**LIST OF ACRONYMS**

- **ABFE** - Advisory Base Flood Elevation
- **ACS** - American Community Survey
- **APE** - Area of Potential Effect
- **ARC** - Access to the Region's Core
- **ARTP** - Archaeological Resource Treatment Plan
- **ASD** - Acceptable Separation Distance
- **Asl** - Above sea level
- **AST** - Above-ground storage tank
- **AVE** - Area of Visual Effect
- **BCR** - Benefit-Cost Ratio
- **BFE** - Base Flood Elevation
- **Bgs** - Below ground surface
- **BMP** - Best Management Practice
- **Bpf** - Blows per foot
- **CAA** - Clean Air Act
- **CAAA** - Clean Air Act Amendments
- **CAFRA** - Coastal Area Facility Review Act
- **CAG** - Citizen Advisory Group
- **CALTRANS** - California Department of Transportation
- **CARB** - California Air Resources Board
- **CBD** - Central Business District
- **CDC** - Centers for Disease Control and Prevention
- **CDBG-DR** - Community Development Block Grant - Disaster Recovery
- **CEA** - Classification Exception Area
- **CEQ** - Council on Environmental Quality
- **CFR** - Code of Federal Regulations
- **CMU** - Concrete masonry unit
- **COE** - Certification of Eligibility
- **COP** - Citizen Outreach Plan
- **CPP** - Citizen Participation Plan
- **CRS** - Community Rating System
- **CSO** - Combined Sewer Overflow
- **CWA** - Clean Water Act
- **CZMA** - Coastal Zone Management Act
- **dB** - Decibel
- **dBA** - A-weighted decibel
- **DEIS** - Draft Environmental Impact Statement
- **DLUR** - Division of Land Use Regulation
- **DLWRR** - Delaware, Lackawanna and Western Railroad
- **DO** - Dissolved Oxygen
- **DOE** - Determination of Eligibility
- **DSD** - Delay Store and Discharge
- **EDR®** - Environmental Data Resources, Inc.
- **EFH** - Essential Fish Habitat
- **EIS** - Environmental Impact Statement
- **ENSP** - Endangered and Nongame Species Program
- **EO** - Executive Order
- **ESA** - Endangered Species Act
- **ESC** - Executive Steering Committee
- **ESWG** - ESC Working Group
- **FAQ** - Frequently Asked Question
- **FEIS** - Final Environmental Impact Statement
- **FEMA** - Federal Emergency Management Agency
- **FFRMS** - Federal Flood Risk Management Standard
- **FHWA** - Federal Highway Administration
- **FIRM** - Flood Insurance Rate Map
- **FIS** - Flood Insurance Study
- **FONSI** - Finding of No Significant Impact
- **FRP** - Federal Review and Permitting
- **FTA** - Federal Transit Administration
- **FWCA** - Fish and Wildlife Coordination Act
- **g/veh-mi** - Grams-per-vehicle-mile
- **GARFO** - Greater Atlantic Regional Fisheries Office
- **GCR** - General Conformity Regulations
- **GHG** - Greenhouse Gas
- **GIS** - Geographic Information System
- **Gpd** - Gallons per day
- **GWQS** - Ground Water Quality Standards
- **HABS-HAER** - Historic American Buildings Survey - Historic American Engineering Record
- **HAPC** - Habitat Area of Particular Concern
- **HASP** - Health and Safety Plan
- **HBLR** - Hudson Bergen Light Rail
- **HEPSCD** - Hudson-Essex-Passaic Soil Conservation District
- **HHA** - Hoboken Housing Authority
**LIST OF ACRONYMS (CONT’D)**

