Appendix 3.2-6

Preliminary Stormwater Pollution Prevention Plan (SWPPP)

PRELIMINARY STORMWATER POLLUTION PREVENTION PLAN (SWPPP) FOR STORMWATER CONSTRUCTION PERMIT

SANDS NEW YORK INTEGRATED RESORT

Town of Hempstead
Nassau County, New York

H2M Project No.
LVSC 2301

August 2024

Prepared for:

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Sands New York Integrated Resort
Town of Hempstead
Nassau County, New York

1. EROSION AND SEDIMENT CONTROL

This Preliminary Stormwater Pollution Prevention Plan (SWPPP) has been prepared in accordance with the specifications put forth in the New York State Department of Environmental Conservation SPDES General Permit for Stormwater Discharges from Construction Activity (GP-0-20-001). Erosion and sediment control practices are designed in conformance with the New York State Standards and Specifications for Erosion and Sediment Control.

A. PROJECT DESCRIPTION AND SCOPE

The Sands New York Integrated Resort is a proposed redevelopment project located on the site of the Nassau Veterans Memorial Coliseum property which is located within the hamlet of Uniondale in the Town of Hempstead, Nassau County, NY (see location map in Appendix A). The project site is bounded to the south by Hempstead Turnpike (NY 24), to the west by Earle Ovington Boulevard, to the north by Charles Lindbergh Boulevard, and to the east by Thomas Doolittle Boulevard, exclusive of the Memorial Sloan Kettering Cancer Center site. The project site is 86.3 acres in area. The proposed area of disturbance encompasses approximately 75.1 acres of the project site.

The project proposes construction of a new resort integrated 1,670 hotel rooms, casino gaming, retail store and restaurants, meeting halls and ballrooms, a 4,500 seat entertainment venue, structured parking garages and central utility plants totaling approximately 7.3 million square feet of gross floor area along with appurtenant walks and drives, surface parking lots, public plazas and landscaped areas, new drainage collection and stormwater management systems, sewage collection and water supply infrastructure improvements, and other associated infrastructure improvements.

The primary potential source of pollution from construction activity associated with this project is sediment resulting from soil disturbance and stormwater runoff. Fuel from equipment used during construction activities and/or stored on-site is another potential source of pollution from this project.

Endangered or Threatened Species: The project site is in the vicinity of Rare Animals and/or Rare Plants according to the NYSDEC Environmental Resource Mapper. There are Significant Natural Communities located at or adjacent to the site according to the NYSDEC Environmental Resource Mapper. However, the project site is fully developed in the existing condition and does not provide suitable habitat for such rare animals or plant. Construction activity and/or discharges from construction activity are not anticipated to adversely affect endangered or threatened species. Map information developed using the NYSDEC Environmental Resources Mapper is included in Appendix A.

Wetlands and Surface Waters: According to the NYSDEC Environmental Resources mapper and the US Fish and Wildlife Service National Wetlands Inventory mapper, there are wetlands or surface waters on or within 1,000 feet of the project site. The East Meadow Brook is located roughly 800 ft east of the project site at its closest point. The East Meadow Brook is located along the West side of the Meadowbrook Parkway and is separated from the project site by Thomas Doolittle Boulevard and the Francis T. Purcell Preserve. A freshwater pond is located roughly 925 feet south of the project site, namely Nassau County recharge basin no. 537, which is a constructed stormwater recharge basin designed to accept stormwater runoff from the watershed which includes the subject project site. Nassau County recharge basin no. 537 is located along the west side of Glenn Curtiss Boulevard and is separated from the project site by Hempstead Turnpike and a school site. In no case will the project involve soil disturbance within 100 feet of a State regulated wetland. Maps developed using the NYSDEC Environmental Resources Mapper and US Fish and Wildlife Service National Wetlands Inventory mapper are included in Appendix A.

Historic Places: According NYS Historic Preservation Office Cultural Resource Information System (CRIS), there are no historic sites located within 100 feet of the proposed construction site. Map information developed using the NYS Historic Preservation Office CRIS mapper is included in Appendix A.

Further, considering the area of disturbance will be over 20 acres for this project, no new permanent building is proposed at the construction site within 100 feet of an existing building or structure that is more than 50 years old.

Floodplain/Floodway: According to FEMA FIRM Panel No. 36059C0227G, dated 9/11/2009, the project site is not located within a mapped floodplain or floodway. A FIRMette obtained from the FEMA Flood Map Service Center is included in Appendix A.

B. SOILS

According to the Soil Survey of Nassau County, New York (USDA-NRCS, Web Soil Survey), the soils found at the project site are comprised of He (Hempstead silt loam), and Ug (Urban land). Soils at this site belong to Hydrologic Soil Group B. A soils report for this site is included in Appendix B of this report.

C. CONSTRUCTION SCHEDULE

The Sands New York Integrated Resort will be built in multiple stages over the course of several years. The first stage will consist of a renovation of the existing Coliseum building, and the construction of a new parking garage, parking lots and interior roadways, walks, drainage, water and sewage infrastructure, and utility service connections. Subsequent stages will consist of the erection of the remainder of the integrated resort building, as well as the remainder of the parking lots and interior roadways, walks, drainage, water and sewage infrastructure, and utility connections.

The following general construction schedule provides the anticipated sequence of the proposed construction activities for each stage that may result in soil disturbance. Stabilization of disturbed areas shall be performed as the project progresses in order to minimize the potential for contamination of stormwater runoff.

Sequence of Construction

1) Installation of silt fencing, inlet protection, and stabilized construction entrance located as shown on the Erosion & Sediment Control Plan;
2) Clearing and grubbing of the project site areas indicated for development and removal of existing site features as necessary for the installation of the proposed improvements;
3) Rough grading of the site;
4) Installation of the new drainage drywells, frames & grates, field inlets, and the associated drainage piping. Immediately install inlet protection on all new catch basins and field inlets with grates.

5) Installation of the new sewage collection and water supply systems and new service connections. Installation of remaining site utilities and facilities;
6) Construction of new parking garage;
7) Final grading of disturbed areas to finished grade.
8) Installation of new aggregate base course in areas of new pavement. Installation of new concrete curb, concrete sidewalk, concrete driveway and concrete pads;
9) Installation of new concrete and asphalt pavements.
10) Installation of new plant material.
11) Seeding of disturbed areas and other final landscaping measures.
12) Following final stabilization of disturbed areas, removal of remaining temporary erosion and sediment controls.
13) Silt removal and cleaning of inlets protected during construction.

D. TEMPORARY AND PERMANENT EROSION AND SEDIMENT CONTROL PRACTICES

Temporary and permanent erosion and sediment control measures shall be installed and maintained by the general contractor (or subcontractor) in accordance with the engineering plans and details, and the New York State Standards and Specifications for Erosion and Sediment Control (NYS Soil and Water Conservation Committee, 2016).

E. MAINTENANCE AND INSPECTION

Installation and maintenance of all temporary and permanent erosion and sediment control measures will be the responsibility of the general contractor. The general contractor shall ensure that a copy of the approved SWPPP is present on-site and that all sub-contractors are aware of the terms of the approved SWPPP and have signed the proper Certification Form.

