

RESTORATION PLAN

for the

**UNISYS CORPORATION STATE SUPERFUND SITE
LAKE SUCCESS, NASSAU COUNTY, NEW YORK**

May 5, 2017

Prepared by:

New York State Department of Environmental Conservation

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A. Introduction

The New York State Department of Environmental Conservation (NYSDEC), on behalf of the State of New York as the “Trustee” of groundwater resources in the state resolved a natural resource damage (NRD) claim with the Responsible Party (RP), Lockheed Martin, for the Unisys State Superfund Site (the Site) located in the Village of Lake Success, Town of North Hempstead, Nassau County, New York. Long Island’s aquifers are designated by the United States Environmental Protection Agency (EPA) as a Sole Source Aquifer because they are the only source of drinking water for the 2.9 million residents in Nassau and Suffolk County.

This Restoration Plan was prepared by the Trustee pursuant to its authority and responsibilities as natural resource Trustee under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), 42 United States Code (USC) § 9601, et seq., the Federal Water Pollution Control Act, 33 USC § 1251, et seq. (also known as the Clean Water Act), and other applicable Federal laws, including Subpart G of the National Oil and Hazardous Substances Contingency Plan, at 40 Code of Federal Regulations (CFR) §§ 300.600 through 300.615, the Oil Pollution Act of 1990, 33 USC § 2700, et seq., Article 12 of the New York State Navigation Law, CERCLA natural resource damage assessment regulations at 43 CFR Part 11 (Natural Resource Damage Assessment and Restoration [NRDAR] regulations) which provide guidance for this restoration planning process under CERCLA, and NYSDEC Natural Resource Damages Policy CP-44.

The Trustee sought a settlement as compensation for injuries to natural resources due to the release of environmental contaminants from the Site that impacted Long Island’s sole source aquifer. The Trustee is required to use settlement funds to compensate for those injuries by restoring natural resources, supporting habitat, and/or services provided by the injured resources.

Accordingly, the Trustee has prepared this Restoration Plan.

B. Background

The Site is located in the Village of Lake Success and the Town of North Hempstead, Nassau County. The Site is bounded by Marcus Avenue to the north, Union Turnpike to the south, Lakeville Road to the west and the Triad Office Park to the east. The Site is approximately 90 acres in area.

The former Unisys property is fully developed, with the bulk of the property comprised of the main manufacturing building, various smaller support buildings (e.g., foundry and boiler building), three recharge basins, and parking lots. The smaller buildings are located south of the main building. The site was redeveloped for commercial use. Presently, the buildings house a number of tenants. Three and half acres of the property in the southeast corner was deeded to the Town of North Hempstead for their use as soccer fields.

The former Unisys facility was an active manufacturing facility from 1941 until approximately 1995, when most manufacturing activities ceased, although some assembly, integration, prototype development/testing, and/or engineering and administrative activities continued at the facility through early 1999. The facility has been served by a sanitary sewer system since it was constructed in 1941. The on-site storm water collection system which received runoff from the parking lot, roofs and surrounding roads is connected to the three recharge basins located in the southwest corner of the property. Groundwater had been used for non-contact cooling purposes since the facility was constructed. The non-contact cooling water system consisted of three extraction wells and four diffusion wells which were located to the north and south of the main manufacturing building, respectively. The groundwater is no longer used for cooling purposes.

In the past, the facility manufactured a wide range of defense related products. Past manufacturing processes included casting, etching, degreasing, plating, machining and assembly. Chemicals used during manufacturing at the facility included halogenated solvents, cutting oils, paints and fuel oils and plating compounds. The facility had five drywells located off the southeastern corner of the main building. These drywells were used to dispose of water containing solvents and oils from approximately 1941 to 1978. As a result of this drywell discharge and active cooling water system operation over an approximate 40-year period, a significant widespread halogenated solvent plume has contaminated the groundwater beneath the Village of Lake Success and the Town of North Hempstead (Figure 2).

Two Records of Decision (ROD) have been issued for groundwater contamination from the site. A ROD to address on-site groundwater was issued in March 1997 and amended in January 2015. A ROD to address off-site groundwater was issued in December of 2014.

C. Natural Resources and Impacts to those Resources

The site and surrounding area is underlain by three aquifers, Upper Glacial, Magothy and Lloyd, with formations made up of unconsolidated surficial deposits with an estimated 700 foot thickness, and Precambrian bedrock below. The unconsolidated deposits are comprised of the following formations from the ground surface downward: Upper Glacial deposits (150 ft); Magothy formation (250 ft); Raritan Upper Clay unit (200 feet); Raritan Lloyd Sand unit (190 feet) and bedrock.

The groundwater flow in the area has been divided into four zones: the Upper Glacial aquifer and the upper, middle, and basal portions of the Magothy aquifer. The depth to groundwater is approximately 100 feet below ground surface (bgs). Generally, the groundwater flow direction is north/northwest. However, pumping by several public supply/irrigation wells in the area affects the groundwater flow direction.

The groundwater contamination originates from the former plant site (OU1) and extends over one mile into the off-site area. Groundwater migration from OU1 has resulted in a significant off-site groundwater plume.

The primary site-related contaminants of concern for the groundwater include: 1, 2-DCE, TCE, PCE, and Freon 113. The groundwater plume originating from the nearby 400 Lakeville Road

site (Site No. 130176), known to contain Freon 22, also extends off that site and comeslingles with the Unisys site groundwater plume.

The groundwater plume in the Upper Glacial aquifer, as defined by the 5 part per billion (ppb) contour, extends off-site approximately 1,400 feet north of Marcus Avenue and approximately 2,500 feet west of Lakeville Road. The highest level of total volatile organic compounds (260 ppb) was observed 400 feet northwest of the intersection of Marcus Avenue and Lakeville Road. The total VOC groundwater plume in the Magothy aquifer extends off-site approximately 6,000 feet north of Marcus Avenue and approximately 4,800 feet west of Lakeville Road. The peak off-site VOC concentration observed was 910 ppb. The Water Authority of Great Neck North supply wells N12999, N13821 and N13000 are actively pumping water for public supply purposes from the Magothy aquifer. An impact by these public supply wells has been observed as the 5 ppb total VOC contour shows deflection toward the pumping wells. Throughout the study area, the Lloyd aquifer is isolated and hydraulically separate from the overlying Magothy aquifer, and has not been affected by the VOC plume. The OU1 groundwater remedial system is effectively containing on-site VOCs in the Upper Magothy aquifer.

No site-related constituents were detected in the water or sediment in Lake Success or the irrigation pond (Lake Surprise). The groundwater plume is below the bottom of both Lake Success and Lake Surprise and has not impacted either lake, and is not expected to impact these lakes in the future.

The Long Island Sole Source Aquifer has been impacted with site-related contamination resulting in impacts to nearby Public Supply Wells and Golf Course Irrigation Wells. Several of these wells have treatment systems in place so the water supplied meets acceptable drinking water quality.

A 1,100 gallon per minute (gpm) groundwater pump and treat system began operation in April 1993 and was initially equipped with an activated carbon treatment system. The control system was upgraded to an air stripper and began operating in August 2002. The system currently operates at 730 gpm, and with the implementation of a new extraction well onsite in the Basal Magothy, the system will be expanded to operate at 850 gpm. An off-site interim remedial measure treatment system began operation in 2004 at 500 gpm. As a part of the selected remedy, these treatment systems will continue to operate to remove on-site and off-site contaminant mass.

D. Natural Resource Damage Settlement

The Trustee has determined that actual injuries to natural resources under its jurisdiction have occurred as a result of releases of hazardous substances at and from the Site. The natural resource damages settlement was formalized in an Order on Consent signed by NYSDEC and the RP in September 2016. The Trustee agreed to resolve the RP liability under a \$2.8 million settlement for restoration planning and compensation for the natural resource injury. \$900,000 of this settlement is dedicated to restoration planning in the form of a groundwater study to be conducted by the U.S. Geologic Survey on Long Island that will provide a critical predictive tool to NYSDEC to manage the sole drinking water resources for its 2.9 million residents.

