

Appendix L

Sole Source Aquifer Consultation



Governor's Office of
Storm Recovery

ANDREW M. CUOMO
Governor

LISA BOVA-HIATT
Executive Director

July 3, 2017

Ms. Grace Musumeci
Chief of the Environmental Review Section
U.S. Environmental Protection Agency
Region 2 Main Regional Office
290 Broadway
New York, NY 10007-1866

Re: Sole Source Aquifer Analysis – CDBG-DR Funding Application
Hempstead Lake State Project, Town of Hempstead, Nassau County, NY

Dear Ms. Musumeci:

The New York State Governor's Office of Storm Recovery ("GOSR") received a funding application for the proposed Hempstead Lake State Park Project ("Proposed Action") located in the Town of Hempstead, Nassau County, New York. The proposed project area encompasses Hempstead Lake State Park (the "Park"). The Park is located on the northern end of the Mill River Watershed and includes the largest body of fresh water in Nassau County, Hempstead Lake, as well as several smaller ponds including: Northeast (NE) Pond; Northwest (NW) Pond; McDonald Pond; South Pond; and Schodack Pond. In addition to its aquatic assets, the park also provides one of the largest continuous tracks of forested land present in southern Nassau County.

The Proposed Action consists of four (4) components intended to improve stormwater management, enhance natural ecosystems, provide connectivity among diverse populations, enhance safety, and promote educational programs at the Park. The Proposed Action components are as follows:

- The **Dams, Gatehouses and Bridges** component would restore the operation of the dams and associated water flow control infrastructure within the Park to improve stormwater management, including dam improvements to meet current regulatory standards, gatehouse repairs, and installation of pedestrian bridges over park water ways.
- The **Northeast and Northwest Ponds** component would involve the installation of floatables catchers and sediment basins at pond inlets, as well as the creation of stormwater filtering wetlands and dredging of the ponds to remove debris, improve water quality and increase impoundment capacity.
- The **Environmental Education and Resiliency Center** component would comprise construction of a new, two-story, approximately 8,000 square-foot building west of Lakeside Drive. The focus of the Education and Resiliency Center would be on environmental stewardship and climate change adaptation resiliency.

- The **Greenways, Gateways and Waterfront Access** component would comprise expansion and improvement to the existing path system within the park, including connection points to the surrounding neighborhoods, as well as installation of observation areas, piers, and kayak launches along Hempstead Lake.

Pursuant to the Disaster Relief Appropriations Act, 2013 (Public Law 113-2) and the Housing and Community Development Act (42 U.S.C. § 5301 et seq.), GOSR is acting under the auspices of New York State Homes and Community Renewal's Housing Trust Fund Corporation as a recipient of Community Development Block Grant – Disaster Recovery (“CDBG-DR”) funds from the United States Department of Housing and Urban Development (“HUD”) and is the entity responsible for compliance with the HUD NEPA environmental review procedures set forth in 24 C.F.R. Part 58. 24 C.F.R. Part 58 requires GOSR to review projects for conformance with the Safe Drinking Water Act of 1974 (42 U.S.C. 201, 300(f) et seq., and 21 U.S.C. 349) as amended, and Environmental Protection Agency (“EPA”) regulations pertaining to Sole Source Aquifers found at 40 C.F.R. Part 149.

In accordance with the Memorandum of Understanding (“MOU”) between EPA and HUD dated August 24, 1990, GOSR hereby requests an Initial Screen/Preliminary Review of the Proposed Action. Please review the attached documentation, including Attachment 2.A and 3 to the MOU. Responses can be sent via email to Matt.Accardi@stormrecovery.ny.gov. In accordance with the MOU, a nonresponse within fifteen days shall constitute a favorable review of the project/activity. If you have any questions, please feel free to contact Matt Accardi, Assistant General Counsel, at (212) 480-6265. Thank you for your consideration and cooperation.

Sincerely,



Matt Accardi
Certifying Officer, Bureau of Environmental Review and Assessment

Encl.

Attachment 2.A

Attachment 3

Figure 1 – Regional Location

Figure 2 – Project Area

Figure 2a – Site Plan, North

Figure 2b – Site Plan, South

Figure 2c – Northern Ponds Project Components

Figure 7 – Sole Source Aquifers

Hempstead Lake State Park Half Mile Buffer and SWAP Analysis Map

ATTACHMENT 2.A

NON-HOUSING/PROJECT ACTIVITY INITIAL SCREEN CRITERIA

The following list of criteria questions are to be used as an initial screen to determine which **non-housing** projects/activities should be forwarded to the Environmental Protection Agency (EPA) for Preliminary Sole Source Aquifer (SSA) Review. (For housing projects/activities see Attachment 2.B). If any of the questions are answered affirmatively, Attachment 3, SSA Preliminary Review Requirements, should also be completed. The application/final statement, this Attachment, Attachment 3, and any other pertinent information should then be forwarded to EPA at the address below.

Any project/activity not meeting the criteria in this Attachment, but suspected of having a potential adverse effect on the Sole Source Aquifer should also be forwarded.

CRITERIA QUESTIONS	YES	NO	N/A
<p>1. Is the project/activity located within a currently designated or proposed groundwater sensitive area such as a special Ground Water Protection Area, Critical Supply Area, Wellhead Protection Area, etc.? [This information can be obtained from the County or Regional Planning board, the local health department, the State health department or the State environmental agency.]</p>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<p>2. Is the project/activity located within a one half mile radius (2640 feet) of a current or proposed public water supply well or wellfield? [This information can be obtained from the local health department, the State health department or the State environmental agency.]</p>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

3. Will the project/activity include or directly cause (check appropriate items):

	YES	NO	N/A
construction or expansion of solid waste disposal, recycling or conversion facilities	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
construction or expansion or closure of landfills	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
construction or expansion of water supply facilities	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
construction or expansion of on-site wastewater treatment plants or sewage trunk lines	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
construction or expansion of gas or petroleum trunk lines greater than 1320 feet	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
construction or expansion of railroad spurs or similar extensions	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
construction or expansion of municipal sewage treatment plants	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

4. Will the project/activity include storage or handling of any hazardous constituents as listed in Attachment 4, Hazardous Constituents

5. Will the project/activity include bulk storage of petroleum in underground or above ground tanks in excess of 1100 gallons?
(Please give what assurance they are done in a proper manner.)

6. Will the project/activity require a federal or state discharge elimination permit or modification of an existing permit?

This attachment was completed by:

Name: Matt Accardi

Title: Assistant General Counsel

Address: Bureau of Environmental Review and Assessment
Governor's Office of Storm Recovery
25 Beaver Street, 5th Floor
New York, NY 10004

Telephone number: 212.480.6265

Date: July 3, 2017

ATTACHMENT 3

SSA PRELIMINARY REVIEW INFORMATION REQUIREMENTS

Where currently available, the information in this Attachment should be provided to the Environmental Protection Agency (see address below) along with the application/final statement; Attachment 2.A, Non-Housing Initial Screen Criteria or Attachment 2.B, Housing Initial Screen Criteria; and any other information which may be pertinent to a Sole Source Aquifer review. Where applicable, indicate the source of your information.

I. Project/Activity Location	Enclosed?	
	Yes	No
1. Provide the geographic location and total acreage of the project/activity site. Include a site map which identifies the site in relation to the surrounding area. [Examples of maps which can be used include: 1:24,000 or 1:25,000 U.S. Geological Survey quadrangle sheet, Hagstroms Street Map.]	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2. If applicable, identify which groundwater sensitive areas (Special Ground Water Protection Area, Critical Supply Area, Wellhead Protection Area, etc.) the project/activity is located within or adjacent to. [This information may be obtained from the County or Regional planning board, the local health department, the State health department or the State environmental agency.]	<input checked="" type="checkbox"/>	<input type="checkbox"/>

II. Nature of Project/Activity	Enclosed?	
	Yes	No
3. Provide a general narrative describing the project/activity including but not limited to: type of facility; type of activities to be conducted; number and type of units; number of residents, etc. Provide the general layout of the project/activity site and site-plan if available.	<input checked="" type="checkbox"/>	<input type="checkbox"/>

III. Public Water Supply	Enclosed?	
	Yes	No
4. Provide a description of plans to provide water supply.	<input type="checkbox"/>	<input checked="" type="checkbox"/>

5. Provide the location of nearby existing or proposed public water supply wells or wellfields within one half mile radius (2640 feet) of the project/activity. Provide the name of the supplier(s) of those wells or wellfields. This information should be available from the local health department, State health department or the State environmental agency.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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IV. Wastewater and Sewage Disposal	Enclosed?	
	Yes	No
6. Provide a description of plans to handle wastewater and sewage disposal. If the project/activity is to be served by existing public sanitary sewers provide the name of the sewer district.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
7. Provide a description of plans to handle storm water runoff.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
8. Identify the location, design, size of any on-site recharge basins, dry wells, leaching fields, retention ponds, etc.	<input checked="" type="checkbox"/>	<input type="checkbox"/>

V. Use, Storage, Transport of Hazardous or Toxic Materials <i>(Applies only to non-housing projects/activities)</i>	Enclosed?	
	Yes	No
9. Identify any products listed in Attachment 4, Hazardous Constituents, of the Housing and Urban Development-Environmental Protection Agency Memorandum of Understanding which may be used, stored, transported, or released as a result of the project not related to construction	<input type="checkbox"/>	<input checked="" type="checkbox"/>
10. Identify the number and capacity of underground storage tanks at the project/activity site. Identify the products and volume to be stored, and the location on the site.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
11. Identify the number and capacity of above ground storage tanks at the project/activity site. Identify the products and volume to be stored, and the location on the site	<input checked="" type="checkbox"/>	<input type="checkbox"/>

This attachment was completed by:

Name: Matt Accardi

Title: Assistant General Counsel

Address: Bureau of Environmental Review and Assessment
Governor's Office of Storm Recovery
25 Beaver Street, 5th Floor
New York, NY 10004

Telephone number: 212.480.6265

Date: July 3, 2017

I. Project/Activity Location

1. Provide the geographic location and total acreage of the project/activity site. Include a site location map which identifies the site in relation to the surrounding area. [Examples of maps which can be used include: 1:24,000 or 1:25,000 U.S. Geological Survey quadrangle sheet, Hagstroms Street Map.]

