WATER AUTHORITY OF GREAT NECK NORTH

STORM MITIGATION IMPROVEMENTS PROJECT

NEPA ENVIRONMENTAL INFORMATION DOCUMENT SUBMITTAL

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ENVIRONMENTAL INFORMATION DOCUMENT

Introduction

The Water Authority of Great Neck North (WAGNN) proposes to implement a storm mitigation improvements project to protect designated water supply wells and minimize the risk of well damage or disruption of services during future flood events in order to maintain essential water supply services without interruption. The New York State Department of Health has determined that this project is eligible for funding under the Storm Mitigation Loan Program (SMLP) established through the New York State Drinking Water State Revolving Fund (DWSRF) provisions of the Federal Disaster Relief Appropriations Act enacted following Hurricane Sandy. The WAGNN project is listed in *Final Amendment #7 to the State Drinking Water State Revolving Fund (DWSRF) Federal Fiscal Year 2014 Intended Use Plan* (August 2014).

In order to qualify for SMLP financing, the proposed WAGNN project must meet the federal environmental review standards set forth by the National Environmental Protection Act (NEPA) in addition to the New York State Environmental Review Process (SERP) requirements. This Environmental Information Document (EID) has been prepared to satisfy NEPA requirements in accordance with the *New York State Revolving Fund Environmental Review Requirements for Equivalency Projects* (May 1, 2014) and presents the following information to support the environmental review:

- purpose and need for the project
- description of the project planning area
- existing and projected service area population
- proposed scope of work
- other alternatives evaluated
- estimated project costs
- any environmental consequences of the project plan

The Full Environmental Assessment Form (EAF, Part 1-Project and Setting) completed pursuant to the State Environmental Quality Review (SEQR) requirements is attached as Appendix A.

Project Purpose and Need

Water users within WAGNN's 7.5 square mile service area are currently supplied with potable water through 11 wells located at 7 sites. In the event of a power outage or flooding at any of its supply wells, WAGNN loses a significant portion of the Authority's overall capacity that is

supplied by the well. The Great Neck area over the last four years has experienced two hurricanes (Irene and Sandy), a microburst (in June 2010) and a number of Nor'easters which have caused flooding and power outages throughout the entire Great Neck peninsula lasting up to 14 days. WAGNN has had difficulty meeting the water supply demands in its service area as a result of these storms, which have highlighted the vulnerability of the system during storms and power outages.

A supply well's wellhead protects the well casing and well cap, which provides a tight-fitting sanitary seal at the top of the well. If a wellhead becomes flooded, the sanitary seal may be infiltrated, potentially resulting in contamination of the well which would require taking the supply well out of service. The potential for wellhead flooding and resultant well contamination is of great concern to WAGNN, since taking an operating supply well out of service would significantly impact WAGNN's ability to meet the demand for water.

In addition, during recent prolonged power outages, WAGNN has struggled to meet the customer demand for water. Several WAGNN supply well facilities do not have dedicated backup generators, so during power outages due to severe weather events, heat waves or any other loss of electrical utility service, WAGNN is not able to pump those wells. WAGNN temporarily used its 20 year old portable generator in the aftermath of Superstorm Sandy to power supply wells that did not have permanent standby generators. It was difficult to obtain fuel to operate this generator due to the gasoline and diesel fuel shortage following Sandy. In addition, downed trees and power lines prevented access to certain supply well facilities, so the portable generator could not be used at these sites until access was restored.

The overriding concern is that WAGNN may not have the capacity to meet customer demand and fire demand should the need arise if one or more supply wells are out of service due to flooding or during an extended power outage. Should WAGNN suffer a future power loss or well contamination (due to wellhead flooding) which impacts its ability to operate some of the supply wells, it would result in a lack of fire flow which could potentially be catastrophic if a fire occurred within the service area. Elevating wellheads to minimize the potential for flooding/ supply well contamination and installing emergency backup power generators is paramount to providing proper water pressure and firefighting capabilities throughout the entire WAGNN service area. In the interest of maintaining an uninterrupted water supply to its customers and ensuring adequate fire flow, WAGNN proposes to elevate wellheads, install permanent emergency backup generators at designated locations, and replace the old portable generator with a new diesel powered portable unit. Details on the proposed storm mitigation improvements project are presented under "Proposed Scope of Work".

Project Planning Area

WAGNN provides public potable water supply to the northern area of the Great Neck Peninsula, which encompasses the villages of Great Neck, Great Neck Estates, Kensington, Kings Point, Saddle Rock, portions of Great Neck Plaza and Thomaston, and the unincorporated areas of the Town of North Hempstead. WAGNN's service area, located in the extreme northwest corner of Nassau County on the Great Neck peninsula, covers approximately 7.5 square miles as shown on Figure 1.

The U.S. Merchant Marine Academy (USMMA) at Kings Point is located within the WAGNN service area. During the academic year, the USMMA has over 1,200 cadets living and studying on campus. WAGNN has worked with USMMA officers in the past to ensure that the Academy's water demand is met and adequate fire flow protection is available if needed. The Alert Fire Company serves the USMMA and relies on WAGNN's commitment to supply water to meet their firefighting needs to protect and ensure the safety of the public and property.

The table below provides the street names and municipalities of the supply wells included in the storm mitigation improvements project. Figures 2 through 6 (cropped sections of FEMA flood maps) show the general locations of these supply wells, with the street names highlighted. Due to post-9/11 security concerns, WAGNN does not show precise well locations on maps or figures prepared for submittals, and enforces strict procedures for chemical deliveries and access to its well facilities in order to protect the water supply system against threats. Additional information on the WAGNN wells and facilities will be provided upon request.

Well ID	Street Name	Municipality
Well 2A* Well 11A*	Watermill Lane	Great Neck, Unincorporated area of Town of North Hempstead
Well 5	Old Mill Road	Incorporated Village of Saddle Rock
Well 6	Juniper Drive	Incorporated Village of Great Neck Estates
Well 8	Weybridge Road	Incorporated Village of Great Neck
Well 10A	Ravine Road	Incorporated Village of Great Neck

* Note that Well 2A and Well 11A are located on the same WAGNN owned property.

Service Area Population

WAGNN serves a population of approximately 32,400 through 9,043 separate water service connections. The proposed project would not change the population served by the Authority.

Proposed Scope of Work

The proposed scope of work for each of the well locations included in this project is described below. The project will be completed entirely on WAGNN owned property and primarily involves in-kind replacement of equipment and structures. The project does not include property acquisition or expansion of facilities. New structures will be constructed to replace existing structures at each site to enclose the elevated wellheads, pumps, electrical equipment, and control systems, and new dedicated standby generators as described above. The portable generator will not be installed in a fixed location and will only be used in emergency response situations.

No adverse impacts on surrounding properties or any environmentally sensitive areas are expected as a result of the proposed project. Environmentally sensitive areas in or near the project area identified during the SEQR and NEPA environmental review and mitigation measures that would be implemented to protect these areas are discussed under "Environmental Impacts and Mitigation".

Well 2A

Well 2A is not located in a FEMA designated flood zone, but the wellhead is located in a low spot that experiences recurring local flooding during storm events. Therefore, Well 2A is at risk for damage due to flooding. Given the historical site flooding problems and the continuing risk of damage due to flooding, WAGNN proposes to elevate the Well 2A wellhead and all associated equipment by approximately 7 to 10 feet above its existing elevation in order to protect the wellhead from flooding and flood related service interruptions at this supply well. The proposed work would include:

- Removing well equipment
- Welding extension to casing
- Raising all pumping equipment
- Pouring a new concrete pedestal
- Reinstalling all infrastructure
- Constructing a new well house to enclose the elevated wellhead and associated pumping and electrical equipment

These measures would help to protect the water within Well 2A from becoming contaminated during an emergency due to infiltration of the sanitary seal. Raising the sanitary seal would minimize the risk of damage or disruption of services to this equipment during severe flooding events in the future and allow WAGNN to maintain essential water supply services without interruption.

This project is consistent with the following excerpts from the action items included in the April 2011 Sanitary Survey conducted by the Nassau County Department of Health:

- "*To decrease the vulnerability of these public supply well facilities and protect them from contamination, Wells 2A and 10A must be enclosed in permanent and durable well house structures . . .*"
- *". . . in order to protect against flooding . . . During the next rehabilitation, these wells* (Wells 5 and 8) *must be raised above grade."*

While the County established these action items for specific wells, WAGNN intends to apply them to future projects at other wells as applicable by raising below grade wells and constructing well enclosures to minimize the vulnerability of the supply wells.

Well 5

Well 5 is not located in a FEMA designated flood zone, but it is in close proximity to an area within flood zone AE with a base flood elevation of 10 feet. In addition, a drainage channel runs adjacent to the Well 5 facility and the well is located in an underground vault, so the wellhead, sanitary seals and pumping equipment are subject to flooding if the vault is inundated with water due to local flooding during storm events. In addition, the underground vault poses confined space risks and the Well 5 electrical switchgear is located below grade. Well 5 is at risk for flood damage.

Given the site's proximity to a FEMA designated flood zone and the drainage channel, and the continuing risk of damage due to flooding (as well as the confined space issues associated with the vault), WAGNN proposes to raise the elevation of Well 5. WAGNN would either modify existing Well 5 to raise its elevation or install a new supply well to replace the existing well. The condition of the existing well screen and casing will be examined by TV inspection. If the existing well is determined to be in good condition, it will be modified. If the existing well screen or casing is in poor condition, a replacement well will be drilled. In either case, the new wellhead and all associated equipment would be set 5 feet above the nearby base flood elevation (10 feet) in order to protect the wellhead from flooding and flood related service interruptions at this supply well. The proposed work would include:

If WAGNN decides to modify the existing well:

- Removing well equipment
- Welding extension to casing
- Raising all pumping equipment
- Pouring a new concrete pedestal
- Reinstalling all infrastructure
- Constructing a new above grade well house to enclose the elevated wellhead and associated pumping and electrical equipment

If WAGNN decides to install a replacement well:

- Abandoning existing Well 5
- Installing a replacement supply well in the vicinity of existing Well 5
- Installing all required pumping and electrical equipment and infrastructure
- Constructing a new aboveground well house to enclose the new elevated wellhead and associated pumping and electrical equipment

These measures would help to protect the water within Well 5 from becoming contaminated during an emergency due to infiltration of the sanitary seal. Raising the sanitary seal would minimize the risk of damage or disruption of services to this equipment during severe flooding events in the future and allow WAGNN to maintain essential water supply services without interruption. In addition, raising the well would eliminate the confined space issues associated with the below ground vault. This project is consistent with the action items included in the April 2011 Sanitary Survey conducted by the Nassau County Department of Health.

If WAGNN decides to implement this project and install a new replacement supply well, the replacement well would be installed by a New York State licensed well driller in accordance with all applicable NYSDOH regulations set forth in 10 NYCRR Part 5, Subpart 5-1 Standards for Water Wells – Appendix 5B.

Well 6

Well 6 is located near the shoreline of the Great Neck peninsula in FEMA designated flood zone VE with a base flood elevation of 14 feet. Therefore, Well 6 is at risk for damage, especially since the sanitary seal is only about two inches above the finished floor of the existing well house. Given the continuing risk of damage due to flooding, WAGNN proposes to elevate the Well 6 wellhead and all associated equipment by approximately 5 feet above the base flood elevation (14 feet) in order to protect the wellhead from flooding and flood related service interruptions at this supply well. The proposed work would include:

- Removing well equipment
- Welding extension to casing
- Raising all pumping equipment
- Pouring a new concrete pedestal
- Reinstalling all infrastructure
- Constructing a new well house to enclose the elevated wellhead, associated pumping and electrical equipment, and the proposed backup generator. It is expected that the new well house would be constructed on the same footprint as the existing well house at this location.

These measures would help to protect the water within Well 6 from becoming contaminated during an emergency due to infiltration of the sanitary seal. Raising the sanitary seal would minimize the risk of damage or disruption of services to this equipment during severe flooding events in the future and allow WAGNN to maintain essential water supply services without interruption. This project is consistent with the action items included in the April 2011 Sanitary Survey conducted by the Nassau County Department of Health.

Well 6 does not have a dedicated backup generator, so during power outages due to severe weather events, heat waves or any other loss of electrical utility service, WAGNN is not able to pump this supply well. Given the site's location in a FEMA designated flood zone and the continuing risk of power outages due to flooding and electrical service grid problems, WAGNN proposes to install a dedicated automatic standby generator at Well 6. The proposed work includes but may not be limited to installing a new natural gas generator (approximately 250 kW) inside the new well house constructed to enclose the elevated wellhead, along with wiring and all accessories and appurtenances required for a complete installation. The generator would be set 5 feet above the base flood elevation (14 feet) in order to protect it from flooding and flood related service interruptions at this supply well. An automatic transfer switch would also be installed to allow for immediate standby generator startup as soon as power is interrupted and will notify WAGNN personnel of the power loss and generator operation.

Well 8

Well 8 is not located in a FEMA designated flood zone but it is located below grade in the basement of the Booster Pumping Station building, which also houses the booster pumping equipment and electrical controls and switches for the water supply well, pumps, storage tanks and packed tower aeration system. The finished floor of the Booster Pump Station building is below grade, making the Well 8 wellhead, sanitary seals and pumping equipment/controls subject to flooding if the basement is inundated with water due to local flooding during storm events. In addition, the basement where the well and equipment are located can only be accessed via one staircase, which poses confined space risks. Well 8 is at risk for damage due to flooding.

Given the continuing risk of damage due to flooding (as well as the confined space issues associated with the basement), WAGNN proposes to raise the elevation of Well 8. WAGNN would either modify existing Well 8 to raise its elevation or install a new supply well to replace the existing well. The condition of the existing well screen and casing will be examined by TV inspection. If the existing well is determined to be in good condition, it will be modified. In either case, the new wellhead and all associated equipment would be set 5 feet above the ground surface in order to protect the wellhead from flooding and flood related service interruptions at this supply well. The proposed work would include:

If WAGNN decides to modify the existing well:

- Removing well equipment
- Welding extension to casing
- Raising all pumping equipment
- Pouring a new concrete pedestal
- Reinstalling all infrastructure
- Constructing a new above grade well house to enclose the elevated wellhead and associated pumping and electrical equipment

If WAGNN decides to install a replacement well:

- Abandoning existing Well 8
- Installing a replacement supply well in the vicinity of existing Well 8
- Installing all required pumping and electrical equipment and infrastructure
- Constructing a new aboveground well house on top of the existing basement booster pump building to enclose the new elevated wellhead and associated pumping and electrical equipment
- Moving the existing booster pump and all electrical equipment out of the basement and into the new above grade well house structure.

These measures would help to protect the water within Well 8 from becoming contaminated during an emergency due to infiltration of the sanitary seal. Raising the sanitary seal would minimize the risk of damage or disruption of services to this equipment during severe flooding events in the future and allow WAGNN to maintain essential water supply services without interruption. In addition, raising the well would eliminate the confined space issues associated with the below ground basement. This project is consistent with the action items included in the April 2011 Sanitary Survey conducted by the Nassau County Department of Health.

If WAGNN decides to implement this project and install a new replacement supply well, the replacement well would be installed by a New York State licensed well driller in accordance with all applicable NYSDOH regulations.

Well 10A

Well 10A is not located in a FEMA designated flood zone, but it is located on a steep slope and is at continued risk for service interruptions due to power outages. Well 10A does not have a dedicated backup generator, so during power outages due to severe weather events, heat waves or any other loss of electrical utility service, WAGNN is not able to pump this supply well. In the interest of maintaining an uninterrupted water supply to its customers and ensuring adequate

fire flow, WAGNN has installed a 250 kW natural gas powered permanent emergency backup generator at Well 10A as part of the Well 10A improvements project to effectively maintain the significant portion of WAGNN's potable water pumping capacity supplied by this well and avoid service disruptions during power emergencies. Well 10A is a critical supply well, located at a high elevation which is not susceptible to flooding. Therefore, it is essential to have backup power at this location to keep Well 10A in operation at all times, especially when other WAGNN wells might experience flood related service interruptions.

Construction of a walk-in enclosure adjacent to the Well 10A well house has been completed. The 250 kW natural gas generator has been installed inside the new enclosure, along with wiring and all accessories and appurtenances required for a complete installation. An automatic transfer switch was also installed to allow for immediate standby generator startup as soon as power is interrupted.

Work on the Well 10A project began in 2013 and is expected to be completed in December 2014.

Well 11A

Existing WAGNN supply Well 11 has reached the end of its service life due to corrosion in the well casing. Replacement Well 11A will be located in the vicinity of existing Well 11. This area is not located in a FEMA designated flood zone, however it is in a low spot that experiences recurring local flooding during storm events.

As part of the Well 11A installation work, a new well house structure will be constructed to enclose the pumping equipment, valving, chemical storage and feed equipment, and electrical controls. The Well 11A wellhead and sanitary seals have been designed to be two feet above the floor of the well house enclosure. WAGNN is proposing to modify this design by elevating the new wellhead to 5 feet above the ground surface in order to protect the wellhead and all associated equipment from flooding and flood related service interruptions at this supply well. The proposed work includes:

- Abandoning existing Well 11
- Installing a replacement supply Well 11A
- Installing all required pumping and electrical equipment and infrastructure
- Constructing a new aboveground well house to enclose the new elevated wellhead and associated pumping, chemical storage/feed, and electrical equipment

These measures will help to protect the water within Well 11A from becoming contaminated during an emergency due to infiltration of the sanitary seal. Raising the sanitary seal will minimize the risk of damage or disruption of services to this equipment during severe flooding events in the future and allow WAGNN to maintain essential water supply services without interruption. This project is consistent with the action items included in the April 2011 Sanitary Survey conducted by the Nassau County Department of Health.

The new replacement supply well will be installed by a New York State licensed well driller in accordance with all applicable NYSDOH regulations.

Portable Generator Replacement

WAGNN proposes to replace its 20 year old portable diesel powered generator with a new diesel fuel generator (approximately 350 kW). This project also includes installing plugs and manual transfer switches at designated WAGNN locations to facilitate connection to the portable generator when this alternate power source is needed. Through existing Intermunicipal Agreements with the Vigilant Fire Department and the Town of North Hempstead, WAGNN has access to readily available sources of diesel fuel to run the proposed portable generator.

WAGNN may elect to install plugs and transfer switches to permit connection to the portable generator at certain key system locations even though they have a backup power supply. This redundancy would ensure that critical systems remain operational in case of a backup generator failure. For example, WAGNN's main plant office is the control center for the entire water supply system. This location has a backup emergency power generator and plugs/manual transfer switches for connection to the existing portable generator as a failsafe to ensure that the critical infrastructure operations and office functions are not interrupted.

Replacing the portable generator and installing required connections at designated WAGNN plants would give WAGNN the flexibility of bringing power to locations where it is needed to respond to power losses from storms and electrical service grid problems. This generator would be dedicated for use in maintaining WAGNN's drinking water supply operations and ensure proper pressure to meet critical fire flow demand in the event of power emergencies.