Restoration projects accounting for the remaining \$1.9 million of the settlement funds are the subject of this Restoration Plan. The restoration projects included in Appendix A are proposed to be funded with the remaining settlement monies. The Village of Lake Success has submitted restoration project plans totaling \$1.11 million. The Town of North Hempstead has submitted restoration project ideas totaling \$790,000.

E. Proposed Restoration

1. Goals of the Restoration Projects

According to the guidance provided by Federal NRDAR regulations, 43 CFR § 11.82(d), the selected alternative is to be feasible, safe, cost-effective, address injured natural resources, consider actual and anticipated conditions, have a reasonable likelihood of success, and be consistent with applicable laws and policies. The selected restoration actions also must not conflict with any ongoing cleanup projects at the Site.

Generally, restoration actions should be consistent with the hierarchy of “restore, replace, acquire.” “On-site” or “in-kind” restoration is generally preferable to replacement with like resources. Where restoration is impracticable, replacement is generally preferable to acquisition of equivalent resources. This hierarchy serves to ensure the implementation of restoration projects with a “nexus to injury”. See Criterion #2 below.

To determine the best restoration alternatives, each proposal should be weighed for the relative ability to meet applicable criteria. The exact criteria to consider may vary depending on the unique circumstances and characteristics present. Criteria may include:

1. Resource or service improved – The alternatives that provide improvement to the resource or service most similar to the injured resource or service are generally preferred.

2. Nexus to injury – The alternatives that replace similar resources closer to the location of the injury should be given a better score. Projects that have no link in watershed, geographic area, species population, or affected user group to the injured resource should not be carried further in the assessment.

3. Feasibility – For each alternative, consideration should be given to technological, administrative, legal, and regulatory constraints. Projects that are not feasible or do not meet minimal legal requirements (including limitations set by the settlement) should be removed from further consideration.

4. Relative cost – Sufficient cost analysis should be done to provide a general estimate of cost for each alternative. Projects that can have a greater effect through leveraging with matching funds should be noted and match opportunities should be described. Cost analysis should include consideration of costs to maintain and monitor project success.

5. Likelihood of success – The likelihood of success may include a number of considerations that may vary with project type. Projects that use experimental or innovative techniques may have a

lower likelihood of success than those that use standard techniques. The likelihood of success for each project should be described.

6. Other Criteria – e.g. Site-Specific Criteria – Depending on the projects being considered, other criteria can be added. These additional criteria can include: permanency of project benefits, time for project benefits to be achieved, contribution to resource management goals, public support, or the relationship between remedial actions and the injured resources. Site specific criteria are discussed below.

2. Site Specific Criteria

In order to ensure the appropriateness and acceptability of restoration options addressing losses, the Trustee evaluated each option against site-specific restoration requirements. These site-specific requirements were developed through discussions with natural resource managers at NYSDEC. Projects that satisfied these site-specific requirements were then evaluated in relation to the restoration criteria listed in the DOI damage assessment regulations.

These criteria include:

- Location closest to the affected area given a higher priority over locations farther away from the Site.
- Linkage to injured resources or associated services.
- Public enjoyment or use of natural resources.
- Likelihood of success as determined by project objectives and methodologies, land protection, and maintenance.
- Viability and sustainability of project.
- Part of larger local or regional restoration plan or vision.
- Potential contamination or other issues that might preclude project selection.
- Benefits to protected species, sensitive, unique habitats.

2.1 Restoration Categories and Alternatives

Restoration Alternatives Considered

The Trustee considered a set of restoration alternatives that could potentially restore injured resources and/or improve ecological services relevant to the injured area. After consultation with the Trustee, restoration alternatives were proposed by the RP to local governments effected by the injury. The categories of proposed restoration alternatives included:

- *Groundwater Recharge*. This project category includes efforts to directly increase the recharge of the effected groundwater resource. Options for groundwater recharge include acquisition of conservation lands, green space protections, and water management projects resulting in additional recharge.
- *Wetland Acquisition, Enhancement, and/or Restoration*. This project category focuses on protection, enhancement, and/or restoration of wetlands that have some hydrologic or resource connection to the Site. Wetlands provide benefits to a wide array of birds,

amphibians, reptiles, mammals, and fish and may also serve as floodwater retention and groundwater recharge areas.

- *Recreational Use.* Projects in this category focus on providing recreational opportunities. For example, such projects may provide enhanced access to green space and opportunities for public access to wetland, stream and riverine resources.

No Action Alternative

The Trustee also considered a restoration alternative of no action. Under this alternative, the Trustee would rely on natural recovery and would take no direct action to restore injured natural resources or compensate for lost natural resource services. This alternative would include the continuation of ongoing monitoring programs, such as those initiated by NYSDEC for fish, but would not include additional activities aimed at enhancing ecosystem biota or processes. Under this alternative, no compensation would be provided for interim losses in resource services.

2.2 Preferred Restoration Alternatives

The Trustee's preferred restoration alternatives include a suite of restoration projects from restoration alternative categories that compensate for interim losses and satisfy the site-specific and regulatory criteria listed above.

The Trustee proposes the projects included in Appendix A, summarized here in the following restoration categories:

2.2.1 Groundwater Recharge

Projects that directly recharge groundwater include a group of projects to increase permeable areas and drainage in the Village of Lake Success Village Park and surface water management on Tanners Road. Through these projects, rain water will be directed to groundwater or to Nassau County groundwater recharge basins rather than evaporate on impermeable surfaces.

2.2.2 Surface Water Enhancement/Restoration

The Surface Water Enhancement and Restoration category consists of a project to improve and restore surface water resources in heavily populated areas of Nassau County. Proposed restoration actions are (1) an increased hydrologic connection between Lake Success and Lake Surprise and (2) the restoration of the riparian system encompassing Manhasset Valley Pond, Whitney Lake, and Whitney Stream. The former project will increase groundwater recharge by reducing the need to pump groundwater for irrigation purposes as Lake Success achieves greater volume. The latter project will impact an ecosystem that will provide benefits to a wide array of birds, amphibians, reptiles, mammals, and fish and also serve as floodwater retention and groundwater recharge areas.

2.2.3 Educational Use

A public weather station is proposed for the community of Lake Success, which will help municipal water management and educate the public about groundwater conservation.

2.3 Environmental Benefits from Preferred Restoration Alternatives

Implementation of the preferred restoration alternatives are expected to generate long term benefits to groundwater and habitat resources that are substantially greater than any potential short-term adverse impacts that may occur during construction. For example, short-term impacts arising from the project listed above could include minor disruption of surface water habitats during project implementation (e.g., streambank enhancement activities may result in a decrease in vegetative cover prior to restoration planting activities).

3. Compliance with Other Potentially Applicable Laws

Coordination and evaluation of required compliance with specific federal and state laws, executive orders, and other policies for the preferred restoration plan is achieved, in part, through the dissemination of this document to, and review by, appropriate agencies and the public. All ecological restoration projects will be in compliance with all applicable federal and state statutes, executive orders, and policies. Compliance with applicable laws, and any necessary permitting, will be undertaken during the planning stages of specific restoration projects.

The Trustee is also committed to identifying and addressing any policy or planning impacts that disproportionately affect health and the environment in low income and minority populations. The Trustee has concluded that there would be no adverse impacts on low-income or minority communities due to implementation of the restoration alternatives.

4. Monitoring and Site Protection

Each project includes a monitoring plan that provides for the monitoring and recording of the status of the project. The specific performance criteria, monitoring period, frequency of monitoring, and associated reports vary depending on the project.