The Proposed Action is located at Hempstead Lake State Park in the Town of Hempstead, New York. Hempstead Lake State Park (the “Park”) is a 521-acre multi-use facility in the Town of Hempstead (see Figure 1 and Figure 2). The Park is located on the northern end of the Mill River watershed and includes the largest body of fresh water in Nassau County, Hempstead Lake, as well as several smaller ponds including: Northeast (NE) Pond; Northwest (NW) Pond; McDonald Pond; South Pond; and Schodack Pond. The Proposed Action spans the entire park and focuses on several key components within the park: dams, ponds and wetlands, trails and waterfront access, and education.

2. If applicable, identify which groundwater sensitive areas (Special Ground Water Protection Area, Critical Supply Area, Wellhead Protection Area etc.) the project/activity is located within or adjacent to. [This information may be obtained from the County or Regional planning board, the local health department, the State health department or the State environmental agency.]

The project area is located within the Mill River Watershed Area.

II. Nature of Project Activity

3. Provide a general narrative describing the project/activity including but not limited to: type of facility; type of activities to be conducted; number and type of units; number of residents etc. Provide the general layout of the project/activity site and a site-plan if available.

The Proposed Action consists of four (4) components intended to improve stormwater management, enhance natural ecosystems, provide connectivity among diverse populations, enhance safety, and promote education programs at the Park. The Proposed Action components are as follows, a detailed description of each is provided below: “Dams, Gatehouse and Bridges;” “Northwest and Northeast Ponds;” “Environmental Education and Resiliency Center;” and “Greenways, Gateways and Waterfront Access.”

Dams, Gatehouse and Bridges

There are three dams within the Park. The Proposed Project would remove vegetation, including approximately 1,200 trees, from the dam faces, and restore the operation of the dams and associated water flow control infrastructure within the Park to improve stormwater management. The design and restoration of the dams at the Park would be completed in close coordination with the New York State Department of Environmental Conservation (NYSDEC) as permitted through the New York State Dam Safety Regulations.

Northwest (NW) Pond Dam

The NW Pond Dam is located north of the Southern State Parkway and east of Eagle Avenue at the southern end of the NW Pond (see Figure 2a). The dam consists of a 230-foot-long earthen berm with an 11-inch thick concrete top slab that also acts as an emergency overflow. The concrete slab meets the existing grade at either end. The earthen berm was constructed around a core of timber sheet pilings filled with a mixture of sand and gravel. The original low-level maintenance outlet is no longer functional. The dam failed sometime before January 2012. Currently, the breach in the embankment is more than 35 feet wide and expanding.

The Proposed Project would replace the existing earthen embankment with a dam anticipated to be 5 feet tall and 230 feet long, consisting of a steel sheet pile upstream face with an earthen embankment behind it. An outlet weir would be provided with the lowest step set at elevation 21.0 feet, which is slightly below the normal water level in the NW Pond. The top of the dam would be set at elevation 25.0 feet, which is below the existing dam crest elevation of 27.0 feet to avoid creating any backwater effects on the upstream drainage collection systems.

The proposed dam would provide a normal impoundment of approximately 17 acre-feet of water over 7 acres of surface area, and a maximum impoundment of approximately 70 acre-feet of water over 25 acres of surface area.

The open channel from the NW Pond Dam to Hempstead Lake passes under the Southern State Parkway in a 10-foot-high and 20-foot-wide culvert. Water then flows through twin 5-foot-diameter pipes before emptying into Hempstead Lake. The Proposed Project would improve the channel by removing the twin pipes and replacing them with an open-bottom bridge. The bridge would improve flow and minimize the risk of the culverts failing during large storm events.

Hempstead Lake Dam, Outlet Gatehouse, and Pipe Arch

The Hempstead Lake Dam is located at the southern end of Hempstead Lake; a portion of Lakeside Drive located west of Peninsula Boulevard runs across the crest of the dam (see Figure 2b). The dam is a 1,500-foot-long and 17-foot-high earthen embankment with a clay core, and it was constructed in 1873 with five sluice gates and an adjacent outlet gatehouse containing outlet controls for the dam's sluice gates. The outlet gatehouse operates four (4) overflow weirs and the five (5) sluice gates that direct water flows through twin 36-inch diameter pipes inside an attached pipe arch running from the dam south along the west side of McDonald Pond to South Pond. Currently, the outlet controls within the gatehouse are not operable, and the five sluice gates are fixed shut, although two of the sluice gates have been permanently cut open and result in a typical 4- to 5-foot seasonal fluctuation in lake water levels.

The upstream face of Hempstead Lake Dam is protected by an approximately 18-inch thick layer of cut stones fit tightly together and held in place by gravity. In some areas, particularly near the gatehouse where the slope of the dam steepens from approximately 33 percent to 45 percent, the stones are grouted. The stones form an apron at the upstream toe of the dam and extend out into the lake. Much of the stone work is covered by sediment, leaf litter, and vegetation, primarily in the form of vines and trees. The downstream face of the dam is an earthen embankment heavily vegetated with trees, shrubs, and vines.

The Proposed Action would restore the Hempstead Lake Dam's sluice gates, outlet gatehouse, and pipe arch to renew the functionality of the dam's sluice gates. The dam restoration would include replacing all five sluice gates on the dam, installing an inspection cat walk and water-level

monitoring equipment, internal and exterior repairs to the outlet gatehouse (including floor restoration, window replacement, and masonry repointing), and repairing the floor and walls of the pipe arch. The work would require the removal of trees and vegetation from the face of the dam, including tree root balls, which would be refilled with clean fill. Trees on the upstream side of the dam that cannot be removed without damaging the stone facing would be cut to a 4-inch stump and sealed with preservatives. Approximately 1,500 cubic yards of sediment from the stone-lined upstream side of the dam. Approximately 350 cubic yards of fill is anticipated to fill root ball areas on the downstream side of the dam. As the dam comprises historic structures, all design and construction work would strive to maintain historic accuracy and would be completed in accordance with state and federal requirements. Aesthetic design would be balanced with security concerns and functionality. Interpretive signage would also be installed that informs patrons on the history and function of the Hempstead Lake Dam.

Upon completion, the dam would provide a normal (seasonal) impoundment of approximately 198 to 658 acre-feet of water over 64 to 115 acres of surface area, and a maximum impoundment of approximately 2,510 acre-feet of water over 178 acres of surface area.

The proposed work at Hempstead Lake Dam is intended to be completed in concert with work at the NW Pond Dam (above) and the South Pond Dam and Outlet Weir (below), but is equally as important as a stand-alone project for overall protection of the watershed. Controlling the flow of water through the Hempstead Lake Dam is integral to flood protection as well as maintaining the water level of the Hempstead Lake to promote ecological improvements and provide recreational opportunities. The Proposed Project would also include the development of an operating plan for the dam to provide Park management operating procedures to actively manage water flow before, during and after storm events to prevent flooding in the communities surrounding the Park, both upstream and downstream of the Hempstead Lake Dam.

South Pond Inlet Gatehouse, Dam, and Outlet Weir

South Pond is located at the southern end of Hempstead Lake State Park. Water flows into the pond via the pipe arch from Hempstead Lake to the north, as well as from Schodack Brook to the west.

The South Pond Dam is an earthen embankment located at the southern end of South Pond. The dam is approximately 750 feet long and 10 feet high, and is north of Lakeview Avenue. The upstream and downstream faces of the dam are covered with trees and shrubs, and portions of the dam crest have settled (sunken) over time.

The South Pond Outlet Weir is located along the dam, approximately 200 feet west of Peninsula Boulevard (see Figure 2b). The stone Outlet Weir is 25 feet long and set at an elevation of approximately 12.0 feet; the surrounding earthen embankment is set at an elevation of approximately 17.0 feet. Water drops over the spillway before entering a culvert under Lakeview Avenue.

There are two gatehouses at South Pond: an inlet gatehouse and an outlet gatehouse.