Other Alternatives Evaluated

Alternative 1: No Action

Under the no action alternative, there would be no changes to WAGNN's operations at Wells 2A, 5, 6, 8, 10A and 11A. (While a dedicated standby generator has already been installed at the Well 10A facility and other modifications have been made at this location as described in

"Proposed Scope of Work", this no action discussion refers to pre-modification conditions at Well 10A).

Under the no action alternative, the supply wells (Wells 2A, 5, 6, 8 and 11A) would not be modified to elevate wellheads to provide protection against flooding. This alternative would not mitigate the continued risk of flooding at these supply wells and the possibility of well contamination due to flooding and compromised sanitary well seals, and subsequent shut down of contaminated wells would remain.

In addition, automatic standby generators fueled by natural gas would not be installed at Wells 6 and 10A, and a diesel fueled portable generator would not be purchased to replace the old portable generator. During a power outage due to a weather event, heat wave or any other loss of utility power, WAGNN would not have a reliable alternate power source to automatically switch on to keep Wells 6 and 10A in operation. The existing 20 year old portable generator that is reaching the end of its useful life could be brought to supply wells on an as-needed basis, provided that WAGNN personnel are assigned to run the generator and refill it with diesel fuel. The lack of reliable backup power under the no action alternative would prevent WAGNN from maintaining water pressure and critical fire protection throughout the entire service area.

Alternative 2: Relocate Supply Wells; Construct New Well Facilities with Flood Protection and Standby Power

Under this alternative, the supply wells that are prone to flooding (Wells 2A, 5, 6, 8 and 11A) would be relocated to sites where flooding is not an issue. New wells would be installed and new well houses would be constructed with all well pumping/electrical equipment and controls. A dedicated standby generator would be installed at each location inside the new well houses. Since flooding is not an issue at Well 10A, this supply well would remain at its current location with a new automatic standby generator.

Although this alternative would prevent flooding/resultant well contamination and would ensure that the supply wells keep operating during power outages, the associated technical and cost considerations would be prohibitive. This alternative would involve acquiring properties in non-flood prone areas within a highly developed area. Prospective locations would have to be evaluated to determine if wells at new locations would yield sufficient potable water to meet demand. Saltwater intrusion would have to be considered and WAGNN's distribution system would have to be expanded to the new supply well locations.

Summary of Alternative Evaluation

The no action alternative would not achieve WAGNN's objective to maintain an uninterrupted water supply and ensure adequate fire flow. No action would not protect wells from flooding or provide standby emergency power at the locations discussed herein.

While the supply well relocation alternative would achieve the project objectives, it would not be a feasible option due to technical constraints and tremendous cost as discussed above.

Therefore, WAGNN proposes to implement the alternative discussed in "Proposed Scope of Work" to cost-effectively meet the storm mitigation improvements project objectives.

Estimated Project Costs

The estimated cost to implement the proposed storm mitigation improvements project is outlined below. This estimate is based on preliminary conceptual design and similar projects completed by WAGNN.

Project Component	Estimated Cost					
	Construction Cost	Engineering Fees	Other Expenses	Equipment Cost	Contingencies (@ 15%)	Total
Well 2A	$ 2,000,000	$ 300,000	$ 20,000	included in constuction cost estimates	$ 348,000	$ 2,668,000
Well 5	$ 1,250,000	$ 188,000	$ 20,000		$ 218,000	$ 1,676,000
Well 6	$ 2,500,000	$ 375,000	$ 20,000		$ 434,000	$ 3,329,000
Well 8	$ 2,000,000	$ 300,000	$ 20,000		$ 348,000	$ 2,668,000
Well 10A	$ 1,000,000	$ 150,000	$ 20,000		$ 175,000	$ 1,345,000
Well 11A	$ 2,000,000	$ 300,000	$ 20,000		$ 348,000	$ 2,668,000
Portable Generator	$ -	$ 75,000	$ 20,000	$ 500,000	$ 89,000	$ 684,000
Grand Total	*$ 10,750,000*	*$ 1,688,000*	*$ 140,000*	*$ 500,000*	*$ 1,960,000*	*$ 15,038,000*

Environmental Impacts and Mitigation

WAGNN's proposed storm mitigation improvements project would protect water supply wells and minimize the risk of well damage or disruption of services during future flood events and allow WAGNN to maintain essential water supply services without interruption at Wells 2A, 5, 6, 8 and 11A. The generator projects at Well 6 and Well 10A would enable WAGNN to supply sufficient potable water and ensure proper water pressure to meet critical fire flow demand, maintaining uninterrupted supply and adequate fire protection. The portable generator project would give WAGNN the flexibility to bring emergency power to locations that need it to respond to power losses due to storms and electrical service grid problems.

The project at each of the well locations described herein will be completed entirely on WAGNN owned property; no property acquisition or expansion of facilities would be involved. No adverse impacts on surrounding properties or any environmentally sensitive areas are expected as a result of the proposed project. Environmentally sensitive areas in or near the project area identified during the SEQR and NEPA environmental review are discussed below, along with

mitigation measures that would be implemented to protect these areas. Additional information is presented in the Full EAF (see Appendix A).

Coastal Areas

Wells 5, 6 and 10A are located within a coastal area or the waterfront area of a designated inland waterway as defined by NYSDEC.

- Well 5 is located adjacent to a drainage channel that is connected to Udall's Mill Pond which is connected to the Long Island Sound.
- Well 6 is located in a coastal area adjacent to Little Neck Bay which is connected to the Long Island Sound.
- Well 10A is located near the eastern coast of the Great Neck peninsula, however it is near the top of a steep slope approximately 100 feet above the shoreline. Therefore, the Well 10A project activities would not impact the coastal area.
- Based on correspondence with NYSDEC Region 1 Division of Environmental Permits during preparation of the Full EAF, none of the project locations appear to be within a mapped coastal erosion hazard area. Therefore, a Coastal Erosion Management Permit would not be required to implement the project at Well 2A, 5, 6, 8, 10A or 11A.

Coastal areas and waterways in the vicinity of the project sites would be protected during the work by implementing best management practices to ensure that construction activities and subsequent daily operations do not disturb or otherwise impact these areas. Construction equipment would be prohibited from entering the drainage channel and coastal areas during the work at Well 5 and Well 6. Silt fencing, staked hay bales or other appropriate erosion control measures would be used to minimize erosion and sedimentation to avoid impacting the drainage channel and coastal area.

Tidal Wetlands

Based on correspondence with NYSDEC Region 1 Division of Environmental Permits, State regulated tidal wetlands are located north of the Well 5 project location and along the western side of the Well 6 property. Therefore, it is likely that a NYSDEC Tidal Wetlands Permit would be required to ensure compliance with 6 NYCRR Part 661 at these two locations.

Tidal wetlands are also located north of the Well 2A/11A property on the north side of the LIRR tracks, however the Tidal Wetlands Act and permit regulations would not apply to these wetlands because they are separated from the project site by a man-made structure (NYSDEC Region 1 "Tidal Wetlands Jurisdictional Inquiry Checklist"). Tidal wetlands are not located in the vicinity of the Well 8 and Well 10A sites.

WAGNN shall retain a qualified environmental scientist to delineate the tidal wetlands and buffer zones near the Well 5 and Well 6 project sites. The tidal wetlands and buffer zones shall

be delineated in accordance with the requirements and guidelines set forth pursuant to the New York State Tidal Wetlands Act and the U.S. Army Corps of Engineers Wetlands Delineation Manual (1987, plus any subsequent guidance and updates). Once the delineation is completed, the summary report shall be sent to NYSDEC and the U.S. Army Corps of Engineers for review and verification of the delineated extent of the wetland and buffer zone boundaries, and a jurisdictional determination of whether a Corps of Engineers permit would be required in addition to the NYSDEC tidal wetlands permit for work at either location.

WAGNN will carefully consider the delineated tidal wetlands and buffer zone boundaries during detailed design of the Well 5 and Well 6 projects. Required NYSDEC and possibly U.S. Army Corps of Engineers tidal wetlands permits would be obtained for the work during the design phase before construction begins at these locations. All work would be conducted in accordance with applicable permit conditions. The design will incorporate best management practices to protect the wetlands and avoid any adverse impacts on these areas. The construction zones would be established to restrict equipment access and keep vehicles as far away from the wetlands as possible. Stormwater flow would be diverted away from the wetlands using silt fencing, staked hay bales and other appropriate control measures to minimize erosion and prevent sediment deposits from impacting the wetlands. Construction activities at Well 5 and Well 6 would be managed to ensure that the tidal wetlands are not impacted by the work.

Freshwater Wetlands

A freshwater wetland area is located on the Well 2A/11A property along the drainage channel that runs through the property, thus a NYSDEC Freshwater Wetlands Permit may be required to implement the project at this location. None of the other project locations (Well 5, 6, 8 or 10A) appear to be located in the vicinity of New York State regulated freshwater wetlands.

NYSDEC Region 1 delineates freshwater wetlands (not tidal wetlands). Therefore, WAGNN shall request that NYSDEC delineate the freshwater wetland area and buffer zone at the Well 2A/11A site. Once the delineation is completed, WAGNN will carefully consider the freshwater wetlands and buffer zone boundaries during detailed design of the Well 2A and Well 11A projects. Required NYSDEC freshwater wetlands permits would be obtained for the work during the design phase before construction begins at these locations. All work would be conducted in accordance with applicable permit conditions. The design will incorporate best management practices to protect the wetlands and avoid any adverse impacts on these areas. The construction zones would be established to restrict equipment access and keep vehicles as far away from the wetlands as possible. Stormwater flow would be diverted away from the wetlands using silt fencing, staked hay bales and other appropriate control measures to minimize erosion and prevent sediment deposits from impacting the wetlands. Construction activities at Well 2A and Well 11A would be managed to ensure that the freshwater wetlands are not impacted by the work.

Flood Zones

Based on a review of the FEMA National Flood Insurance Program maps, Wells 2A, 8, 10A and 11A are not located in a FEMA designated flood zone. Well 5 is located in close proximity to an area within FEMA flood zone AE with a base flood elevation of 10 feet. Well 6 is located along the shoreline within FEMA flood zone VE with a base flood elevation of 14 feet. Flood zones in the vicinity of the project sites would be protected during the work to ensure that construction activities and subsequent daily operations do not disturb or otherwise impact these areas. The best management practices designed to protect wetland areas would also be used to protect the flood zones.

Water Supply

The Well 11A project involves installation of a replacement potable water supply well. The Well 5 and Well 8 projects may involve installation of replacement potable water supply wells if further inspection indicates that the existing wells cannot be repaired. For each location where a new well is installed, permits will be obtained from the NYSDEC Division of Water to abandon the existing well and install and operate the new replacement supply well.

Summary

Based on the environmental assessment completed pursuant to SEQR and summarized on the Full EAF presented in Appendix A and the evaluation conducted when preparing this EID, the proposed project will not adversely impact the environment, land use, natural resources or public resources. The work areas at each of the supply well facilities (Well 2A, Well 5, Well 6, Well 8, Well 10A and Well 11A) would be limited to the construction zone immediately adjacent to the existing public supply wells and well houses. The project will be completed entirely on WAGNN owned property and primarily involves in-kind replacement of equipment and structures. The project does not include property acquisition or expansion of facilities.

Environmentally sensitive areas, such as tidal and freshwater wetlands, coastal areas and flood zones would be protected during the work to ensure that construction activities and subsequent daily operations do not disturb or otherwise impact these areas. The proposed project would not alter, change the size or encroach upon any existing wetland, waterbody, shoreline, beach or adjacent area.

WAGNN would coordinate with regulatory agencies to obtain any required permits before construction work begins to comply with all applicable environmental regulations and permit conditions. It is expected that NYSDEC Tidal Wetlands Permits (and possibly U.S. Army Corps of Engineers permits) would apply to the proposed work at the Well 5 and Well 6 locations. NYSDEC Freshwater Wetlands Permits are expected to apply to the Well 2A and Well 11A

project locations. NYSDEC Division of Water permits would apply to the abandonment of existing wells (Well 11 and possibly Wells 5 and 8) and installation and operation of new replacement supply well(s). In addition, approvals will be obtained from the Nassau County Department of Health Water Supply Division for supply well modifications and/or replacement. Permit requirements will be further evaluated during as project design progresses through continued contact with NYSDEC and other regulatory agencies. Best management practices would be developed during design and implemented to avoid impacts to environmentally sensitive areas.

Regulatory Agency Contacts and Document References in Support of NEPA/SEQR Review

"New York State Revolving Fund Environmental Review Requirements for Equivalency Projects" (Effective Date: May 1, 2014)

NYSDEC Region 1 "Tidal Wetlands Jurisdictional Inquiry Checklist"

FEMA Flood Map Service Center, https://msc.fema.gov/portal

Incorporated Village of Great Neck, http://www.greatneckvillage.org/

Town of North Hempstead, http://www.northhempstead.com/

Nassau County, http://www.nassaucountyny.gov/

NYSDEC Full Environmental Assessment Form Workbook,
http://www.dec.ny.gov/permits/91614.html

NYSDEC EAF Mapper, http://www.dec.ny.gov/eafmapper/

NYSDEC Environmental Resource Mapper, http://www.dec.ny.gov/animals/38801.html

Brock Rogers, P.E.
New York State Department of Health
Bureau of Water Supply Protection
Corning Tower, Room 1135
Empire State Plaza
Albany, NY 12237

NY State Office of Parks, Recreation and Historic Preservation
Historic Preservation Field Services Bureau
Peebles Island Resource Center
P.O. Box 189
Waterford, NY 12188-0189

Kevin A. Kispert
NYSDEC - Region 1 Office
Division of Environmental Permits
SUNY at Stony Brook
50 Circle Road
Stony Brook, NY 11790-3409

Kevin Jennings
NYSDEC - Region 1 Office
Bureau of Habitat
SUNY at Stony Brook
50 Circle Road
Stony Brook, NY 11790-3409

Dwight A. Brown
Clean Water State Revolving Fund Program Services Coordinator
NYS Environmental Facilities Corporation
625 Broadway
Albany, NY 12207

Jun Yan
U.S. Army Corps of Engineers
New York District
26 Federal Plaza
New York, NY 10278

FIGURES

Maps Locating the Project

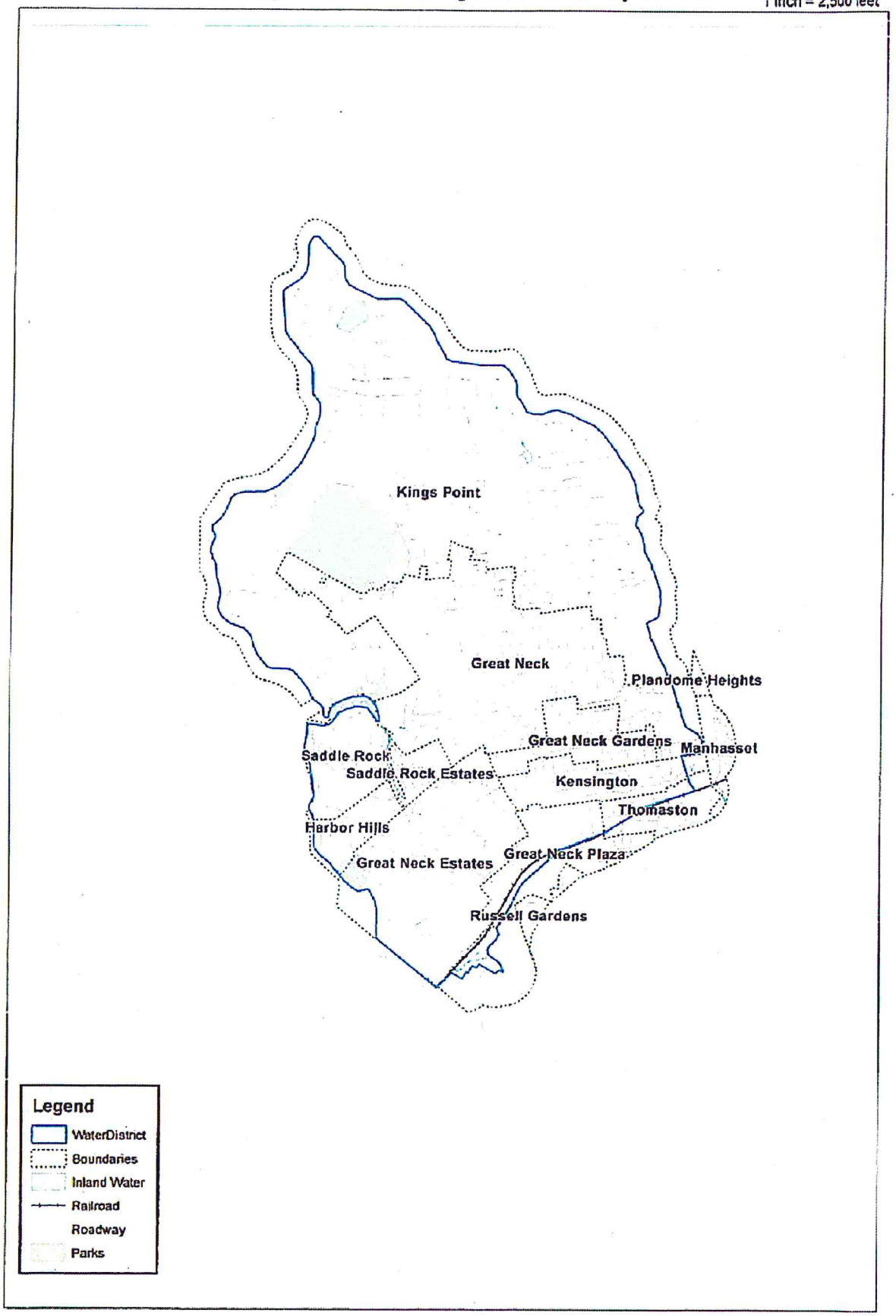
Figure 1 shows the extent of WAGNN's public water supply service area. Figures 2 through 6 (cropped sections of FEMA flood maps) show the general locations of the supply wells included in the storm mitigation improvements project, with the street names highlighted. Due to post-9/11 security concerns, WAGNN does not show precise well locations on maps or figures prepared for submittals, and enforces strict procedures for chemical deliveries and access to its well facilities in order to protect the water supply system against threats. Additional information on the WAGNN wells and facilities will be provided upon request.