Each restoration project will be maintained and protected for a length of time commensurate with the funding and project purpose.

F. Response to Public Comments Received

A Draft Restoration Plan was prepared for public review and comment and was published in the NYSDEC Environmental Notice Bulletin on March 29, 2017 with a 30 day comment period.

No comments were received.

Figures

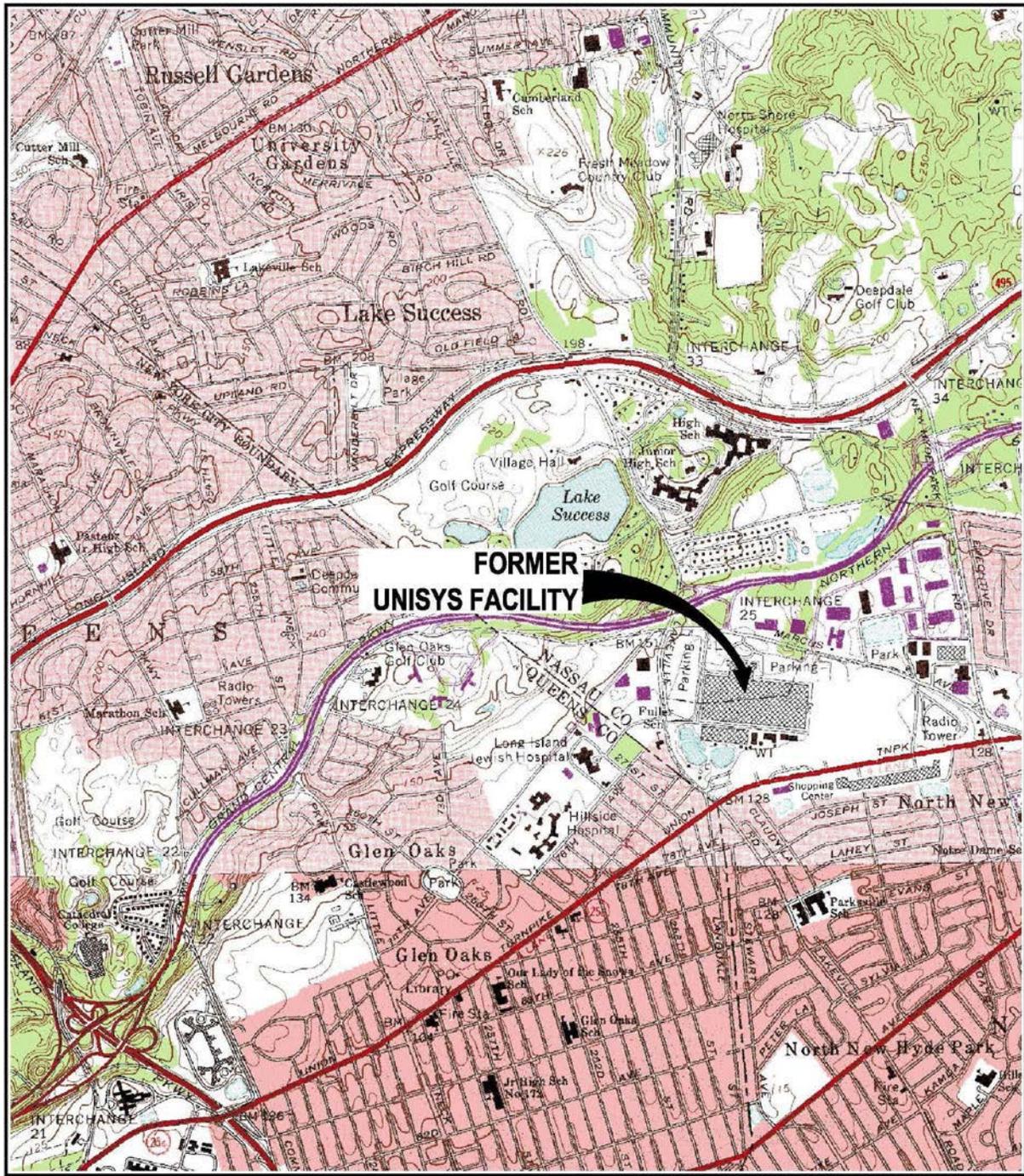


Figure 1. Site location, in Village of Lake Success, Town of North Hempstead, Nassau County, New York.

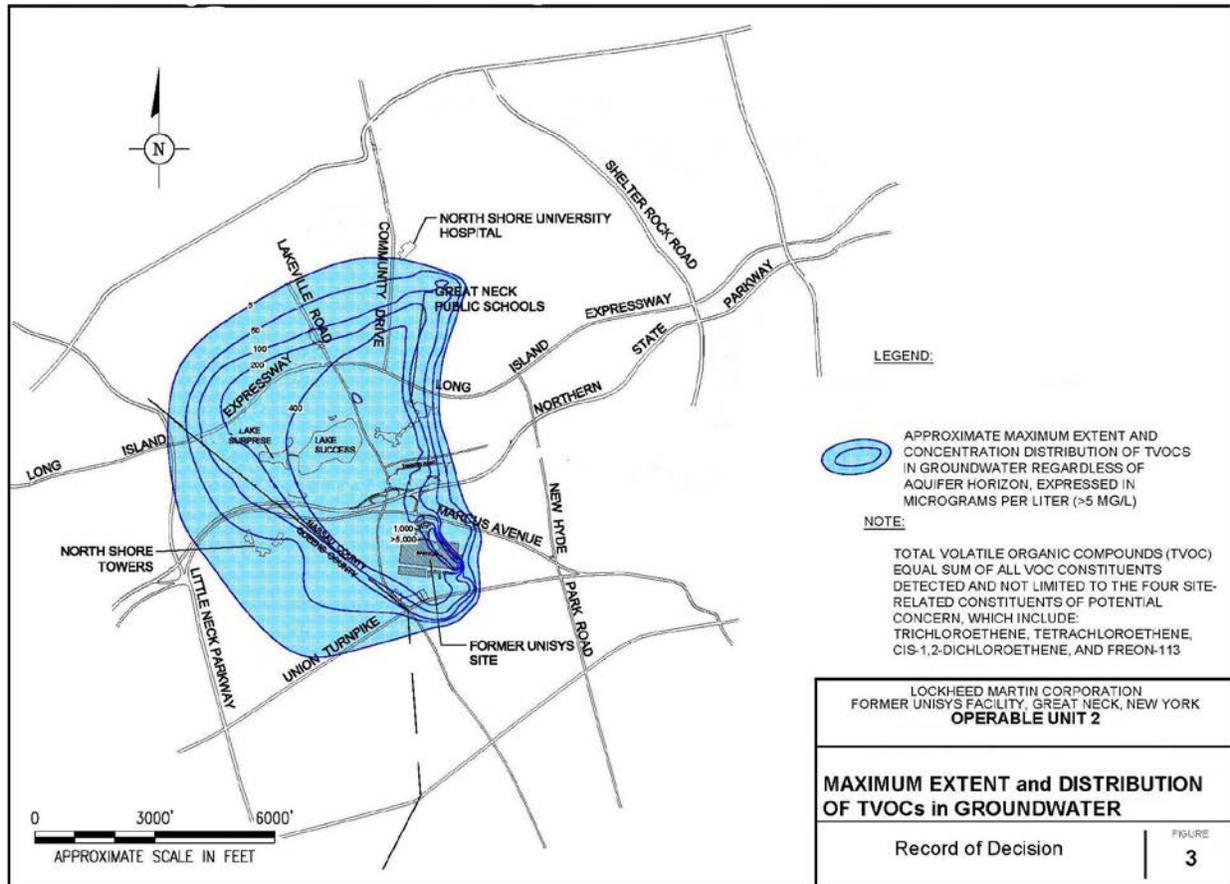


Figure 2. Maximum extent and distribution of groundwater plume.