The contractor shall have a trained contractor (as defined by GP-0-20-001) inspect the erosion and sediment control practices and pollution prevention measures within the active work area daily to ensure that they are being maintained in effective operating conditions at all times. If deficiencies are identified, the contractor shall begin implementing corrective actions within one business day and shall complete the corrective actions in a reasonable time frame. The trained contractor may stop conducting the maintenance inspections in accordance with the provisions of Part IV.B of GP-0-20-001.

A qualified inspector shall conduct regular site inspections of all erosion and sediment control practices and pollution prevention measures, post construction stormwater management

practices, areas of disturbance, points of discharge to surface waters within or immediately adjacent to the construction site, and points of discharge from the construction site. Specifically, the qualified inspector shall inspect all sediment barriers, inlet protection, silt fencing and construction entrances; catch basins and field inlets for accumulation of sediments; any un-stabilized, disturbed areas, mulch, and permanent vegetative controls; and staging areas and storage areas for construction materials, waste materials, and construction chemicals. The inspector shall notify the general contractor of any necessary repairs to damaged or ineffective measures, and any necessary corrective action, including, but not limited to the removal of sediment, stabilization of disturbed areas, or placement of additional measures to ensure proper functioning of the erosion and sediment control practices. The general contractor shall be responsible for immediate implementation of the corrective actions. The inspections shall be conducted at least once every seven days. For construction sites that disturb greater than five (5) acres of soil at any one time, the inspections shall be conducted at least twice every seven days with the two inspections separated by a minimum of two days. The qualified inspector may reduce the frequency of or stop conducting the inspections in accordance with the provisions of Part IV.C.3 of GP-0-20-001. The qualified inspector shall prepare an inspection report for each inspection. An example SWPPP inspection form is provided in Appendix C. All inspection reports shall be maintained on site with the SWPPP.

F. SOLID WASTE MANAGEMENT

Construction debris and waste expected to be generated during the project include concrete compounds, wood, cardboard, metals, masonry, PVC, packing material, and domestic waste (*i.e.* beverage containers, coffee cups, plastic bags and wrappers, etc.). Temporary waste containers (*i.e.* roll-off containers) of sufficient size and number shall be placed within the equipment/material storage areas, to be determined by the general contractor, and accessible on the project site in order to facilitate disposal of construction debris. Waste containers shall have lids or shall be covered during periods of rain to prevent accumulation of water within the containers and to prevent loss of debris from wind. Waste containers shall have watertight bottoms. Waste containers shall not be cleaned or hosed out on the project site. Solid waste containers shall be removed bi-weekly or more frequently as needed. No on-site disposal of any construction materials shall be permitted.

Work areas shall be maintained in an orderly and clean manner to prevent windblown litter from exiting the site. Littering on the project site shall be prohibited. Trash receptacles shall be placed in locations where workers congregate for lunches and breaks. Litter shall be bagged before placement in large waste containers.

Potential toxic and hazardous materials, if any, shall not be disposed of in solid waste containers and shall be segregated in separate containers for transport to an approved off-site receiving area.

G. CHEMICAL STORAGE AND SPILL PREVENTION/RESPONSE

The general contractor is responsible for proper storage of potentially hazardous chemicals on-site and enforcement of proper spill prevention and control measures. Proper storage, clean-up, and spill reporting instructions will be present in the project trailer and will be posted in a conspicuous and accessible location.

Potentially hazardous chemicals and materials that may be used on site include solvents, adhesives, lubricants, gasoline, diesel fuel, asphalt and concrete compounds. All chemicals shall be stored in their original containers, and according to manufacturer's specifications. Materials shall be stored in covered storage with an impervious lined bottom to prevent leaching of chemicals into the ground. The storage shall be secured to prevent unauthorized entry during non-working hours. An ample supply of appropriate absorbent spill clean-up material will be kept in or near the storage area. The storage area is to be kept clean and well-organized.

In the event of a chemical spill, the contractor should contain the spill in accordance with the manufacture's recommended methods and must report the spill to the NYS Spill Hotline (1-800-457-7362) within 2 hours of discovery.

H. STORMWATER DISCHARGES FROM INDUSTRIAL ACTIVITY

There are no stormwater discharges associated with industrial activity at the construction site (i.e. asphalt plants and/or concrete plants) proposed as part of this project.

2. POST-CONSTRUCTION STORMWATER MANAGEMENT

The post-construction stormwater management practices for this project have been designed in conformance with applicable sizing criteria of the New York State Department of Environmental Conservation SPDES General Permit for Stormwater Discharges from Construction Activity (GP-0-20-001) and the performance criteria of the technical standards of the NYS Stormwater Management Design Manual.

EXISTING CONDITIONS

The subject property is an 86.3-acre parcel located in a 269-acre overall watershed. The site, as well as the remainder of the watershed, is tributary to an existing Nassau County stormwater infiltration basin (#537) located just south of Hempstead Turnpike (NYS Route 24), on the west side of Glenn Curtiss Boulevard.

There is an extensive existing storm drainage collection system traversing the subject property that exits the site via twin 66-inch diameter pipes on the north side of Hempstead Turnpike, opposite Glenn Curtiss Boulevard. From there, the twin 66-inch diameter drain lines connect to twin 72-inch culverts, which connect to a 6' x10' box culvert system located in Glenn Curtiss Boulevard. The 6' x 10' box culvert system conveys stormwater from the watershed to Nassau County Basin No. 537. Other properties that comprise the 269-acre watershed include a large portion of the Hofstra University campus (west side of Earle Ovington Boulevard), the Mitchell Ballpark and Omni office building properties, and a portion of the Nassau Community College property (north side of Charles Lindbergh Boulevard). In addition, there are several properties located on the south side of Hempstead Turnpike that are serviced by Nassau County Basin No. 537. Based on information obtained from NCDPW, Basin No. 537 was designed to store the runoff from a 5-inch rain event (2,085,000 cubic feet of storage). In addition, the County basin is equipped with an emergency overflow to the Meadow Brook.

The United States Geological Survey Long Island Depth to Water Viewer indicates that the groundwater table ranges from 27' to 34' below the existing grade across the site, with the greatest depth to groundwater in the immediate vicinity of the existing Coliseum building.

PROPOSED MITIGATION

The project proposes construction of a variety of new stormwater management practices with the redevelopment of the subject property to mitigate impacts to existing drainage systems, neighboring properties, and nearby waterways. Stormwater management practices associated with the project are subject to review and approval by Nassau County Department of Public Works (NCDPW) under New York State Municipal Law [GML§239-f] and the Town of Hempstead as part of a 305 Site Plan review.

Stormwater management practices have been designed to meet the specifications put forth in the New York State Department of Environmental Conservation SPDES General Permit for Stormwater Discharges from Construction Activity (GP-0-20-001) in the following ways:

A reduction in impervious surfaces:

The proposed development will result in a decrease of impervious surface on the Subject Property from 77.9 acres to 68.1 acres. As such, the amount of stormwater generated on-site will decrease.