FIGURE 1

THE WATER AUTHORITY OF GREAT NECK NORTH - SERVICE AREA MAP

Showing the several Villages the Authority serves

1 inch = 2,500 feet



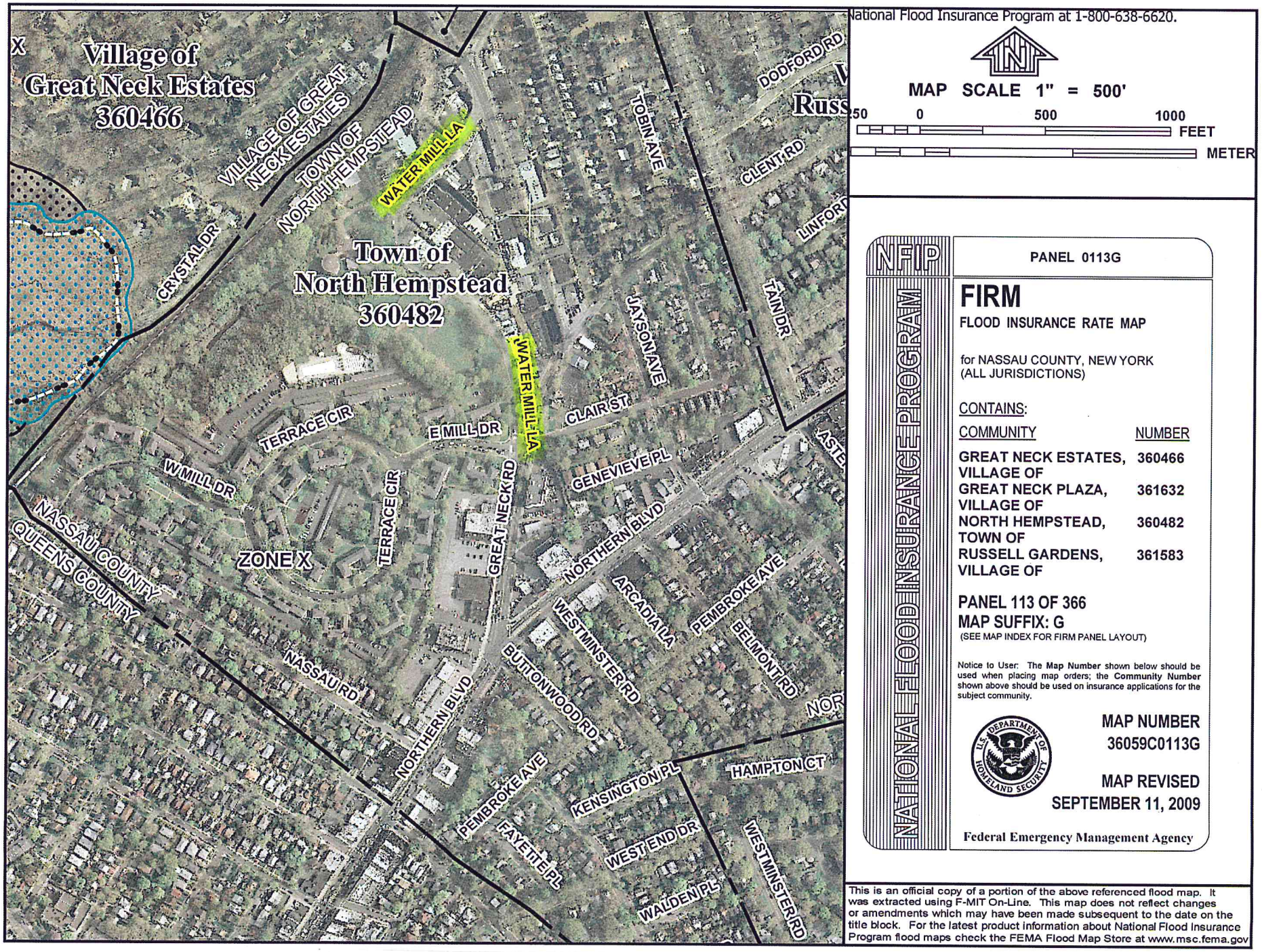


FIGURE 2 – GENERAL LOCATION OF WELL 2A AND WELL 11A

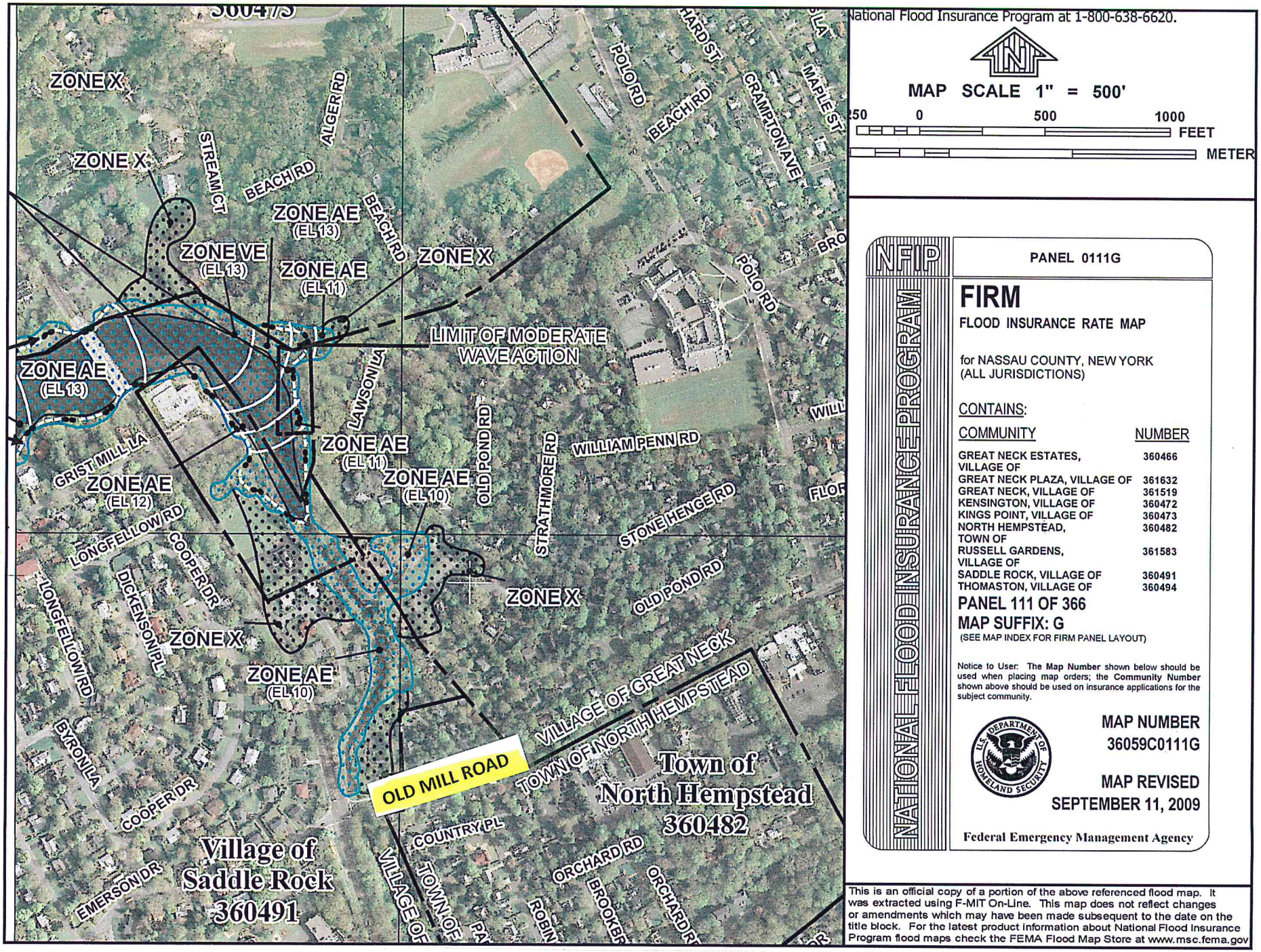


FIGURE 3 – GENERAL LOCATION OF WELL 5

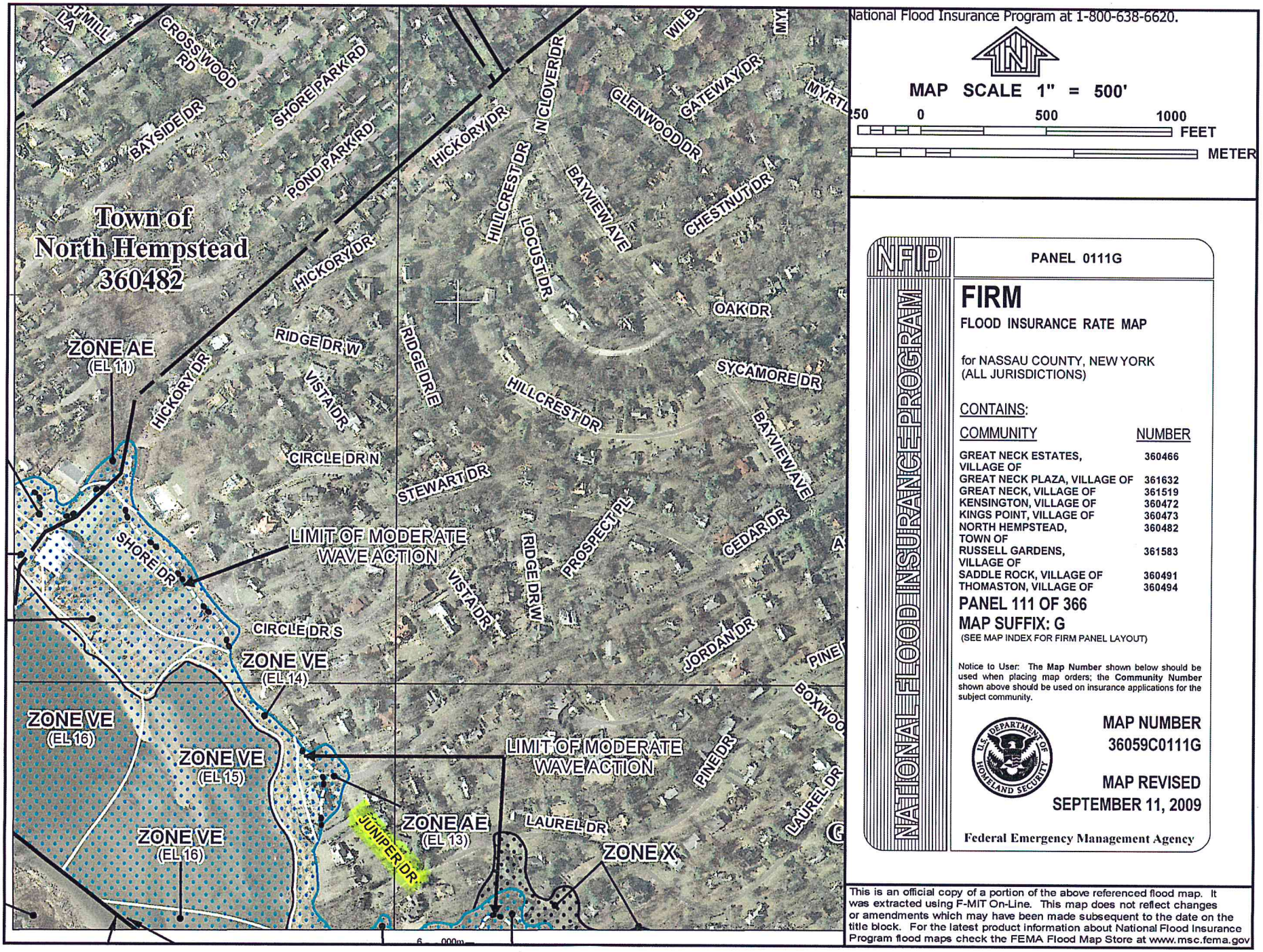


FIGURE 4 – GENERAL LOCATION OF WELL 6

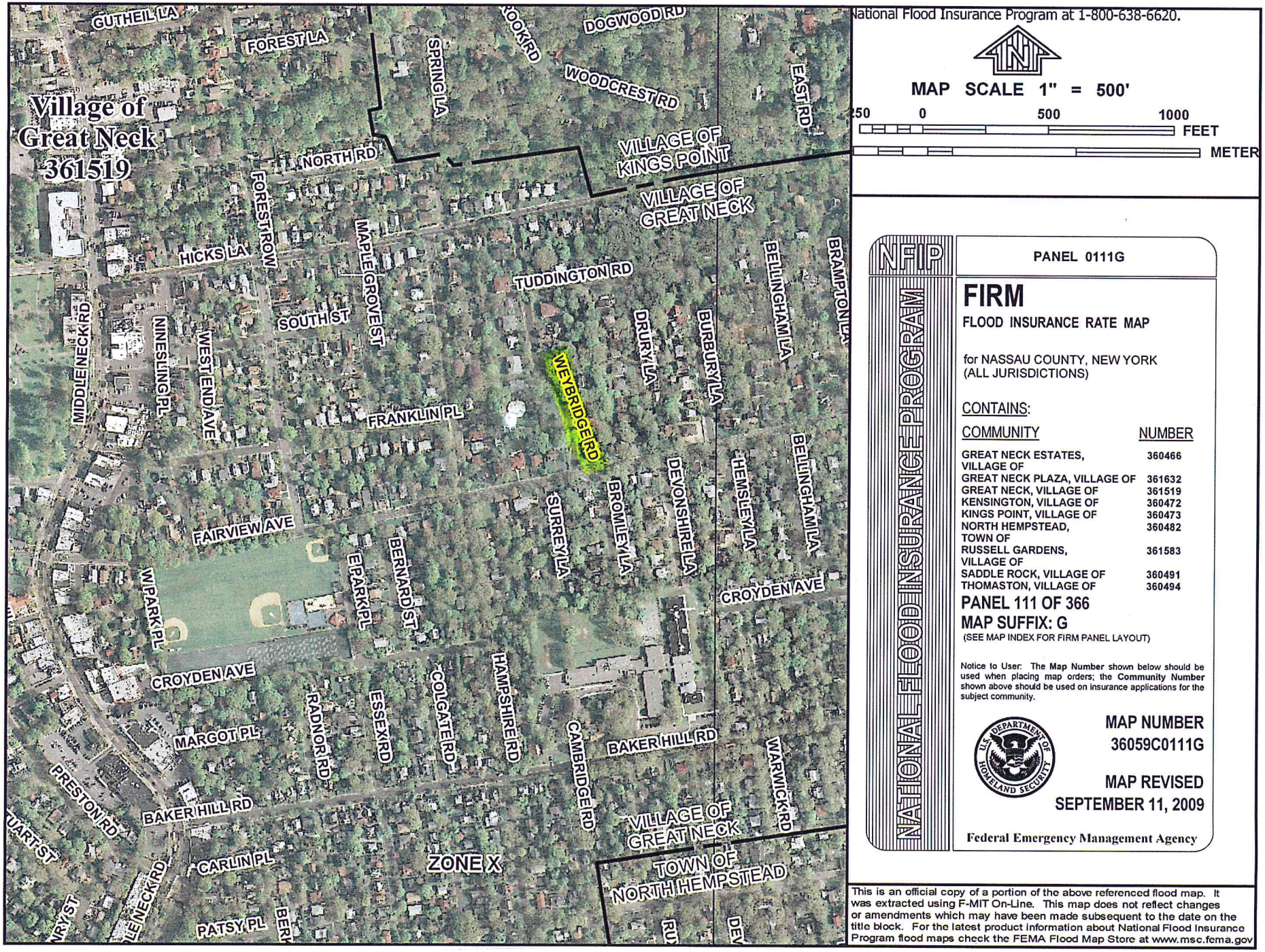


FIGURE 5 – GENERAL LOCATION OF WELL 8

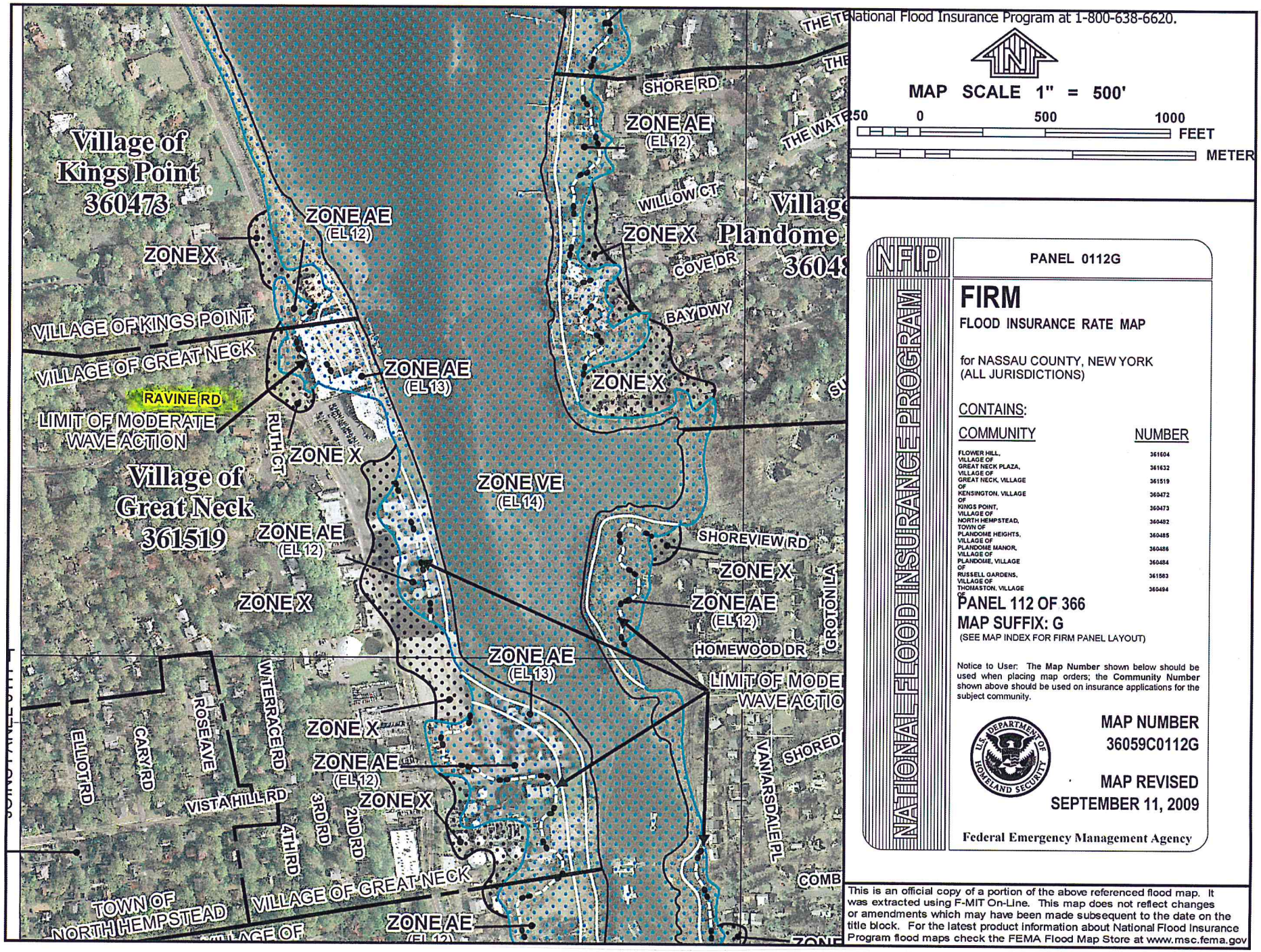


FIGURE 6 – GENERAL LOCATION OF WELL 10A

APPENDIX A

FULL ENVIRONMENTAL ASSESSMENT FORM, PART 1 – PROJECT AND SETTING (SEQR SUBMITTAL)

Instructions for Completing Part 1

Part 1 is to be completed by the applicant or project sponsor. Responses become part of the application for approval or funding, are subject to public review, and may be subject to further verification.