Unisys Corporation Site Restoration Plan Approval

Village of Lake Success, Town of North Hempstead, Nassau County, New York

By the signatures below, the Unisys Corporation Site Restoration Plan is hereby approved.

Approved:

A handwritten signature in black ink, appearing to be 'T. Berkman', written over a horizontal line.

Thomas S. Berkman
Deputy Commissioner and General Counsel

New York State Department of
Environmental Conservation

Appendix A. Restoration Project Plans

LOCKHEED MARTIN
Restoration Project Plan (RPP)
Natural Resources Damages for
Village of Lake Success
Lake Success, Nassau County, NY



Submitted to NYSDEC March 17, 2017

FPM Group

INTRODUCTION

The former Unisys Site, comprised of approximately 94 acres and bounded by Marcus Avenue to the north, Union Turnpike to the south, Lakeville Rd to the west and Triad Office Park to the east, is located in the Village of Lake Success and the Town of North Hempstead, Nassau County, NY.

Lockheed Martin agreed to a \$2.8 million natural resource damages settlement with the Commissioner of the New York State Department of Environmental Conservation (NYSDEC), as Trustee, arising from the contamination of groundwater emanating from the former Unisys site in the Village of Lake Success and the Town of North Hempstead, NY. The parties agreed that the \$2.8 million would be used to fund projects associated with improving local and/or regional groundwater resources in the area. This Restoration Project Plan describes groundwater restoration projects that the Village of Lake Success will implement, which account for \$1.11 million of this settlement.

NATURAL RESOURCE RESTORATION PROJECTS

The Village of Lake Success is proposing the following four projects to minimize municipal groundwater pumping and enhance groundwater recharge to the aquifer while improving groundwater quality and reducing flooding in the area:

Project 1 – Hydraulic Connection between Lake Surprise and Lake Success. Lowering the existing canal bottom by 2 feet will eliminate the need for groundwater pumping for irrigation purposes in all but extreme drought conditions. In addition, this project will evaluate, repair, and replace the dam and outlet valve from Lake Surprise to optimize irrigation water needs and reduce groundwater demand from a contaminated groundwater well.

Project 2 – 100% groundwater recharge for Village Park involving parking lot and road repairs using porous pavement, adding a drained walking/jogging track, and playing field improvements to maximize groundwater recharge from the site and deliver that recharge close to the groundwater divide, which will also aid in repelling the salt water wedge on the North Shore (Great Neck) .

Project 3 – Weather Station in the Village to increase educational opportunities for students and village personnel and to optimize the irrigation needs of the golf course.

Project 4 – Groundwater recharge of stormwater runoff and flooding projection from Tanners Road Drainage Improvements to eliminate a poorly drained area from flooding and to recharge that water close to the groundwater divide.

Additional details regarding the projects are described below.

Project 1 – Hydraulic Connection between Lake Surprise and Lake Success \$320,000

Lake Surprise is utilized for irrigation purposes for the Lake Success Golf Course and Village Hall grounds and is fed by stormwater runoff. In addition, there is a manmade canal that conveys water between Lake Success and Lake Surprise. During drought conditions and when the water level lowers to approximately elevation 200 feet (bottom of canal), the water conveyance between the two lakes is cut off, thus limiting the amount of available water supply for the Village golf course's irrigation needs. The irrigation needs during these times, when the canal is dry, is satisfied by pumping the groundwater. The aquifer below the golf course is contaminated and needs to be treated before use. When this occurs, there is a groundwater pump and treat system on the west end of Lake Surprise that is activated to supply treated groundwater to Lake Surprise to supplement this irrigation need. Providing this hydraulic connection will eliminate the need for groundwater pumping and treatment of contaminated groundwater in all but

extreme drought conditions, reduce the electric costs for running the system, and eliminate the possibility of a direct discharge of untreated water due to a malfunction. It will also eliminate the need for a State Pollution Discharge Elimination System permit, the need to dispose of the spent granular activated carbon contaminated with chlorinated hydrocarbons, and it will benefit the cleanup plans for OU2, as it will eliminate any “pull” from a western pumping well.

There is also an outlet control structure and dam at the west end of Lake Surprise for controlling the lake level, which is in need of repair. The discharge pipe and associated valve does not close properly and the dam (earthen and concrete/stone wall) is deteriorating. Adding a new properly functioning outlet control structure and repairing the dam will allow more storage of water in Lake Surprise by capturing more spring and periodic storm runoff to be utilized during the hot summer months.

The hydraulic connection will involve dewatering and dredging of some sediment in the canal outlet of Lake Success and inlet to Lake Surprise to deepen and re-contour the bottom for installation of a pipe/open channel structure with an invert elevation of 198 feet (i.e., lowering by 2 feet). The dredged sediment displaced for the pipe/channel structure will be quality tested and is expected to be placed outside the structure along the banks of the canal/lake banks. A flow/water level control structure to regulate the water level will be installed near the existing footbridge and outlet of Lake Success. In addition, any dead/near falling down trees that are overhanging the canal work area will be removed. If any live trees need to be removed for the work, they will be replaced but not necessarily in the same location. A pipe/open channel structure is proposed as opposed to simply dredging 2 feet of sediment from the canal so the hydraulic connection can be better maintained with periodic cleaning (i.e., removal of accumulated sediment and debris). Reference Figures 2 through 4 depicting the project area.

Project 2 - Village Park Drainage Improvements \$700,000

The Village Park has experienced high runoff and ponding during intense rainfall events. This is a series of projects that will be tied together with the goal of 100% ground water recharge inside the Village Park. Reference Figures 5 through 6 depicting each project element.

Project 2a – Repair parking lots and roads using porous pavement in the Village Park: The parking lot in the Village Park (Police and Court Building) is in need of repair. The existing parking lot drains to the street and some drywells that have proven inadequate. Provided the soils are not restrictive, this project would replace the existing asphalt lot with a porous pavement system for collecting the rainwater, which would then be directed to new drywells. Should porous pavement be selected, a maintenance program will be carried out by the Village which will vacuum fine debris from the pore space of the porous pavement. If soils are not conducive to rapid drainage, then a standard asphalt parking lot will be constructed without the use of NRD funds. If a standard asphalt parking lot must be constructed, NRD funds will be used for an engineering feasibility study, which will select the best way to recharge the water prior to drainage to the street, followed by design and construction of this option. Engineering solutions may include new infiltration basins, detention basins or other practices that infiltrate the stormwater.

Project 2b – Provide a horizontal drain in a walking/jogging track around perimeter of open areas in the Village Park: The new walking/jogging track would act as a long horizontal drain around all the grass areas of the Park. This will ensure runoff capture of all areas for intense rain storms. The walking/fitness track around the perimeter would be made of porous material and would capture excess runoff from the grassy areas during high rainfall events. An underground piping network would then transport the water to new deep drywells. These drywells will be sized to carry all the runoff from a 50-year storm directly to the aquifer. This walking/fitness track will also serve as a public benefit and will increase usable green space in the Village.

Project 2c – Playing field and drainage improvements at Village Park: Because of poorly draining soils, currently some of the water during storm conditions leaves the site and similar to Projects 2(a) and 2(b), this project seeks to improve the ball fields for proper drainage so that 100% of the runoff can be recharged. This project envisions drainage improvements to the soccer field, summer concert field, and ball fields by piping the drainage together to accommodate a 50-year storm.