The pipe arch from the Hempstead Lake Dam outlet gatehouse connects to the South Pond inlet gatehouse, which is located at the northeast edge of South Pond (see Figure 2b). The brick South Pond inlet gatehouse is similar in style to the building at Hempstead Lake but is smaller since it only extends slightly beyond the width of the pipe arch itself. The south end of the building is the pipe arch opening to South Pond. The door and windows have been closed over and there is nothing

remaining of the original wooden floor that would have extended from wall to wall and rested upon the brick shelf built into each side wall. Slots built into the brickwork indicate that wooden flashboards may have been used to adjust the flow coming out of the pipe arch into South Pond. The existing metal roof is poor condition.

The remains of the original South Pond outlet gatehouse are located at the west end of the South Pond dam (see Figure 2b). This outlet gatehouse ties into the pipe arch system that runs along the western side of South Pond. It was once connected to the main pipe arch between Hempstead Lake and South Pond at a point approximately 35 feet north of the South Pond inlet gatehouse. The back of the dilapidated South Pond outlet gatehouse ties into the brick pipe arch system that continues southward and is part of the original Ridgewood Reservoir water system. The outlet gatehouse has no roof and partial walls on three sides. A concrete barrier was built in front of the outlet at some more recent time preventing it from acting as an overflow for South Pond under most conditions.

The inlet gatehouse at the north end of South Pond would be restored in a manner similar to the Hempstead Lake gatehouse with a new door, roof, wooden floor, and windows to replicate the original style. The brickwork at the south end of the building would also be repaired to ensure the structural integrity of the building. The small interior room created by providing flooring may be used for storage and/or educational purposes.

At the south end of the Pond, the project would include the removal of trees and vegetation that have grown through the dam. Additional fill with native grass plantings would be applied to the dam crest to create a uniform crest and width, and the stonework on historic outlet weir would be rehabilitated to address damage caused by vandalism. The existing 7-foot height and 750-foot length of the dam would be maintained. Upon completion, the South Pond Dam and Outlet Weir would maintain existing normal and maximum impoundment, which comprise approximately 109 acre-feet over 21 acres of surface area, and approximately 229 acre-feet over 27 acres of surface area, respectively.

The existing wall of the deteriorated outlet gatehouse would be removed to a structurally safe height and some of the bricks may be salvaged to repair the South Pond inlet gatehouse. The historic pipe arch that ties into the south wall of the building would be bulk-headed prior to placement of fill. The remains of the South Pond outlet gatehouse would be photographed prior to demolition.

Bridges

Three proposed pedestrian bridges would be installed at the following locations: over the Mill Creek near where it enters the NE Pond; over the open stream channel between the Southern State Parkway and Hempstead Lake which would replace two 5-foot-diameter culverts; and over Schodack Brook near where it enters South Pond. (See Figure 2a and Figure 2b). The bridges would be designed to fit into the Park aesthetic. The bridges would have a width of 11.5 feet, or 1.25 times the bank full width, and be designed to handle a load of 15,000 pounds to accommodate emergency and maintenance vehicles. The elevation of the bridges would be coordinated with the adjacent multi-use paths and would maintain stormwater flows for most rainfall events.

Northeast and Northwest Ponds

The Northeast Pond (NE Pond) and Northwest Pond (NW Pond) are located at the northern most end of the Park and are bordered to the north by Hempstead High School and Hempstead Golf and

Country Club, to the west by the Lakeview residential neighborhood, and to the south and east by the Southern State Parkway and Peninsula Boulevard (see Figure 2a).

Runoff from an approximate 5.7-mile square area currently drains into the ponds through Mill Creek (see Figure 2a). Several outfalls along the Southern State Parkway discharge into the NE Pond, and one outfall discharges runoff from the parkway into the NW Pond. The Ponds are also fed by groundwater flows. There is significant erosion along the banks of the Mill Creek channel, which contributes to the sedimentation of the ponds. The erosion has also created unstable banks, apparent by the exposed soil and large trees that are falling across the channel.

The components of the Proposed Project within the NW Pond and NE Pond would involve the installation of floatables catchers and sediment basins at pond inlets and the creation of filtering wetlands and pond excavation/dredging to mitigate ongoing bank erosion, improve water quality, expand aquatic habitat, and increase impoundment capacity.

Northeast (NE) Pond

The surface water level of NE Pond is approximately 25.9 feet above sea level. The pond has a depth of 6 feet. The muck layer in NE Pond ranges from 1 to 1.5 feet, and the pond has steep side slopes around its perimeter that descend to a flat bottom muck layer. There are 3.69 acres of existing emergent wetlands and 2.83 acres of Shrub Maple wetland at NE Pond. In NE Pond the predominant visible issues are the amount of floatables, sediment and debris along the shoreline and the creek channel and within the wetland and area north of the pond.

The Proposed Project would involve installation of a floatables catcher at the Mill Creek entrance to the NE Pond at a concrete channel designed to handle the depth of flow for a 100-year storm event. The floatables capture system would have a stationary double-netting system designed for a flow of 875 cubic feet per second (CFS). It would filter and capture the floatables carried in the flow from a 1-year storm event, and it would be sized to capture bottles but allow smaller-sized materials, such as leaves and organic matter, to pass through. A new paved road of 0.41 acres is proposed and will be used as an access to and from the floatable catcher. The work in the NE Pond would also include bank stabilization and erosion control through installation of open grid pavers in the channel of Mill Creek north of the concrete channel and within the Park. From the floatables catcher, water would flow to a new sediment basin. The sediment basin would contain up to 10 percent of the 1.5-inch water quality volume in accordance with NYSDEC design parameters.

In total, 69,000 cubic yards of material would be dredged or excavated from NE Pond (see Figure 2c). Approximately 16,000 CY of sediments would be dredged from the center of NE Pond. The preliminary samples of the sediments in the NE Pond had a range of elevated concentrations for multiple contaminants. In particular, metals were found to be beyond Class C contamination thresholds in one of the three samples taken in the NE Pond. Class C sediments, as described in NYSDEC's Technical & Operation Guidance Series (TOGS) Section 5.1.9, are expected to be acutely toxic to aquatic biota and would likely be subject to more stringent dredging, management and disposal requirements. Furthermore, it is the responsibility of the permit applicant to ensure the Class C sediment is not a regulated hazardous material as defined in 6 NYCRR Part 371. Additional sediment sampling would be conducted after the Sediment Sampling Plan submitted to NYSDEC for review has been approved and the design is finalized.

Based on these preliminary sediment sampling analyses, most of the 16,000 CY would be reused on-site within the NE Pond. A new bermed filtering wetland would be constructed along the

northwestern edge and existing drainage channel of NE Pond. A second bermed filtering wetland would be constructed on the southeastern edge of the pond to filter flow from five outfalls coming from the Southern State Parkway; this second berm would also serve as a trail. The only materials removed from the site would be materials unsuitable for reuse within the pond, such as the waste materials screened from the dredge. Unsuitable materials would be hauled and disposed off-site in accordance with disposal requirements.

The remaining 53,000 CY of soil material would be excavated from the periphery of the pond and used to construct the sediment basin and channel. The dredged materials and upland excavation would be used to raise the pond bottom elevation to create wetlands areas, which would then be planted with emergent wetland vegetation, as well as develop a low-flow channel to slowly filter the runoff directed to the wetlands. The wetlands would have constructed berm edges to hold the runoff and an overflow spillway to allow the filtered runoff to outfall into the NE Pond.

The existing bypass channels to NE Pond would be restored by excavating the sediment build up that is currently blocking the flow, reshaping the channel, and revegetating with emergent vegetation to filter the volume of flow directed to NW Pond. The wetland channels would have a piped overflow spillway to direct filtered runoff through the first channel to a second filtering wetland that discharges into NW Pond (see below). Slopes in excess of 1 in 3 would be stabilized with coir mats or fiber logs.

At NE Pond, the project would remove a total of 3.41 acres of wetland area comprising emergent wetland and shrub red maple wetland. The project would remove 2.24 acres of shrub red maple wetland located in the eastern section of the pond, and the area would be used to create a sediment basin to settle out the high sediment load from the watershed. The project would remove 1.17 acres of degraded emergent wetland, which is heavily sediment laden and populated with invasive vegetation, located in the northern Mill Creek stream channels. A total of 7.65 acres of new emergent wetlands would be created, for an overall net gain of 5.13 acres of emergent wetland. Wetland habitat in NE Pond would change from a current acreage of 6.52 to 10.76 acres. See Figure 2c.

Northwest (NW) Pond

The water level in NW Pond is low due to the breach of the NW Pond dam and drought conditions, but, as stated above, also due in large part to sedimentation. The surface water level of NW Pond is approximately 23.0 feet above sea level. Water depth ranges from 0 to 1.5 feet. NW Pond increases in depth from the north to the south. The surface gradually slopes from wetland to pond open water areas, to the south, and the deepest pond section is adjacent to the dam. The muck layer in NW Pond is approximately 6 inches thick. There are 14.74 acres of emergent wetlands at NW Pond. In NW Pond, the predominant visible issues are the low water level and the breached dam.