- **HLSS** - High Level Storm Sewer
- **HUC** - Hydrologic Unit Code
- **HUDU.S.** - Department of Housing and Urban Development
- **in/sec** - Inches per second
- **IPaC** - Information for Planning and Conservation
- **JCMUA** - Jersey City Municipal Utilities Authority
- **KCS** - Known Contaminated Sites
- **kW** - Kilowatt
- **lbs/ft2** - Pounds per square foot
- **LCR** - Linear Construction Report
- **Ldn** - A-weighted day-night equivalent sound level
- **Leq** - Equivalent steady-scale sound level
- **LF** - Linear feet
- **LOD** - Limits of Disturbance
- **LOI** - Letter of Interpretation
- **LSRP** - Licensed Site Remediation Professional
- **LTCP** - Long Term Control Plan
- **Lv** - Vibration velocity levels
- **µg/m3** - Micrograms per cubic meter
- **MBTA** - Migratory Bird Treaty Act
- **Mgd/l** - Million gallon-per-day
- **MGD** - Million gallon-per-day
- **MHWS** - Mean High Water Spring
- **MLUL** - Municipal Land Use Law
- **MLWS** - Mean Low Water Spring
- **MMP** - Material Management Plan
- **MMAPA** - Marine Mammal Protection Act
- **MS4** - Municipal Separate Storm Sewer System
- **NAAQS** - National Ambient Air Quality Standards
- **NAC** - Noise Abatement Criteria
- **NAVD** - North American Vertical Datum
- **NEPA** - National Environmental Policy Act
- **NFIP** - National Flood Insurance Program
- **NHP** - Natural Heritage Program
- **NHPA** - National Historic Preservation Act
- **NHSA** - North Hudson Sewerage Authority
- **NJAC** - New Jersey Administrative Code
- **NJCU** - New Jersey City University
- **NJDEP** - New Jersey Department of Environmental Protection
- **NJDC** - New Jersey Department of Community Affairs
- **NJDEP** - New Jersey Department of Environmental Protection
- **NJHPO** - New Jersey Historic Preservation Office
- **NJPDES** - New Jersey Pollutant Discharge Elimination System
- **NJSM** - New Jersey State Museum
- **NJTPA** - New Jersey Transportation Planning Authority
- **NMFS** - National Marine Fisheries Service
- **NOAA** - National Oceanic and Atmospheric Administration
- **NOHRHC** - Noise Ordinance of the Hudson Regional Health Commission
- **NOI** - Notice of Intent
- **NRCS** - Natural Resource Conservation Service
- **NWI** - National Wetlands Inventory
- **NYCDEP** - New York City Department of Environmental Protection
- **PA** - Programmatic Agreement
- **PAH** - Polycyclic aromatic hydrocarbon
- **PANYNJ** - Port Authority of New York and New Jersey
- **PATH** - Port Authority Trans Hudson
- **PCBs** - Polychlorinated Biphenyls
- **PEM** - Palustrine emergent wetland
- **PIL** - Project Initiation Letter
- **PPM** - Parts Per Million
- **PPT** - Parts Per Thousand
- **PPV** - Peak particle velocity
- **R-EMAP** - Regional Environmental Monitoring and Assessment Program
- **RAO** - Response Action Outcome
- **RBD** - Rebuild by Design
- **RBD-HR** - Rebuild by Design-Hudson River
- **RCNM** - Roadway Construction Noise Model
- **REC** - Recognized Environmental Condition
- **RM** - River Mile
- **RMS** - Root mean square
- **ROD** - Record of Decision
- **ROSI** - Recreational and Open Space Inventory
- **ROW** - Right-of-Way
- **RQD** - Rock Quality Designations
- **RSIS** - Residential Site Improvement Standards
- **SAF** - Simple Attenuation Formula
LIST OF ACRONYMS (CONT’D)

• SAMP - Sampling, Analysis, and Monitoring Plan
• SAV - Submerged Aquatic Vegetation
• SDWA - Safe Drinking Water Act
• SEL - Sound Exposure Level
• SF - Square feet
• SFHA - Special Flood Hazard Area
• SHPO - State Historic Preservation Office
• SOW - State Open Water
• SPT-N - Standard Penetration Test
• SRIRC - Sandy Regional Infrastructure Resilience Coordination
• SSA - Sole Source Aquifer
• SWPPP - Storm Water Pollution Prevention Plan
• TCT - Technical Coordination Team
• TES - Technical Environmental Study
• TMDL - Total Maximum Daily Load
• ULSF - Ultra-low sulfur fuel
• USACE - United States Army Corps of Engineers
• USEPA - United States Environmental Protection Agency
• USFWS - US Fish and Wildlife Service
• UST - Underground storage tank
• VdB - Unit of vibration velocity level
• VIA - Visual Impact Assessment
• VRAP - Visual Resources Assessment Procedure
• WMA - Watershed Management Area

• WOH - Weight-of-Hammer
• WOR - Weight-of-Rod
• WWTP - Wastewater Treatment Plant
Glossary / Definitions