Complete Part 1 based on information currently available. If additional research or investigation would be needed to fully respond to any item, please answer as thoroughly as possible based on current information; indicate whether missing information does not exist, or is not reasonably available to the sponsor; and, when possible, generally describe work or studies which would be necessary to update or fully develop that information.

Applicants/sponsors must complete all items in Sections A & B. In Sections C, D & E, most items contain an initial question that must be answered either "Yes" or "No". If the answer to the initial question is "Yes", complete the sub-questions that follow. If the answer to the initial question is "No", proceed to the next question. Section F allows the project sponsor to identify and attach any additional information. Section G requires the name and signature of the project sponsor to verify that the information contained in Part 1is accurate and complete.

A. Project and Sponsor Information.

Name of Action or Project: Water Authority of Great Neck North Storm Mitigation Improvements Project		
Project Location (describe, and attach a general location map): See Attachment for Details: Supply Wells on Watermill Ln,Weybridge Rd&Ravine Rd,Great Neck; Old Mill Rd,Saddle Rock; Juniper Dr,Great Neck Estates		
Brief Description of Proposed Action (include purpose or need): In recent years, two hurricanes (Irene and Sandy), a microburst (in June 2010) and a number of Nor'easters have caused flooding and prolonged power outages throughout the entire Great Neck peninsula. Water Authority of Great Neck North (WAGNN) had difficulty meeting the water supply demands in its service area as a result of these storms. WAGNN proposes to elevate public water supply wellheads at Wells 2A, 5, 6, 8 and 11A; install standby emergency generators at Wells 6 and 10A; and purchase a portable emergency generator. Elevating wellheads to minimize the potential for flooding/supply well contamination, installing emergency backup power generators, and having a portable generator is paramount to providing proper water pressure and firefighting capabilities throughout the entire WAGNN service area. In the interest of maintaining an uninterrupted water supply to its customers and ensuring adequate fire flow during severe storm and emergency situations, WAGNN proposes to implement the storm mitigation improvements project. Additional project information is presented in the Attachment (Section F: Additional Information).		
Name of Applicant/Sponsor: Water Authority of Great Neck North (Gregory C. Graziano, Superintendent)	Telephone: 516-487-7973 E-Mail: ggraziano@wagnn.org	
Address: 50 Watermill Lane		
City/PO: Great Neck	State: New York	Zip Code: 11021
Project Contact (if not same as sponsor; give name and title/role): Stephen M. Moriarty, P.E., Assistant Superintendent	Telephone: 516-487-7973 E-Mail: smoriarty@wagnn.org	
Address: Water Authority of Great Neck North, 50 Watermill Lane		
City/PO: Great Neck	State: New York	Zip Code: 11021
Property Owner (if not same as sponsor): Water Authority of Great Neck North	Telephone: 516-487-7973 E-Mail: N/A	
Address: 50 Watermill Lane		
City/PO: Great Neck	State: New York	Zip Code: 11021

B. Government Approvals

B. Government Approvals, Funding, or Sponsorship. ("Funding" includes grants, loans, tax relief, and any other forms of financial assistance.)

Government Entity	If Yes: Identify Agency and Approval(s) Required	Application Date (Actual or projected)
a. City Council, Town Board, or Village Board of Trustees ☐Yes ☑No		
b. City, Town or Village Planning Board or Commission ☐Yes ☑No		
c. City Council, Town or Village Zoning Board of Appeals ☐Yes ☑No		
d. Other local agencies ☐Yes ☑No		
e. County agencies ☑Yes ☐No	Nassau County Dept. of Health Water Supply Division Project Approvals	approvals shall be obtained in step with project design before construction begins
f. Regional agencies ☐Yes ☑No		
g. State agencies ☑Yes ☐No	See Attachment	See Attachment
h. Federal agencies ☐Yes ☑No		

i. Coastal Resources.

i. Is the project site within a Coastal Area, or the waterfront area of a Designated Inland Waterway? ☑Yes ☐No

ii. Is the project site located in a community with an approved Local Waterfront Revitalization Program? ☐Yes ☑No

iii. Is the project site within a Coastal Erosion Hazard Area? ☐Yes ☑No

C. Planning and Zoning

C.1. Planning and zoning actions.

Will administrative or legislative adoption, or amendment of a plan, local law, ordinance, rule or regulation be the only approval(s) which must be granted to enable the proposed action to proceed? ☐Yes ☑No

- **If Yes,** complete sections C, F and G.
- **If No,** proceed to question C.2 and complete all remaining sections and questions in Part 1

C.2. Adopted land use plans.

a. Do any municipally- adopted (city, town, village or county) comprehensive land use plan(s) include the site where the proposed action would be located? ☐Yes ☑No

If Yes, does the comprehensive plan include specific recommendations for the site where the proposed action would be located? ☐Yes ☐No

b. Is the site of the proposed action within any local or regional special planning district (for example: Greenway Brownfield Opportunity Area (BOA); designated State or Federal heritage area; watershed management plan; or other?) ☑Yes ☐No

If Yes, identify the plan(s):

NYS Heritage Areas:LI North Shore Heritage Area, Remediaton Sites:130072, Remediaton Sites:V00395

c. Is the proposed action located wholly or partially within an area listed in an adopted municipal open space plan, or an adopted municipal farmland protection plan? ☐Yes ☑No

If Yes, identify the plan(s):

C.3. Zoning

a. Is the site of the proposed action located in a municipality with an adopted zoning law or ordinance. ☑ Yes ☐ No
If Yes, what is the zoning classification(s) including any applicable overlay district?
Well 2A and Well 11A: Town of North Hempstead Zones I-B and R-C; Well 8 and Well 10A: Inc. Village of Great Neck Zone Residence B-1; Well 5: Inc. Village of Saddle Rock zoned for business/commercial use; Well 6: Inc. Village of Great Neck Estates zoned for business/commercial use

b. Is the use permitted or allowed by a special or conditional use permit? ☐ Yes ☑ No

c. Is a zoning change requested as part of the proposed action? ☐ Yes ☑ No
If Yes,
i. What is the proposed new zoning for the site? _____

C.4. Existing community services.

a. In what school district is the project site located? Great Neck School District (District 7)

b. What police or other public protection forces serve the project site?
Nassau County Police Dept., Great Neck Estates Police Dept.

c. Which fire protection and emergency medical services serve the project site?
Nassau County EMS, Great Neck Alert Fire Co., Great Neck Vigilant Engine Hook & Ladder Co., Manhasset-Lakeville Volunteer Fire Dept.

d. What parks serve the project site?
The Great Neck Parks District operates parks and recreation facilities in the project area, and other parks are maintained by local municipalities. The proposed project involves upgrades to existing water supply facilities and will not impact area parks.

D. Project Details

D.1. Proposed and Potential Development

a. What is the general nature of the proposed action (e.g., residential, industrial, commercial, recreational; if mixed, include all components)? Storm mitigation upgrades to existing public water supply well facilities to be performed on property owned and operated by WAGNN. Project does not involve any property acquisition or expansion of facilities.

b. a. Total acreage of the site of the proposed action? 9.6 acres
b. Total acreage to be physically disturbed? less than 1 acres
c. Total acreage (project site and any contiguous properties) owned or controlled by the applicant or project sponsor? 9.6 acres

c. Is the proposed action an expansion of an existing project or use? ☐ Yes ☑ No
i. If Yes, what is the approximate percentage of the proposed expansion and identify the units (e.g., acres, miles, housing units, square feet)? % _____ Units: _____

d. Is the proposed action a subdivision, or does it include a subdivision? ☐ Yes ☑ No
If Yes,
i. Purpose or type of subdivision? (e.g., residential, industrial, commercial; if mixed, specify types)
_____
ii. Is a cluster/conservation layout proposed? ☐ Yes ☐ No
iii. Number of lots proposed? _____
iv. Minimum and maximum proposed lot sizes? Minimum _____ Maximum _____

e. Will proposed action be constructed in multiple phases? ☑ Yes ☐ No
i. If No, anticipated period of construction: _____ months
ii. If Yes:
- Total number of phases anticipated 7
- Anticipated commencement date of phase 1 (including demolition) 5 month 2013 year
- Anticipated completion date of final phase 7 month 2018 year
- Generally describe connections or relationships among phases, including any contingencies where progress of one phase may determine timing or duration of future phases: _____

The Well 10A project was awarded in May 2013 and work at this location is expected to be completed in December 2014. Refer to the Attachment for details on the preliminary schedule for the remaining phases of the project.

f. Does the project include new residential uses? ☐Yes ☑No
If Yes, show numbers of units proposed.

	One Family	Two Family	Three Family	Multiple Family (four or more)
Initial Phase	_____	_____	_____	_____
At completion of all phases	_____	_____	_____	_____

g. Does the proposed action include new non-residential construction (including expansions)? ☑Yes ☐No
If Yes,
i. Total number of structures 6
ii. Dimensions (in feet) of largest proposed structure: 18 height; 20 width; and 30 length
iii. Approximate extent of building space to be heated or cooled: entire interior space square feet

h. Does the proposed action include construction or other activities that will result in the impoundment of any liquids, such as creation of a water supply, reservoir, pond, lake, waste lagoon or other storage? ☐Yes ☑No
If Yes,
i. Purpose of the impoundment: _____
ii. If a water impoundment, the principal source of the water: ☐ Ground water ☐ Surface water streams ☐Other specify: _____
iii. If other than water, identify the type of impounded/contained liquids and their source. _____
iv. Approximate size of the proposed impoundment. Volume: _____ million gallons; surface area: _____ acres
v. Dimensions of the proposed dam or impounding structure: _____ height; _____ length
vi. Construction method/materials for the proposed dam or impounding structure (e.g., earth fill, rock, wood, concrete): _____

D.2. Project Operations

a. Does the proposed action include any excavation, mining, or dredging, during construction, operations, or both? ☐Yes ☑No
(Not including general site preparation, grading or installation of utilities or foundations where all excavated materials will remain onsite)
If Yes:
i .What is the purpose of the excavation or dredging? _____
ii. How much material (including rock, earth, sediments, etc.) is proposed to be removed from the site?
- Volume (specify tons or cubic yards): _____
- Over what duration of time? _____

iii. Describe nature and characteristics of materials to be excavated or dredged, and plans to use, manage or dispose of them. _____
iv. Will there be onsite dewatering or processing of excavated materials? ☐Yes ☐No
If yes, describe. _____
v. What is the total area to be dredged or excavated? _____acres
vi. What is the maximum area to be worked at any one time? _____ acres
vii. What would be the maximum depth of excavation or dredging? _____ feet
viii. Will the excavation require blasting? ☐Yes ☐No
ix. Summarize site reclamation goals and plan: _____

b. Would the proposed action cause or result in alteration of, increase or decrease in size of, or encroachment into any existing wetland, waterbody, shoreline, beach or adjacent area? ☐Yes ☑No
If Yes:
i. Identify the wetland or waterbody which would be affected (by name, water index number, wetland map number or geographic description): _____

ii. Describe how the proposed action would affect that waterbody or wetland, e.g. excavation, fill, placement of structures, or alteration of channels, banks and shorelines. Indicate extent of activities, alterations and additions in square feet or acres:

_____

_____

_____

_____

iii. Will proposed action cause or result in disturbance to bottom sediments? ☐ Yes ☐ No

If Yes, describe: _____

iv. Will proposed action cause or result in the destruction or removal of aquatic vegetation? ☐ Yes ☐ No

If Yes:

- acres of aquatic vegetation proposed to be removed: _____
- expected acreage of aquatic vegetation remaining after project completion: _____
- purpose of proposed removal (e.g. beach clearing, invasive species control, boat access): _____

  _____
- proposed method of plant removal: _____
- if chemical/herbicide treatment will be used, specify product(s): _____

v. Describe any proposed reclamation/mitigation following disturbance: _____

_____

c. Will the proposed action use, or create a new demand for water? ☐ Yes ☑ No

If Yes:

i. Total anticipated water usage/demand per day: _____ gallons/day

ii. Will the proposed action obtain water from an existing public water supply? ☐ Yes ☐ No

If Yes:

- Name of district or service area: _____
- Does the existing public water supply have capacity to serve the proposal? ☐ Yes ☐ No
- Is the project site in the existing district? ☐ Yes ☐ No
- Is expansion of the district needed? ☐ Yes ☐ No
- Do existing lines serve the project site? ☐ Yes ☐ No

iii. Will line extension within an existing district be necessary to supply the project? ☐ Yes ☐ No

If Yes:

- Describe extensions or capacity expansions proposed to serve this project: _____

  _____
- Source(s) of supply for the district: _____

iv. Is a new water supply district or service area proposed to be formed to serve the project site? ☐ Yes ☐ No

If, Yes:

- Applicant/sponsor for new district: _____
- Date application submitted or anticipated: _____
- Proposed source(s) of supply for new district: _____

v. If a public water supply will not be used, describe plans to provide water supply for the project: _____

_____

vi. If water supply will be from wells (public or private), maximum pumping capacity: _____ gallons/minute.

d. Will the proposed action generate liquid wastes? ☐ Yes ☑ No

If Yes:

i. Total anticipated liquid waste generation per day: _____ gallons/day

ii. Nature of liquid wastes to be generated (e.g., sanitary wastewater, industrial; if combination, describe all components and approximate volumes or proportions of each): _____

_____

_____

iii. Will the proposed action use any existing public wastewater treatment facilities? ☐ Yes ☐ No

If Yes:

- Name of wastewater treatment plant to be used: _____
- Name of district: _____
- Does the existing wastewater treatment plant have capacity to serve the project? ☐ Yes ☐ No
- Is the project site in the existing district? ☐ Yes ☐ No
- Is expansion of the district needed? ☐ Yes ☐ No

- Do existing sewer lines serve the project site? ☐Yes ☐No
- Will line extension within an existing district be necessary to serve the project? ☐Yes ☐No

  If Yes:
  - Describe extensions or capacity expansions proposed to serve this project: _____

iv. Will a new wastewater (sewage) treatment district be formed to serve the project site? ☐Yes ☐No

If Yes:
- Applicant/sponsor for new district: _____
- Date application submitted or anticipated: _____
- What is the receiving water for the wastewater discharge? _____

v. If public facilities will not be used, describe plans to provide wastewater treatment for the project, including specifying proposed receiving water (name and classification if surface discharge, or describe subsurface disposal plans):

_____

vi. Describe any plans or designs to capture, recycle or reuse liquid waste: _____

_____

e. Will the proposed action disturb more than one acre and create stormwater runoff, either from new point sources (i.e. ditches, pipes, swales, curbs, gutters or other concentrated flows of stormwater) or non-point source (i.e. sheet flow) during construction or post construction? ☐Yes ☑No

If Yes:

i. How much impervious surface will the project create in relation to total size of project parcel?

_____ Square feet or _____ acres (impervious surface)

_____ Square feet or _____ acres (parcel size)

ii. Describe types of new point sources. _____

iii. Where will the stormwater runoff be directed (i.e. on-site stormwater management facility/structures, adjacent properties, groundwater, on-site surface water or off-site surface waters)?

_____

- If to surface waters, identify receiving water bodies or wetlands: _____
- Will stormwater runoff flow to adjacent properties? ☐Yes ☐No

iv. Does proposed plan minimize impervious surfaces, use pervious materials or collect and re-use stormwater? ☐Yes ☐No

f. Does the proposed action include, or will it use on-site, one or more sources of air emissions, including fuel combustion, waste incineration, or other processes or operations? ☐Yes ☑No

If Yes, identify:

i. Mobile sources during project operations (e.g., heavy equipment, fleet or delivery vehicles)

ii. Stationary sources during construction (e.g., power generation, structural heating, batch plant, crushers)

See Attachment

iii. Stationary sources during operations (e.g., process emissions, large boilers, electric generation)

g. Will any air emission sources named in D.2.f (above), require a NY State Air Registration, Air Facility Permit, or Federal Clean Air Act Title IV or Title V Permit? ☐Yes ☑No

If Yes:

i. Is the project site located in an Air quality non-attainment area? (Area routinely or periodically fails to meet ambient air quality standards for all or some parts of the year) ☐Yes ☐No

ii. In addition to emissions as calculated in the application, the project will generate:
- _____Tons/year (short tons) of Carbon Dioxide (CO_2)
- _____Tons/year (short tons) of Nitrous Oxide (N_2O)
- _____Tons/year (short tons) of Perfluorocarbons (PFCs)
- _____Tons/year (short tons) of Sulfur Hexafluoride (SF_6)
- _____Tons/year (short tons) of Carbon Dioxide equivalent of Hydroflourocarbons (HFCs)
- _____Tons/year (short tons) of Hazardous Air Pollutants (HAPs)

h. Will the proposed action generate or emit methane (including, but not limited to, sewage treatment plants, landfills, composting facilities)? ☐Yes ☑No

If Yes:

i. Estimate methane generation in tons/year (metric): _____

ii. Describe any methane capture, control or elimination measures included in project design (e.g., combustion to generate heat or electricity, flaring): _____

i. Will the proposed action result in the release of air pollutants from open-air operations or processes, such as quarry or landfill operations? ☐Yes ☑No

If Yes: Describe operations and nature of emissions (e.g., diesel exhaust, rock particulates/dust):

_____

j. Will the proposed action result in a substantial increase in traffic above present levels or generate substantial new demand for transportation facilities or services? ☐Yes ☑No

If Yes:

i. When is the peak traffic expected (Check all that apply): ☐ Morning ☐ Evening ☐Weekend ☐ Randomly between hours of _____ to _____.

ii. For commercial activities only, projected number of semi-trailer truck trips/day: _____

iii. Parking spaces: Existing _____ Proposed _____ Net increase/decrease _____

iv. Does the proposed action include any shared use parking? ☐Yes ☐No

v. If the proposed action includes any modification of existing roads, creation of new roads or change in existing access, describe:

_____

vi. Are public/private transportation service(s) or facilities available within ½ mile of the proposed site? ☐Yes ☐No

vii Will the proposed action include access to public transportation or accommodations for use of hybrid, electric or other alternative fueled vehicles? ☐Yes ☐No

viii. Will the proposed action include plans for pedestrian or bicycle accommodations for connections to existing pedestrian or bicycle routes? ☐Yes ☐No

k. Will the proposed action (for commercial or industrial projects only) generate new or additional demand for energy? ☐Yes ☑No