Soil restoration practices in accordance with Table 5.3 of the NYS Stormwater Management Design Manual will be applied across areas of soil disturbance to be vegetated under post-development conditions in order to recover the original properties and porosity of the soil. All soils at this site belong to Hydrologic Soil Group B.

Continued connection to (and use of) Nassau County Recharge Basin No. 537:

The proposed development will continue to utilize the existing positive drainage network on the subject property. Several existing drainage lines will be reroute/reconstruct to accommodate the proposed integrated resort; however the stormwater collection system will continue to outfall to the existing Glenn Curtiss Boulevard conveyance system, and ultimately to N C Basin No. 537. The decrease in impervious area at the subject property will cause a corresponding reduction to the stormwater load imposed on the County basin.

Exclusion of direct discharges to surface waters:

The stormwater management system will ensure that stormwater runoff is properly captured and conveyed, precluding stormwater from running overland and potentially impacting adjacent properties or nearby surface waters.

Reduce stormwater runoff by increasing local infiltration:

The development proposes an increase in the amount of landscaped area at the site, which will promote local infiltration. In addition, new drywells are proposed for installation, which will also increase the amount of local infiltration. The project also a significant amount of rooftop open spaces in the form of roof top gardens.

Conclusion:

In accordance with chapter 9.2.1(A) of the NYSDEC Stormwater Design Manual, redevelopment activities resulting in no change to the hydrology that increases the discharge rate from the project site are not required to provide channel protection, overbank flood and/ or extreme flood controls. Given the reduction in impervious surfaces, the continued connection to the existing

recharge basin, and the increase in local infiltration, there will be no increase in either discharge volume or peak discharge rates from this project from the 1-, 10- or 100-year storm events.

A. SOIL TESTING RESULTS AND LOCATIONS

Test boring locations and the reported boring log information from soil testing performed for this site are provided in the Preliminary Geotechnical Engineering Report prepared by Langan Engineering, Environmental, Surveying, Landscape Architecture and Geology, D.P.C. in Appendix D.

B. OPERATIONS AND MAINTENANCE PLAN

The Owner shall maintain, clean, repair, replace and continue the stormwater control measures depicted in the project site plan as necessary to ensure optimum performance of the measures to design specifications. The stormwater control measures shall include, but shall not be limited to, the following: drainage ditches, swales, infiltrators, drain inlets, leaching pools, catch basins, pipes, culverts, headwalls, recharge basins and all other stormwater control measures depicted in the project site plan.

Maintenance of all permanent stormwater management controls and drainage structures will be performed by the Owner upon the completion of construction activities. Regular monitoring of the drainage inlets will be conducted every two years and after particularly large storm events, Drainage grates will be kept free from obstructions of leaves, trash and other debris. Maintenance of leaching pools and catch basins should be performed as necessary to remove sediment and debris whenever their capacity has been reduced by 50 percent. All seeded areas should be maintained, reseeded and mulched as necessary to maintain a dense vegetative cover. Swales and ponding areas should be routinely inspected for erosion and deposition of sediments or other obstructions. Upon construction project completion, the Owner will also be responsible for the upkeep of landscaping and maintenance of the roof draining leaders and gutters.

The Owner shall be responsible for all expenses related to the maintenance of the stormwater control measures.

The Owner shall provide for the periodic inspection of the stormwater control measures, not less than once every five-year period, to determine the condition and integrity of the measures. Such inspection shall be performed by a Professional Engineer licensed by the State of New York or duly authorized representatives, or other qualified personnel. The engineer shall prepare and

submit to the Owner within 30 days of the inspection, a written report of the findings including recommendations for those actions necessary for the continuation of the stormwater control measures. The Owner shall also provide access to the facility to the MS4 for periodic inspection of the stormwater control measures, to ensure that the facility is maintained in proper working condition to meet design standards and any other provisions established by local law.

The Owner shall not authorize, undertake or permit alteration, abandonment, modification or discontinuation of the stormwater control measures except in accordance with written approval of the agencies having jurisdiction.

The Owner shall undertake all necessary repairs and replacement of the stormwater control measures in accordance with the recommendations of the engineer.