Water predominantly enters NW Pond via a stream channel from NE Pond and from a 96-inch pipe outfall located on the west side of the NW Pond. Storm flow was also carried to NW Pond via a drainage bypass channel located north of NE Pond, but the large sediment deposits in the channels and at the north end of the site prevent storm runoff from reaching these bypass channels and flowing through them. As described above, the flow through these channels would be re-established by excavating the sediments, regrading and planting with emergent wetland vegetation to create additional filtering wetlands. Improvements would also include the installation of a floatables catcher and sediment basin at the 96-inch pipe outfall. This floatables catcher would be accessible via the same new paved road proposed for the NE Pond. The existing wetlands

immediately north of the outfall would be re-graded to direct the initial flow to a channel through the wetlands that would provide additional filtering capacity of runoff.

Dredging would occur within the center of the surface water area of NW pond. The dredging is proposed to provide 6 feet of pond depth for additional pond volume and to improve aquatic habitat in this shallow pond. The project would remove approximately 12,000 CY of materials for the pond (see Figure 2c). Preliminary sampling of the sediments from the NW Pond exhibited no elevated contamination and may, with NYSDEC approval, be managed with unrestricted use. Additional sediment sampling would be conducted after the Sediment Sampling Plan submitted to NYSDEC for review has been approved and the design is finalized. The excavated sediments will be used to establish the sediment basin at the outfall and the wetland edge along the south shoreline. The only materials to be removed from the site are those waste materials screened from the dredge materials.

Based on preliminary sediment sampling, this material would be used in creation of wetland edges. Slopes in excess of 1 in 3 would be stabilized with coir mats or fiber logs.

In total for the NW Pond, the project would remove 0.77 acres of emergent wetland and add 0.53 acres, for a net loss of 0.24 acres of emergent wetland. Total wetlands in NW Pond would decrease from 14.74 to 14.50.

Combined, the proposed wetland enhancement activities at NW Pond and NE Pond would require removal of approximately 1,805 trees.

Greenways, Gateways, and Waterfront Access

The Proposed Project would expand and improve the existing path system within the Park. The proposed greenway and trail system upgrades would enhance connectivity and provide direct access for the public to the natural resources within the Park. Connection points to the surrounding neighborhoods, as well as access to the Northern Ponds would be provided through new gateways and access points. Waterfront access would be enhanced through installation of piers, kayak launches, and fishing docks along Hempstead Lake. The greenway and trails would include the bridges over the open stream channel between the Southern State Parkway and Hempstead Lake, and over Schodack Brook near where it enters South Pond, as discussed above. Grading and removal of trees would be required for these features. The greenway and trail improvements would be designed and implemented in a manner that would allow for connection to, and replication for, the pedestrian and cycling pathways under consideration in the larger LWTB Project and Resiliency Strategy.

Greenway

A 12-foot-wide, crushed stone dust greenway would run through the west side of the Park, from Lakeview Avenue in the south to Peninsula Boulevard north of NE Pond (see Figure 2a and Figure 2b). This greenway would connect to a planned greenway running along the Mill River corridor from Hempstead High School in the north to Bay Park in the South. It would be open on a daily basis for public for recreational use (such as walking, jogging, biking, horseback riding, and bird watching). The proposed greenway would consist of improvements to the existing system of trails within the Park and would require the removal of approximately 100 trees. The greenway would be capable of facilitating access for emergency vehicles. The greenway would also include educational signage to convey to the public the positive benefits of the LWTB Project and

Resiliency Strategy. Trees would be planted along the greenway to enhance the natural character of the Park.

Trails

A new and renovated hiking, cycling, and bridle path would be installed around the perimeter of Hempstead Lake (see Figure 2a and Figure 2b). On the west side of the lake, this pervious crushed stone trail would be located between the greenway and the lake. The hiking, cycling, and bridge path would include a spur crossing the Southern State Parkway and the planned greenway at Eagle Avenue, connecting to the Eagle Avenue gateway, new parking lot, and a loop spur running along the northwest side of the northern ponds, west of the proposed greenway. In addition, new wetland trails and minor dirt trails would be constructed to provide hiking access to the rehabilitated northern ponds (see Figure 2a).

Gateways

The Proposed Project would improve the existing informal dirt parking lot north of the Southern State Parkway at Eagle Avenue (see Figure 2a). A 0.91-acre formalized parking lot with four stormwater retention basins, 48 car spaces, and three bus spaces would be constructed. The entrances to the parking lot would also have direct access to/from the Long Island Railroad local stations and access from other public transportation.

Two 64-square-foot gateway entries from surrounding neighborhoods would be created at Eagle Avenue and Graham Avenue. These gateways would include signage and direct access to the greenway or trails. The gateways would provide direct pedestrian access from the adjoining neighborhoods, a significant portion of which are low to moderate income communities. These gateways would also open views and provide additional access points for emergency vehicles.

Observation Areas/Piers/Kayak Launches

The trails and greenway would also provide access to the ponds and lake. A new raised walkway would extend westward from Lakeside Drive, intersect the greenway, and run westward to a new 400-square-foot observation pavilion along Hempstead Lake (see Figure 2a). The pavilion would be located approximately 23 feet above the Hempstead Lake surface, but it would not extent out over the water. In addition, a 416-square-foot new kayak launch, and up to four 600-square-foot /fishing piers/docks would be built along the Hempstead Lake shore, providing additional access points to the water. Up to five 64-square-foot bird viewing platforms would be built around the Lake, opening up views to the public (see Figure 2a).

Environmental Education and Resiliency Center

The Proposed Project includes construction of a new, single-story Environmental Education and Resiliency Center West of Lakeside Drive (see Figure 2b). The approximately 8,000-square-foot (approximately 52 feet x 96 feet (irregular) in footprint) Environmental Education and Resiliency Center would comprise a main education room, overlook deck, restrooms, and storage facilities. Utilities would be connected to the building through underground boring and a 24-inch-wide trench that would be backfilled upon project completion.

The facility would provide a centralized destination and connection for the residents to the Hempstead Lake corridor that would directly support environmental education and recreational opportunities. Specific spaces within the proposed Environmental Education and Resiliency Center are proposed to be designed flexibly, with spaces that would permit a resilient occupancy

of the building that can adapt quickly to the varied uses to serve as an information, storage, and a gathering space, during and immediately following emergencies and natural disasters affecting the surrounding community. The building would include a full building load emergency generator to provide resiliency during power outages.

The proposed Environmental Education and Resiliency Center would demonstrate environmental sustainability, responsibility, and resilient building practices. Where appropriate passive design strategies would be implemented in the configuration of the building whereby solar heat loss and gain would be controlled to minimize the active HVAC requirements. The building would be provided with an automatic emergency diesel generator, which would be located outside the building's southwestern façade. The generator would have the capacity to provide energy to the entire building in the event of a power outage. The building would include roof-mounted solar (photovoltaic) panels providing up to 30 kilowatts of electricity, intended to provide adequate power for 100 percent of basic building systems during non-peak loading scenarios.

III. Public Water Supply

4. Provide a description of plans to provide water supply.

The Proposed Action would provide a water supply. Total anticipated water usage/demand for the proposed action would be 122 gallons per day from the West Hempstead Water District, which would be delivered through existing infrastructure to the proposed Education and Resiliency Center. Expansion of this water district will not be necessary to meet the needs of the Proposed Action as there is existing capacity to serve the proposed project as well as existing lines to serve the site.

5. Provide the location of nearby existing or proposed public water supply wells or wellfields within a one-half mile radius (2,640 feet) of the project/activity. Provide the name of the supplier(s) of those wells or wellfields. This information should be available from the local health department, State health department or the State environmental agency.

The area is served with public water. Consultation with the West Hempstead Water District indicates that there are six wells identified within a wellfield in the northern portion of the Proposed Action area. Consultation with New York American Water indicates that there are wells within that entity's jurisdiction in and around the southwestern portion of the park within the 2,640-foot boundary. Consultation with the Village of Rockville Centre indicates that there is one wellfield to the east of the park containing 3 wells within the 2,640-foot boundary. These wells are located off of Reeve Road on Village-owned property (Section 36, Block C, Lot 3). There may be private drinking water wells proximate to the project area, but these are not regulated by the Town or County and thus are not inventoried in a readily available database. The enclosed Half Mile Buffer and SWAP Analysis Figure indicates that there are a number of drinking water wells within ½ mile buffer of the entire proposed project area.

IV. Wastewater and Sewage Disposal

6. Provide a description of plans to handle wastewater and sewage disposal. If the project/activity is to be served by existing public sanitary sewers provide the name of the sewer district.

The Proposed Action would use the existing wastewater treatment plant Bay Park Sewage Treatment Plant to handle wastewater and sewage disposal.

7. Provide a description of plans to handle storm water runoff.

One component of the Proposed Action is to improve stormwater management in general. The Proposed Action would generate stormwater runoff from a total 7.5 net new acres of impervious surface within the 521-acre park. The Proposed Action includes a formalized 0.91-acre parking area with four stormwater retention basins to replace an informal parking area used by park patrons. Overall, stormwater would be directed to bioswales in parking areas as just described and into other vegetated areas along trails. Trails would comprise stone dust over a crushed stone drainage layer. This trail cover was counted toward impervious surface area, although it allows for infiltration. There would be no direct flow directly into surface waters or current wetlands. Flow would ultimately enter Northeast Pond, Northwest Pond, Hempstead Lake, and South Pond.