If Yes:

i. Estimate annual electricity demand during operation of the proposed action: _____

ii. Anticipated sources/suppliers of electricity for the project (e.g., on-site combustion, on-site renewable, via grid/local utility, or other):

_____

iii. Will the proposed action require a new, or an upgrade to, an existing substation? ☐Yes ☐No

l. Hours of operation. Answer all items which apply.

i. During Construction:

- Monday - Friday: 8 AM - 4 PM
- Saturday: NA
- Sunday: NA
- Holidays: NA

ii. During Operations:

- Monday - Friday: Supply Well,Continuous Operation
- Saturday: Supply Well,Continuous Operation
- Sunday: Supply Well,Continuous Operation
- Holidays: Supply Well,Continuous Operation

m. Will the proposed action produce noise that will exceed existing ambient noise levels during construction, operation, or both? ☑ Yes ☐ No

If yes:

i. Provide details including sources, time of day and duration:

Noise exceeding ambient levels will occur on a temporary basis during the project construction phase. New stand-by generators at Well 6 and Well 10A will be located inside enclosures which will minimize ambient noise impacts during generator operation in response to emergency power outages.

ii. Will proposed action remove existing natural barriers that could act as a noise barrier or screen? ☐ Yes ☑ No

Describe: _____

n.. Will the proposed action have outdoor lighting? ☑ Yes ☐ No

If yes:

i. Describe source(s), location(s), height of fixture(s), direction/aim, and proximity to nearest occupied structures:

This project will not change existing outdoor lighting at any of the supply well facilities which is in place for site security purposes and is compatible with surrounding land uses.

ii. Will proposed action remove existing natural barriers that could act as a light barrier or screen? ☐ Yes ☑ No

Describe: _____

o. Does the proposed action have the potential to produce odors for more than one hour per day? ☐ Yes ☑ No

If Yes, describe possible sources, potential frequency and duration of odor emissions, and proximity to nearest occupied structures: _____

p. Will the proposed action include any bulk storage of petroleum (combined capacity of over 1,100 gallons) or chemical products 185 gallons in above ground storage or any amount in underground storage? ☑ Yes ☐ No

If Yes:

i. Product(s) to be stored chlorine and caustic soda (storage depends on supply well facility)

ii. Volume(s) varies per unit time varies (e.g., month, year)

iii. Generally describe proposed storage facilities: _____

Existing bulk storage of chlorine and caustic soda is in compliance with NYSDEC regulations; no anticipated change in storage associated with project.

q. Will the proposed action (commercial, industrial and recreational projects only) use pesticides (i.e., herbicides, insecticides) during construction or operation? ☐ Yes ☑ No

If Yes:

i. Describe proposed treatment(s):

_____

ii. Will the proposed action use Integrated Pest Management Practices? ☐ Yes ☐ No

r. Will the proposed action (commercial or industrial projects only) involve or require the management or disposal of solid waste (excluding hazardous materials)? ☐ Yes ☑ No

If Yes:

i. Describe any solid waste(s) to be generated during construction or operation of the facility:

- Construction: _____ tons per _____ (unit of time)
- Operation : _____ tons per _____ (unit of time)

ii. Describe any proposals for on-site minimization, recycling or reuse of materials to avoid disposal as solid waste:

- Construction: _____
- Operation: _____

iii. Proposed disposal methods/facilities for solid waste generated on-site:

- Construction: _____
- Operation: _____

s. Does the proposed action include construction or modification of a solid waste management facility? ☐ Yes ☑ No

If Yes:

i. Type of management or handling of waste proposed for the site (e.g., recycling or transfer station, composting, landfill, or other disposal activities): _____

ii. Anticipated rate of disposal/processing:

- _____ Tons/month, if transfer or other non-combustion/thermal treatment, or
- _____ Tons/hour, if combustion or thermal treatment

iii. If landfill, anticipated site life: _____ years

t. Will proposed action at the site involve the commercial generation, treatment, storage, or disposal of hazardous waste? ☐ Yes ☑ No

If Yes:

i. Name(s) of all hazardous wastes or constituents to be generated, handled or managed at facility: _____

ii. Generally describe processes or activities involving hazardous wastes or constituents: _____

iii. Specify amount to be handled or generated _____ tons/month

iv. Describe any proposals for on-site minimization, recycling or reuse of hazardous constituents: _____

v. Will any hazardous wastes be disposed at an existing offsite hazardous waste facility? ☐ Yes ☐ No

If Yes: provide name and location of facility: _____

If No: describe proposed management of any hazardous wastes which will not be sent to a hazardous waste facility:

E. Site and Setting of Proposed Action

E.1. Land uses on and surrounding the project site

a. Existing land uses.

i. Check all uses that occur on, adjoining and near the project site.

☐ Urban ☑ Industrial ☑ Commercial ☑ Residential (suburban) ☐ Rural (non-farm)
☐ Forest ☐ Agriculture ☐ Aquatic ☐ Other (specify): _____

ii. If mix of uses, generally describe:

The WAGNN supply well facilities (Wells 2A, 5, 6, 8, 10A and 11A) are public utilities located within WAGNN's service area and have been in operation for many years. Land use in the vicinity of Wells 2A and 11A is industrial/commercial. Land use in the vicinity of Wells 5, 6, 8 and 10A is residential.

b. Land uses and covertypes on the project site.

Land use or Covertype	Current Acreage	Acreage After Project Completion	Change (Acres +/-)
• Roads, buildings, and other paved or impervious surfaces	< 1 acre total, see attachment	< 1 acre total	no change
• Forested	0	0	no change
• Meadows, grasslands or brushlands (non-agricultural, including abandoned agricultural)	approx. 8.6 acres	approx. 8.6 acres	no change
• Agricultural (includes active orchards, field, greenhouse etc.)	0	0	no change
• Surface water features (lakes, ponds, streams, rivers, etc.)	0	0	no change
• Wetlands (freshwater or tidal)	< 0.5 acre total, see attachment	< 0.5 acre total	no change
• Non-vegetated (bare rock, earth or fill)	0	0	no change
• Other Describe: _____			

c. Is the project site presently used by members of the community for public recreation? ☐ Yes ☑ No

i. If Yes: explain: _____

d. Are there any facilities serving children, the elderly, people with disabilities (e.g., schools, hospitals, licensed day care centers, or group homes) within 1500 feet of the project site? ☑ Yes ☐ No

If Yes,

i. Identify Facilities:

Saddle Rock Elementary School and Temple Israel School are located within a 1500 foot radius of the Well 5 facility. Baker Hill Elementary School is located within a 1500 foot radius of the Well 6 facility. These schools will not be impacted by the proposed project.

e. Does the project site contain an existing dam? ☐ Yes ☑ No

If Yes:

i. Dimensions of the dam and impoundment:

- Dam height: _____ feet
- Dam length: _____ feet
- Surface area: _____ acres
- Volume impounded: _____ gallons OR acre-feet

ii. Dam's existing hazard classification: _____

iii. Provide date and summarize results of last inspection:

_____

f. Has the project site ever been used as a municipal, commercial or industrial solid waste management facility, or does the project site adjoin property which is now, or was at one time, used as a solid waste management facility? ☐ Yes ☑ No

If Yes:

i. Has the facility been formally closed? ☐ Yes ☐ No

- If yes, cite sources/documentation: _____

ii. Describe the location of the project site relative to the boundaries of the solid waste management facility:

_____

iii. Describe any development constraints due to the prior solid waste activities: _____

g. Have hazardous wastes been generated, treated and/or disposed of at the site, or does the project site adjoin property which is now or was at one time used to commercially treat, store and/or dispose of hazardous waste? ☐ Yes ☑ No

If Yes:

i. Describe waste(s) handled and waste management activities, including approximate time when activities occurred:

_____

h. Potential contamination history. Has there been a reported spill at the proposed project site, or have any remedial actions been conducted at or adjacent to the proposed site? ☑ Yes ☐ No

If Yes:

i. Is any portion of the site listed on the NYSDEC Spills Incidents database or Environmental Site Remediation database? Check all that apply: ☑ Yes ☐ No

☐ Yes – Spills Incidents database Provide DEC ID number(s): _____

☑ Yes – Environmental Site Remediation database Provide DEC ID number(s): 130072, V00395

☐ Neither database

ii. If site has been subject of RCRA corrective activities, describe control measures: _____

The WAGNN supply well facilities included in the proposed project (Well 2A, 5, 6, 8, 10A and 11A) have not been the subject of RCRA corrective measures.

iii. Is the project within 2000 feet of any site in the NYSDEC Environmental Site Remediation database? ☑ Yes ☐ No

If yes, provide DEC ID number(s): 130070, 130072, V00522, 130068, V00396, C130192...

iv. If yes to (i), (ii) or (iii) above, describe current status of site(s):

See Attachment for information on the status of the NYSDEC listed sites.

v. Is the project site subject to an institutional control limiting property uses? ☐ Yes ☑ No

- If yes, DEC site ID number: _____
- Describe the type of institutional control (e.g., deed restriction or easement): _____
- Describe any use limitations: _____
- Describe any engineering controls: _____
- Will the project affect the institutional or engineering controls in place? ☐ Yes ☐ No
- Explain: _____

E.2. Natural Resources On or Near Project Site

a. What is the average depth to bedrock on the project site? approx. 400 feet

b. Are there bedrock outcroppings on the project site? ☐ Yes ☑ No
If Yes, what proportion of the site is comprised of bedrock outcroppings? _____%

c. Predominant soil type(s) present on project site:

sand and gravel	100 %
	%
	%

d. What is the average depth to the water table on the project site? Average: 10 feet

e. Drainage status of project site soils:

☐	Well Drained:	% of site
☑	Moderately Well Drained:	100 % of site
☐	Poorly Drained	% of site

f. Approximate proportion of proposed action site with slopes:

☑	0-10%:	90 % of site
☐	10-15%:	% of site
☑	15% or greater:	10 % of site

g. Are there any unique geologic features on the project site? ☐ Yes ☑ No
If Yes, describe: _____

h. Surface water features.

i. Does any portion of the project site contain wetlands or other waterbodies (including streams, rivers, ponds or lakes)? ☑ Yes ☐ No

ii. Do any wetlands or other waterbodies adjoin the project site? ☑ Yes ☐ No

If Yes to either *i* or *ii*, continue. If No, skip to E.2.i.

iii. Are any of the wetlands or waterbodies within or adjoining the project site regulated by any federal, state or local agency? ☑ Yes ☐ No

iv. For each identified regulated wetland and waterbody on the project site, provide the following information:

- Streams: Name 885-8 Classification C
- Lakes or Ponds: Name 885-9 Classification SC
- Wetlands: Name Federal Waters, Federal Waters, Tidal Wetlands,... Approximate Size less than 0.5 acre
- Wetland No. (if regulated by DEC) unknown

v. Are any of the above water bodies listed in the most recent compilation of NYS water quality-impaired waterbodies? ☐ Yes ☑ No

If yes, name of impaired water body/bodies and basis for listing as impaired: _____

i. Is the project site in a designated Floodway? ☑ Yes ☐ No

j. Is the project site in the 100 year Floodplain? ☑ Yes ☐ No

k. Is the project site in the 500 year Floodplain? ☑ Yes ☐ No

l. Is the project site located over, or immediately adjoining, a primary, principal or sole source aquifer? ☑ Yes ☐ No
If Yes:

i. Name of aquifer: Sole Source Aquifer Names:Nassau-Suffolk SSA

m. Identify the predominant wildlife species that occupy or use the project site:

American Robin	Canada Goose	Wood Frog
Blue Jay	Mourning Dove	Northern Long-Eared Bat
Broad Winged Hawk	Mallard	

n. Does the project site contain a designated significant natural community? ☐ Yes ☑ No

If Yes:

i. Describe the habitat/community (composition, function, and basis for designation): _____

ii. Source(s) of description or evaluation: _____

iii. Extent of community/habitat:

- Currently: _____ acres
- Following completion of project as proposed: _____ acres
- Gain or loss (indicate + or -): _____ acres

o. Does project site contain any species of plant or animal that is listed by the federal government or NYS as endangered or threatened, or does it contain any areas identified as habitat for an endangered or threatened species? ☐ Yes ☑ No

p. Does the project site contain any species of plant or animal that is listed by NYS as rare, or as a species of special concern? ☐ Yes ☑ No

q. Is the project site or adjoining area currently used for hunting, trapping, fishing or shell fishing? ☐ Yes ☑ No

If yes, give a brief description of how the proposed action may affect that use: _____

E.3. Designated Public Resources On or Near Project Site

a. Is the project site, or any portion of it, located in a designated agricultural district certified pursuant to Agriculture and Markets Law, Article 25-AA, Section 303 and 304? ☐ Yes ☑ No

If Yes, provide county plus district name/number: _____

b. Are agricultural lands consisting of highly productive soils present? ☐ Yes ☑ No

i. If Yes: acreage(s) on project site? _____

ii. Source(s) of soil rating(s): _____

c. Does the project site contain all or part of, or is it substantially contiguous to, a registered National Natural Landmark? ☐ Yes ☑ No

If Yes:

i. Nature of the natural landmark: ☐ Biological Community ☐ Geological Feature

ii. Provide brief description of landmark, including values behind designation and approximate size/extent: _____

d. Is the project site located in or does it adjoin a state listed Critical Environmental Area? ☐ Yes ☑ No

If Yes:

i. CEA name: _____

ii. Basis for designation: _____

iii. Designating agency and date: _____

e. Does the project site contain, or is it substantially contiguous to, a building, archaeological site, or district which is listed on, or has been nominated by the NYS Board of Historic Preservation for inclusion on, the State or National Register of Historic Places? ☑ Yes ☐ No

If Yes:

i. Nature of historic/archaeological resource: ☐ Archaeological Site ☑ Historic Building or District

ii. Name: Saddle Rock Grist Mill, US Post Office--Great Neck, Grace and Thomaston Buildings

iii. Brief description of attributes on which listing is based:

Age and historical nature of structures

f. Is the project site, or any portion of it, located in or adjacent to an area designated as sensitive for archaeological sites on the NY State Historic Preservation Office (SHPO) archaeological site inventory? ☑ Yes ☐ No

g. Have additional archaeological or historic site(s) or resources been identified on the project site? ☐ Yes ☑ No

If Yes:

i. Describe possible resource(s): _____

ii. Basis for identification: _____

h. Is the project site within fives miles of any officially designated and publicly accessible federal, state, or local scenic or aesthetic resource? ☐ Yes ☑ No

If Yes:

i. Identify resource: _____

ii. Nature of, or basis for, designation (e.g., established highway overlook, state or local park, state historic trail or scenic byway, etc.): _____

iii. Distance between project and resource: _____ miles.

i. Is the project site located within a designated river corridor under the Wild, Scenic and Recreational Rivers Program 6 NYCRR 666? ☐ Yes ☑ No

If Yes:

i. Identify the name of the river and its designation: _____

ii. Is the activity consistent with development restrictions contained in 6NYCRR Part 666? ☐ Yes ☐ No

F. Additional Information

Attach any additional information which may be needed to clarify your project.

If you have identified any adverse impacts which could be associated with your proposal, please describe those impacts plus any measures which you propose to avoid or minimize them.

G. Verification

I certify that the information provided is true to the best of my knowledge.

Applicant/Sponsor Name Gregory Graziano Date 11/17/14

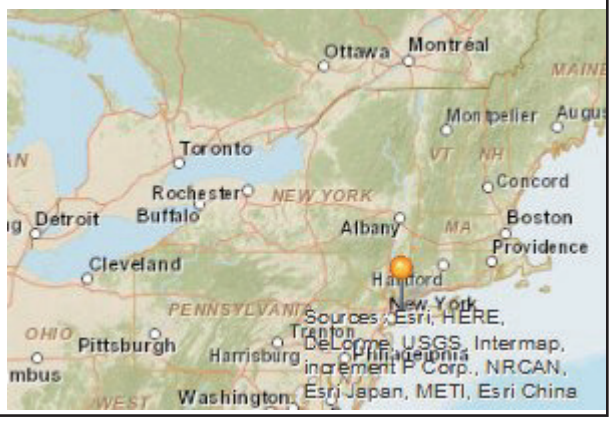
Signature _____ Title Superintendent, Water Authority of Great Neck North

PRINT FORM

EAF Mapper Summary Report

Wednesday, October 29, 2014 10:27 AM

Disclaimer: The EAF Mapper is a screening tool intended to assist project sponsors and reviewing agencies in preparing an environmental assessment form (EAF). Not all questions asked in the EAF are answered by the EAF Mapper. Additional information on any EAF question can be obtained by consulting the EAF Workbooks. Although the EAF Mapper provides the most up-to-date digital data available to DEC, you may also need to contact local or other data sources in order to obtain data not provided by the Mapper. Digital data is not a substitute for agency determinations.



B.i.i [Coastal or Waterfront Area]	Yes
B.i.ii [Local Waterfront Revitalization Area]	No
C.2.b. [Special Planning District]	Yes - Digital mapping data are not available for all Special Planning Districts. Refer to EAF Workbook.
C.2.b. [Special Planning District - Name]	NYS Heritage Areas:LI North Shore Heritage Area, Remediaton Sites:130072, Remediaton Sites:V00395
E.1.h [DEC Spills or Remediation Site - Potential Contamination History]	Yes - Digital mapping data for Spills Incidents are not available for this location. Refer to EAF Workbook.
E.1.h.i [DEC Spills or Remediation Site - Listed]	Yes
E.1.h.i [DEC Spills or Remediation Site - Environmental Site Remediation Database]	Yes
E.1.h.i [DEC Spills or Remediation Site - DEC ID Number]	130072, V00395
E.1.h.iii [Within 2,000' of DEC Remediation Site]	Yes
E.1.h.iii [Within 2,000' of DEC Remediation Site - DEC ID]	130070, 130072, V00522, 130068, V00396, C130192, V00395
E.2.g [Unique Geologic Features]	No
E.2.h.i [Surface Water Features]	Yes
E.2.h.ii [Surface Water Features]	Yes
E.2.h.iii [Surface Water Features]	Yes - Digital mapping information on local and federal wetlands and waterbodies is known to be incomplete. Refer to EAF Workbook.
E.2.h.iv [Surface Water Features - Stream Name]	885-8
E.2.h.iv [Surface Water Features - Stream Classification]	C

E.2.h.iv [Surface Water Features - Lake/Pond Name]	885-9
E.2.h.iv [Surface Water Features - Lake/Pond Classification]	SC
E.2.h.iv [Surface Water Features - Wetlands Name]	Federal Waters, Tidal Wetlands
E.2.h.v [Impaired Water Bodies]	No
E.2.i. [Floodway]	Yes
E.2.j. [100 Year Floodplain]	Yes
E.2.k. [500 Year Floodplain]	Yes
E.2.l. [Aquifers]	Yes
E.2.l. [Aquifer Names]	Sole Source Aquifer Names:Nassau-Suffolk SSA
E.2.n. [Natural Communities]	No
E.2.o. [Endangered or Threatened Species]	No
E.2.p. [Rare Plants or Animals]	No
E.3.a. [Agricultural District]	No
E.3.c. [National Natural Landmark]	No
E.3.d [Critical Environmental Area]	No
E.3.e. [National Register of Historic Places]	Yes - Digital mapping data for archaeological site boundaries are not available. Refer to EAF Workbook.
E.3.e.ii [National Register of Historic Places - Name]	Saddle Rock Grist Mill, US Post Office--Great Neck, Grace and Thomaston Buildings
E.3.f. [Archeological Sites]	Yes
E.3.i. [Designated River Corridor]	No

WATER AUTHORITY OF GREAT NECK NORTH
STORM MITIGATION IMPROVEMENTS PROJECT

ATTACHMENT TO FULL ENVIRONMENTAL ASSESSMENT FORM PART I

SECTION F. ADDITIONAL INFORMATION

This attachment provides additional information to supplement the responses indicated on the Full Environmental Assessment Form for this project. The information relates to the specific item numbers noted below.