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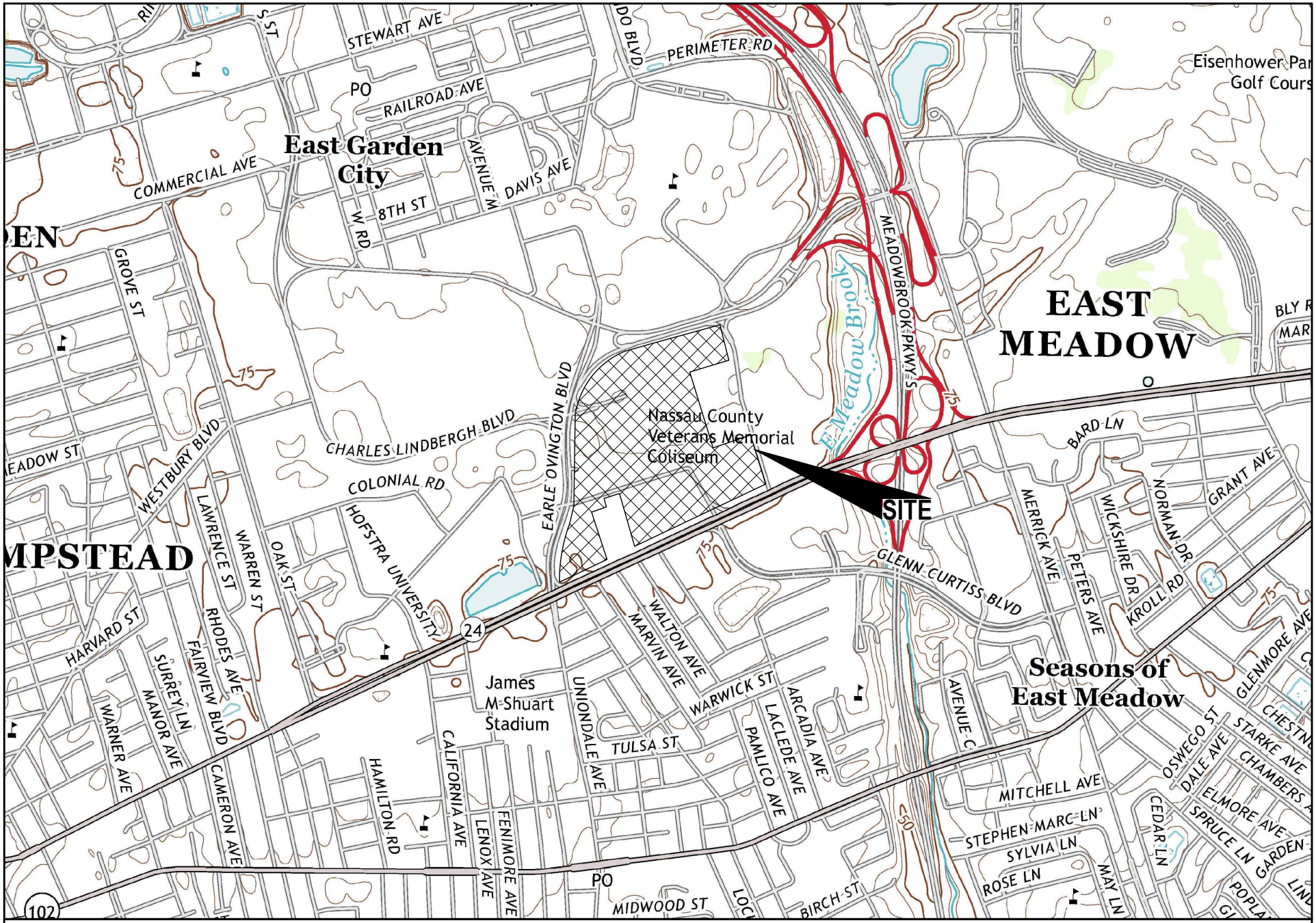
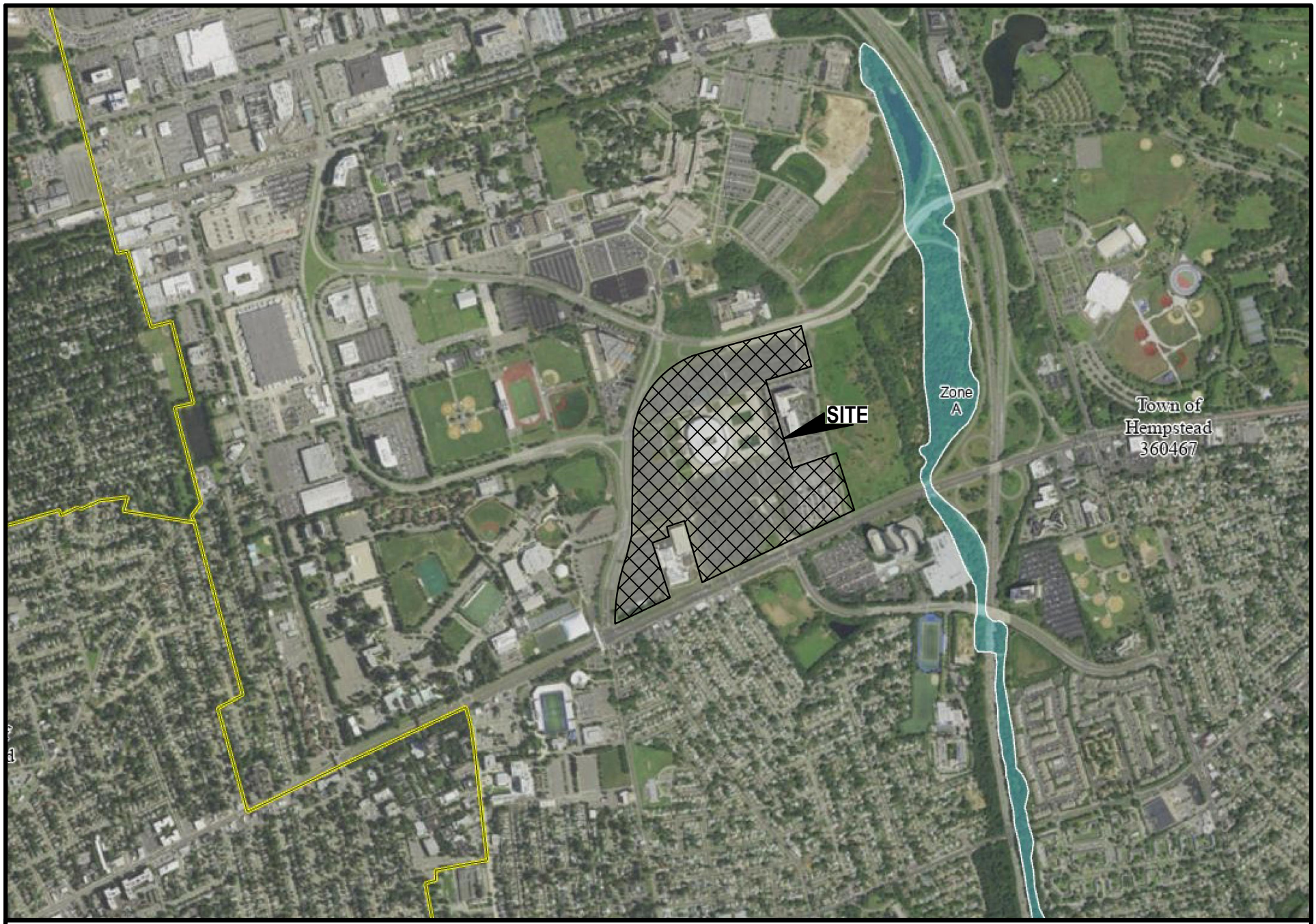
Appendix A

Location Map
FEMA FIRMette
NYS DEC Environmental Resource Map
US Fish and Wildlife Service Wetlands Map
NYS Parks CRIS Mapper