Project 3 – Weather Station \$15,000

A weather station will be installed in the Village as an educational tool for the public as well as a management tool for golf course water conservation. Local schools and the community will have the opportunity to obtain real time weather information and learn about water conservation and the hydrologic cycle. Connecting the weather station to moisture probes throughout the golf course will be used to improve the management of irrigation and water use for the Village Golf Course and Village Hall. Overall, more science and awareness will help water conservation and improve stormwater retention in Lake Surprise. Should the moisture probes prove reliable, a smart controller will be investigated. Reference Figures 7 through 8 depicting the project area.

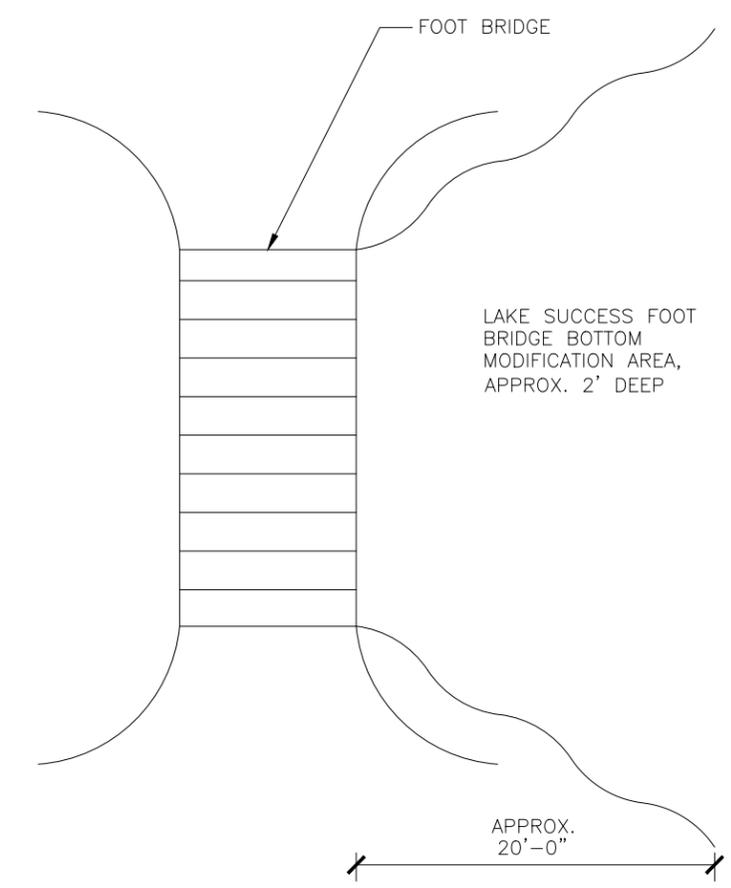
Project 4 – Tanners Road Drainage Improvements \$75,000

The east end of Tanners Road, adjacent to the local high school playing fields, frequently floods during rainfall events, which prevents potential groundwater recharge from reaching the aquifer. The flooding also creates traffic concerns and potential damage to the adjacent private properties. To alleviate the flooding, an engineering feasibility study will take place to select the best way to recharge the flood water followed by design and construction. Engineering solutions may include new infiltration basins, detention basins or other practices that infiltrate the stormwater. Reference Figure 9 depicting the project area.

IMPLEMENTATION

The projects will be designed and constructed using money allocated under the Unisys settlement. Modifications to the estimated permitting, design and construction costs could occur as a result of individual project or combined project execution, desired construction timing/schedules as well as change/field orders. The Village will meet with NYSDEC Water staff during the conceptual design stage and as appropriate thereafter to ensure the projects may be permitted before finalizing designs with plans and specifications. The Village will be responsible for providing annual updates on the progress of project implementation on September 25 of each project year and a Final Completion Report within 3 years of award issuance (September 25, 2016). Any modifications in project scope or costs will be reported to NYSDEC.

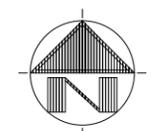
[PROJECT FIGURES]



1 BOTTOM MODIFICATION AREA DETAIL
N.T.S.

FIGURE - 2

PROJECT 1 - HYDRAULIC CONNECTION



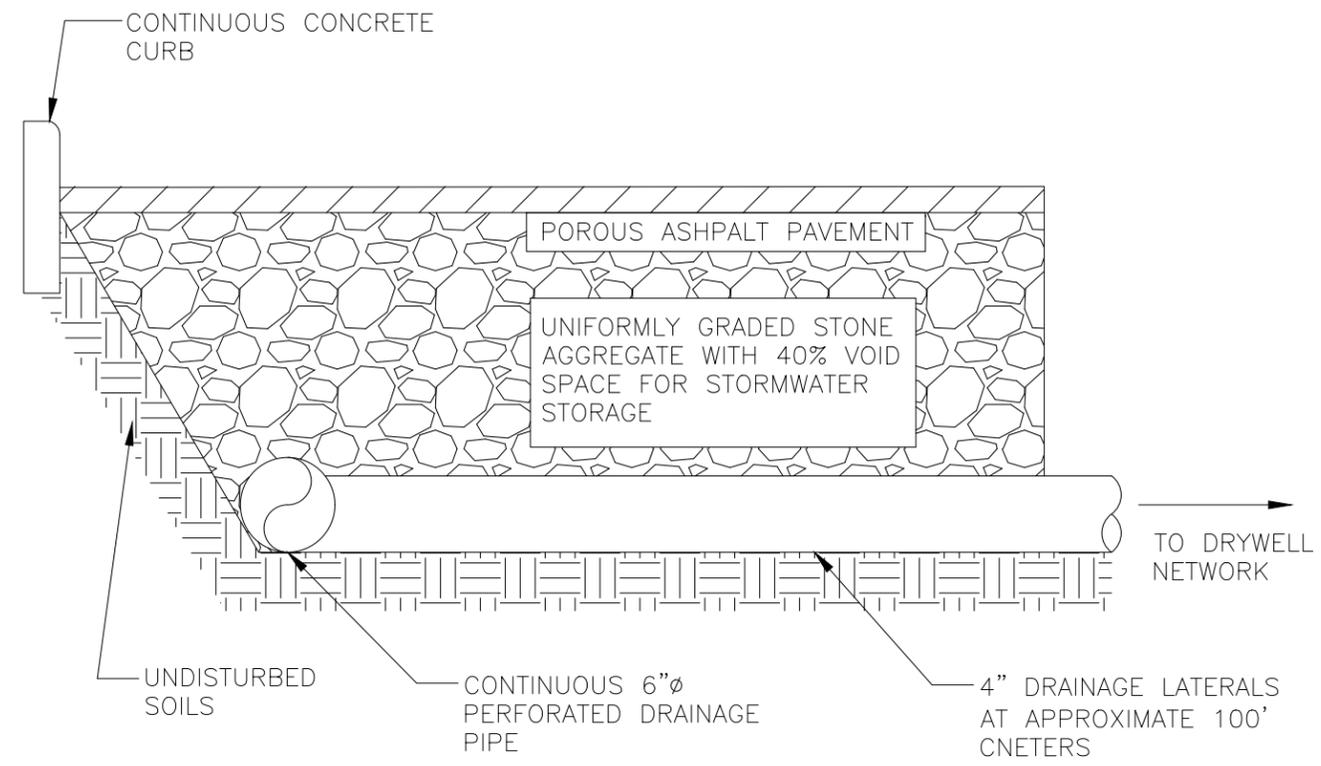
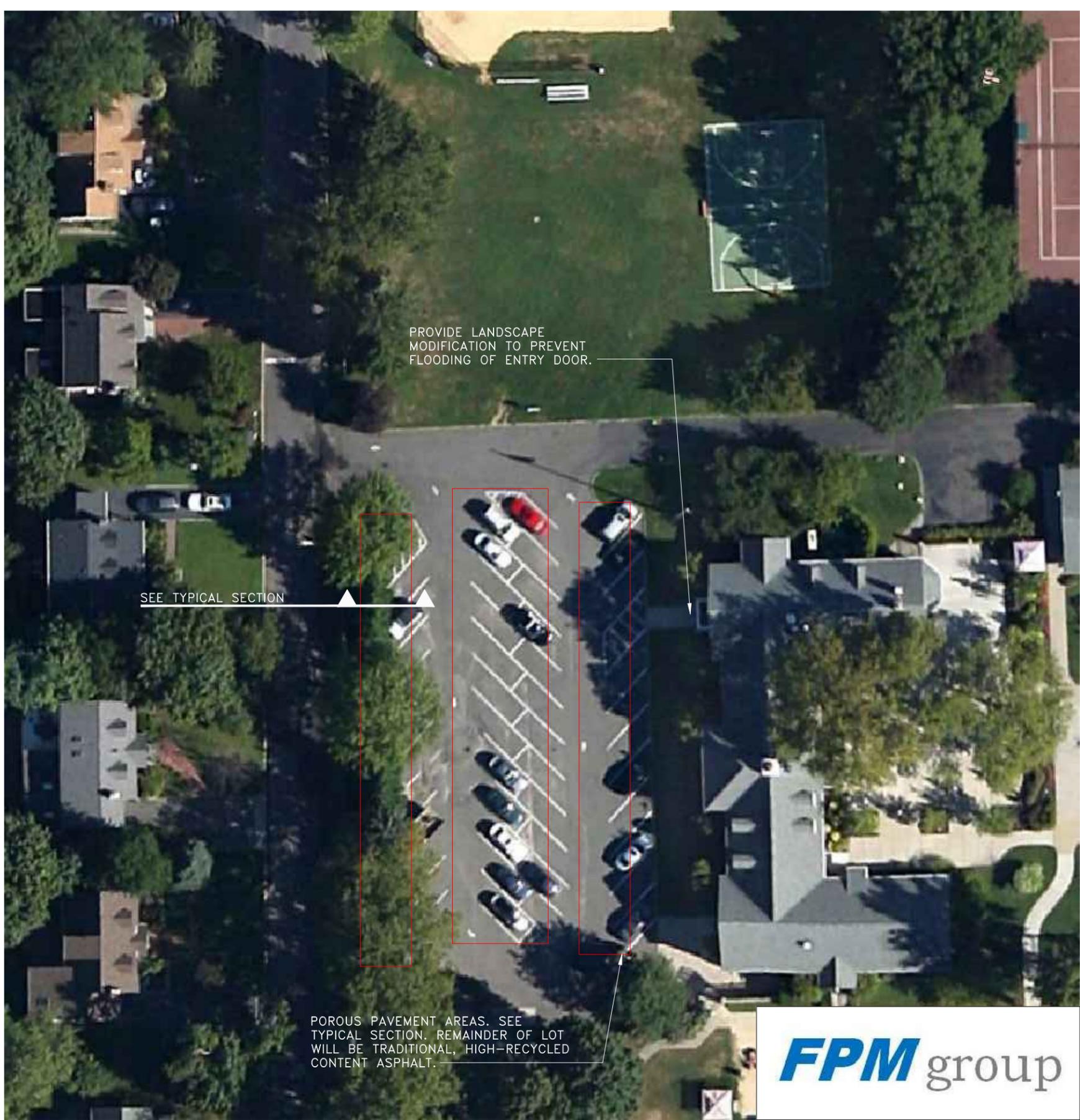
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Figure 3 – Images of canal connecting Lake Success and Lake Surprise and footbridge over canal.