Section A. Project and Sponsor Information: "Project Location"

The Water Authority of Great Neck North (WAGNN) provides public potable water supply to the northern area of the Great Neck Peninsula, which encompasses the villages of Great Neck, Great Neck Estates, Kensington, Kings Point, Saddle Rock, portions of Great Neck Plaza and Thomaston, and the unincorporated areas of the Town of North Hempstead. WAGNN's service area, located in the extreme northwest corner of Nassau County on the Great Neck peninsula, covers approximately 7.5 square miles as shown on Figure 1.

The table below provides the street names and municipalities of the supply wells included in the storm mitigation improvements project to be implemented using Storm Mitigation Loan Program (SMLP) funding to be awarded by the NYS Department of Health. Figures 2 through 6 (cropped sections of FEMA flood maps) show the general locations of these supply wells, with the street names highlighted. Due to post-9/11 security concerns, WAGNN does not show precise well locations on maps or figures prepared for submittals, and enforces strict procedures for chemical deliveries and access to its well facilities in order to protect the water supply system against threats. Additional information on the WAGNN wells and facilities will be provided upon request.

Well ID	Street Name	Municipality
Well 2A* Well 11A*	Watermill Lane	Great Neck, Unincorporated area of Town of North Hempstead
Well 5	Old Mill Road	Incorporated Village of Saddle Rock
Well 6	Juniper Drive	Incorporated Village of Great Neck Estates
Well 8	Weybridge Road	Incorporated Village of Great Neck
Well 10A	Ravine Road	Incorporated Village of Great Neck

* Note that Well 2A and Well 11A are located on the same WAGNN owned property.

WAGNN's SMLP award will also fund replacement of a 20 year old portable generator with a new portable diesel fuel generator to give WAGNN the flexibility to bring emergency power to locations that need it. This project includes purchasing the generator and installing plugs and manual transfer switches inside designated WAGNN well houses to facilitate connection to the portable generator when this alternate power source is needed to respond to power losses due to storms and electrical service grid problems. The portable generator will not impact the environment, historic properties or cultural resources since it will not be installed in a fixed location and will only be used in emergency response situations.

Section A. Project and Sponsor Information: "Brief Description of Proposed Action"

The NYS Department of Health has determined that the project listed below is eligible for funding under the Storm Mitigation Loan Program (SMLP). The WAGNN project is listed in *Final Amendment #7 to the State Drinking Water State Revolving Fund (DWSRF) Federal Fiscal year 2014 Intended Use Plan* (August 2014). WAGNN proposes to implement this project to protect the water supply wells and minimize the risk of well damage or disruption of services during future flood event and allow WAGNN to maintain essential water supply services without interruption. Installing automatic standby generators at Well 6 and Well 10A would enable WAGNN to keep these wells operating during power outages to supply potable water and ensure proper water pressure to meet critical fire flow demand, maintaining uninterrupted supply and adequate fire protection. Purchasing a new portable generator would give WAGNN the flexibility to bring emergency power to locations that need it to respond to power losses due to storms and electrical service grid problems.

Location	Project Description
Well 2A – Watermill Lane	Elevate the Well 2A wellhead and all associated equipment by approximately 7 to 10 feet above its existing elevation in order to protect the wellhead from flooding and flood related service interruptions at this supply well. The proposed work would include: • Removing well equipment • Welding extension to casing • Raising all pumping equipment • Pouring a new concrete pedestal • Reinstalling all infrastructure • Constructing a new well house to enclose the elevated wellhead and associated pumping and electrical equipment
Well 5 – Old Mill Road	Raise the elevation of Well 5 by modifying existing Well 5 or installing a new supply well to replace the existing well. The condition of the existing

Location	Project Description
	well screen and casing will be examined by TV inspection. If the existing well is determined to be in good condition, it will be modified. If the existing well screen or casing is in poor condition, a replacement well will be drilled. In either case, the wellhead and all associated equipment would be set 5 feet above the nearby base flood elevation (10 feet) in order to protect the wellhead from flooding and flood related service interruptions at this supply well. The proposed work would include: If WAGNN decides to modify existing Well 5: • Removing well equipment • Welding extension to casing • Raising all pumping equipment • Pouring a new concrete pedestal • Reinstalling all infrastructure • Constructing a new above grade well house to enclose the elevated wellhead and associated pumping and electrical equipment If WAGNN decides to install a replacement well: • Abandoning existing Well 5 • Installing a replacement supply well in the vicinity of existing Well 5 • Installing all required pumping and electrical equipment and infrastructure • Constructing a new aboveground well house to enclose the new elevated wellhead and associated pumping and electrical equipment
Well 6 – Juniper Drive	Elevate the Well 6 wellhead and all associated equipment by approximately 5 feet above the base flood elevation (14 feet) in order to protect the wellhead from flooding and flood related service interruptions at this supply well. The proposed work would include: • Removing well equipment • Welding extension to casing • Raising all pumping equipment • Pouring a new concrete pedestal • Reinstalling all infrastructure • Installing a dedicated automatic standby generator • Constructing a new well house to enclose the elevated wellhead, associated pumping and electrical equipment, and the proposed automatic standby generator

Location	Project Description
Well 8 – Weybridge Road	Raise the elevation of Well 8 by modifying existing Well 8 or installing a new supply well to replace the existing well. The condition of the existing well screen and casing will be examined by TV inspection. If the existing well is determined to be in good condition, it will be modified. If the existing well screen or casing is in poor condition, a replacement well will be drilled. In either case, the wellhead and all associated equipment would be set 5 feet above the ground surface in order to protect the wellhead from flooding and flood related service interruptions at this supply well. The proposed work would include: If WAGNN decides to modify existing Well 8: • Removing well equipment • Welding extension to casing • Raising all pumping equipment • Pouring a new concrete pedestal • Reinstalling all infrastructure • Constructing a new above grade well house to enclose the elevated wellhead and associated pumping and electrical equipment If WAGNN decides to install a replacement well: • Abandoning existing Well 8 • Installing a replacement supply well in the vicinity of existing Well 8 • Installing all required pumping and electrical equipment and infrastructure • Constructing a new aboveground well house on top of the existing basement booster pump building to enclose the new elevated wellhead and associated pumping and electrical equipment • Moving the existing booster pump and all electrical equipment out of the basement and into the new above grade well house structure.
Well 10A – Ravine Road	Install a dedicated automatic standby generator at Well 10A as part of the ongoing Well 10A improvements project. This project also includes electrical improvements and construction of a separate walk-in enclosure adjacent to the existing Well 10A well house. Construction of the generator enclosure has been completed. A 250 kW natural gas generator will be installed inside the new enclosure, along with wiring and all accessories and appurtenances required for a complete installation. An automatic transfer

Location	Project Description
	switch will also be installed to allow for immediate standby generator startup as soon as power is interrupted and will notify WAGNN personnel of the power loss and generator operation. Work on the Well 10A project began in 2013 and is nearly complete.
Well 11A – Watermill Lane	As part of the Well 11A installation work, a new well house structure will be constructed to enclose the pumping equipment, valving and electrical controls. The Well 11A wellhead and sanitary seals were designed to be two feet above the floor of the well house enclosure. WAGNN is proposing to modify this design by elevating the new wellhead to 5 feet above the ground surface in order to protect the wellhead and all associated equipment from flooding and flood related service interruptions at this supply well. The proposed work includes: • Abandoning existing Well 11 • Installing a replacement supply Well 11A • Installing all required pumping and electrical equipment and infrastructure • Constructing a new aboveground well house to enclose the new elevated wellhead and associated pumping and electrical equipment
Portable Generator (no fixed location)	WAGNN will replace its 20 year old portable generator with a new portable diesel fuel generator (approximately 350 kW) to give WAGNN the flexibility to bring emergency power to locations that need it. This project also includes installing plugs and manual transfer switches at designated WAGNN locations to facilitate connection to the portable generator when this alternate power source is needed to respond to power losses due to storms and electrical service grid problems.

The project at each of the well locations described above will be completed entirely on WAGNN owned property and primarily involves in-kind replacement of equipment and structures. The project does not include property acquisition or expansion of facilities, and no adverse impacts on surrounding properties are expected. New structures will be constructed to replace existing structures at each site to enclose the elevated wellheads, pumps, electrical equipment, and control systems, and new dedicated standby generators as described above. The portable generator will not be installed in a fixed location and will only be used in emergency response situations.

Section B. Government Approvals, Funding or Sponsorship

- Nassau County Department of Health Water Supply Division approvals are required for public water supply well projects and will be obtained during project design.

- New York State Department of Health and NY Environmental Facilities Corporation
    - Drinking Water State Revolving Fund (DWSRF) Storm Mitigation Loan Program (SMLP) Funding - Grant Application Submitted 3/27/14, SMLP Financing Application Submittal Projected 12/1/14

- New York State Department of Environmental Conservation
    - Tidal Wetlands Permit – Based on correspondence with NYSDEC Region 1 Division of Environmental Permits (included in Appendix A), State regulated tidal wetlands are located on or adjacent to the Well 5 and Well 6 project locations. Therefore, it is likely that a Tidal Wetlands Permit would be required to ensure compliance with 6 NYCRR Part 661 at these two locations. A qualified environmental scientist shall be retained to delineate the tidal wetlands and buffer zones near the Well 5 and Well 6 project sites.
    - Freshwater Wetlands Permit - A freshwater wetland area is located on the Well 2A/11A property along the drainage channel that runs through the property, thus a NYSDEC Freshwater Wetlands Permit may be required to implement the project at this location. WAGNN shall request that NYSDEC delineate the freshwater wetland area and buffer zone at the Well 2A/11A site. None of the other project locations (Well 5, 6, 8 or 10A) appear to be located in the vicinity of New York State regulated freshwater wetlands.
    - Coastal Erosion Management Permit - Based on correspondence with NYSDEC Region 1 Division of Environmental Permits (included in Appendix A), none of the project locations appear to be within a mapped coastal erosion hazard area. Therefore, a Coastal Erosion Management Permit would not be required to implement the project at Well 2A, 5, 6, 8, 10A or 11A.
    - Water Supply Well Permits – The Well 11A project involves installation of a replacement potable water supply well. The Well 5 and Well 8 projects may involve installation of replacement potable water supply wells if further inspection indicates that the existing wells cannot be repaired. For each location where a new supply well is installed, necessary permits will be obtained from the NYSDEC Division of Water to abandon the existing well and install and operate the new replacement supply well.

All permits required to implement the storm mitigation improvements project would be obtained during project design before construction begins.

Section B. Government Approvals, Item i: "Coastal Resources"

i. Is the project site within a Coastal Area, or the waterfront area of a Designated Inland Waterway? The EAF Mapper indicates that Wells 5, 6 and 10A are located within a Coastal Area or the waterfront area of a Designated Inland Waterway.

- Well 5 is located adjacent to a drainage channel that is connected to Udall's Mill Pond which is connected to the Long Island Sound.
- Well 6 is located in a coastal area adjacent to Little Neck Bay which is connected to the Long Island Sound.
- Well 10A is located near the eastern coast of the Great Neck peninsula, however it is near the top of a steep slope approximately 100 feet above the shoreline. Therefore, the Well 10A project activities would not impact the coastal area.

Coastal areas and waterways in the vicinity of the project sites would be protected during the work by implementing best management practices to ensure that construction activities and subsequent daily operations do not disturb or otherwise impact these areas. The work areas would be limited to the construction zone immediately adjacent to the public supply wells and well houses. No adverse impacts on coastal areas or waterways are expected. All construction work would be conducted to avoid impacting these areas. Construction equipment would be prohibited from entering the drainage channel and coastal areas during the work at Well 5 and Well 6. Silt fencing, staked hay bales or other appropriate erosion control measures would be used to minimize erosion and sedimentation to avoid impacting the drainage channel and coastal area.

iii. Is the project site within a Coastal Erosion Hazard Area? Based on correspondence with NYSDEC Region 1 Division of Environmental Permits (included in Appendix A), none of the project locations appear to be within a designated Coastal Erosion Hazard Area.

Section C.2. "Adopted Land Use Plans"

b. Is the site of the proposed action within any local or regional special planning district? The proposed project would not impact any of the local or regional special planning districts identified by NYSDEC's EAF Mapper and noted on the form.

Section C.3. "Zoning"

The proposed project involves no change in land use and is consistent with current zoning at each public water supply well location.

Section D.1. "Proposed and Potential Development"

b.a. Total acreage of the site of the proposed action? The proposed project would be conducted entirely on WAGNN owned property at Wells 2A, 5, 6, 8, 10A and 11A. The parcel sizes, totaling approximately 9.6 acres, are listed below.

Well ID	Total Area of Property
2A & 11A	5.65 acres
5	0.81 acres
6	0.17 acres
8	0.85 acres
10A	2.11 acres

b.b. Total acreage to be physically disturbed? The work areas at each of these supply well facilities would be limited to the construction zone immediately adjacent to the public supply wells and well houses. It is estimated that the total area that would be physically disturbed by construction would be less than 1 acre (combined total for all work sites).

e. Will proposed action be conducted in multiple phases? The preliminary project schedule for all phases of project design and construction is presented in Appendix B.

g. Does the proposed action include new non-residential construction (including expansions)? The proposed project includes the construction of new well houses at Wells 2A, 5, 6, 8 and 11A to replace existing structures at these locations. A new enclosure has been constructed adjacent to the existing Well 10A well house for the new emergency generator installed at this location. The new structures shall protect the public water supply wells (and new emergency generators at Well 6 and Well 10A) from storm and flood damage as previously noted. The new well houses/generator enclosure would be similar in size to the existing structures at each location. While final building dimensions would be determined during system design, WAGNN anticipates that the new structures would be no larger than 30 feet long by 20 feet wide and 18 feet high.

Section D.2. "Project Operations"

b. Would the proposed action cause or result in alteration of, increase or decrease in size of, encroachment into any existing wetland, waterbody, shoreline, beach or adjacent area? The project would not alter, change the size or encroach upon any existing wetland, waterbody, shoreline, beach or adjacent area. The work areas at each of the supply well facilities (Well 2A, Well 5, Well 6, Well 8, Well 10A and Well 11A) would be limited to the construction zone

immediately adjacent to the existing public supply wells and well houses. The project will be completed entirely on WAGNN owned property and primarily involves in-kind replacement of equipment and structures. The project does not include property acquisition or expansion of facilities.

No adverse impacts on surrounding properties or any environmentally sensitive areas are expected. Tidal wetlands are located north of the Well 5 project location and would not be impacted by work at this site. Tidal wetlands are located along the western side of the Well 6 property. Construction at Well 6 would be conducted to avoid impacting these wetlands. NYSDEC Tidal Wetlands Permits would be obtained for work at Well 5 and Well 6 as required to comply with 6 NYCRR Part 661. Permit requirements would be evaluated further during detailed project design.

Tidal wetlands are also located north of the Well 2A/11A property on the north side of the LIRR tracks, however the Tidal Wetlands Act and permit regulations would not apply to these wetlands because they are separated from the project site by a man-made structure (NYSDEC Region 1 "Tidal Wetlands Jurisdictional Inquiry Checklist"). Tidal wetlands are not located in the vicinity of the Well 8 and Well 10A sites.

A freshwater wetland area is located on the Well 2A/11A property along the drainage channel that runs through the property, thus a NYSDEC Freshwater Wetlands Permit may be required to implement the project at this location. None of the other project locations (Well 5, 6, 8 or 10A) appear to be located in the vicinity of New York State regulated freshwater wetlands.

Tidal and freshwater wetlands and buffer zones shall be delineated. WAGNN will carefully consider the wetlands and buffer zone boundaries during detailed project design. Required wetlands permits would be obtained for the work during the design phase before construction begins at these locations (Wells 2A, 5, 6 and 11A). All work would be conducted in accordance with applicable permit conditions. The design will incorporate best management practices to protect the wetlands and avoid any adverse impacts on these areas. The construction zones would be established to restrict equipment access and keep vehicles as far away from the wetlands as possible. Stormwater flow would be diverted away from the wetlands using silt fencing, staked hay bales and other appropriate control measures to minimize erosion and prevent sediment deposits from impacting the wetlands. Construction activities would be managed to ensure that tidal and freshwater wetlands are not impacted by the work.

f. Does the proposed action include, or will it use on-site, one or more sources of air emissions, including fuel combustion, waste incineration or other processes operations? During the project construction phase, heavy equipment such as well drilling rigs, earth moving and grading

equipment, and construction material delivery vehicles will be used. These temporary sources of air emissions will not have an adverse impact on the environment. There will be no mobile or stationary sources of air emissions during normal supply well operations after project construction is completed.

<u>Section E.1. "Land uses on and surrounding the project site"</u>

b. Land uses and cover types on the project site – The total project acreage is approximately 9.6 acres as detailed in the Section D.1 response above. Of that total, less than one acre of the WAGNN owned property at the project sites is covered by buildings and impervious surfaces. Approximately 8.6 acres is unpaved, grassed areas, including less than 0.5 acre of wetland areas on the project sites (wetlands along the drainage channel at the Wells 2A/11A property and tidal wetlands along the western side of the Well 6 property).

h. iv. Potential contamination history – Current status - The sites listed in Section E.1.h.i and E.1.h.iii of the EAF form are within the boundaries of the project area drawn using NYSDEC's EAF Mapper to encompass the five WAGNN project locations. The current status of these sites as summarized on NYSDEC's Environmental Sites Database is presented below. None of these sites would have impacts associated with the proposed projects.

- NYSDEC Site #130068 – Mayflower Cleaners, 489 Great Neck Road, Great Neck, NY – Soils at this State Superfund site were contaminated with chlorinated solvents and petroleum hydrocarbons. Contaminated soils were removed and a sub-slab depressurization system was installed and is being operated to mitigate soil vapor intrusion into on-site buildings. Sampling indicates that soil vapor intrusion is not a concern for off-site buildings. The proposed WAGNN project will not impact or be impacted by the Mayflower Cleaners site.