- **10-year Storm Surge** - a storm surge event of a particular magnitude that has a 10 percent chance of occurring in any given year.
- **50-year Storm Surge** - a storm surge event of a particular magnitude that has a two percent chance of occurring in any given year.
- **100-year Floodplain** - a flood event that has a one percent chance of occurring in any given year.
- **50-year Storm** - a storm surge event of a particular magnitude that has a one percent chance of occurring in any given year.
- **500-year Storm** - the rainfall event that has a 0.2 percent chance of occurring in any given year.
- **Boardwalk Levees** - a raised walkway along an embankment designed to prevent the overflow of a river.
- **Berm** - a raised strip of land, constructed with natural materials such as soil and planted grass or artificial materials such as wooden beams or gravel, along a waterway that is implemented in order to prevent flooding.
- **Coastal 'AE' Zone** - areas where base flood elevations have been determined, typically located inland where the potential for additional hazards due to wind and wave action is smaller.
- **Coastal High Hazard Area 'VE' Zone** - Special Flood Hazard Areas (SFHAs) along the coasts that have additional hazards due to wind and wave action.
- **Coastal Flooding** - flooding that occurs when low-lying land is inundated by seawater due to unusually high tide or storm surge.
- **Coastal Zone** - as defined by the Coastal Zone Management Act, includes coastal waters extending to the outer limit of state submerged land title and ownership, adjacent shorelines and land extending inward to the extent necessary to control shorelines.
- **Coastal 'AE' Zone** - areas where base flood elevations have been determined, typically located inland where the potential for additional hazards due to wind and wave action is smaller.
- **Benefit Cost Ratio (BCR)** - metric used to compare the total benefit of an alternative with the total associated costs in order to determine the most optimal choice.
- **Constructional Wetlands** - artificial wetlands designed to increase water storage and filtration within an urban or suburban area. They are often designed to mimic the function of natural wetlands in order to obtain more natural flow regimes, prevent flooding, and decrease pollution from runoff.
- **Cooperating Agency** - An agency that has been invited by the Lead Agency to consult on the project. A Cooperating Agency has jurisdiction over a particular law or special expertise with respect to any environmental issue. Per NEPA requirements, cooperating agencies are invited as early in the project as possible.
- **Curbside Treatments** - depressions along the side of a road against the curb built to retain stormwater in order to prevent flooding.
- **Deployable Gate** - or deployable wall - as defined by the US Army Corps of Engineers, structure similar to a floodwall constructed without a permanent base that is activated or rises to position due to buoyancy of its material when a flood is occurring in order to protect the area behind it from flooding.
- **Earthen Levees** - embankments or constructing embankments along a waterway in order to prevent the waterway from overflowing into the adjacent area.
- **Embarkment** - an artificially raised area of land, such as a levee, designed to prevent flooding.
- **Environmental Impact Statement (EIS)** - a detailed report under NEPA that federal agencies are required to prepare to assess the environmental impact of alternatives including the “No Build” alternative.
- **Equivalent Steady-State Sound Level (Leq)** - a sound level that, during a specific period of time, contains the same acoustic energy as the time-varying sound level during that same period.
- **Erosion** - the gradual degradation of soil due natural forces such as wind or water.
- **Estuarine** - related to an estuary, or a coastal environment that connects to one or more freshwater rivers or streams, acting as a transition zone and comprised of both salt water and fresh water.
- **Executive Steering Committee (ESC)** - The ESC includes the NJDEP project team members; the mayors and their staff from Hoboken, Weehawken, and Jersey City; and HUD. The ESC is to collaborate, exchange information, and provide a forum for committee members to provide input to the NJDEP throughout all phases of the Project, from NEPA and feasibility through construction.
• Five-year Rainfall Event - a rainfall event of a specific magnitude that has a 20 percent chance of happening in any given year.

• Fixed Gates - see in-water gate.

• Floodplain - Any land area susceptible to being inundated by floodwaters from any source.

• Floodwalls or seawalls - hard infrastructure barriers created to protect inland communities from rising flood waters.

• Force Main - a water, sewage or stormwater main that pressurizes the water to convey it.

• Geotechnical Investigation - sampling and testing of a site’s substrate material conducted to provide information on soil taxonomy and chemistry as well as other site characteristics, such as depth to groundwater and bedrock.

• Green Infrastructure - landscape design that incorporates features that enhance and restore the natural flow of water throughout an ecosystem.

• Green Roof - vegetated area built on the roof of a building to maximize water retention, and can also incorporate other irrigation systems for diversion and reuse of collected excess water not used by plants.

• Grey Infrastructure - traditional water resource management techniques such as pipes, tanks, water treatment plants, etc.

• Groundwater Recharge - the hydrologic process where water flows from surface water down into the groundwater supply. Groundwater Recharge can happen naturally by means of gravity and topography, or artificially through canals and other irrigation or injection systems.

• Hard Infrastructure - structures built with materials such as concrete or steel that are designed and implemented within a landscape or along a coast line to protect the community from flooding.

