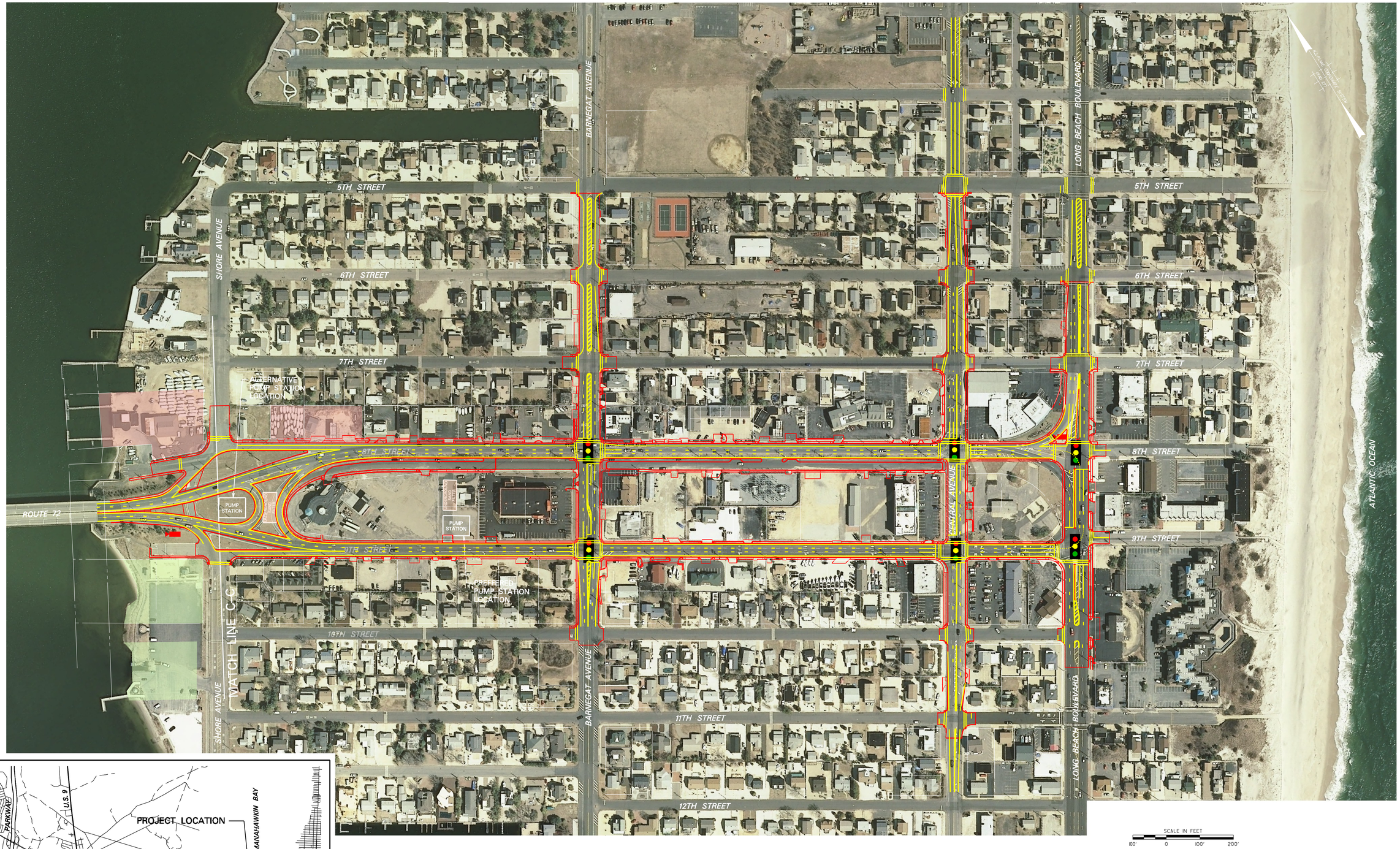
MARCH, 2011

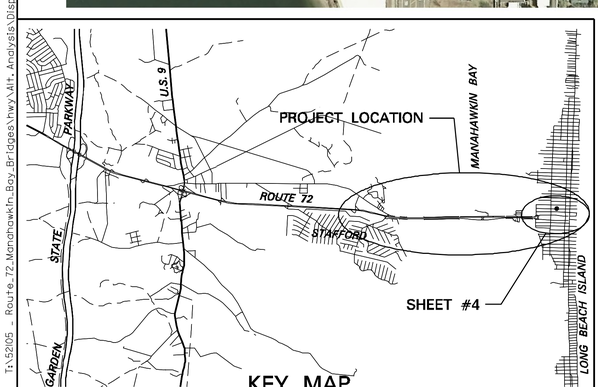
OCEAN COUNTY

3/4

BOROUGH OF SHIP BOTTOM

COUNTY OF OCEAN





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- PROPOSED SAND FILTER
- ITS LOCATION

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MANAHAWKIN BAY BRIDGES
PREFERRED ALTERNATIVE PLANS

TOWNSHIP OF STAFFORD
BOROUGH OF SHIP BOTTOM

MARCH, 2011

OCEAN COUNTY

4/4

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