Figure 4 – Images of existing dam and outlet control structure.

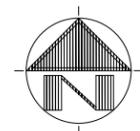


1 TYPICAL SECTION @ POROUS PAVEMENT
N.T.S.

FIGURE-5

PROJECT 2A - POLICE AND COURT COMPLEX PARKING LOT IMPROVEMENTS

PRIMARY BENEFIT: STORM WATER MANAGEMENT UPGRADES



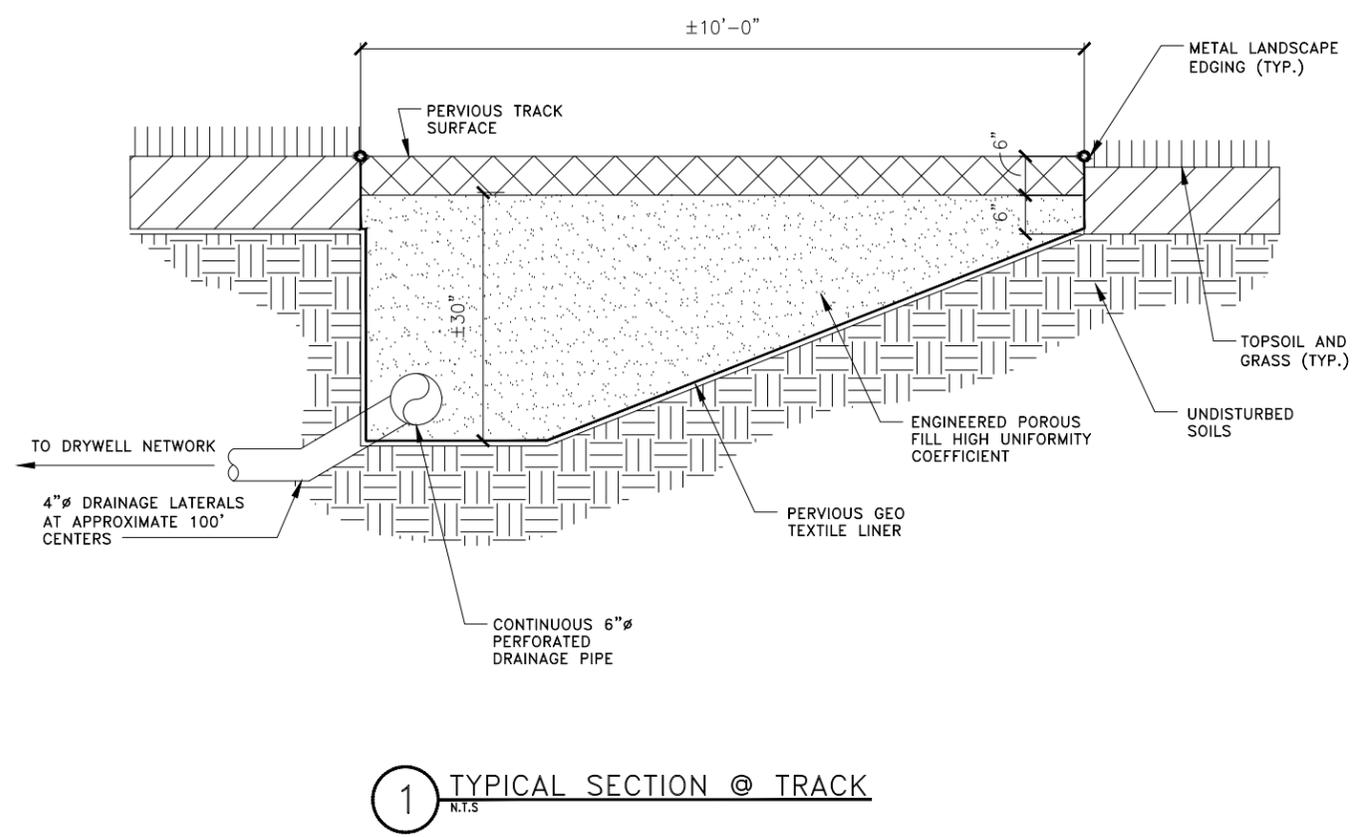
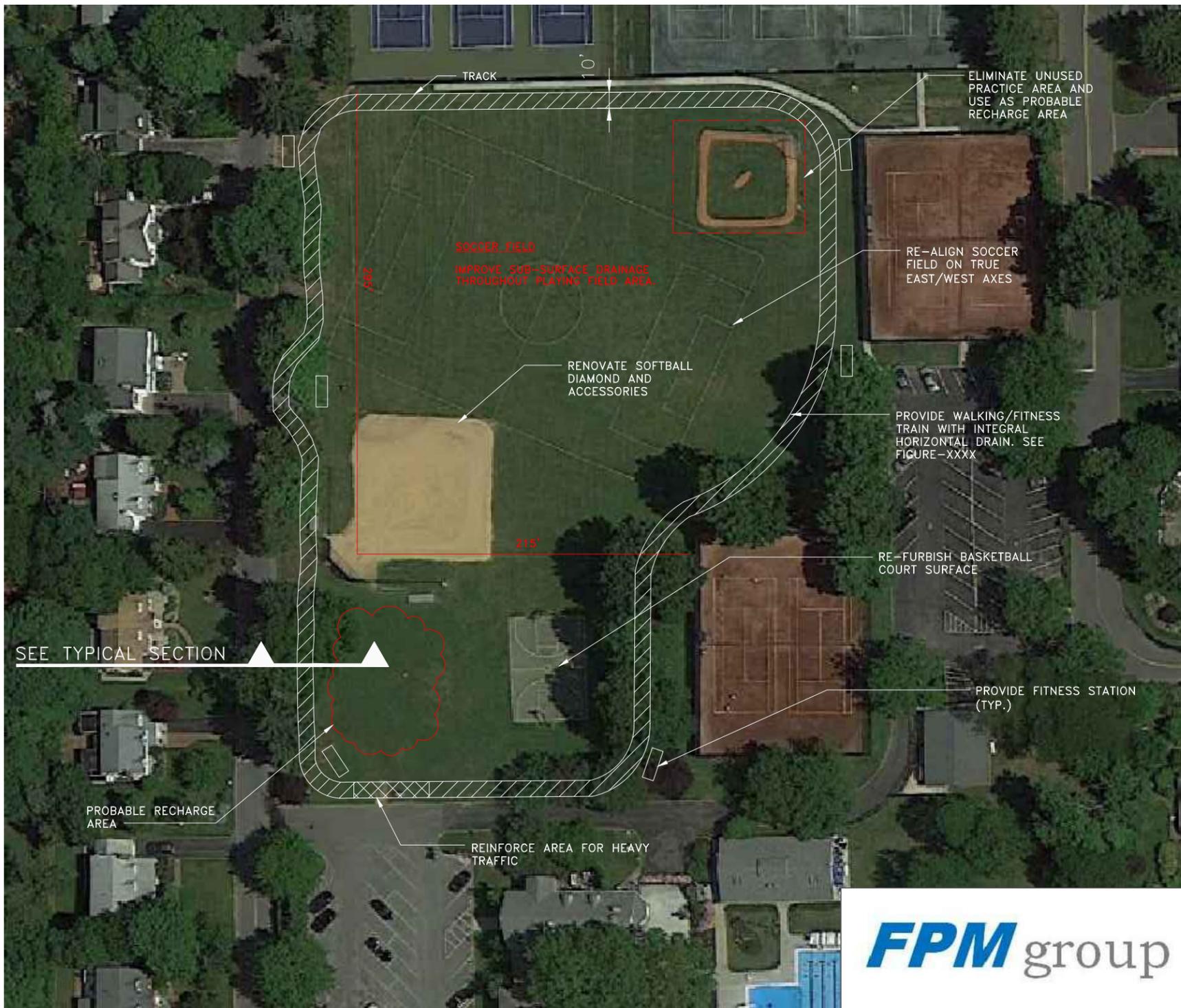
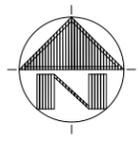