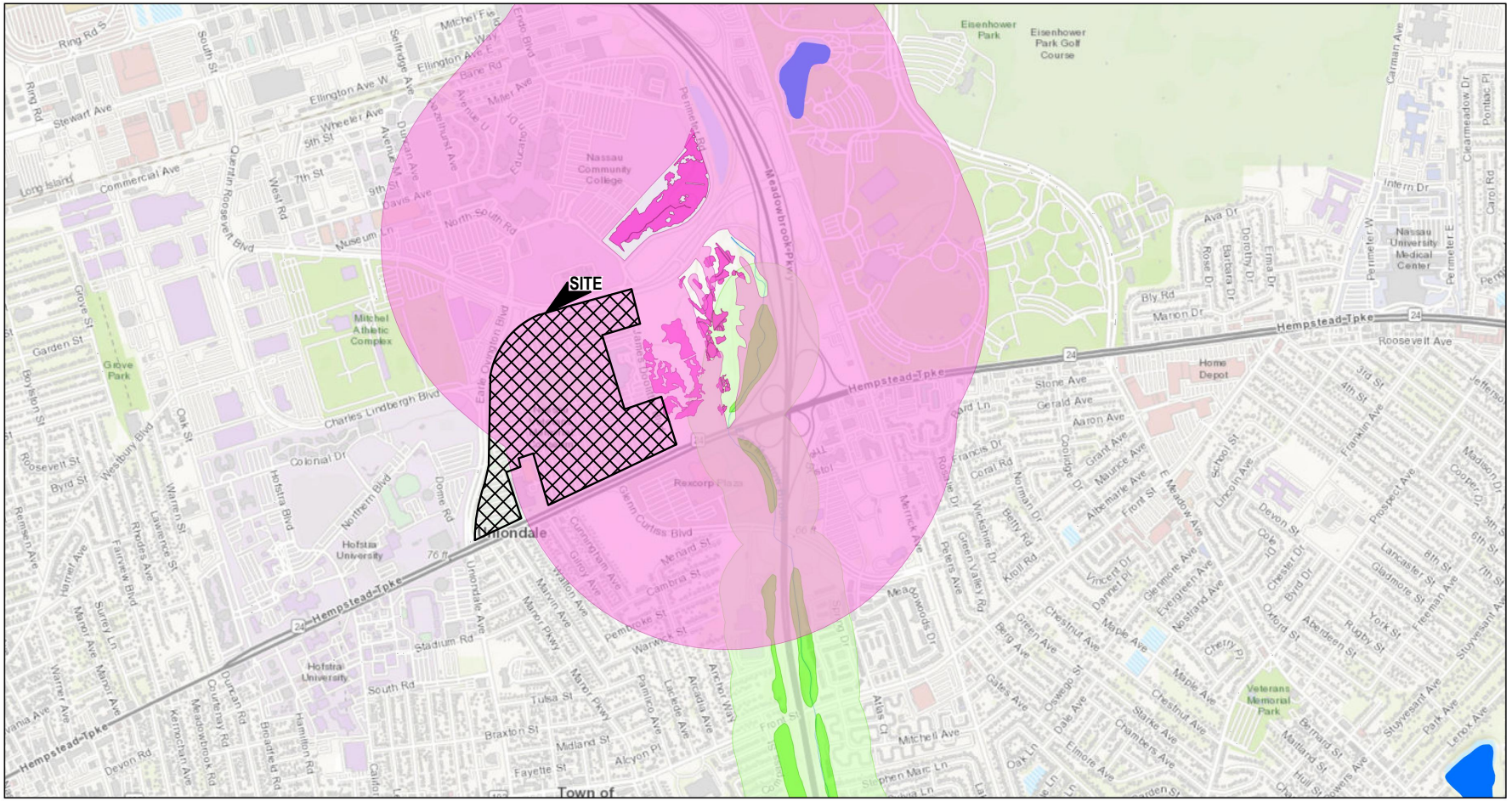
LOCATION MAP

N



FEMA FLOOD MAP

LVSC 2301 Pink



October 2, 2023

1:18,056

0 0.17 0.35 0.7 mi

0 0.28 0.55 1.1 km

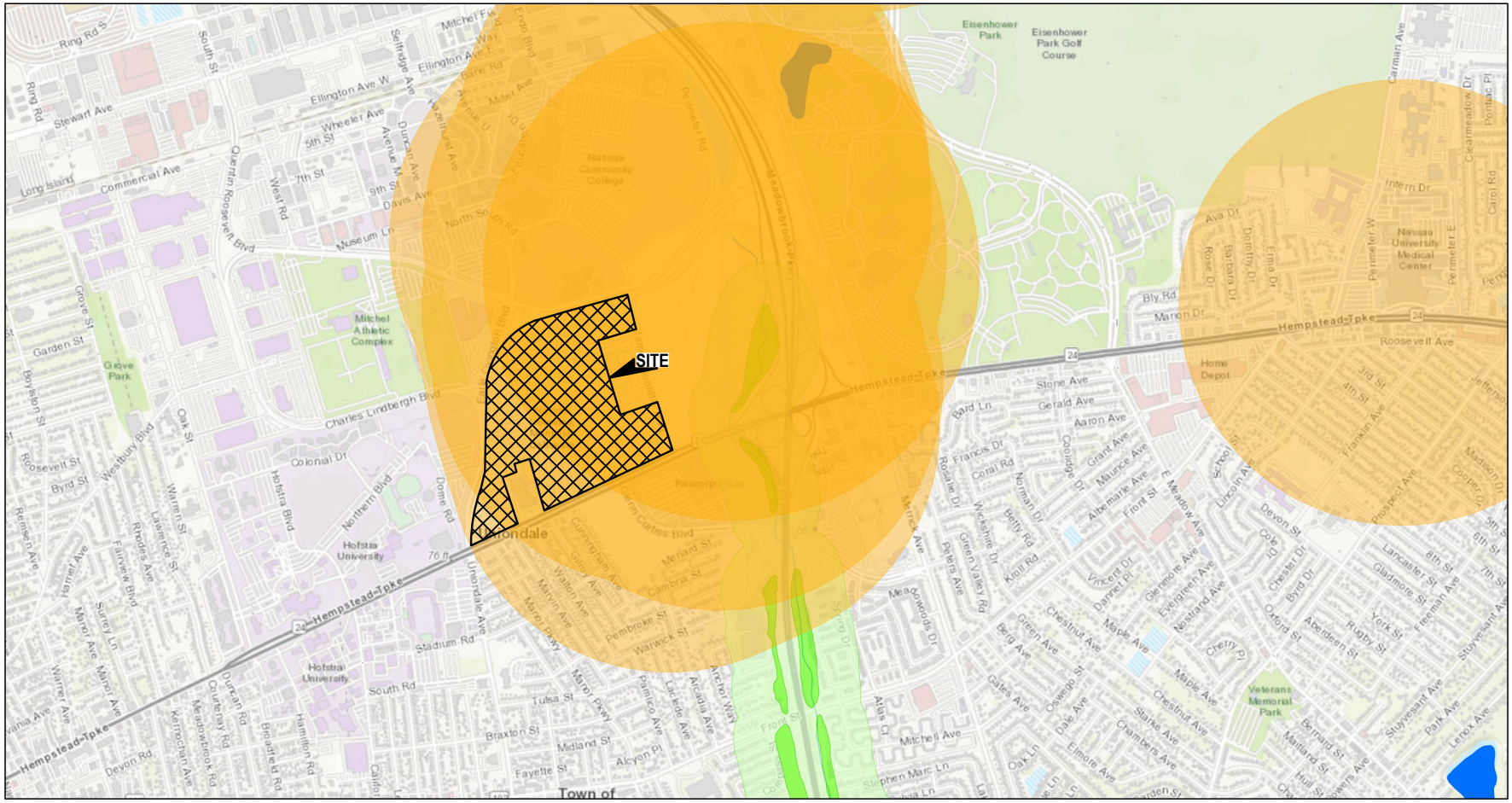
Nassau County, Esri, HERE, Garmin, INCREMENT P, USGS, METI/ NASA, EPA, USDA