- NYSDEC Site #130070 – Citizens Development Co., 47 Northern Blvd., Great Neck, NY – This State Superfund site had soil and groundwater contamination due to past dry cleaning operations. Contaminated soils were excavated and disposed of off-site. Chemical injection and soil vapor extraction systems were installed to remove contaminants from soil and groundwater. Sub-slab depressurization systems are operated to address soil vapor intrusion. The proposed WAGNN project will not impact or be impacted by the Citizens Development Co. site.

- NYSDEC Site #130072 – Stanton Cleaners, 110 Cutter Mill Road, Great Neck, NY – This State and Federal Superfund site is located approximately 1,000 feet north of the Well 2A/11A supply wells. PCE from this site impacted soil and groundwater, and

WAGNN installed an air stripping system to treat water extracted from Wells 2A and 11 in the mid-1980s due to PCE from the Stanton Cleaners site (WAGNN installed a new stripper in 1998 after the original stripper began to fail). Contaminated soil and sediment was removed from the Superfund site, and a soil vapor extraction and groundwater treatment system continue to operate at the Stanton Cleaners site. NYSDEC currently manages operation of the on-site remedial systems and monitoring the plume associated with this site. The proposed WAGNN project at Wells 2A and 11A will not impact or be impacted by the Stanton Cleaners site.

- NYSDEC Site #V00395 – LIRR Little Neck Substation – This Voluntary Cleanup Program site is located on Watermill Lane, Great Neck, NY adjacent to WAGNN property (Well 2A and 11A). Mercury contaminated soil identified during the site investigation was removed from the site in 2011. Land use restrictions and a site management plan are in place to restrict the site to industrial use. The proposed WAGNN project at Wells 2A and 11A will not impact or be impacted by the neighboring LIRR site.

- NYSDEC Site #V00396 – LIRR Manhasset Substation – This Voluntary Cleanup Program site, located in Manhasset, NY is not on the Great Neck peninsula and would not have any impact on the WAGNN project. NYSDEC is overseeing remedial actions at this site.

- NYSDEC Site #V00522 – Alert Fire Company, 140 Steamboat Road, Great Neck, NY – This Voluntary Cleanup Program site has groundwater contamination due to previous dry cleaning operations at the site. An air sparging/soil vapor extraction remediation system began operating in April 2014 to address on-site contamination. This site is not located in the vicinity of any of the proposed WAGNN project sites.

- NYSDEC Site #C130192 – The Moorings at Kings Point, 240, 266 and 280 East Shore Road, Great Neck, NY – This Brownfields site application is for an investigation of this site which was once used as a petroleum bulk storage facility. This site is not located in the vicinity of any of the proposed WAGNN project sites.

<u>Section E.2. "Natural Resources On or Near Project Site"</u>

h. Surface water features. Refer to the responses to Item B.i and Item D.2.b for additional information on wetlands and water bodies on or in the vicinity of the project locations. The work areas would be limited to the construction zone immediately adjacent to the public supply wells

and well houses. No adverse impacts on surface water features or wetlands are expected. All construction work would be conducted to avoid impacting these areas.

i. Is the project site in a designated Floodway? Although designated floodways are located within the boundaries of the project area drawn using NYSDEC's EAF Mapper to encompass the five WAGNN project locations, none of the individual project sites are located in a designated floodway.

j. Is the project site in the 100 year Floodplain?
k. Is the project site in the 500 year Floodplain?

Based on a review of the FEMA National Flood Insurance Program maps, Wells 2A, 8, 10A and 11A are not located in a FEMA designated flood zone. Well 5 is located in close proximity to an area within FEMA flood zone AE with a base flood elevation of 10 feet. Well 6 is located along the shoreline within FEMA flood zone VE, with a base flood elevation of 14 feet. The work areas would be limited to the construction zone immediately adjacent to the public supply wells and well houses. No adverse impacts on flood zones are expected. Flood zones in the vicinity of the project sites would be protected during the work to ensure that construction activities and subsequent daily operations do not disturb or otherwise impact these areas. The best management practices designed to protect wetland areas would also be used to protect the flood zones.

l. Is the project site located over, or immediately adjoining, a primary, principal or sole source aquifer? The WAGNN service area is located over the Nassau-Suffolk Sole Source Aquifer known as the Magothy and Lloyd aquifers.

Section E.3. "Designated Public Resources On or Near Project Site"

e. Does the project site contain, or is it substantially contiguous to, a building, archaeological site, or district which is listed on, or has been nominated by the NYS Board of Historic Preservation for inclusion on, the State or National Register of Historic Places? The proposed project would not impact any listed or nominated historic sites. The historic buildings identified by the EAF Mapper are not located in the immediate vicinity of any of the supply well facilities included in the project.

f. Is the project site, or any portion of it, located in or adjacent to an area designated as sensitive for archaeological sites on the NY SHPO archaeological site inventory? The NYSDEC EAF Mapper indicates that the Well 6 and Well 8 sites are located in or adjacent to an archaeologically sensitive area. WAGNN submitted information on the proposed project to the

New York State Office of Parks, Recreation and Historic Preservation on November 3, 2014 for State Historic Preservation Office (SHPO) review, which will further evaluate potential archaeological impacts. The work areas would be limited to the construction zone immediately adjacent to the public supply wells and well houses. No adverse impacts on archaeologically sensitive areas are expected.

Summary

WAGNN's proposed storm mitigation improvements project would protect water supply wells (Wells 2A, 5, 6, 8 and 11A) and minimize the risk of well damage or disruption of services during future flood events and allow WAGNN to maintain essential water supply services without interruption. The generator projects at Well 6 and Well 10A would enable WAGNN to supply sufficient potable water and ensure proper water pressure to meet critical fire flow demand, maintaining uninterrupted supply and adequate fire protection. The portable generator project would give WAGNN the flexibility to bring emergency power to locations that need it to respond to power losses due to storms and electrical service grid problems.

Based on the environmental assessment completed pursuant to SEQR and summarized on the Full EAF (supplemented by information presented in this attachment), the proposed project will not adversely impact the environment, land use, natural resources or public resources.

The work areas at each of the supply well facilities (Well 2A, Well 5, Well 6, Well 8, Well 10A and Well 11A) would be limited to the construction zone immediately adjacent to the existing public supply wells and well houses. The project at each of the well locations described herein will be completed entirely on WAGNN owned property and primarily involves in-kind replacement of equipment and structures. The project does not include property acquisition or expansion of facilities, and no adverse impacts on surrounding properties are expected. New structures will be constructed to replace existing structures at each site to enclose the elevated wellheads, pumps, electrical equipment, and control systems, and new dedicated standby generators as described above. The portable generator will not be installed in a fixed location and will only be used in emergency response situations.

Environmentally sensitive areas, such as tidal and freshwater wetlands, coastal areas and flood zones would be protected during the work to ensure that construction activities and subsequent daily operations do not disturb or otherwise impact these areas. The proposed project would not alter, change the size or encroach upon any existing wetland, waterbody, shoreline, beach or adjacent area.

WAGNN would coordinate with regulatory agencies to obtain any required permits before construction work begins to comply with all applicable environmental regulations and permit

conditions. It is expected that NYSDEC Tidal Wetlands Permits (and possibly U.S. Army Corps of Engineers permits) would apply to the proposed work at the Well 5 and Well 6 locations. NYSDEC Freshwater Wetlands Permits are expected to apply to the Well 2A and Well 11A project locations. NYSDEC Division of Water permits would apply to the abandonment of existing wells (Well 11 and possibly Wells 5 and 8) and installation and operation of new replacement supply well(s). In addition, approvals will be obtained from the Nassau County Department of Health Water Supply Division for supply well modifications and/or replacement. Permit requirements will be further evaluated during as project design progresses through continued contact with NYSDEC and other regulatory agencies. Best management practices would be developed during design and implemented to avoid impacts to environmentally sensitive areas.

