

**NJDEP**  
**State Plan Endorsement**  
**Opportunities & Constraints Analysis Report**  
**Morristown, Morris County**

**Introduction**

*Municipal Plan Endorsement is a voluntary review process designed to ensure the coordination of State, county, and municipal planning efforts in achieving the goals and policies of the State Planning Act (Act). The State Development and Redevelopment Plan (State Plan) is the blueprint for achieving these goals and provides the template for coordination. The endorsement process expands upon the requirements of the Municipal Land Use Law (MLUL) and incorporates many planning initiatives of the State agencies.*

*This document constitutes the Department of Environmental Protection's component of the State Opportunity and Constraints Assessment conducted as part of the Plan Endorsement process. This document provides an overview of the Department's regulatory and policy concerns within the Town of Morristown. The information provided herein is intended to reflect the Department's current information concerning the Town.*

**Findings**

- Morristown needs to assess its strategies for managing runoff due to its susceptibility to riverine flooding in increased precipitation events. It should seek to minimize development and construction in its flood zones with stricter building codes and zoning, ensure sustainable remediation efforts for its potable water, and seek to reduce pervious surfaces and determine other ways to manage stormwater.
- To address wildlife protection, Morristown's Master Plan, zoning and mapping should identify and reflect habitat and foraging grounds in order to ensure accuracy and protect threatened and endangered species from demolition in future development efforts.
- DEP does not support the Center/Coal redevelopment area on the Whippany River, as the site is in a flood zone, and development would be harmful to the trout-stocked waters (FW2-TS).
- All communities are encouraged to implement actions to meet New Jersey's goals for greenhouse gas emissions reduction. The Sustainable Jersey Gold Star in Energy identifies some specific actions and levels of performance that municipalities can take to reduce greenhouse gas emissions. Information on the goals star standard can be found at <https://www.sustainablejersey.com/actions/gold-star-standards/>. New Jersey's Global Warming Response Act calls for an 80% reduction of GHG emissions from 2006 levels by the year 2050. To meet this target, New Jersey will have to reduce GHG emissions at a rate of 3.6% a year, every year.

**Overview**

Morristown encompasses 2.8 square miles and 1,923.59 Acres within Morris Township, Mercer County. Located within the New Jersey Highlands Region Planning Area and in the State's Metropolitan Planning Area (PA1), Morristown is also designated as a Regional Center by the New Jersey State Planning Commission. The center designation was extended until June 30, 2020 (amendments to N.J.A.C. 5:85-7.21). In April 2020, Morristown issued the Morristown Municipal Self-Assessment Report (MMSAR) as part of an effort to renew the Regional Center designation. Below are several maps and tables from that report as well as maps and tables generated by NJDEP. Included is a natural resources inventory and land cover described as 82% urban, 13% forest, 3% water, 2% wetlands, and 1% barren. Morristown also published in 2018 an update to their 2014 Morristown Moving Forward Master Plan identifying social and economic opportunities for redevelopment of underutilized property.

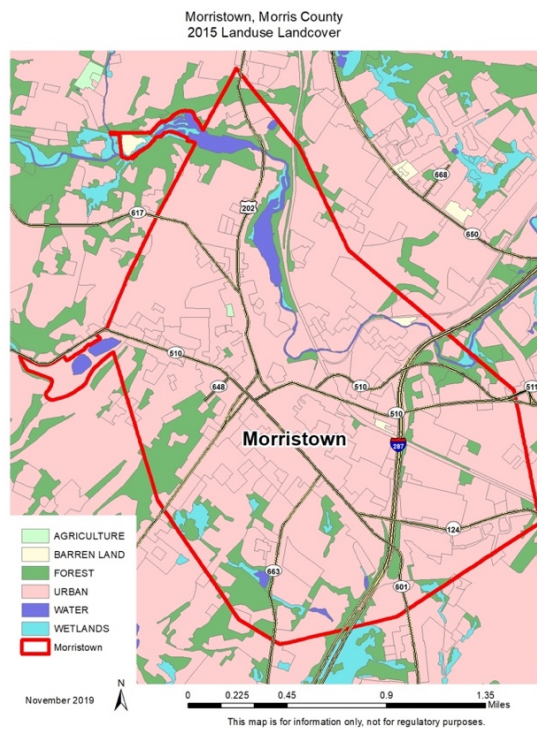
### **Wastewater Analysis**

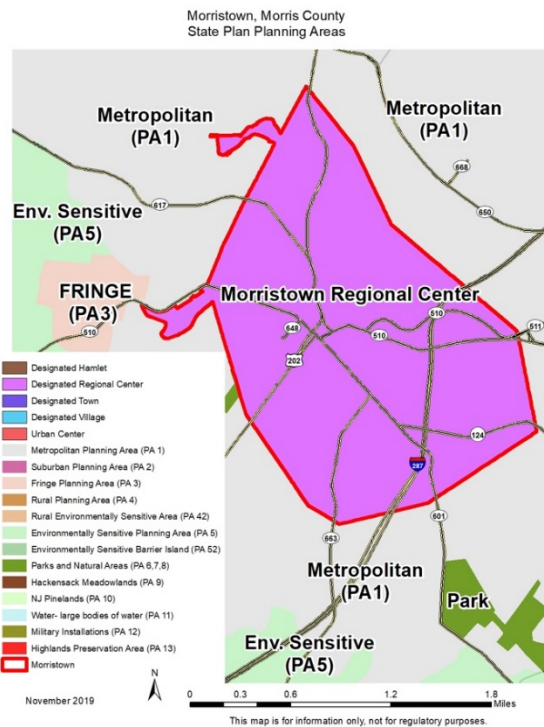
Morristown is almost entirely within a sewer service area (SSA). Small amounts of wetlands and endangered and threatened species are in the current SSA but appear undeveloped.

In the future, DEP will need to apply a new 25-acre clip using the most current data layers for T & E, C1 and wetlands, to the currently approved SSA and discuss the removal of those areas from the currently adopted SSA.

### **Water Availability Areas Served by Public Water Supply Facilities**

After reviewing pertinent permits, records and other available information related to water supply, water system treatment, distribution, and approved proposed connections related to new development, DEP sees no immediate or pending water concerns. The Town of Morristown is within the public water service area served by Southeast Morris County MUA (SMCMUA) and the entire municipality has access to public water. Currently the system has a surplus of water available to service all pending and future projects that have received approval through the Bureau of Water System Engineering. Southeast Morris County MUA has sufficient treatment capacity, infrastructure and bulk purchase contracts to meet demands. There are no immediate water supply concerns at this point in time, however, there is no guarantee that there will be available capacity for any or all future development based on future conditions.