Proposed stormwater filtering project work in the Northern Ponds would affect the wetlands and waterbodies through dredge, excavation, and fill actions in the open pond and associated wetland areas, shorelines and uplands, to create filtering wetlands as well as installation of floatables collectors, sediment basins and repairs to the breached dam at Northwest Pond.

8. Identify the location, design, size of any on-site recharge basins, dry wells, leaching fields, retention ponds etc.

The Proposed Action would include four stormwater retention basins near a formalized 0.91-acre parking area. The Proposed Action would also include installation of up to two new sediment basins to improve filtering and downstream water quality, and increased pond depth for stormwater management/habitat development.

V. Use, Storage, Transport of Hazardous or Toxic Materials

9. Identify any products listed in Attachment 4, Hazardous Constituents, of the Housing and Urban Development-Environmental Protection Agency Memorandum of Understanding which may be used, stored, transported, or released as a result of the project not related to construction.

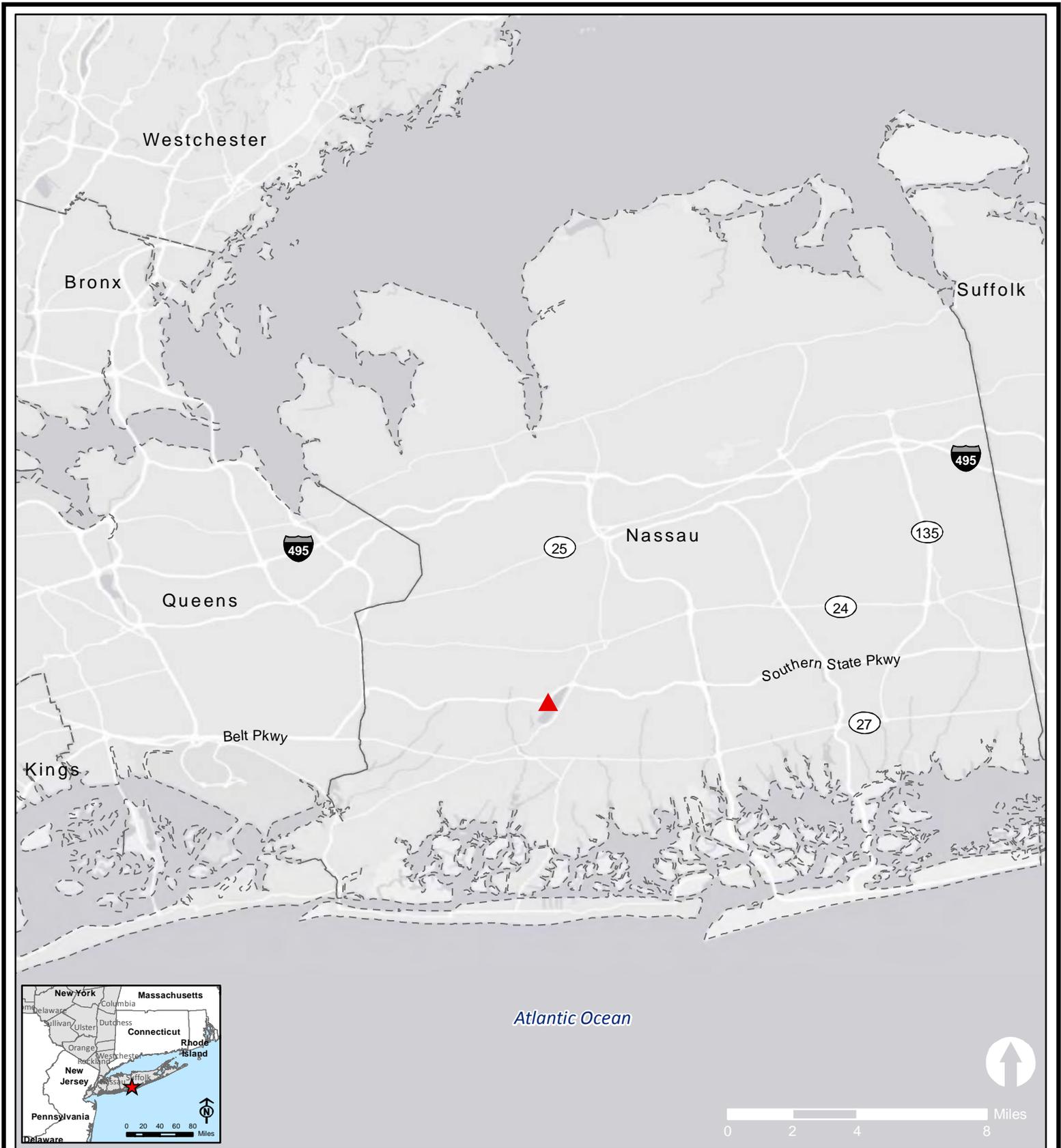
The Proposed Action would not involve the use, storage, transport, or release of hazardous or toxic materials.

10. Identify the number and capacity of underground storage tanks at the project/activity site. Identify the products and volume to be stored, and the location on the site.

The project/activity site would not include any underground storage tanks as a result of the proposed action.

11. Identify the number and capacity of above ground storage tanks at the project/activity site. Identify the products and volume to be stored, and the location on the site.

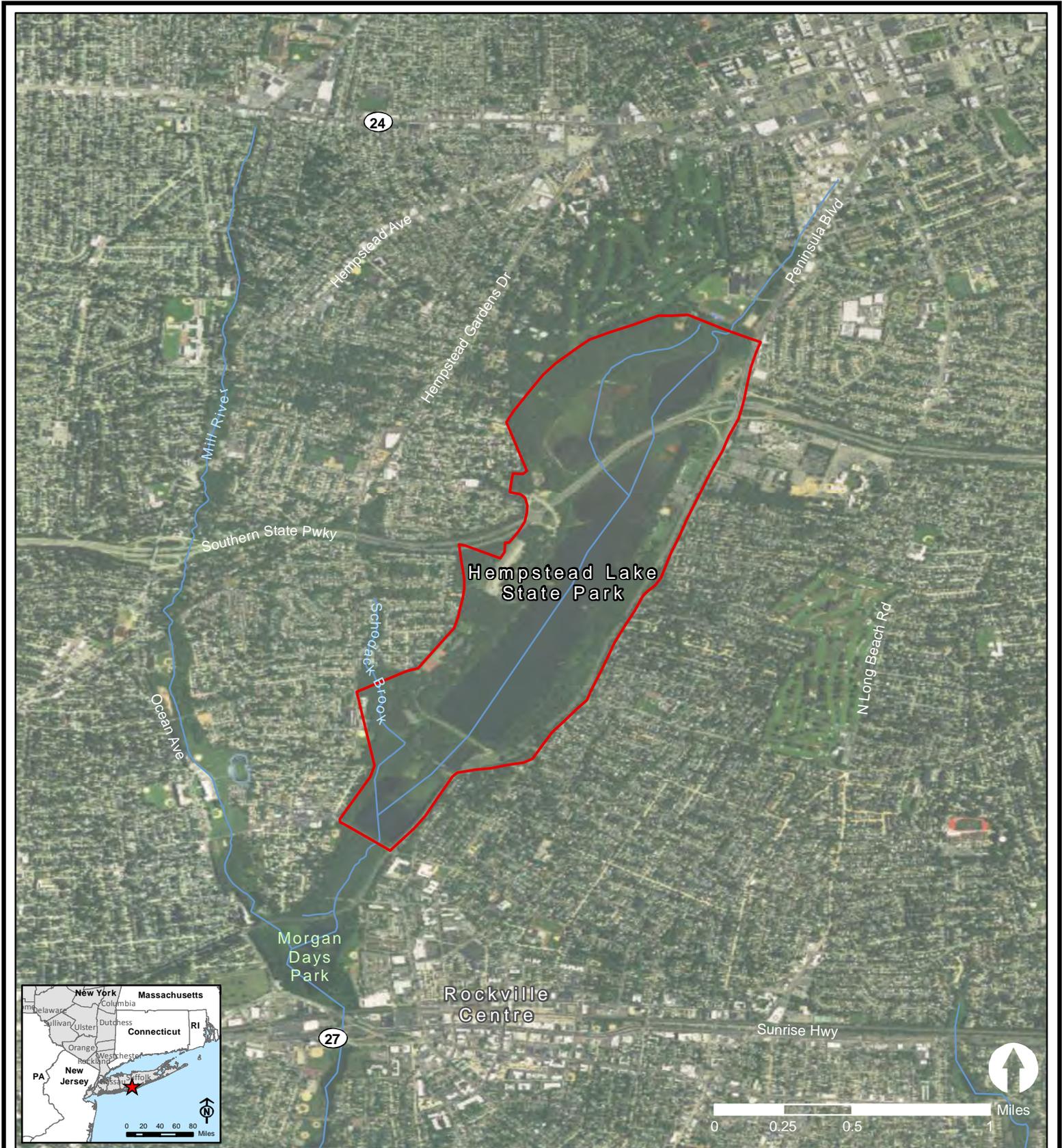
There will be at least one above ground storage tank with a capacity of 309 gallons on the site of the environmental educational facility for the purpose of storing diesel. The contents will not be under pressure and the container will not be diked because the tank has a 110% containment dual wall and a concrete lining.