NYS Department of Environmental Conservation
Not a legal document

DEC MAP - SIGNIFICANT NATURAL COMMUNITIES

N

LVSC 2301 Orange



October 2, 2023

1:18,056

0 0.17 0.35 0.7 mi

0 0.28 0.55 1.1 km

Nassau County, Esri, HERE, Garmin, INCREMENT P, USGS, METI/ NASA, EPA, USDA

NYS Department of Environmental Conservation
Not a legal document

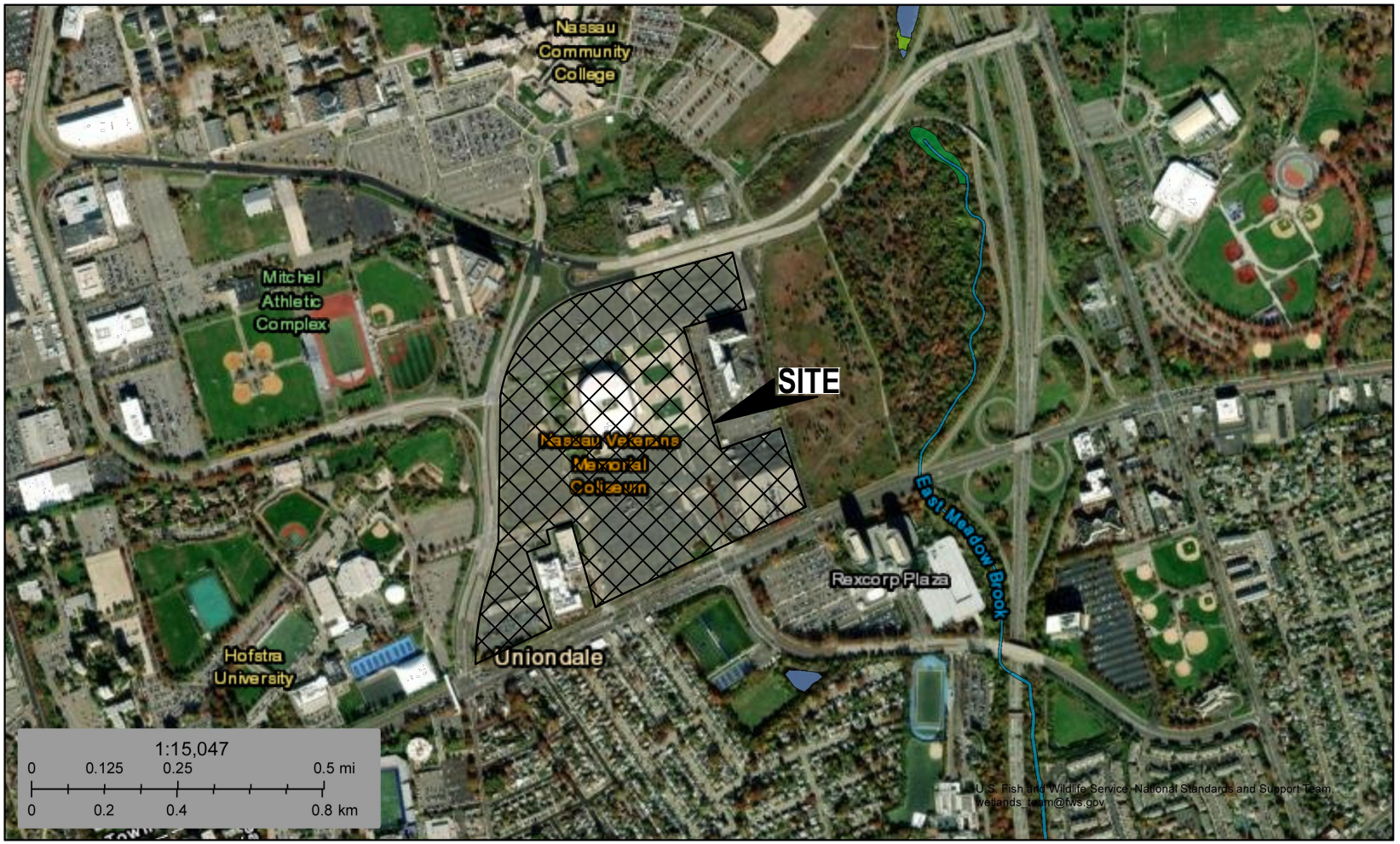
DEC MAP - RARE PLANTS AND ANIMALS

N

U.S. Fish and Wildlife Service

National Wetlands Inventory

LVSC 2301



October 2, 2023

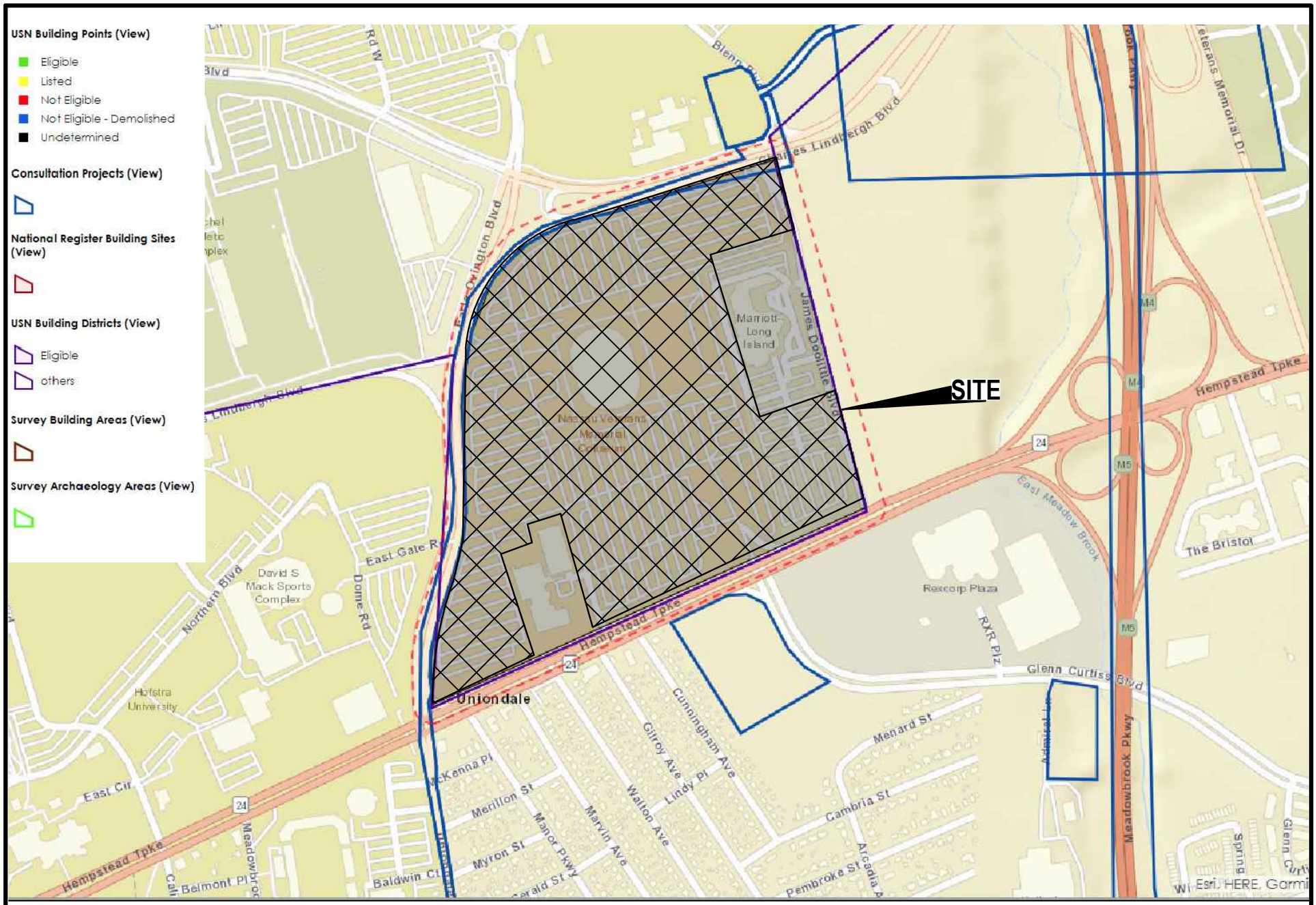
Wetlands

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

WETLAND MAP

N


USN Building Points (View)
Eligible
Listed
Not Eligible
Not Eligible - Demolished
Undetermined
Consultation Projects (View)
National Register Building Sites (View)
USN Building Districts (View)
Eligible
others
Survey Building Areas (View)
Survey Archaeology Areas (View)
SITE
Hempstead Tpke
Uniondale
Hofstra University
David S Mack Sports Complex
Northern Blvd
East Gate R
Dome Rd
Charles Lindbergh Blvd
Marriott Long Island
James Doolittle Blvd
Veterans Memorial Dr
East Meadow Brook
Rexcorp Plaza
RXR Plz
Glenn Curtiss Blvd
Meadowbrook Pkwy
The Bristol
Menard St
Cambria St
Cunningham Ave
Gilroy Ave
Lindy Pl
Walton Ave
Marvin Ave
Manor Pkwy
Myron St
Merillon St
McKenna Pl
Baldwin Ct
Belmont Pl
East Cir
Pembroke St
Arcadia
Esri, HERE, Garmi

CRIS MAP

N

Appendix B

Soils Report

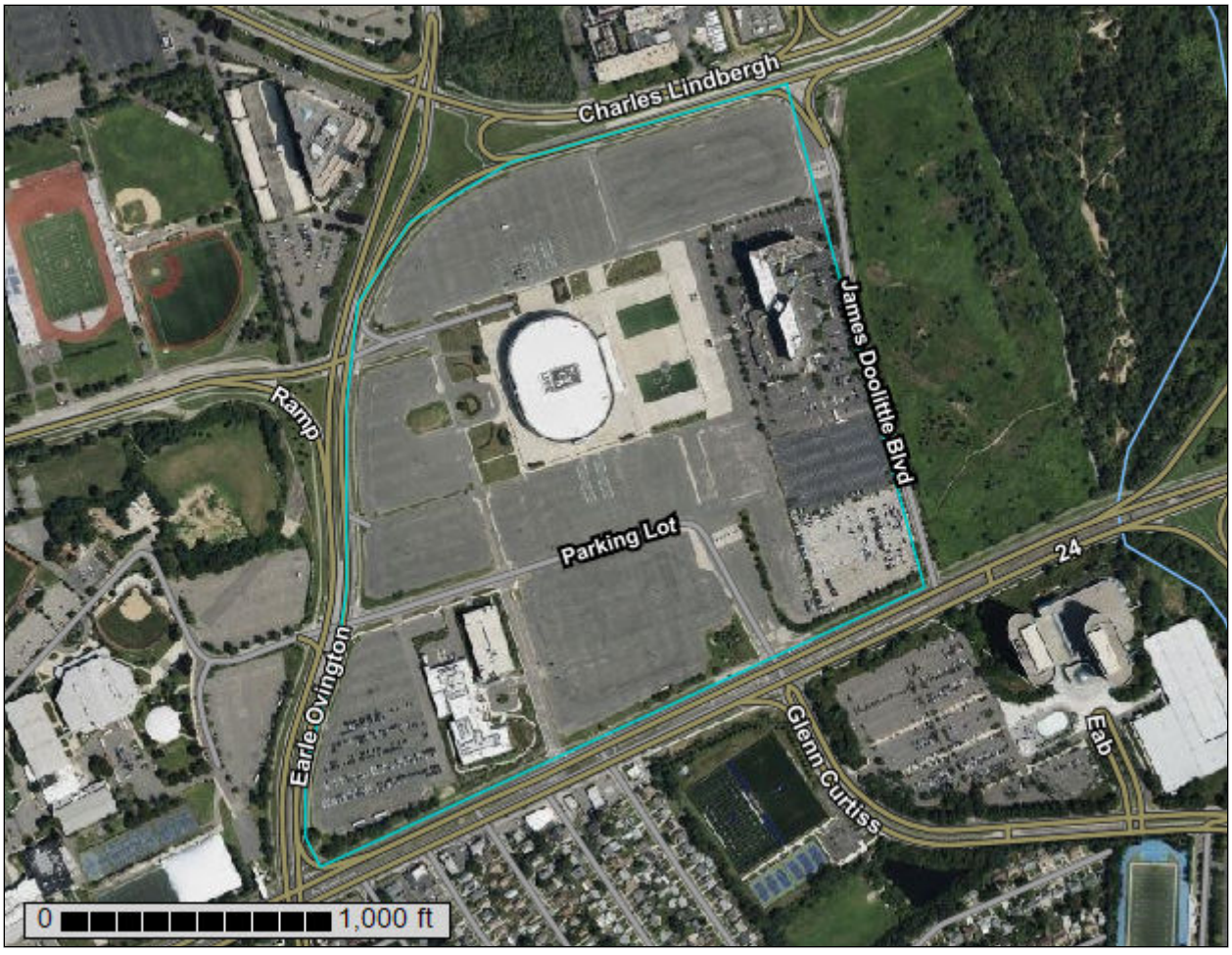
United States Department of Agriculture

NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Nassau County, New York



December 11, 2023

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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Contents

How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report
Soil Map

Map Scale: 1:5,400 if printed on A portrait (8.5" x 11") sheet.

N

Meters
0 50 100 200 300

Feet
0 250 500 1000 1500