## Climate & Flood Resilience

In addition to identifying municipal natural resources, Morristown must also consider the current and future impacts of climate change in their activities while minimizing adverse impacts to natural resources, critical infrastructure, and vulnerable populations.

New Jersey issued its first Climate Change Science Report on June 26, 2020

(<https://www.nj.gov/dep/climatechange/data.html>).

The report details the most current science, specific to New Jersey, describing the projected impacts of climate change. As atmospheric levels of carbon dioxide and other greenhouse gases increase, Morristown can expect to see increases in average temperature, precipitation, and flooding. For example, the average temperature is expected to increase by 4° to 5.7°F by 2050, with longer and more frequent heatwaves, heat-related mortalities, and periods of drought. Precipitation is expected to increase by 4% to 11% annually by 2050 and increases in intensity and frequency may result in

larger and more frequent flooding. Water resources will be stressed due to more frequent droughts and extreme temperatures, and water quality will be increasingly impaired due to increased runoff from more intense rain events.

## Flood Zones

The Federal Emergency Management Agency (FEMA) maps Special Flood Hazard Areas (SFHA) adjacent to streams or rivers that experience flooding during periods of high precipitation and/or stormwater discharge. FEMA has identified flood hazard areas within Morristown. Most of Morristown's floodplains are located in the north along the Whippany River but a small flood zone is also located along Great Brook in the south. The SFHA for the one-percent storm (100 year) covers an area of 91.09 acres – 5% of Morristown's total surface area while the SFHA associated with 0.2 percent storm (500 year) covers an additional one-percent of Morristown's area (14.86 acres). In total, approximately 106 acres fall within a FEMA SFHA.

Flood Hazard	Acres	% of Total Municipal Area
100-year Floodplain	91	5%
500-year Floodplain	15	1%

Source: Preliminary FEMA DFIRM

A limitation of the currently delineated SFHAs is that they do not consider projections of future precipitation due to climate change. While annual increases may not result in significantly additional flooding, the increased frequency of shorter but more intense precipitation events is expected to result in additional flooding events. **As such, DEP recommends that Morristown utilize the SFHA for the 0.2**

**percent (500 year) storm for planning purposes.** This will allow Morristown to inform its current decisions in a manner that is protective of health and safety from future impacts.

Similarly, there are Flood Hazard Areas within Morristown associated with the Whippany River, Great Brook, Loantaka Brook and their tributaries. The Division of Land Resource Protection within DEP has jurisdiction over these areas, even outside of FEMA mapped areas. DEP recommends pre-application meetings for any redevelopment project in proximity to these and any waterbodies in Morristown.

### **Critical Infrastructure and Assets in Flood Zones**

These flood prone areas are subject to state and federal regulation which limits new construction and promotes open space preservation. In addition, municipal code should minimize new construction in flood hazard areas and mitigate for any redevelopment of existing structures. Of particular concern are adverse impact to existing assets, infrastructure and buildings within the flood zones and how a municipality will mitigate for potential increased vulnerability to flooding. Several properties have been identified in the flood zone of the Whippany River including Morristown Gas Works, Bethel AME Church of Morristown, JCP&L and First Energy, Beverly 84 LLC, Morristown Housing Authority residential building, Market St. Mission, Abbett Bus Park, and the Morristown & Erie Railroad. Morristown does not have any critical emergency services or schools within the flood zone. Two municipal baseball fields are located in the flood zone. The Lafayette Learning Center school and property is located on Hazel Street outside of but near to the Whippany river which is vulnerable to flooding. Of particular vulnerability are buildings that are near to the oxbow bend in the Whippany River at Bishop Nazery Way and Coal Avenue.

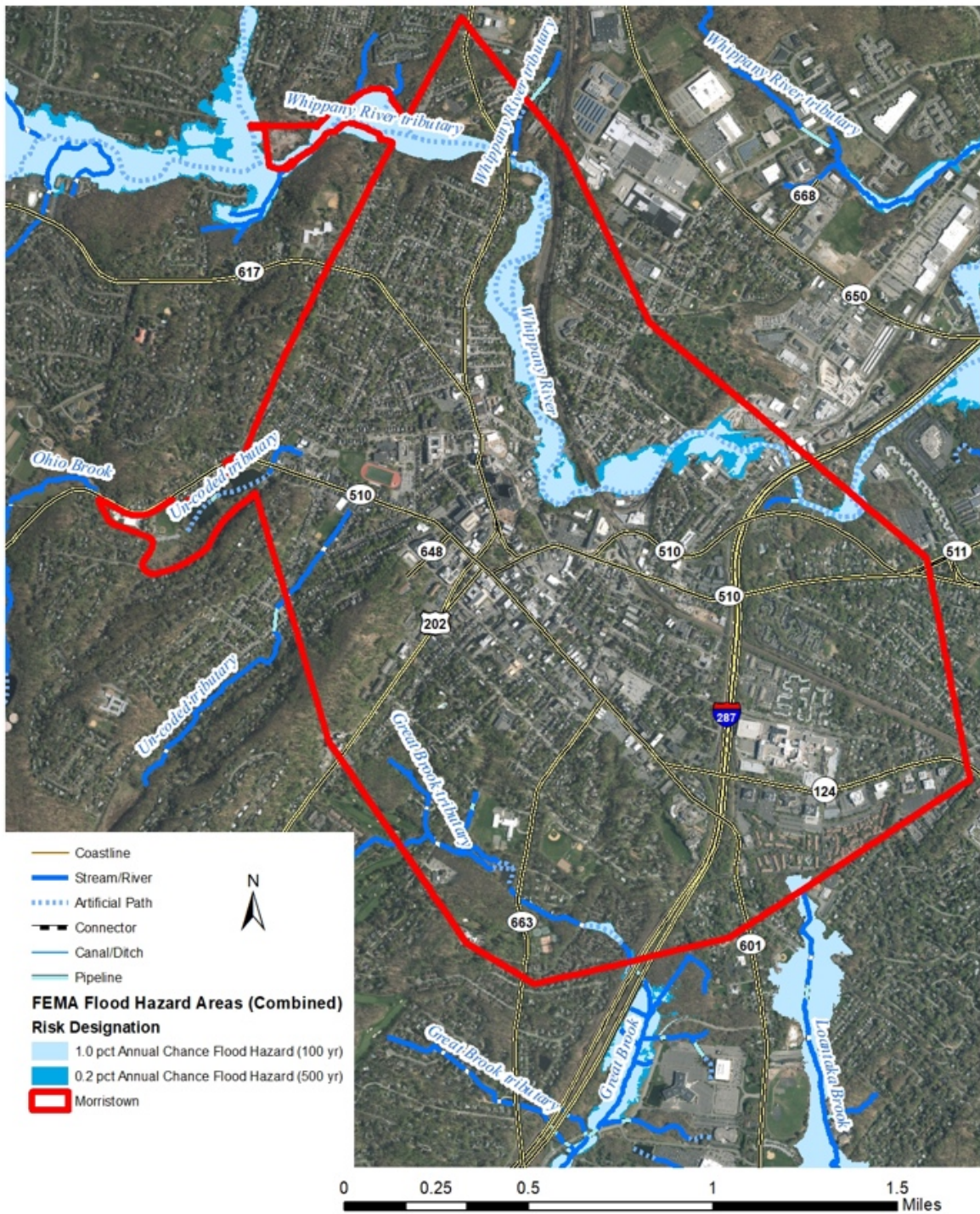
Critical utility infrastructure like powerlines, sewers and potable water lines can be adversely impacted by flooding. The Township of Morris Sewer Utility sewer service area covers 59 acres of Morristown and includes piping in the flood zone. Morristown should work with the Sewer Utility to identify any treatment plant pump stations or outfalls in the flood zone.