-  Project Location
-  County Boundary

Figure 1
Regional Location

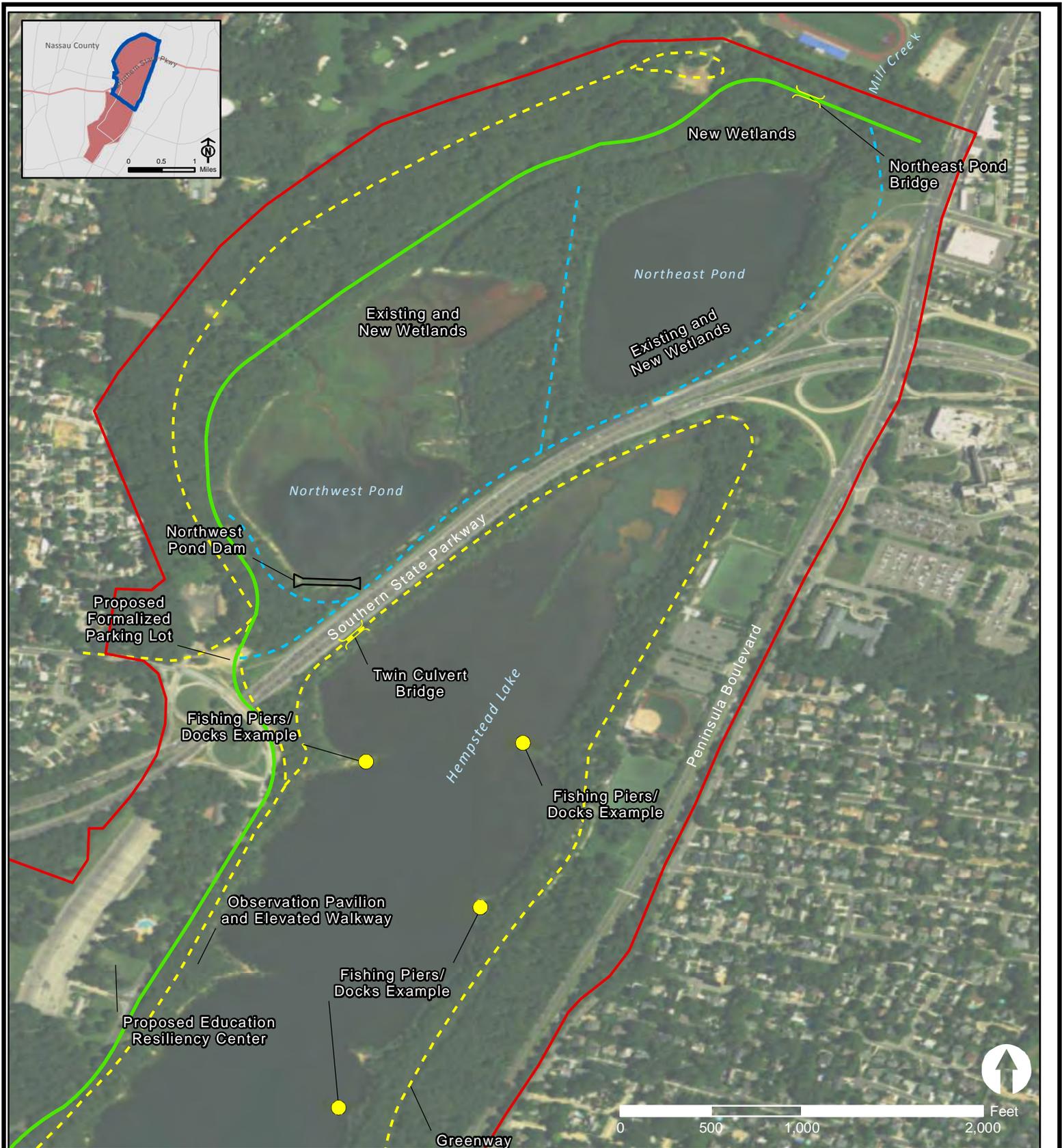
Hempstead Lake State Park



 Project Boundary

Figure 2
Project Area

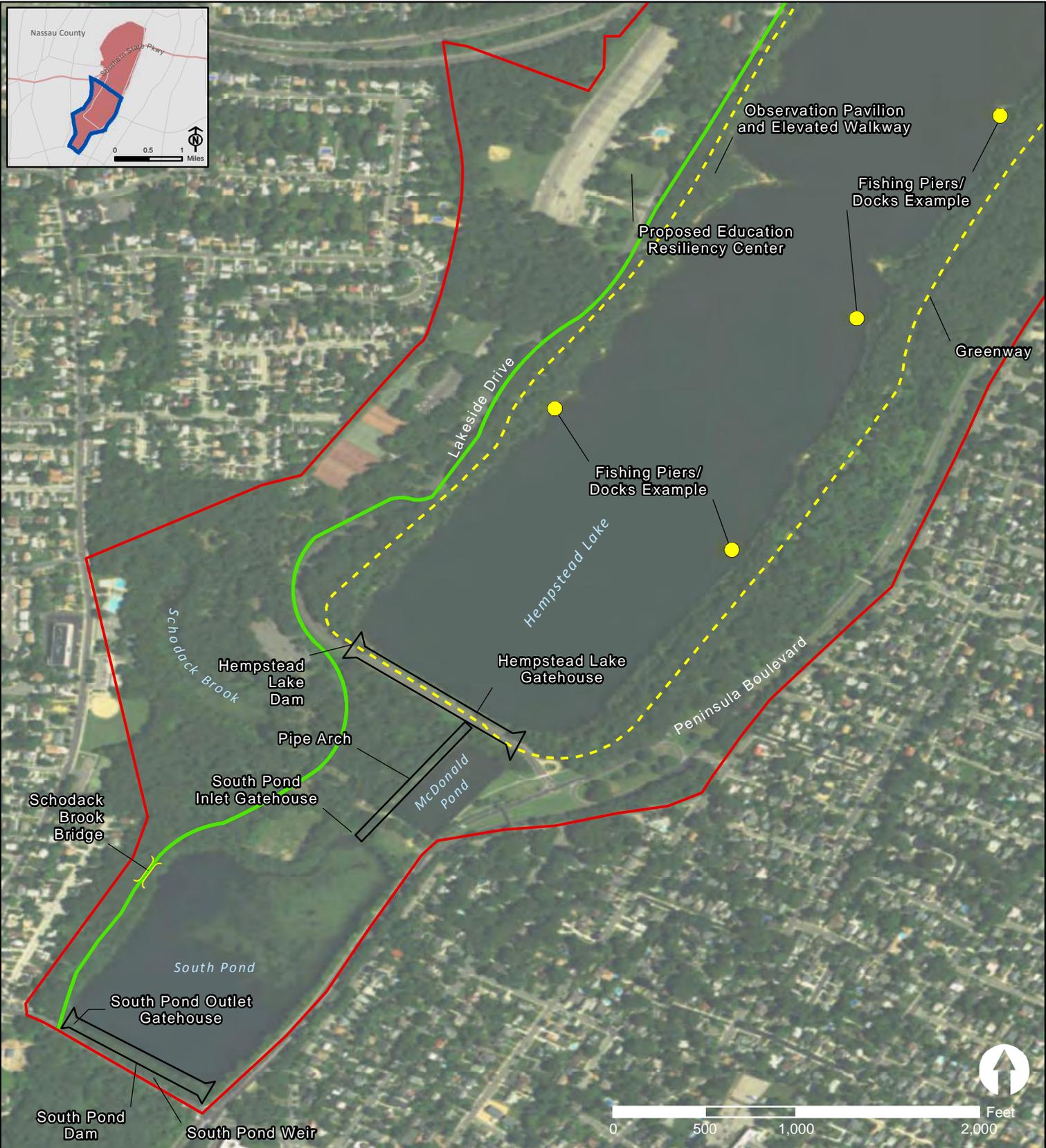
Hempstead Lake State Park



-  Bridge
-  Proposed Dock/Fishing Pier/Kayak Launch Walkway
-  Proposed Greenway
-  Proposed Wetland/Minor Trail
-  Proposed Hiking, Cycling, and Bridle Path
-  Project Boundary