• Hollow Masonry Walls - walls of mortar and brick, stone, granite, etc. designed with a hollow cavity to prevent moisture from entering the inside of the building.

• Hydroacoustic - related to the study of sound in water.

• Impervious Surface - groundcover which prevents the infiltration of water into the ground, such as concrete or asphalt.

• In-water Gate - also known as a floodgate, a device that is situated in a waterway and can be opened or closed depending on risk of water level rise due to high tide or a storm in order to prevent flooding within a coastal community.

• Invasive Species - an alien species (plants, animals, and microbes) not native to a particular geographic region that is likely to cause harm to the environment or to human health once introduced.

• Lead Agency - the agency that supervises the preparation of an environmental impact statement.

• Linear Construction Project (LCR) - as defined by NJDEP, a construction or development to create, maintain or alter a roadway, railroad or utility. LCRs include one or more contaminated properties and will generate more than 200 cubic yards of contaminated soil for fill or disposal during the duration of the project.

• Marshland - a typically tidally-influenced, low-lying area that is inundated during wet seasons or high tide and remains saturated throughout the entire year.

• Mean High Water Line - the average of all of the highest water lines recorded over the National Tidal Datum Epoch in a specific location.

• Migration Corridor - the route traveled by mammals, fish, or birds that connects between their seasonal or spawning habitats.

• Minority Populations - as defined by the U.S. Census Bureau, includes persons who identify themselves as African American, American Indian and Alaska Native, Asian alone, Native Hawaiian and Other Pacific Islander, some other race alone or two or more races. People who identify themselves as Hispanic may be of any race.

• Modeled Increases in Flood Depths - used to describe areas on the unprotected side of the Resist feature that experience a measurable level of additional flooding as a result of the presence of the Resist feature as identified in the coastal storm modeling.

• Municipal Separate Storm Sewer Systems (MS4s) - a water conveyance system owned by a city, town, or related public entity that routes stormwater (not combined with sanitary sewerage) from catchments or pipes and discharges it into a local waterbody.

• National Environmental Policy Act (NEPA) - federal law that requires federal agencies to integrate environmental values into their decision making processes by considering the environmental impacts of proposed actions through the preparation of an environmental document.

• New Jersey Department of Environmental Protection (NJDEP) - state agency responsible for preserving, sustaining, protecting, and enhancing the environment to ensure the integration of high environmental quality, public health, and economic vitality.

• Non-point Source Pollution - degradation or contamination of the natural environment of which the root cause is not traceable, such as stormwater runoff, snow melt, or smog.

• O3 Nonattainment - as defined by the EPA, a designation given to an area not meeting the ground-level ozone standards established in 2015.

• Outcrops - rock formations apparent at or above the surface of the ground.

• Outfall Pipes - the end of a pipeline where the contained water is discharged into a stream, river, pond, ocean, or other waterbody.

• Participating Agency - an agency that has been invited by the Lead Agency to participate in the project by providing input on methodologies, take part in coordination meetings, and provide comment on draft documents and reports.

• Particulate Matter - very small liquid and solid particles suspended within the lower atmosphere that irritates the membranes of the respiratory system and therefore may affect sensitive groups including the elderly, individuals with cardiopulmonary disease such as asthma, and children.

• Permeable Ground - groundcover which allows for the infiltration of water, such as loosely compacted soils, vegetated areas, or porous pavement.

• Pile Driving - the mechanical process of forcing piles (or poles) into the ground in order to provide support for the foundation of buildings or other structures to be built.

• Plings - structures such as steel rods or sheets used for structural support at the foundation of a building, bridge, dam, or other structure.

• Planktic - describes organisms that are related to plankton in nature, i.e. passively floating or drifting within a waterbody.
Glossary / Definitions (Cont’d)

• Point Source Pollution - degradation or contamination of the natural environment that is traceable to an original source, such as effluent from a pipe or a hazardous waste spill.

• Purpose and Need - states the project intentions at an early stage in the NEPA process. The purpose and need identifies why proposed action is necessary, provides explanation of project drivers, and constitutes the basis for the development of range of reasonable alternatives.

• Rain Garden - an area of shallow surface depression that is covered in vegetation to allow rainwater and bypassing runoff to be absorbed into the soil and used by plants or infiltrated into the groundwater supply rather than contribute to flooding or pollution into waterways.

• Raised Bulkheads - structure that aligns the coastline designed to protect the community from flooding due to high tides.

• Recharge Zone - the area at which groundwater recharge occurs.

• Revetments - artificial gradient along a coastline designed to keep coastal waters from breaching onto and flooding inland communities.

• Right-of-Way (ROW) - the permissible passage of the public through a piece of land such as a sidewalk, pathway, or street.