FIGURE-6

PROJECTS 2B & 2C - SPORTS COMPLEX IMPROVEMENTS

PRIMARY BENEFIT: SPORTS COMPLEX IMPROVEMENTS, AND STORM WATER MANAGEMENT UPGRADES





H:\VILLAGE OF LAKE SUCCESS\LAKE SUCCESS GOLF DESIGN FIGURE-8.dwg, 2/22/2017 2:52:01 PM, Adobe PDF.pc3

FIGURE - 7

PROJECT 3 - WEATHER STATION

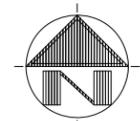




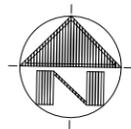
Figure 8 – Proposed Weather Station Location



FIGURE-9

PROJECT 4 - TANNERS ROAD DRAINAGE IMPROVEMENT

PRIMARY BENEFIT: REDUCE LOCALIZED FLOODING AND EXPEDITE GROUNDWATER RECHARGE.



Town of North Hempstead



Restoration Project Plan Whitney Pond Park and Manhasset Valley Park

Contact: Wes Sternberg, AICP
Town of North Hempstead
Department of Planning and Environmental Protection
210 Plandome Rd
Manhasset, NY 11030
516-869-6311

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Introduction

Lockheed Martin acquired the property known as 1111 Marcus Avenue, Great Neck in 1996. This property, formerly owned by the Loral Corporation, was subject to NYSDEC orders to remediate signed in 1991 and 1997. As a result of NYSDEC's decision in February 2015 to assert a claim against Lockheed Martin for natural resources damages arising from groundwater contamination in a sole-source aquifer area, Lockheed Martin and New York State agreed on monetary damages of which the Town of North Hempstead will receive a portion. Lockheed Martin has provided the Town of North Hempstead (the "Town") with \$790,000 to implement a restoration project.

Part of the Town's responsibilities attached to the use of these funds is to complete this Draft Restoration Plan (the "Plan") and solicit public comment. The Town will utilize its Communications Department to publicize the Restoration Plan and solicit public input. The Communications Department actively utilizes the Town's website, mailing lists, social media accounts and traditional press to advertise a variety of public hearings and events. A similar process will be used for the Plan; public comment will be received in writing or via the Town's 311 call center.

The Project Area

The project area consists of Whitney Pond Park and Manhasset Valley Park located on the northeast and southeast corners of the intersection of Community Drive and Northern Boulevard (NY-25A) in the hamlet of Manhasset. The two Town of North Hempstead parks encompass 44 acres; Whitney Pond Park is 26 acres and Manhasset Valley Park is 18 acres.

The water bodies within these parks are known as Whitney Pond (Lake) and Manhasset Valley Pond. Each body of water has an associated stream located within the project area, and the two ponds are connected via culvert under Northern Boulevard, with eventual discharge to Manhasset Bay immediately north of Manhasset Valley Park. Whitney Pond has an area of approximately 5 acres and Manhasset Valley Pond has an area of approximately 1.4 acres. Manhasset Valley Park has approximately 1800 linear feet of stream bank and 1300 linear feet of shoreline and Whitney Pond Park has approximately 3400 linear feet of shoreline and 3000 feet of stream bank split between two watercourses feeding Whitney Pond.

The two parks are recreational hubs for this portion of the Town. Manhasset Valley Park has a baseball diamond, a turf multi-purpose field and a playground, in addition to walking paths along the stream and within the wooded areas. Whitney Pond Park houses an outdoor swimming pool, basketball courts, handball courts, tennis courts, playgrounds, picnic tables and walking paths. Both of these parks are an important recreational and natural asset for Town residents, providing ample opportunity for multiple types of active recreation as well as the opportunity to sit and

enjoy the natural surroundings. While the parks are an obvious recreational asset, they play an important role in the larger ecosystem of the Town.