Figure 2a
Site Plan, North

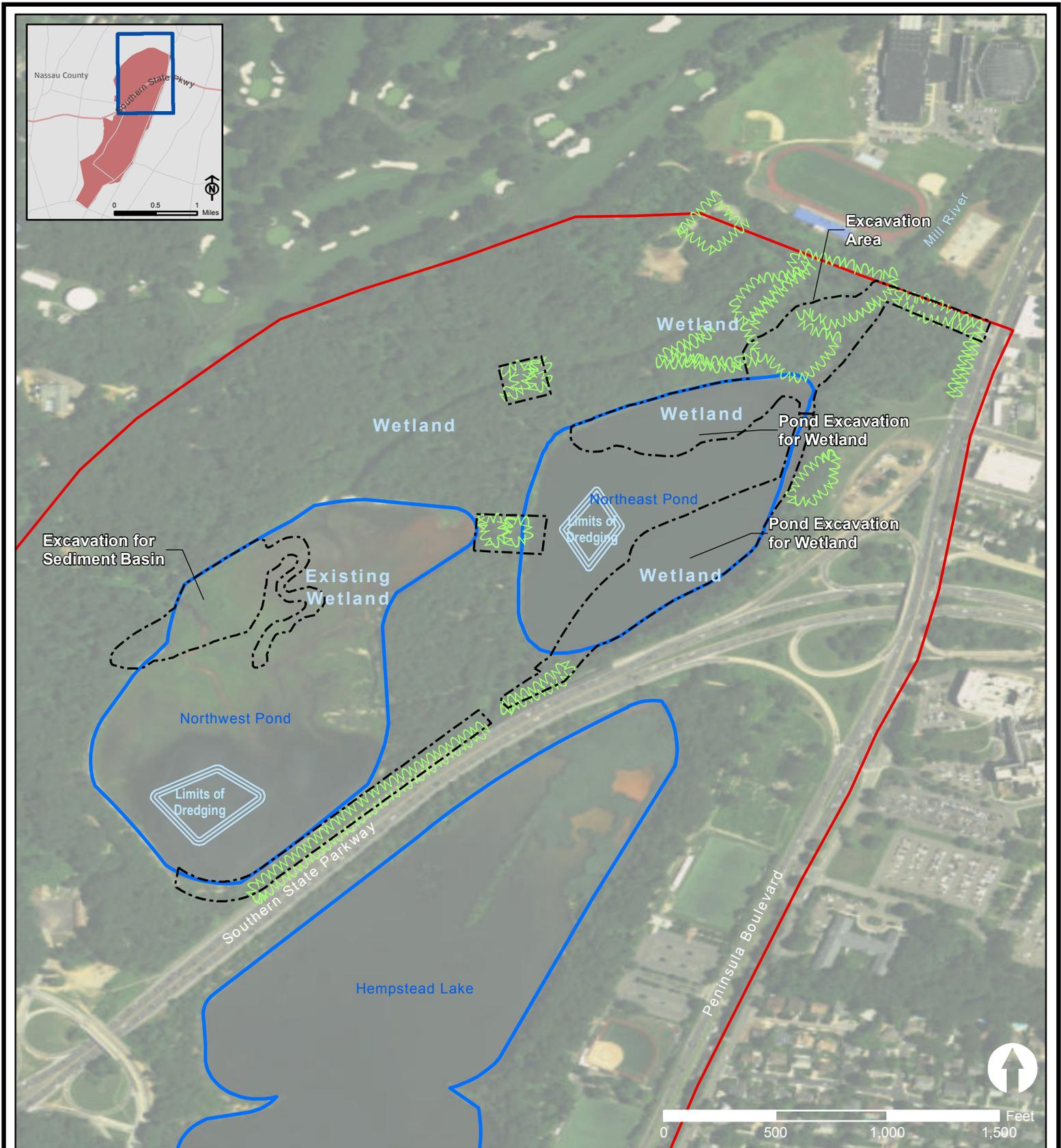
Hempstead Lake State Park



-  Bridge
-  Proposed Dock/Fishing Pier/Kayak Launch Walkway
-  Proposed Greenway
-  Proposed Wetland/Minor Trail
-  Proposed Hiking, Cycling, and Bridle Path
-  Project Boundary

Figure 2b
Site Plan, South

Hempstead Lake State Park



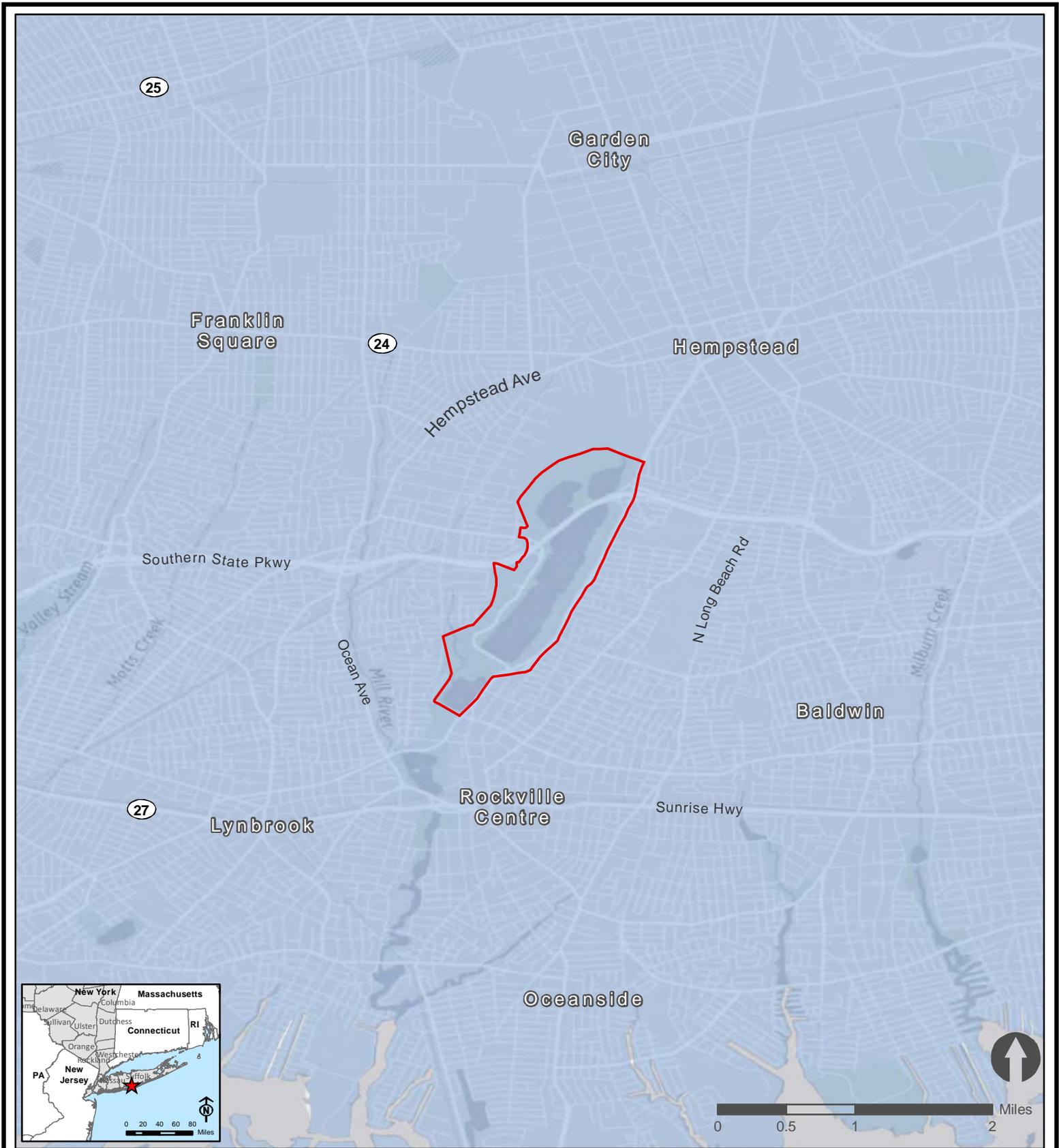
- Project Boundary
- Limits of Disturbance
- Dredging
- Tree Removal Area - Selective
- Waterbody

Source: USGS; U.S. Fish and Wildlife Service; National Wetland Index; NYS GIS Clearinghouse; NYS Department of Environmental Conservation; ESRI World Imagery; ESRI Street Map