• Rip-rap - permanent strip of loosely packed angular stone or concrete placed along banks, slopes, or other erosion-prone coastal or low-lying areas to protect from scour.

• Riparian Buffer - or riparian zone - stretch of vegetated land adjacent to a body of water that provides many beneficial services that contribute to the overall health of the aquatic ecosystem and water quality. For example, a riparian buffer will provide shade, filter pollutants from runoff, and provide habitat.

• Scoping Process - part of the NEPA process, the public Scoping Process determines the scope of issues to be addressed and identification of the significant issues related to a proposed action. The Scoping Process begins with the publication of the Notice of Intent, and results in the publication of a Scoping Document that outlines a project’s purpose and need, proposed actions, as well as a description of areas of impact to be studied in the environmental document.

• Sewershed - the network of sewers, pipes, storm drains, and basins through which water flows in an urban environment until its ultimate destination at an outfall or stream.

• Sheet Piles - deep foundation piles made from sheet metal molded into stacked structures to support the foundation of a building or other structure.

• Soft landscape - refers to landscape design features that incorporate vegetated surfaces into an area in order to increase stormwater storage capacity and prevent the flow of excess runoff and flooding.

• Soil Boring - a type of geotechnical investigation that uses a drill, bore, auger, or other tool to generate a core sample of the subsurface material.

• Sole Source Aquifers (SSA) - regulated aquifers that have been designated by EPA as a sole source of drinking water.

• Special Flood Hazard Area (SFHA) - An area having special flood, mudflow or flood-related erosion hazards and shown on a Flood Hazard Boundary Map (FHBM) or a Flood Insurance Rate Map (FIRM) Zone A, AO, A1-A30, AE, A99, AH, AR, ARIA, AR/AE, AR/AH, AR/AR, AR/A1-A30, V1-V30, VE or V. For the purpose of determining Community Rating System (CRS) premium discounts, all AR and A99 zones are treated as non-SFHAs.

• Storm Surge - Abnormal rise of water during a storm that, combined with normal tides, is pushed by strong winds toward the coast. This water often breaches up onto normally dry land, which can result in severe flooding within a coastal community.

• Stormwater Infiltration Planters - depressed structures, usually along sidewalks or the edges of roads, with open bottoms built to allow stormwater to infiltrate through a layer of vegetation or gravel and soil to groundwater.

• Stormwater Runoff - the excess water during a heavy rainfall event or snowmelt that is left to flow throughout streets and sidewalks when storm drains have been filled to capacity and there is no available permeable surface area for infiltration. Guided by gravity and topography, it often contracts and transports pollutants in streets such as motor oils, nutrients from fertilizers, and human and animal waste and discharges them directly into nearby streams or rivers.

• Street Levees - a functioning roadway built atop a constructed flood protection barrier.

• Subwatershed - a smaller, localized section of hydrologic connectivity within an entire watershed.

• Systemic Inland Flooding - flooding that occurs from heavy rainfall accumulated in an area of low elevation and inadequate storage capacity.

• Technical Coordination Team (TCT) - a group of federal, state, and local officials with subject matter expertise in resilience, planning, environmental review and permitting in the Study Area. The TCT was formed by the Sandy Regional Infrastructure Resilience Coordination FRP Team to provide regulatory guidance throughout the course of the project.

• Terraced Berms - gradual staircase-like breaks along the edge of a sloped landscape used to slow rise of water during a flood.

• Tidelands - all lands that currently and formerly flowed by the mean high tide of a natural waterway.

• Topography - natural surface features of a region, including its relief.

• Total Maximum Daily Load (TMDL) - as defined by EPA and described in Section 303(d) of the Clean Water Act, TMDL is a pollution budget and includes a calculation of the maximum amount of a pollutant that can occur in a waterbody and allocates the necessary reductions to one or more pollutant sources.

• Upland - refers to an area inland from a body of water or adjacent to a wetland, generally characterized by having an increased elevation as compared to the adjacent lowland or wetland.

• Vegetated Swale - shallow channel constructed within the earth that is planted with a variety of vegetation in order to slow and infiltrate stormwater runoff to reduce flooding and pollution.

• View Corridors - or viewsheds - areas within the Study Area from which sight of the Hudson River and New York City are visible.

• Watershed - a hydrologic network of rivers, streams, and lakes the covers a particular geographic area defined by the flow of water due to topography and gravity.

• Wetland - areas of land that are saturated with surface water or groundwater with a frequency sufficient to support vegetative or aquatic life that requires saturated or seasonally saturated soil conditions.