Potable drinking and supply water is provided to Morristown residents by the Southeast Morris County Municipal Utility Authority and includes piping in the flood zone. Morristown should work with the SMCMUA to identify any potable water wells and pump stations located in the flood zone and if any public and private groundwater wells are located within the municipality and flood zone. Finally, Morristown should identify the location of any stormwater outfalls located within the flood zone.

Unimpeded transportation via rail and road are critical to safety and are also subject to flooding. A desktop analysis shows approximately 1,743 linear feet of Erie Lackawanna Morris and Essex Line rail within the flood zone of the Whippany River. However, DEP is unable to determine if the infrastructure is raised. Morristown should evaluate how many linear feet of access and potential evacuation state, county, and municipal roadways are also within the Whippany River flood zone that should be included in a municipal flooding evacuation plan.



# Morristown, Morris County FEMA Flood Hazard Areas

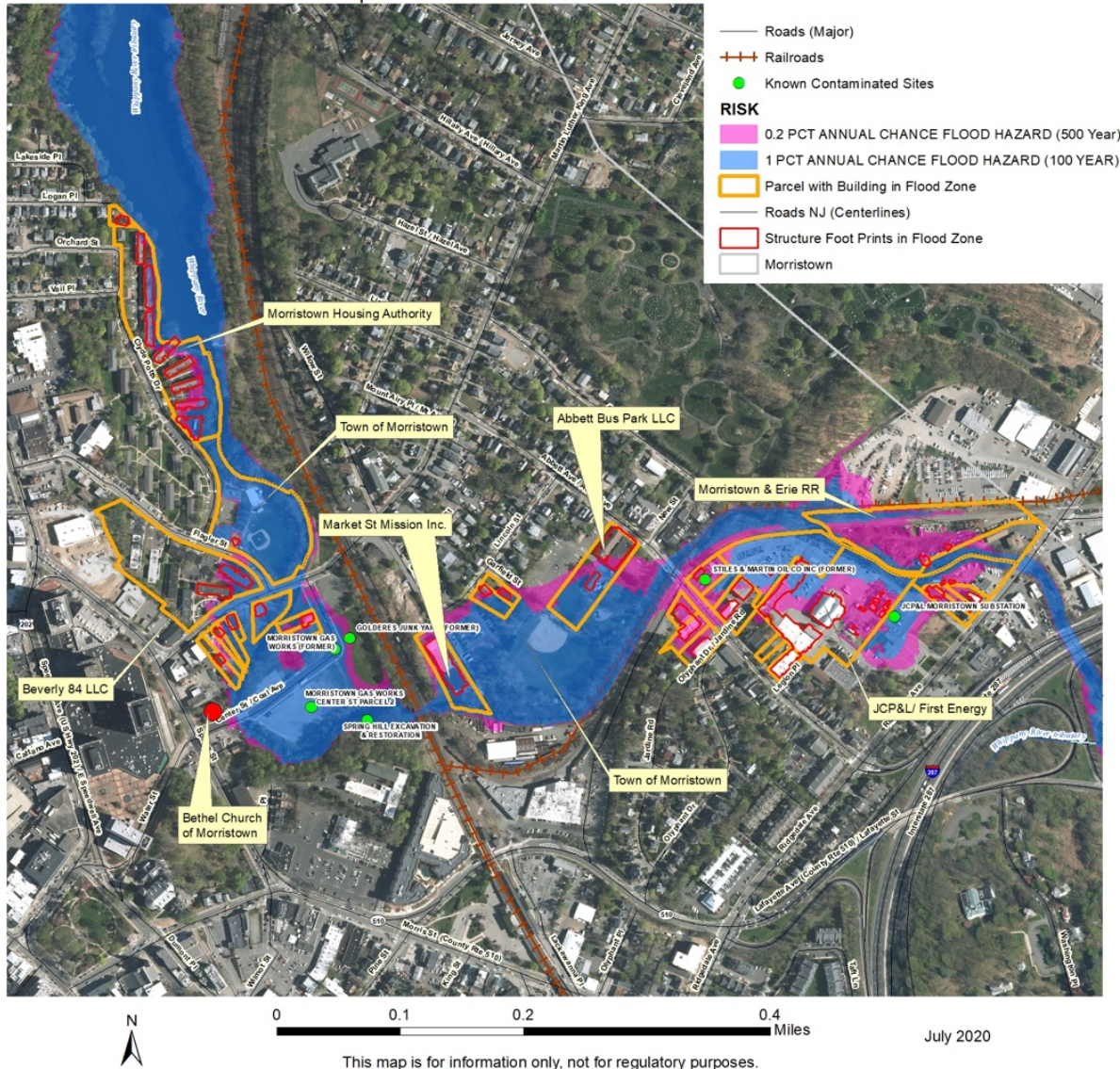


November 2019

This map is for information only, not for regulatory purposes.