Figure 2c

Northern Ponds Project Components

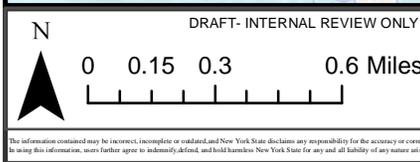
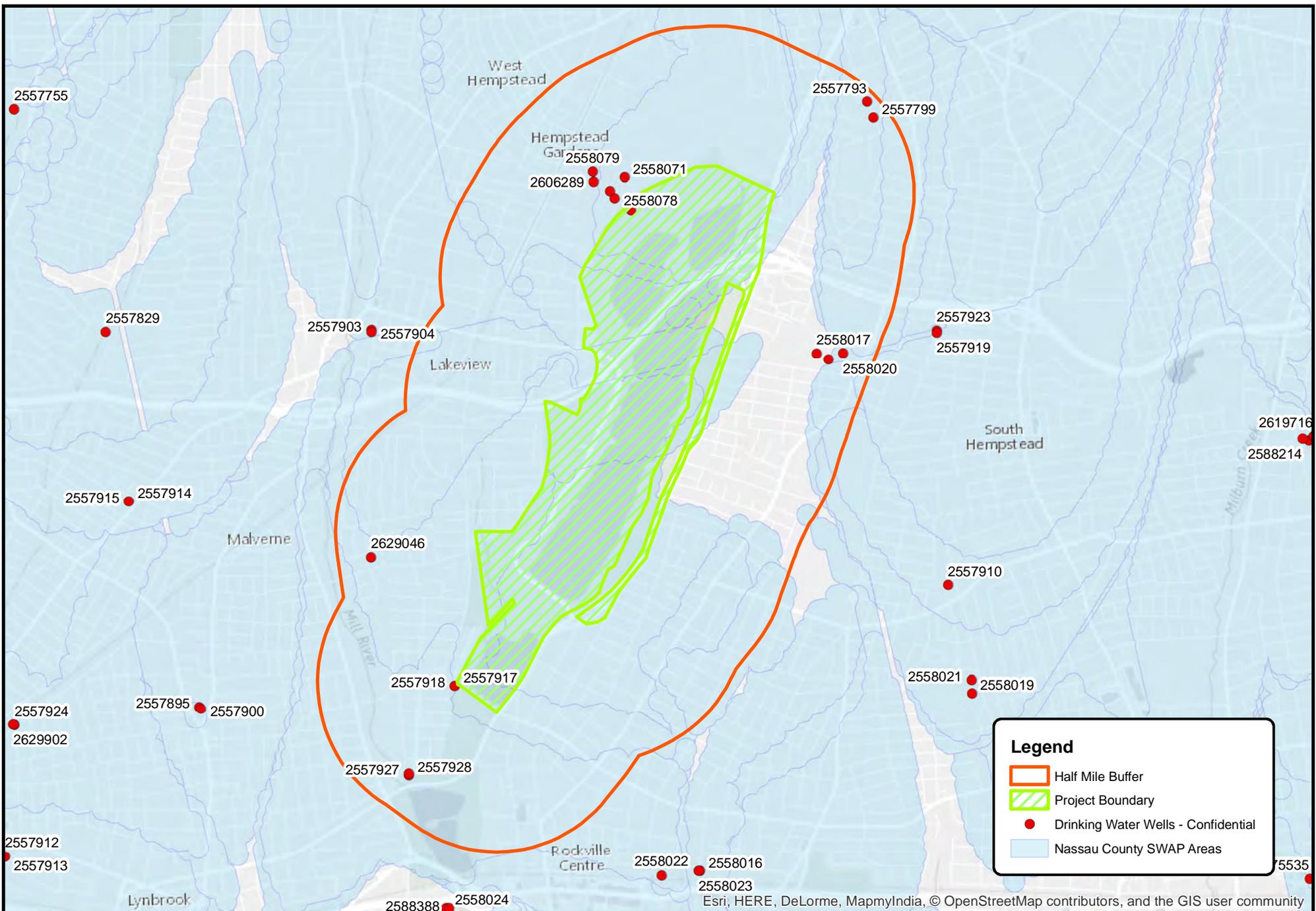
Hempstead Lake State Park



- Project Boundary
- Sole Source Aquifer

Figure 7
Sole Source Aquifers

Hempstead Lake State Park



Hempstead Lake State Park

Lakeside Dr., West Hempstead, 11552, Nassau County, NY

Half Mile Buffer and SWAP Analysis

Legend

- Half Mile Buffer
- Project Boundary
- Drinking Water Wells - Confidential
- Nassau County SWAP Areas



Governor's Office of Storm Recovery

Drawn By: AMM | Version: 1.0 | Date: 06/19/2017

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AUG 22 2017

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 2
290 BROADWAY
NEW YORK, NY 10007-1866

Mr. Matt Accardi
Assistant General Counsel
Bureau of Environmental Review and Assessment
Governor's Office of Storm Recovery
25 Beaver Street, 5th Floor
New York, NY 10004

Dear Mr. Accardi:

This is in response to your July 3, 2017 letter to the U.S. Environmental Protection Agency (EPA) requesting a Sole Source Aquifer review of the proposed "Hempstead Lake State Park" project located in the Town of Hempstead, Nassau County, New York. The project is to receive funding from the U.S. Department of Housing and Urban Development's Community Development Block Grant – Disaster Recovery (CDBG-DR) program. The project is located in the Long Island Nassau/Suffolk Aquifer System, designated by the EPA as a Sole Source Aquifer on June 21, 1978 (citation 43 FR 26611). Therefore, our review has been conducted in accordance with Section 1424(e) of the Safe Drinking Water Act (SDWA).

The proposed project involves stormwater and other improvements in Hempstead Lake State Park ("the Park"). Hempstead Lake, the largest freshwater body in Nassau County, and five smaller ponds are located within the 521-acre Park. We understand that several of the proposed stormwater management improvements involve dams (associated with the lake and the ponds) as follows:

- Replace the dam at the southern end of Northwest Pond with an upgraded structure consisting of a steel sheet pile and an earthen embankment. Enhance the flow from the pond to Hempstead Lake by means of structural alterations.
- Restore both the water flow path running from the dam at the southern end of Hempstead Lake to South Pond and the outlet gatehouse controlling that flow. Refurbish the upstream and downstream faces of the dam, removing or paring unwanted vegetation.
- Restore the inlet gatehouse on South Pond, with brickwork being repaired. The earthen dam at the south end of South Pond will be freed of trees and other vegetation.
- Install a double-netting system to capture floatables as well as a sediment basin at the inlet to Northeast Pond. The pond will also be dredged near its center and the spoils used in the construction of water-filtering wetlands along the pond's northwestern edge. Similar work would proceed on Northwest Pond.

The information provided indicates that the proposed project would also expand and upgrade the existing path and trail system within the Park, increasing public access to the Park's natural resources. A greenway will be open to the public for recreational use. We note that this will require the removal of approximately 100 trees, to facilitate access for emergency vehicles, but trees would then be planted along the greenway.

Finally, as part of this project, an Environmental Education and Resiliency Center ("the Center") having a footprint of approximately 5,000 square feet would be built to the west of Lakeside Drive and Hempstead Lake. It would receive public water from the West Hempstead Water District and would send wastewater through a public sewer to the Bay Park Sewage Treatment Plant. Heat would be provided by variable refrigerant flow heat recovery units, and hot water would be provided by a small electric water heater.

The information provided indicates that the facility would receive electrical service, supplemented by solar panels. The facility would have a backup emergency generator powered by diesel fuel stored in a 309-gallon aboveground storage tank. We note that the tank would be double-walled would have leak detection and an overflow alarm; the tank would be cement-lined and have a 110% containment capacity.

Based on the information provided, we understand that four stormwater detention basins would minimize off-site runoff, and that the large sediment basins are designed with ramps to allow equipment to gain access and carry out sediment removal when the build reaches a prescribed level.

Please see our recommendations below on environmentally-friendly landscaping and Low Impact Development, and also consider using energy- and water-efficient products for the Center.

Based on the information provided, the project satisfies the requirements of Section 1424(e) of the SDWA. Please be advised that meeting the requirements of 1424(e) does not preclude the need to meet National Environmental Policy Act (NEPA) requirements to address direct, indirect, and cumulative impacts. This review does not constitute a review under Section 309 of the Clean Air Act; EPA therefore reserves the right to review additional environmental documents on this project.

EPA offers the following for your consideration to reduce environmental impacts and to create a more sustainable project.

Clean Diesel:

Implement diesel controls, cleaner fuel, and cleaner construction practices for on-road and off-road equipment used for transportation, soil movement, or other construction activities, including:

- Strategies and technologies that reduce unnecessary idling, including auxiliary power units, the use of electric equipment, and strict enforcement of idling limits; and
- Use of clean diesel through add-on control technologies like diesel particulate filters and diesel oxidation catalysts, repowers, or newer, cleaner equipment.

For more information on diesel emission controls in construction projects, please see:
<http://www.northeastdiesel.org/pdf/NEDC-Construction-Contract-Spec.pdf>

Stormwater:

We emphasize the importance of Low Impact Development (LID) principles such as minimizing effective imperviousness to create site drainage, and the planting of native and non-invasive vegetation on the project site for stormwater management purposes. Other LID practices can include bioretention facilities, rain gardens, vegetated rooftops, rain barrels, and permeable pavements. For further information, please see the following website:

<http://water.epa.gov/polwaste/green/>

Encourage cost-efficient, environmentally-friendly landscaping:

There are many benefits to making greener landscaping choices. For additional information, please see the following website:

<http://www2.epa.gov/greenerproducts/identifying-greener-landscaping-choices>

Energy-Efficiency:

Energy-efficient technologies should be incorporated into the Center and all aspects of the project. Please see the following website: <http://www.energystar.gov>

Water conservation and efficiency:

Promote water conservation and efficiency through the use of water efficient products and practices in the Center and other areas as appropriate. We recommend considering the use of products with the WaterSense label where appropriate. Please refer to the WaterSense website for tips on water efficiency, a WaterSense labeled product search tool, a list of WaterSense Partners, and access to the Water Budget Tool at: <http://www.epa.gov/watersense/>

In addition to using WaterSense labeled products and certified professionals, there are many water conservation strategies and best management practices that can be used in new construction. Here are some useful links to water conservation information:

http://www.wbdg.org/resources/water_conservation.php

<http://www.allianceforwaterefficiency.org/>

<http://www.wateruseitwisely.com/100-ways-to-conserve/index.php>

If you have any questions concerning this matter or would like additional information, please feel free to contact Rajini Ramakrishnan of my staff at (212) 637-3731.

Sincerely,



Grace Musumeci, Chief
Environmental Review Section