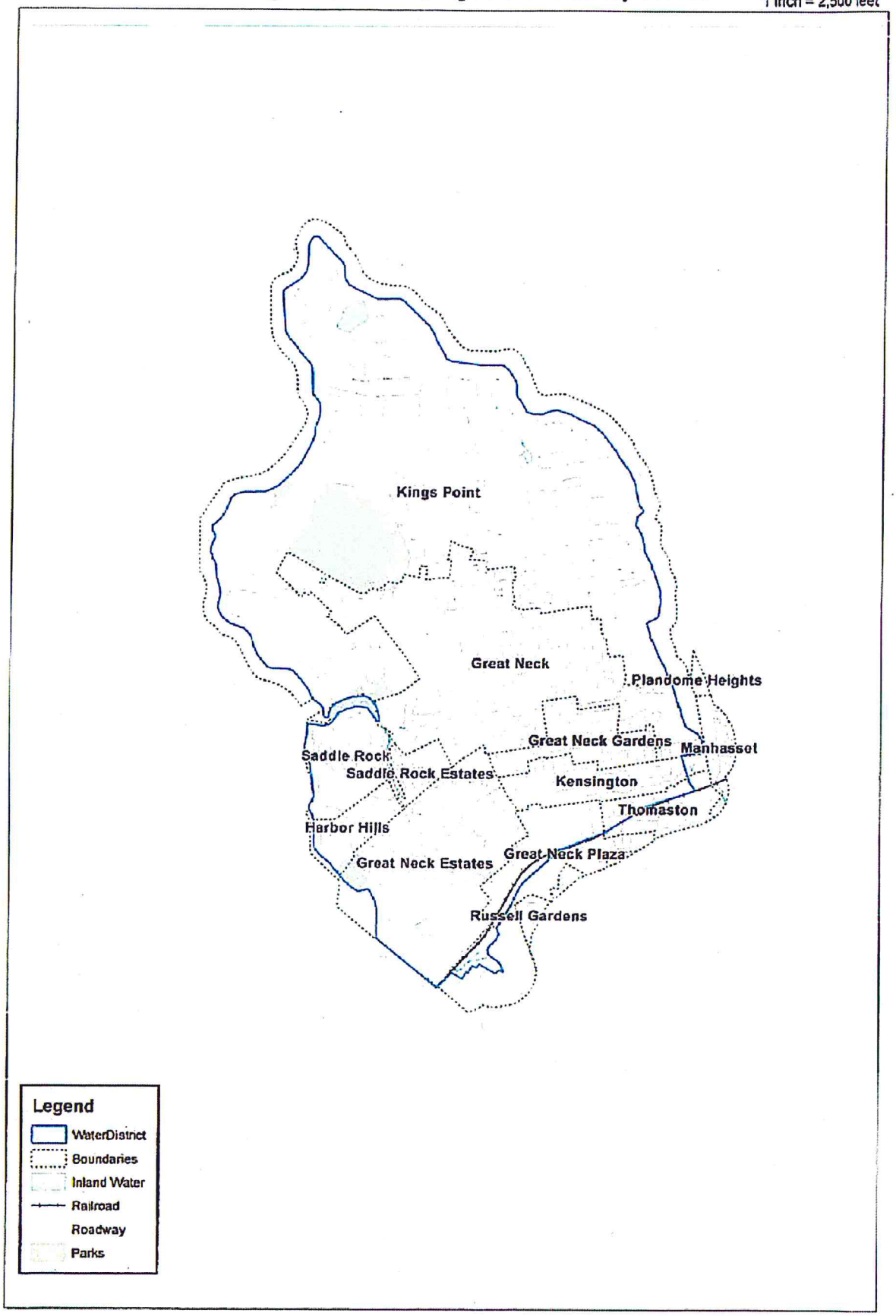
FIGURES

FIGURE 1

THE WATER AUTHORITY OF GREAT NECK NORTH - SERVICE AREA MAP

Showing the several Villages the Authority serves

1 inch = 2,500 feet



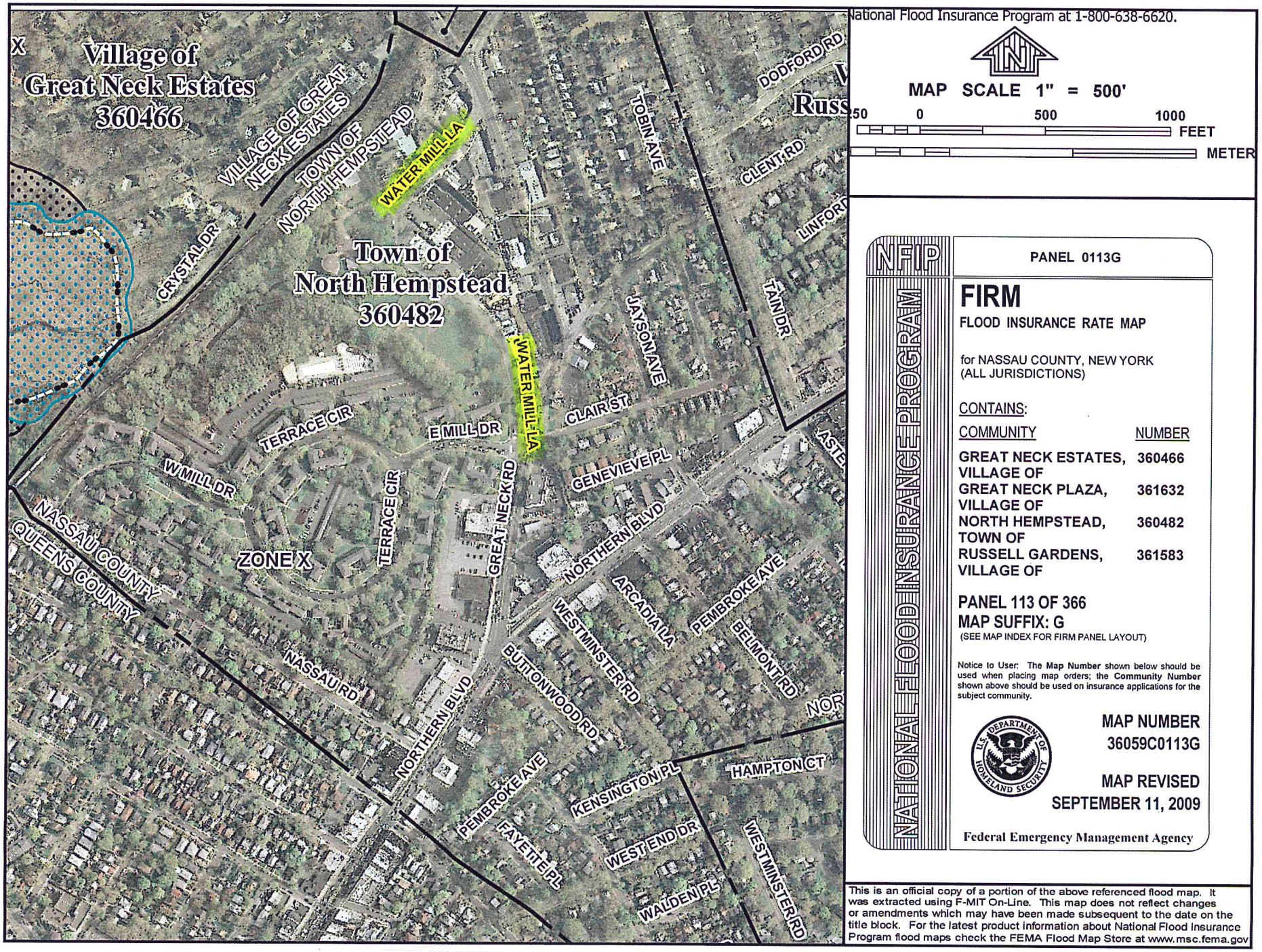


FIGURE 2 – GENERAL LOCATION OF WELL 2A AND WELL 11A

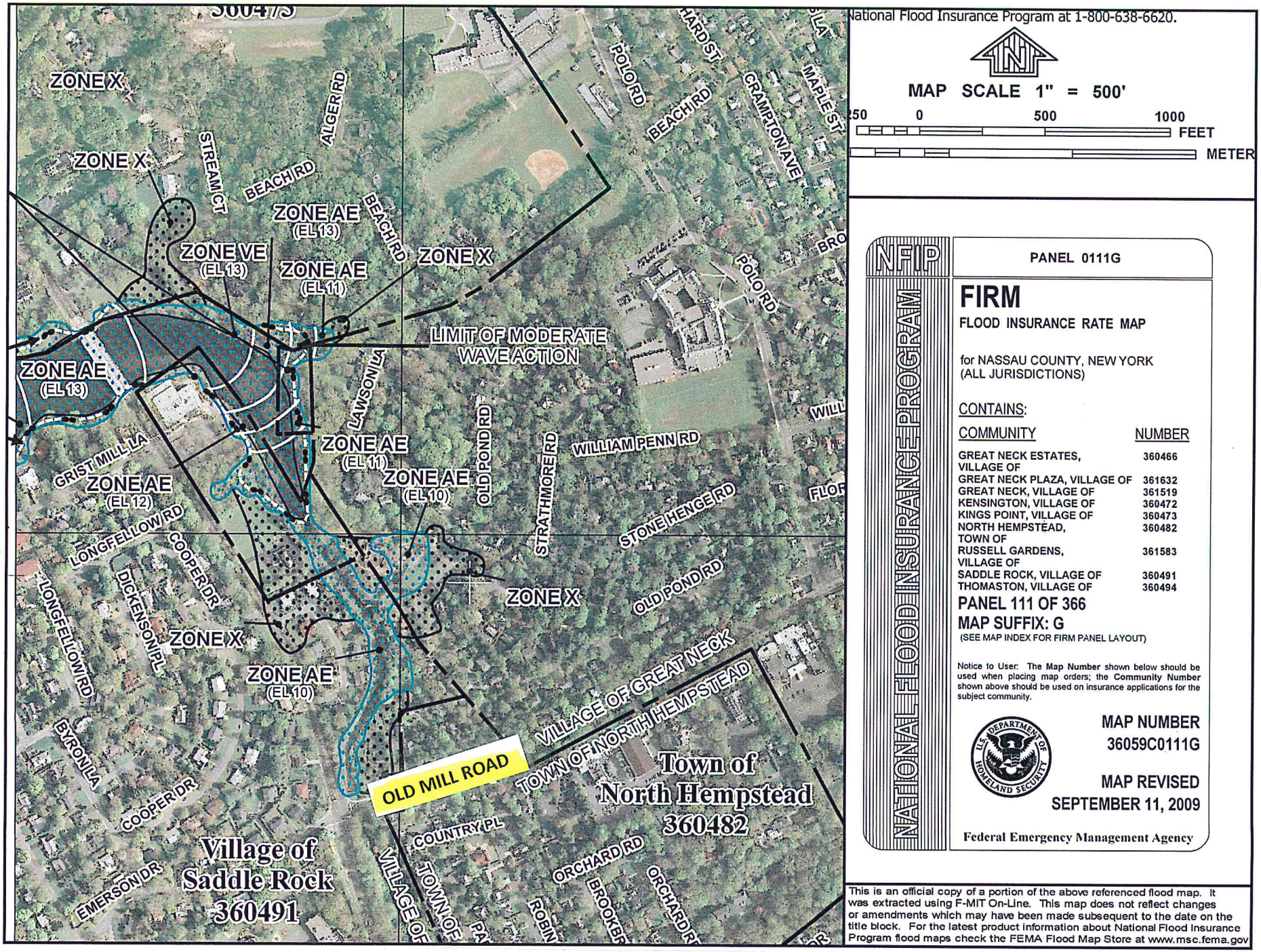


FIGURE 3 – GENERAL LOCATION OF WELL 5

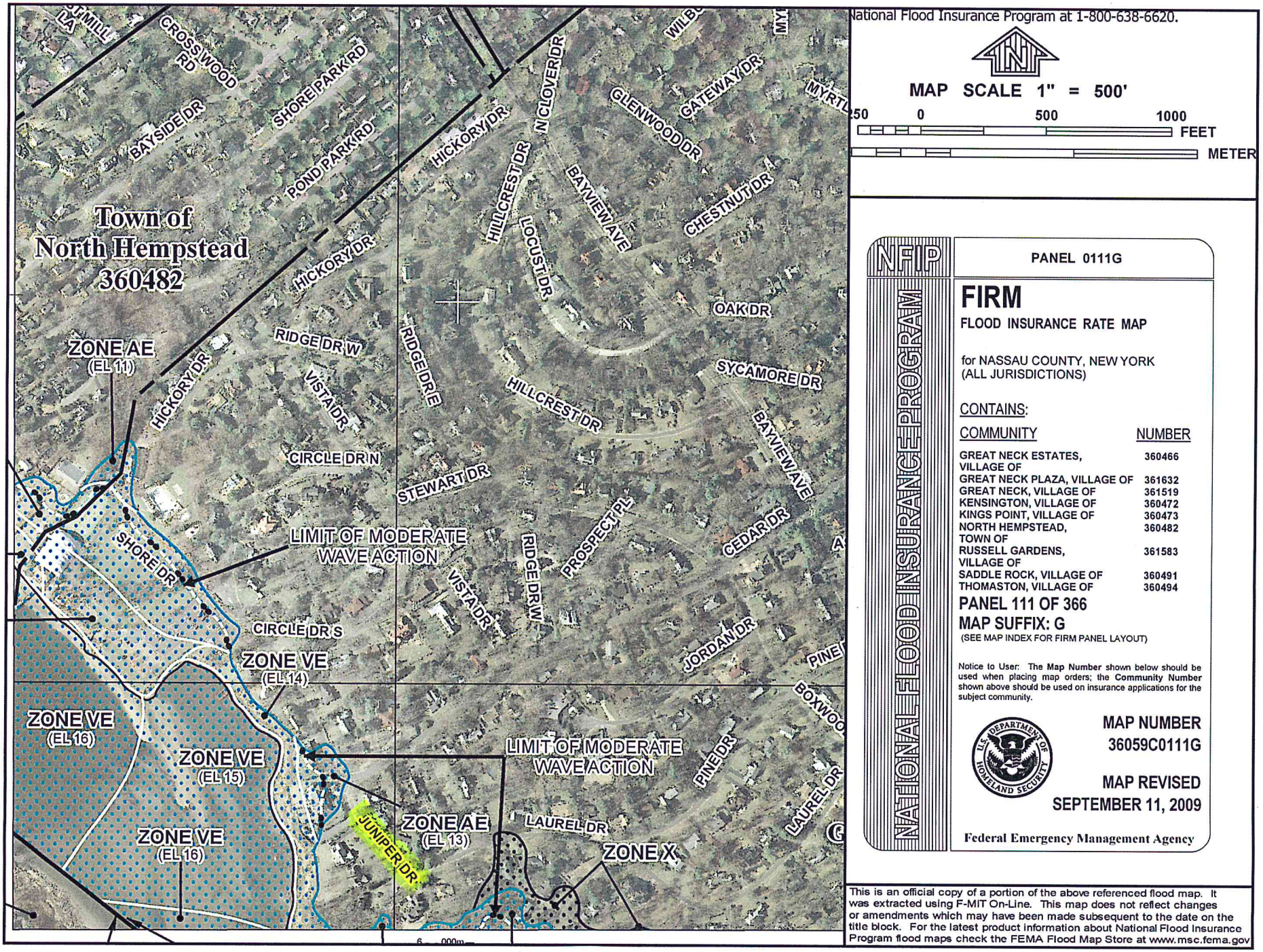


FIGURE 4 – GENERAL LOCATION OF WELL 6

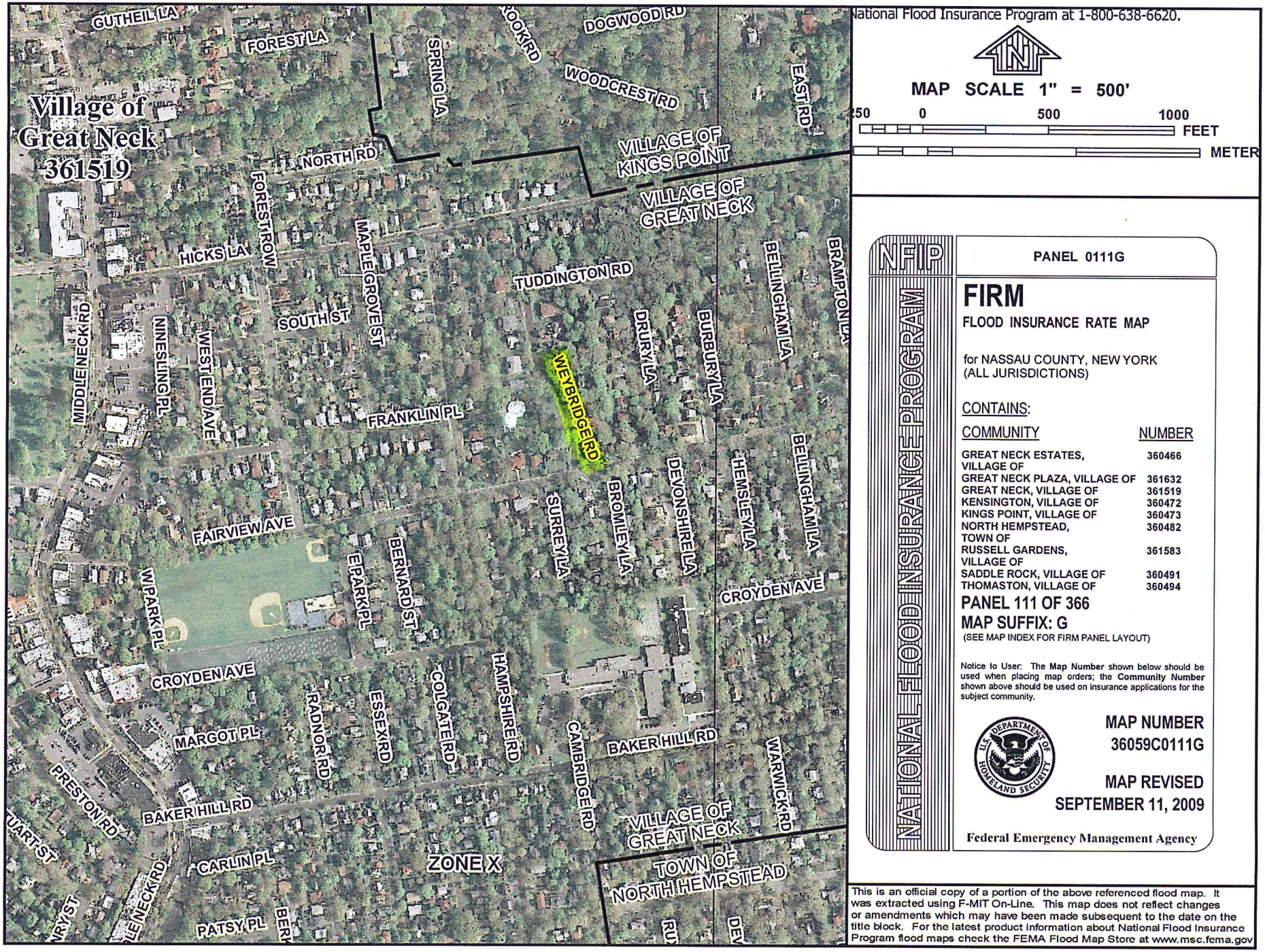


FIGURE 5 – GENERAL LOCATION OF WELL 8

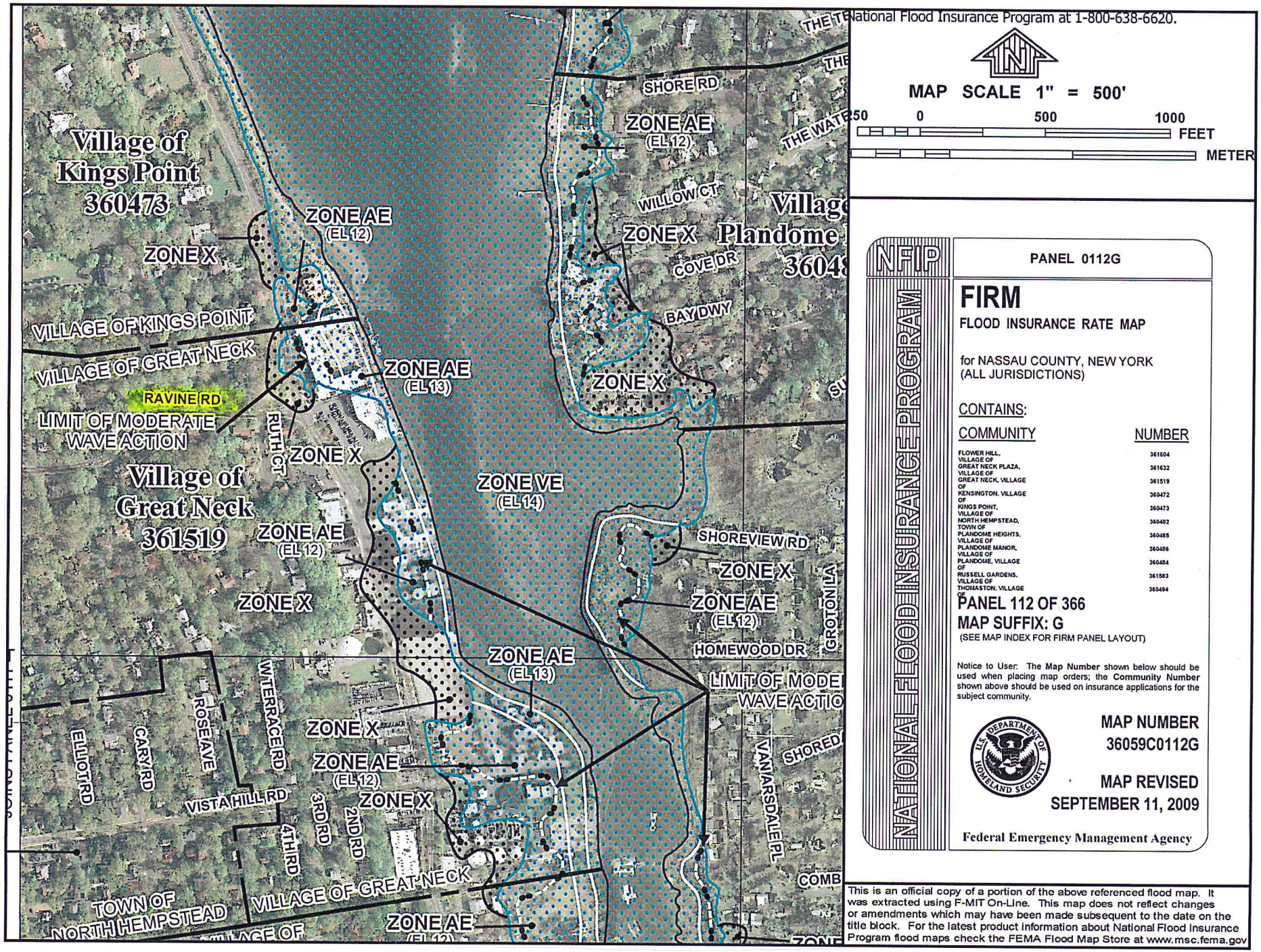


FIGURE 6 – GENERAL LOCATION OF WELL 10A

APPENDIX A
CORRESPONDENCE WITH NYSDEC REGION 1

Nora Brew <waldennmb@gmail.com>

Permit Requirements re: Water Authority of Great Neck North Supply Well Projects

Kispert, Kevin A (DEC) <kevin.kispert@dec.ny.gov> Fri, Nov 7, 2014 at 5:45 PM
To: Nora Brew <nbrew@walden-associates.com>
Cc: "Pilewski, Jennifer L (DEC)" <jennifer.pilewski@dec.ny.gov>

An initial screening based on te location maps provided shows that only the sites for Well 5 and Well 6 would need Tidal Wetland permits - depending on the scope of work to be done. Well 10A and Well 2A/11A are close to tidal wetlands, but appear to be located landward of a paved roadway which was likely built before 8/20/77 (see attached Jurisdictional Inquiry Information Sheet.

None of the 5 locations appeared to be within 100 feet of NYS-regulated freshwater wetlands, or within CEM (Part 505) jurisdiction.

Work related to abandoning wells and/or installing new wells warrants discussion with our Division of Water at 631-444-0405.

Please call me if you have any questions.

From: waldennmb@gmail.com [mailto:waldennmb@gmail.com] **On Behalf Of** Nora Brew
Sent: Thursday, October 30, 2014 11:42 AM
To: Kispert, Kevin A (DEC)
Cc: Greg Graziano; smoriarty@wagnn.org
Subject: Permit Requirements re: Water Authority of Great Neck North Supply Well Projects

Kevin,

[Quoted text hidden]

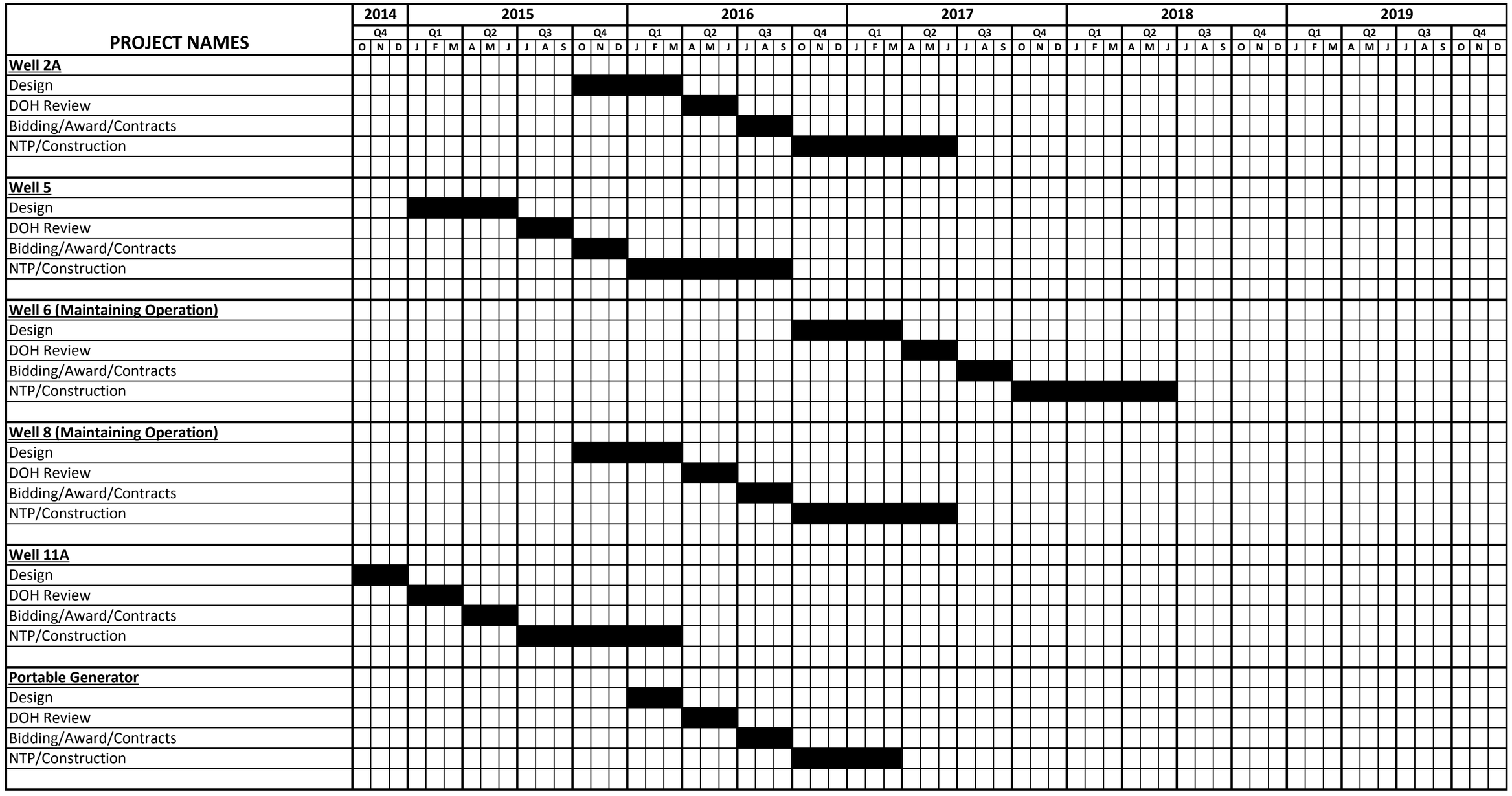
2 attachments

NJ checklist-TW.pdf
17K

NJ checklist-FW.docx
17K

APPENDIX B
PRELIMINARY PROJECT SCHEDULE

WATER AUTHORITY OF GREAT NECK NORTH
EFC BOND ISSUE PRELIMINARY PROJECT SCHEDULE



WATER AUTHORITY OF GREAT NECK NORTH
EFC BOND ISSUE PRELIMINARY PROJECT SCHEDULE

	ESTIMATED SCHEDULE DATES						
Milestone	**Well 2A**	**Well 5**	**Well 6**	**Well 8**	**Well 10A**	**Well 11A**	**Generator**
Submit Project Plans & Specifications for review & approval	4/1/2016	7/1/2015	4/1/2017	4/1/2016	10/24/2014	1/9/2015	4/1/2016
Award Bids *	9/19/2016	11/16/2015	8/21/2017	8/15/2016	5/21/2013	3/17/2015	8/15/2016
Issue Notice to Proceed	10/15/2016	1/2/2016	10/1/2017	10/1/2016	7/29/2013	7/1/2015	10/1/2016
Construction Start	10/15/2016	1/2/2016	10/1/2017	10/1/2016	7/29/2013	7/1/2015	10/1/2016
Construction Completion	7/1/2017	10/1/2016	7/1/2018	7/1/2017	12/1/2014	4/1/2016	4/1/2017

* - Awards must be made on the third Monday of a month, which is when the WAGNN Board meets.