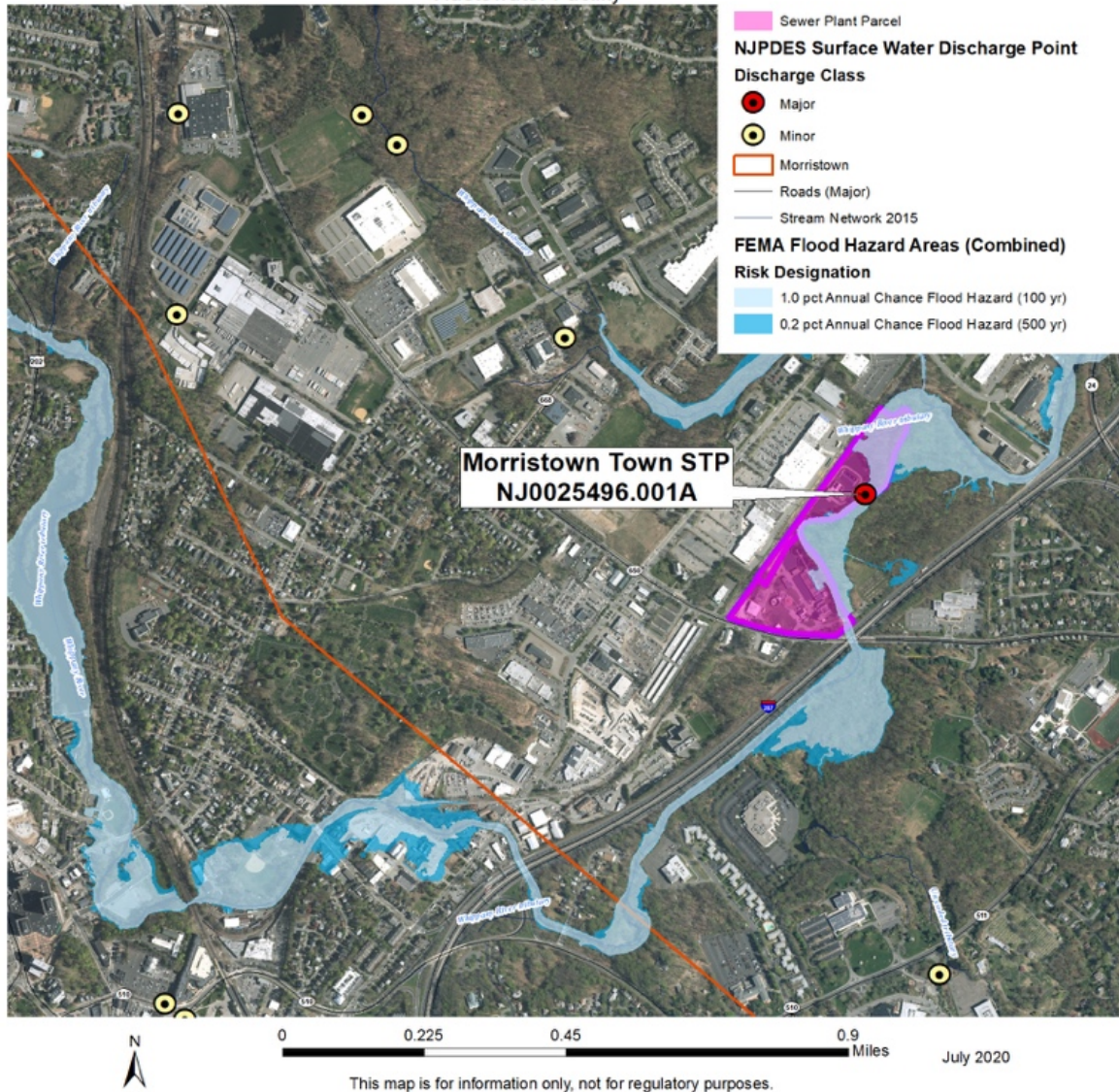


# Morristown, Morris County Properties in & near FEMA Flood Zones





Morristown, Morris County  
Wastewater Facility

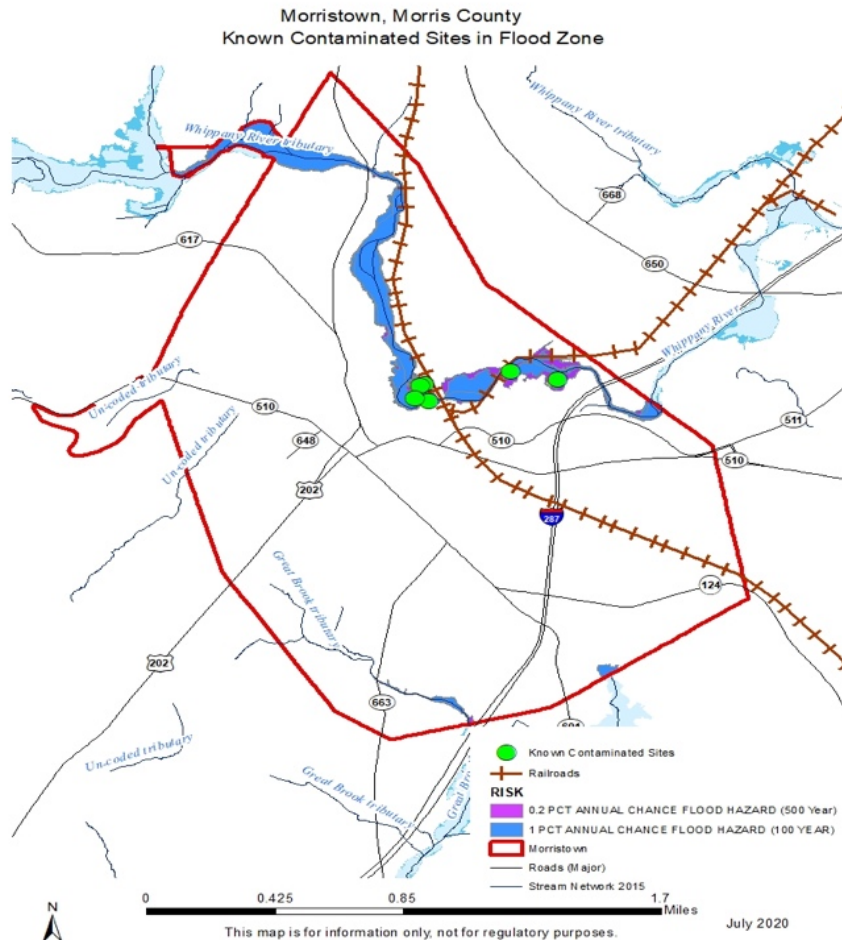


## Water Resources in Flood Zones

### Groundwater

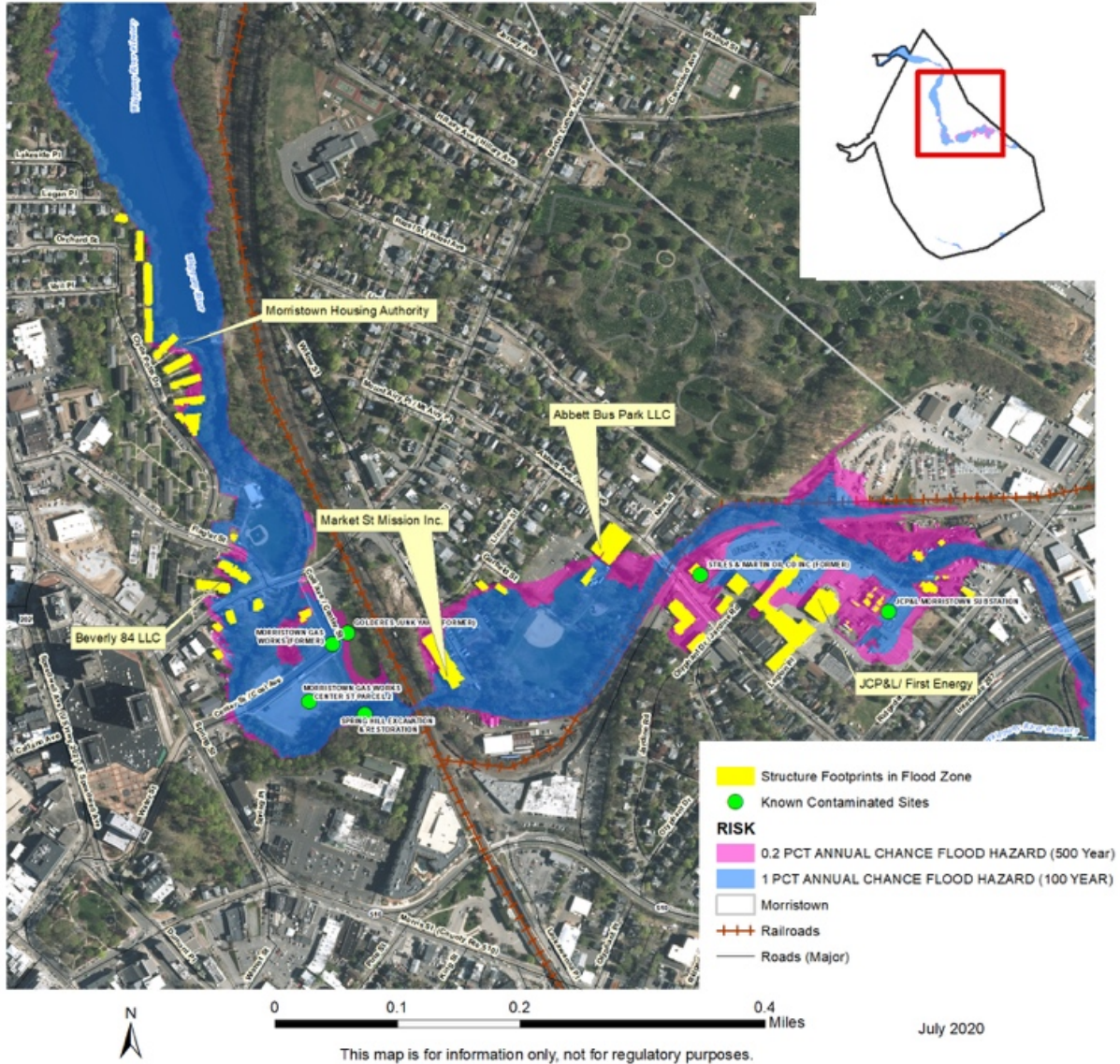
Groundwater recharge and protection is essential to control stormwater runoff and to maintain a clean source of drinking and supply water. More than 40 known contaminated sites have been identified within municipal boundaries that have adversely impacted ground water quality and are or have been subject to remediation measures. Six (6) sites have been identified in the flood zone totaling approximately seven (7) acres. Adhering to NJDEP regulations for spill prevention and completing any required remediation and long-term groundwater monitoring of existing contamination are required in order to protect this valuable resource and public health.