The waters of the project area flow directly to Manhasset Bay, an embayment of Long Island Sound. The Bay has a watershed of approximately 9,947 acres consisting of approximately 25% impervious surface. The Manhasset Bay watershed consists of 12 sub-watersheds. Whitney Pond, at 26%, is the largest of the sub-watersheds. Portions of Manhasset Bay are considered impaired by New York State and are on the Proposed Final 303(d) list for pathogens. Whitney Pond (listed as Whitney Lake) is impaired due to chlordane contamination in the sediment. Chlordane is a slow degrading pesticide that is toxic to fish and bioaccumulates in animals.

This project is an important opportunity to remove contaminants and restore the watershed. Improving Manhasset Bay is a known priority for both New York State and the Town of North Hempstead. Taking steps to remove contaminants, invasive species and ensure the provision of vital ecosystem services immediately upstream from the Bay can lead to a greatly improved environment for the area's residents.

Area Map and Site Photos

Project Area - Whitney Pond Park and Manhasset Valley Park





Photo 1 Manhasset Valley Park from the North

Nassau County

Flight date: April 12, 2015



Photo 2 Manhasset Valley Park from the South



Photo 3 Whitney Pond from the East

Nassau County

Flight date: April 12, 2015



Photo 4 Whitney Pond from the West

Nassau County

Flight date: April 12, 2015



Photo 5 Whitney Pond Park from the West



Photo 6 Segment of Whitney Stream

Vision for Project Area

The impairments to Whitney Stream, Manhasset Valley Pond and Whitney Lake are the result of decades of activity in the greater watershed and no substantial rehabilitation efforts have occurred in the recent past. The results are a degraded riparian and aquatic environment as well as diminished water storage capacity in the ponds.

The goal of the project is to restore the functional and environmental capacity of Whitney Lake, Manhasset Valley Pond and Whitney Stream. The restored system will remove stockpiles of contaminated sediment from the ecosystem, properly regulate the flow of freshwater into Manhasset Bay and host revitalized plant communities designed to reduce excess nutrient inputs to the Bay and enhance the shoreline within the project area.

Manhasset Valley Park and Whitney Pond Park are the only substantial agglomerations of Town owned park land in the area; because of this scarcity, restoration and stewardship is of great significance. In addition to the size of the Town's holdings, the surface waters of Manhasset Valley Park and Whitney Pond Park are the only examples of accessible riparian habitat in Town park land in this area.

The riparian environment of the project area is primarily a natural area and its use by park goers is limited to providing a scenic place to walk or sit. The removal of invasive species and the stabilization of the shoreline may allow for more people to get closer to the water's edge. Thus, stabilizing and softening the shoreline expands the project area's nature based recreational opportunities.

The Town intends a three-part management philosophy for the project area: cleaning the environment through the removal of toxins, restoring hydrologic function and water quality in the overall watershed, and enhance opportunities for enjoyment of the natural areas within the project area.

Intent of Project

The Town and its consultants will inventory the existing environmental conditions in the project area, identify ongoing sources of contamination, identify environmental threats, prescribe a rehabilitation and maintenance protocol and prepare documents suitable for obtaining required permits from both New York State and federal regulators. The Town and consultants will meet with NYSDEC Wetlands and Marine Resources staff during the conceptual design stage and as appropriate thereafter to ensure the project may be permitted before finalizing the design with plans and specifications. The investigation and permitting phases of the project funded by the Lockheed Martin settlement will create an inventory, analysis, preliminary design plans, sediment/water sampling and be considered ready for permit application. Upon receipt of required permits from NYSDEC and USACE, the Town intends to use the remainder of the funds for construction. No less than 75% of the settlement funds will be set aside for construction costs. Whether construction will be phased to match the Town's fiscal capacity or the money will be used as part of a grant program are yet to be determined and will largely

depend on the construction cost estimates created after engineering investigation and sediment analysis.

Organization and Timeline

The restoration plan consists of 3 phases:

Phase 1: Background investigation, water/sediment sampling and analysis

Phase 2: Preliminary design and permitting

Phase 3: Construction

Phase 1 is anticipated to last approximately 12 months and will begin with the Town immediately beginning procurement for the needed engineering team. This phase will be fully funded by money the Town has received from Lockheed Martin; we anticipate proceeding immediately to Phase 2. During Phase 2 the Town will develop construction estimates. Using the full cost estimates the Town will determine if the geographic scope of the project will need to be adjusted to allow construction to be completed within the existing project budget.

Project construction will conclude by September 25, 2019

Project Tasks - Northern Section

The northern section of the project area encompasses all the water and shoreline within Manhasset Valley Park, consisting of Manhasset Valley Pond and its tributary stream extending towards Northern Boulevard and Whitney Pond. The Town intends to issue an RFP to perform work outlined below.

- I. Background Investigation
 - A. Watershed identification
 - B. Surrounding land use pattern
 - C. Recreational amenities
 - D. Map of watershed
 - E. Existing infrastructures
 - F. Soils and surface waterbodies
 - G. Historic sites/landmarks
 - H. Illicit discharges/stream and lake inputs
 - I. Drainage structures/dams/check dams/spillway identification
 - J. Ground water elevations
 - K. Tidal and fresh water flow and elevation
 - L. Topography
 - M. Overland flow

- N. Groundwater
- O. Adjacent lands
- II. Water Sampling and Analysis
 - A. Sampling plan
 - B. Priority locations
 - C. Interpretation of results
 - D. Contamination summary
- III. Sediment Sampling and Analysis
 - A. Establishment of protocol
 - B. Sampling plan
 - C. Priority locations
 - D. Volume estimates
 - E. Contamination summary
- IV. Preliminary Design
 - A. Identification of stormwater treatment and mitigation options
 - B. Invasive species removal and replanting plan
 - C. Identification of preferred design
 - D. Permitting requirements/SEQR determination
- V. Construction

Project Tasks - Southern Section

The southern section of the project area encompasses all the water and shoreline within Whitney Pond Park. This includes Whitney Pond (Lake) as well as the two streams extending south towards Community Drive East. The Town intends to issue an RFP to preform work outlined below.

- I. Background Investigation
 - A. Watershed identification
 - B. Surrounding land use pattern
 - C. Recreational amenities
 - D. Map of watershed
 - E. Existing infrastructures
 - F. Soils and surface waterbodies
 - G. Historic sites/landmarks
 - H. Illicit discharges/stream and lake inputs
 - I. Drainage structures/dams/check dams/spillway identification
 - J. Ground water elevations
 - K. Tidal and fresh water flow and elevation
 - L. Topography
 - M. Overland flow
 - N. Groundwater
 - O. Adjacent lands
- II. Water Sampling and Analysis

- A. Sampling plan
- B. Priority locations
- C. Interpretation of results
- D. Contamination summary
- III. Sediment Sampling and Analysis
 - A. Establishment of protocol
 - B. Sampling plan
 - C. Priority locations
 - D. Volume estimates
 - E. Contamination summary
- IV. Preliminary Design
 - A. Identification of stormwater treatment and mitigation options
 - B. Invasive species removal and replanting plan
 - C. Identification of preferred design
 - D. Permitting requirements/SEQR determination
- V. Construction

Reporting Requirements

The Town will be responsible for providing annual updates to NYSDEC on September 25 of each project year. These reports will outline work completed as well as remaining work and an estimated timeline for the coming year. Final Completion Report is due at the conclusion of the restoration project.

Reports will be sent to:

Patrick Foster
 Office of General Counsel, Natural Resource Damages Section
 New York State Department of Environmental Conservation
 625 Broadway, 14th Floor, Albany, NY 12233-1500

Project Budget

Project funding will target a 25% (\$197,500) expenditure of funding for Phase 1 and 2 with 75% (\$592,500) reserved for project construction. Phase 1 and 2 costs may increase due to the results of sediment sampling. In no event will less than 65% (\$513,500) be reserved for construction costs.

Appendix B. Executed Order on Consent: Lockheed Martin Corporation, Index # CO 1-20160426-40