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 18N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Nassau County, New York
Survey Area Data: Version 21, Sep 5, 2023

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Mar 13, 2021—Sep 14, 2021

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
He	Hempstead silt loam	15.7	16.4%
Ug	Urban land	80.1	83.6%
Totals for Area of Interest		**95.9**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however,

onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Nassau County, New York

He—Hempstead silt loam

Map Unit Setting

National map unit symbol: 9tsr
Elevation: 50 to 210 feet
Mean annual precipitation: 42 to 46 inches
Mean annual air temperature: 50 to 54 degrees F
Frost-free period: 190 to 230 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Hempstead and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Hempstead

Setting

Landform: Outwash plains
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Tread
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: A silty mantle over highly siliceous stratified sandy and gravelly glaciofluvial deposits

Typical profile

H1 - 0 to 11 inches: silt loam
H2 - 11 to 29 inches: silt loam
H3 - 29 to 33 inches: very gravelly loamy sand
H4 - 33 to 60 inches: stratified very gravelly sand

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Moderate (about 7.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 1
Hydrologic Soil Group: B
Ecological site: F149BY006NY - Well Drained Outwash
Hydric soil rating: No

Minor Components

Enfield

Percent of map unit: 10 percent

Hydric soil rating: No

Udipsamments
Percent of map unit: 5 percent
Hydric soil rating: No

Mineola
Percent of map unit: 5 percent
Hydric soil rating: No

Ug—Urban land

Map Unit Setting

National map unit symbol: 9ttq
Mean annual precipitation: 42 to 46 inches
Mean annual air temperature: 50 to 54 degrees F
Frost-free period: 190 to 230 days
Farmland classification: Not prime farmland