41996.0000000000	STILES & MARTIN OIL CO INC (FORMER)	48 ABBETT AVE	001581
66118.0000000000	JCP&L MORRISTOWN SUBSTATION	11 LEGION PL	G000002192
66555.0000000000	GOLDERES JUNK YARD (FORMER)	14 COAL AVE	G000007268
54809.0000000000	MORRISTOWN GAS WORKS (FORMER)	1 & 5 COAL AVE	024455
222478.0000000000	SPRING HILL EXCAVATION & RESTORATION	REAR SPRING PL	604332
124130.0000000000	MORRISTOWN GAS WORKS CENTER ST PARCEL 2	BISHOP NAZERY WAY	602668





Morristown, Morris County  
Structures & Known Contaminated Sites in FEMA Flood Zones



### Surface water

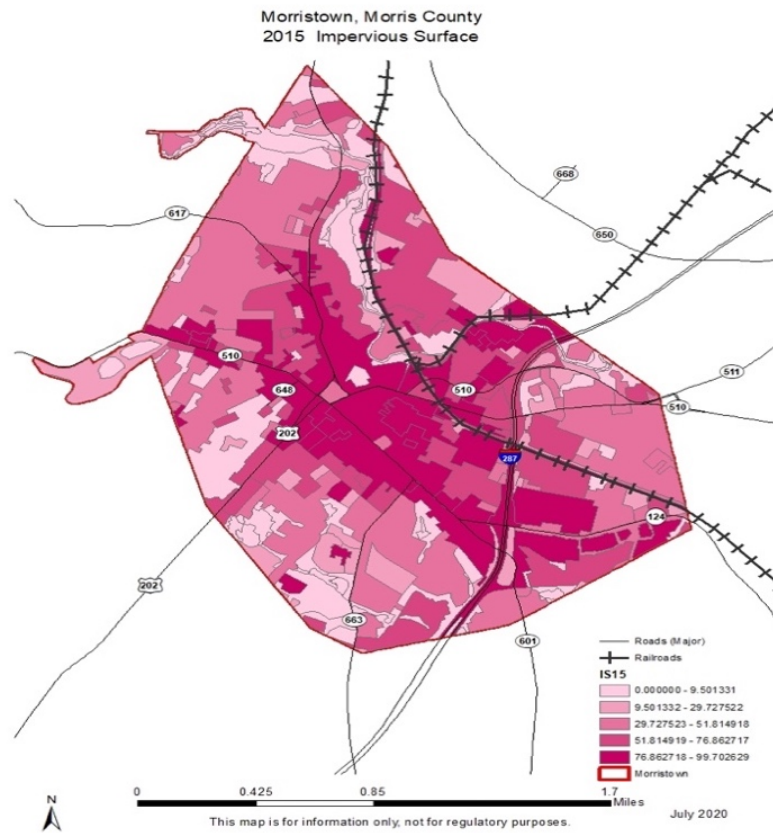
Morristown is traversed by the Whippany River and has several valuable and recreational bodies of water including streams, rivers and lakes.

<b>Name</b>	<b>Acres</b>	<b>Classification</b>
Speedwell Lake	19	FW2-NT
Pocahontas Lake	14.5	FW2-NT
Footes Pond	2.6	FW2-NT
Burnham Park Pond (1)	4	FW2-NT
Burnham Park Pond (2)	3	FW2-NT
The Whippany River	NA	FW2-NT
Great Brook	NA	FW2-NT

Several of these water bodies are subject to flooding which is exacerbated by an increase in impervious cover and a decrease in stormwater's ability to infiltrate the ground. In 2015 in Morristown, impervious surfaces, including buildings, pavement, etc., covered approximately 961.41 acres – 50% of the total town area.

To reduce flooding as temperatures and precipitation rise, DEP recommends that Morristown continue address stormwater runoff and improve stormwater retention on site at its source. Improvements to surface water infiltration and stormwater management can be implemented in many ways including replacing impervious pavement with pervious surfaces, maintain and restore all surface water bodies potential for additional stormwater retention through dredging and silt control, constructing green infrastructure, requiring buffers to surface water bodies, restoring wetland areas, adhering to state requirements for stormwater management best management practices, and adding stricter municipal building codes.





## Natural and Historic Resources in Flood Zones

### Wetlands

Wetlands provide an area for stormwater management, water quality management, and a habitat for threatened and endangered species. Morristown has 29 total acres of wetlands that are protected under state and federal regulation. Adding to and restoring wetlands buffers improves stormwater management and can reduce adverse impacts of flooding.

Type of Wetlands	Acres	% of Total Municipal Area
Deciduous Wooded Wetland	26	1%
Herbaceous Wetland	2	<1%
Disturbed Wetland (Modified)	1	<1%

### Vulnerable, Threatened and Endangered Species

Coopers Hawk and Blue Heron habitat have been identified in the flood zones of Morristown and are ranked between 1-3 according to the NJDEP where 3-5 is considered critical habitat. 85 acres of Blue Heron habitat are ranked 2 while 29 acres of Coopers hawk habitat is found around Footes Pond Park and is ranked 3 critical habitat. Excess stormwater runoff, flooding and contamination adversely impact terrestrial and aquatic species.

Like aquatic and terrestrial animals, reptiles, fish and birds, climate change can adversely impact plants and trees. Increases in temperature and periods of drought can result in loss of suitable conditions for a tree or plant species to survive as well as a higher risk of wildfire.

Morristown provides habitat for various threatened and endangered species, including bald eagle, Indianan bat, big brown bat, and bobcat, many of which rely on buffer areas around the lakes on the north side of the municipality. To protect these species, the town should ensure that C-1 buffers, riparian zones, T&E, and critical wildlife habitat be removed or kept out of sewer service areas. Exclusion from sewer service would not preclude all development but could reduce adverse impacts. Ideally, the habitat areas in public ownership should be added to the town's ROSI to ensure the land will not be developed.

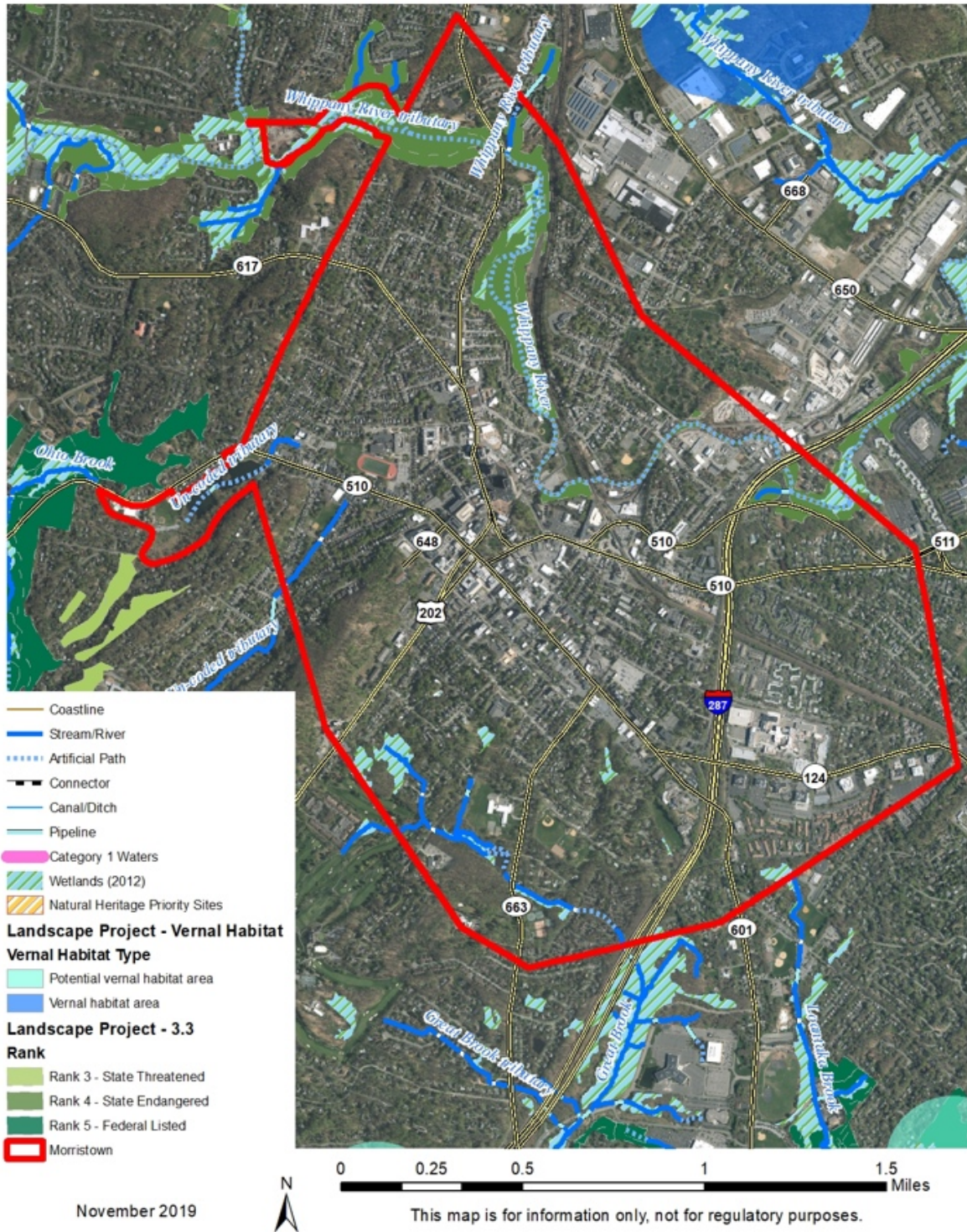
Some areas of bald eagle foraging that could require timing restrictions on tree clearing. Of the prime bald eagle foraging habitat identified on the NJDEP Landscape mapping that is associated with the lakes, most of it appears to be municipally owned with a parcel or two owned by the county and the rest largely single family lots. The Master Plan and other documents and maps should identify that this environmentally sensitive area does occur in the town and that it is relatively protected again development due to much of the associated land being in public ownership. It is recommended that is be placed on the Town's ROSI.

There are only two streams within the municipality: Great Brook (FW2 – NT) in the southern portion of the municipality, and the Whippany River, which is listed as (FW2 – NT), but internal layer indicates it is trout-stocked (FW2-TS). The self-assessment discussed a redevelopment project called Center/Coal Redevelopment project, which is proposed in an oxbow of the Whippany River. According to the self-assessment, the area floods, which would imply it is located in the floodplain and possibly within the riparian buffer associated with the stream. Ensuring a good buffer to a trout stream is essential for the health of the stream, so DEP expresses concern regarding this redevelopment project because of its impacts to water quality and health of the stream. Morristown should make sure any potential projects within the Whippany River watershed avoid sediment generating activities that may affect these trout-stocked waters. In the future, early coordination with the Division of Fish and Wildlife Office of Environmental Review (OER) will help ensure that state concerns are addressed prior to the permitting phase.

Morristown should also consider connectivity between open spaces for the benefit of wildlife, rather than only for people. For example, the town should assess wooded corridors and road culverts to connect forests and allow terrestrial and aquatic animals can freely and safely cross busy roads. Furthermore, the town should also explore improvements to enhance its natural resources, such as forest and park management for invasive or overabundant plant and animal species.

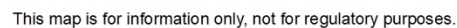


# Morristown, Morris County Environmental Features





It is also critical to protect our cultural and historic resources. An historic district borders the Whippany River and its tributary in the north as does an area adjacent to the river that is eligible for designation as a historic district in the future.





## Socially Vulnerable Populations

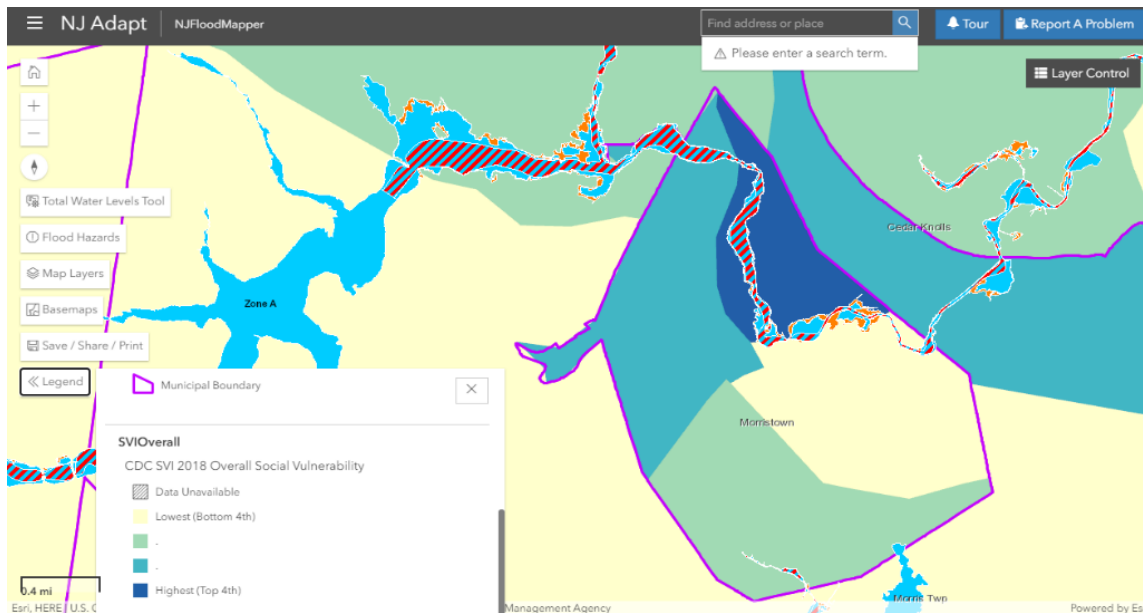
Morristown is a diverse community of 18,411 as of 2017. In planning for climate change related resilience measures, Morristown must also consider the vulnerability of various populations within Morristown to adverse effects of climate change. All residents of Morristown are vulnerable to adverse impacts of a climate change including an increase in temperature and precipitation and a degradation of natural resources. However, climate change also impacts residents of Morristown differently based on their location in town, their social and economic situation, and depending on their ability to anticipate, resist, or recover from a natural hazard. The degradation of air quality and elevated temperatures can lead to negative health issues. Elevated temperatures can interrupt power supply to all residences which could impact those who need electricity for medical equipment in their homes and loss of air conditioning could increase heat stress and its associated impacts. For those living near Morristown's flood zones, increased stormwater runoff under elevated precipitation and current impervious cover conditions could lead to catastrophic flooding.

	Morristown	Morris County	New Jersey
Land Area (square miles)	2.8	482	7,509
Population	18,411	492,276	8,791,894
Households	7,417	180,534	3,214,360
Average Household Size	2.4	2.68	2.68
Housing Units	8,172	189,842	3,553,562
Home Ownership Rate	38.60%	75%	65.40%
Vacancy Rate	9.20%	4.90%	9.50%
Median Household Income*	92,296	107,034	76,475
Per Capita Income*	52,736	53,491	39,069
Poverty Rate*	7.40%	4.60%	10.70%
Unemployment Rate*	3%	5.20%	7%

Source: 2010 Census SF1

\*Source: 2017 ACS 5-Year Survey

The CDC Social Vulnerability Index GIS layer (2018) below indicates that a high social vulnerability index tract near the FEMA flood zone. While Morristown may not have any residential areas within the flood zone, the redevelopment plan for Morristown includes a proposed 150-200 residential unit and mixed use development for the former 7 acre Morristown Coal Gas Works on Bishop Nazery Way (former Coal Avenue). This 2006 brownfield redevelopment plan for the former manufacturing site is adjacent to the Whippany River Oxbow and subject to severe flooding as described in MMSEA.



Any residents within the area of high social vulnerability that is also adjacent to or in the floodplain, including the Morristown Housing Authority public housing near the Whippany River, may be vulnerable to flooding. Morristown should evaluate residents living in tracts close to or in the floodplain including the elderly, disabled, minorities, and those without personal transportation to identify the social vulnerabilities they may face as a result of increased flooding. For example, if there are people without cars who rely on public transportation, increased flooding could result in loss of wages or their jobs if they cannot get to work on flooded days.

The redevelopment plan for Morristown includes a proposed 150-200 residential unit and mixed-use development for the former 7-acre Morristown Coal Gas Works on Bishop Nazery Way (former Coal Avenue). This 2006 brownfield redevelopment plan for the former manufacturing site, which has undergone a long remediation process, is adjacent to the Whippany River Oxbow and subject to severe flooding as described in MMSEA. It is also located in an area of high social vulnerability. Morristown is designated 85% urban and already has impervious cover over 50% of the area of the municipality. Any increase in impervious cover in the flood zone could negatively impact stormwater runoff, water supply and public health by reducing stormwater infiltration capacity and the flood management buffer while increasing ground temperatures and heat related health issues.

### Healthy Communities

Morristown has freight rail running right through town and should review its Emergency Operation Plan's HMA1 and HMA2. DEP encourages Morristown to work with its municipal and county Offices of Emergency Management (OEMs) to review their Emergency Management Plans, especially the Hazardous Material Annex 1 and 2, related to freight rail transportation through Morristown. NJDEP is available to provide further assistance if requested.

### Brownfields and Site Remediation

Two of Morristown's redevelopment projects are identified as occurring on old industrial sites that may be contaminated. Because Morristown has a bronze Sustainable Jersey rating, the town should use the

Sustainable Jersey brownfield action tools to identify additional brownfields that show potential for redevelopment.

#### Green Acres/Blue Acres

Morristown has one open acquisition project, approved in 2017 for \$500,000 with a remaining balance of \$29,625, and had 9 completed acquisition and park development projects.

The Township is currently operating a recycling center on property that is listed on its Recreation and Open Space Inventory. However, the Township asserts that the listing of the property on the ROSI was in error, and intends to pursue a quiet title action concerning an ancient deed restriction in the chain of title. While the Township pursues this judicial remedy, it is not in a state of serious noncompliance.

Any town that has homes that repetitively flood should consider speaking to the DEP about buyouts through the Blue Acres program.

#### **CFR Opportunities and Constraints Recommendations**

One goal of any municipality when considering future development is to ensure that it is consistent with the goals of the State Plan. These include providing protection of critical natural resources, historic and cultural preservation, creation of open space and innovative alternatives for sustainable development and conservation. When evaluating any construction within the identified floodplain of Morristown, one must also consider the cost of damage and replacement in the event of flooding.

Future development within the floodplain requires a higher level of regulation through state and federal environmental rules for flood hazard areas. Any proposed conceptual plan should be presented to NJDEP early in review process, before planning board approval, and before submittal of any permit applications to determine if the project has any fatal flaws rendering it un-permittable in its current design.

Morristown should also consider enhancing its own zoning regulations and building codes to encourage building outside of the flood zone and to minimize construction in flood prone areas to reconstruction of existing buildings. Morristown has updated its master plan to include 10 areas of the municipality that would most benefit socially and economically by the redevelopment of underutilized land. Each of these areas is an opportunity to incorporate energy efficiency, green building techniques and green infrastructure for stormwater infiltration on site. But, flood zone area new construction or redevelopment of existing buildings should avoid high density concentration and areas of severe flooding. For example, one of the proposed redevelopment sites, Center/Coal redevelopment on the former Morristown Coal Gas facility, is acknowledged by Morristown in the MMSEA to be severely prone to flooding. Future plans for this site should not include housing or mixed use in which road access and evacuation could be impacted by flood waters. Any Brownfield redevelopment of an existing building that may have cultural and historic significance should work within the existing footprint and a design should include flooding mitigation and stormwater management best practices.

Construction of any critical utility line and associated infrastructure, emergency services, or public services buildings (schools, hospitals, churches, etc) should be avoided in the flood hazard area. By avoiding construction in flood plains, one can avoid adverse impacts also to critical roadways and provide a safe level of distance in the event of a flood. Historic structures should be protected with enhanced stormwater management plans and flood minimization plans.

Green infrastructure should be incorporated into all projects within the floodplain. By creating more open public space, Morristown gains flood zone buffer areas and additional recreation area as well enhanced areas for stormwater management. Any opportunity in a flood area to enhance or expand a buffer area protects vulnerable residential areas and minimizes future flood events. Each of the municipalities'



existing surface water bodies should also be maintained to ensure maximum stormwater storage and infiltration capacity.

#### National Flood Insurance Program

Morristown is a National Flood Insurance Program (NFIP) participating community. Overall, there are less than 40 active federal flood insurance policies in the town. There have been a few flood insurance claims that are considered to be repetitive loss (RL) and severe repetitive loss (SRL) (less than 10 claims). While Morristown has adopted a floodplain development ordinance, DEP would recommend as part of the Plan Endorsement process that they update their floodplain development ordinance to make sure that it is consistent with the most recent standards. The current floodplain administrator would be the Chair of the Planning Board.

#### Center/Coal Redevelopment Area

In reviewing the Morristown MSA redevelopment plans (page 13 of 63 ‘Underutilized Land’) the Municipality identified the Center/Coal Redevelopment Areas as vulnerable to severe flooding. A substantial portion of the seven-acre tract in in the Floodway (Zone AE), where development would be restricted. While the municipality indicated that they are waiting on official FEMA maps to be adopted, DEP can offer Technical Assistance in clarifying development constraints for this site.

#### Planning for Future Flooding

A limitation of the currently delineated SFHAs is that they do not consider projections of future precipitation due to climate change. While annual increases may not result in significantly additional flooding, the increased frequency of shorter but more intense precipitation events is expected to result in additional flooding events. DEP recommends that Morristown utilize the SFHA for the 0.2 percent (500 year) storm for planning purposes.

#### Additional Vulnerability Assessment

Morristown should work with the utility authority and water purveyor to perform a detailed vulnerability assessment of the infrastructure that serves the town.

#### Green Infrastructure

Morristown should seek opportunities to install green infrastructure measures to offset increased stormwater, but also to lower the impacts of heat-island effect which are directly related to the amount of impervious surface.

#### Open Space & Natural Features

DEP recommends that Morristown work with Morris County and surrounding municipalities to provide and expand corridors of open space and natural features to support habitat connectivity and adaptation to changing conditions.

#### Funding and Technical Assistance

DEP will inform OPA of additional sources of funding and/or technical assistance as they become available.