Map Unit Composition

Urban land: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Minor Components

Enfield
Percent of map unit: 2 percent
Hydric soil rating: No

Riverhead
Percent of map unit: 2 percent
Hydric soil rating: No

Hempstead
Percent of map unit: 2 percent
Hydric soil rating: No

Udipsamments
Percent of map unit: 2 percent
Hydric soil rating: No

Udorthents
Percent of map unit: 2 percent
Hydric soil rating: No

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Appendix C

Example SWPPP Inspection Report

CONSTRUCTION STORMWATER INSPECTION REPORT

SECTION A: Site Information

Permit No.:	**Date of Inspection:**	**Time of Inspection:**	**Date of Last Inspection:**
Project Name:		**Stage of Construction**	**Weather Conditions**
Site Location:		**Site Description:**	
Contact at Site:		**Title:**	
Phone No.:		**e-mail:**	

SECTION B: Applicant's Information

Name:	**e-mail:**
Phone No.	**Fax No.:**
Address:	

SECTION C: General Contractor's Information

Name:	**e-mail:**
Phone No.	**Fax No.:**
Address:	

SECTION D: Engineer's Information

Name:	**e-mail:**
Phone No.	**Fax No.:**
Address:	

SECTION E: Document Verification

Criteria	**NA**	**YES**	**NO**	**Comments**
NOI posted at construction site				
SPDES General Permit retained at construction site				
SWPPP retained at construction site				
• Updated as site conditions change				
• Contains monthly/quarterly written summaries of compliance status				

SECTION F: Area of Disturbance

Criteria	NA	YES	NO	Comments
Less than 5 acres of disturbed soil				
• If no, was there prior written approval?				
Disturbance within limits of approved plans				

SECTION G: Water Quality

Polluted discharges	NA	No	Yes	Comments:
Discharges show visible signs of:	__ Sediment __ Floatables __ Oil/Grease __Turbidity __Other_____			
Receiving waters impacted:	__ Lake __ Bay __ Stream __Wetland __Other_____			

SECTION H: General Site Conditions

Criteria	Condition*				Comments
	NA	S	M	U	
Litter/debris management					
Sediment and erosion control facilities					
Impact on adjacent property					
Dust control					

*** NA**=Not Applicable; **S**=Satisfactory; **M**=Marginal; **U**=Unsatisfactory

SECTION I: Temporary Stream Crossings

Criteria	Condition*				Comments
	NA	S	M	U	
Pipe size spanning creeks					
Non-woven geotextile fabric installed beneath approaches					
Aggregate fill					
Rock on approaches removes sediment from vehicles and prevents Sediment from entering streams					

*** NA**=Not Applicable; **S**=Satisfactory; **M**=Marginal; **U**=Unsatisfactory

SECTION J: Runoff Control Practices

Criteria	Condition*				Comments
	NA	S	M	U	
Excavation dewatering					
• Upstream berms (one-foot min. freeboard)					
• Downstream berms					
• Clean water from upstream pool pumped to downstream pool					
• Sediment-laden water discharged to silt trapping device					
Level spreader installation (constructed on undisturbed soil)					
• Flow sheets do not erode downstream edge					
Interceptor dikes and swales installation					
• Side slopes 2:1 or flatter					
• Stabilized by geotextile fabric, seed or mulch					
• Sediment-laden runoff is directed to sediment trapping device					
Stone check dams installation					
• Stable channel					
• Lack of a permanent pool behind dam					
• Regular removal of accumulated sediment					
Rock outlet protection installation					
• Installed concurrently with pipe installation					

*** NA**=Not Applicable; **S**=Satisfactory; **M**=Marginal; **U**=Unsatisfactory

SECTION K: Soil Stabilization

Criteria	Condition*				Comments
	NA	S	M	U	
Topsoil and stockpiles					
• With vegetation					
• With mulch					
• Sediment control installed at toe of slope					
Revegetation					
• Temporary seeding and mulch applied to idle areas					
• Minimum of 4 inches topsoil applied under permanent seedings					

*** NA**=Not Applicable; **S**=Satisfactory; **M**=Marginal; **U**=Unsatisfactory

SECTION L: Sediment Control Practices

Criteria	Condition*				Comments
	NA	S	M	U	
Stabilized construction entrance installation					
• Drainage prevents ponding					
• Stone removes mud from vehicles					
• All traffic uses the entrance					
Silt fence installation					
• On contour and 10' from toe of slope					
• Not across conveyance channels					
• End stakes wrapped together at joints					
• Fabric is buried min 6"					
• Posts are stable, fabric is tight and not damaged					
• Sediment accumulation (note % of design capacity in comments)					
Storm drain inlet protection					
• Drainage area is less than 1 acre					
• Sediment accumulation (note % of design capacity in comments)					
• Excavated drop inlet protection					
- 900 cu. ft. per acre of disturbed land					
- 2:1 side slopes					
• Stone and block drop inlet protection					
- Concrete blocks installed lengthwise					
- Wire screen placed between #3 crushed stone & concrete blocks					
• Filter fabric drop inlet protection					
- 2"x4" frame					
- Posts (stable; spaced max. 3' apart)					
- Fabric *undamaged; embedded 1' to 1.5' below ground; stapled to frame/posts at max. spacing of 8"					
• Curb drop inlet protection					
- 2"x4" frame					
- Continuous wire mesh across throat (30" min. width, 4' longer than throat) shaped and nailed to 2"x4" weir					
- Weir nailed to 2"x4" spacers (9" long, 6' max. apart)					
- Placed across inlet and secured by 2"x4"					

*** NA**=Not Applicable; **S**=Satisfactory; **M**=Marginal; **U**=Unsatisfactory

SECTION L: Sediment Control Practices (Con't)

Criteria	Condition*				Comments
	NA	S	M	U	
Temporary sediment trap installation					
• Geotextile fabric placed beneath rock fill					
• Sediment accumulation (note % of design capacity in comments)					
Temporary sediment basin installation					
• Side slopes stabilized with seed or mulch					
• Structure flushed and surface restored upon removal of facility					
• Sediment accumulation (note % of design capacity in comments)					
Inspections occur at least every 7 calendar days					
Inspections occur at within 24 hours of any storm event of 0.5" or greater					
Effectiveness of erosion and sediment control practices is evaluated at time of inspection and documented					
Inspection reports maintained in log book at site and are available for review					
Sediment is removed from traps/ponds when design capacity is reduced by 50%					
Site inspections are being performed by a qualified inspector					
Reports are properly signed/certified					

*** NA**=Not Applicable; **S**=Satisfactory; **M**=Marginal; **U**=Unsatisfactory

SECTION N: Additional Comments/Notes

SECTION O: Overall Inspection Rating

☐ **Satisfactory** ☐ **Marginal** ☐ **Unsatisfactory**

Form Completed By:

Name (Print):	Signature:	Date: