GLADSKY MARINE SITE

NASSAU COUNTY

GLEN COVE, NEW YORK

EXCAVATION WORK PLAN FOR CONSTRUCTION ON THE GLADSKY MARINE SITE

NYSDEC Site Number: E130152

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Revisions to Final Excavation Work Plan:

Revision No.	Date Submitted	Summary of Revision	NYSDEC Approval Date

AUGUST 2017

CERTIFICATION STATEMENT

I Paul Grosser, PhD, PE, PG, certify that I am currently a New York State registered professional engineer (PE) and that this Excavation Work Plan (EWP) was prepared in accordance with applicable statutes and regulations and in substantial conformance with the New York State Department of Environmental Conservation (NYSDEC) Division of Environmental Remediation (DER) Technical Guidance for Site Investigation and Remediation (DER-10).

_____ P.E.

8/14/17 DATE



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FOR GLADSKY MARINE CONSTRUCTION

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List of Acronyms

ASP	Analytical Services Protocol
BUD	Beneficial Use Determination
CAMP	Community Air Monitoring Plan
C&D	Construction and Demolition
CFR	Code of Federal Regulation
DER	Division of Environmental Remediation
DER-10	Technical Guidance for Site Investigation and Remediation
EC	Engineering Control
EDD	Electronic Data Deliverables
ELAP	Environmental Laboratory Approval Program
EWP	Excavation Work Plan
FER	Final Engineering Report
GPWRP	Garvies Point Waterfront Revitalization Project
HASP	Health and Safety Plan
NCDPW	Nassau County Department of Public Works
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
NYCRR	New York Codes, Rules and Regulations
NYSDOT	New York State Department of Transportation
OM&M	Operation, Maintenance, & Monitoring
OSHA	Occupational Safety and Health Administration
PCB	Polychlorinated Biphenyl
PE	Professional Engineer
PID	Photoionization Detector
POGWSCO	Protection of Groundwater Soil Cleanup Objectives
ppm	parts per million
PRR	Periodic Review Report
QA/QC	Quality Assurance/Quality Control
QAPP	Quality Assurance Project Plan
RCA	Recycled Concrete Aggregate
RRUSCO	Restricted-Residential Use Soil Cleanup Objective
SMP	Site Management Plan
SPDES	State Pollutant Discharge Elimination System
SSDS	Sub-Slab Depressurization System
SVOC	Semi-Volatile Organic Compound
SWPPP	Stormwater Pollution Prevention Plan
TAL	Target Analyte List
TCL	Target Compound List
USEPA	United States Environmental Protection Agency
UUSCO	Unrestricted Use Soil Cleanup Objective
VOC	Volatile Organic Compound

1.0 INTRODUCTION

This EWP is to be implemented by the Owner's Contractor during construction of the new Anglers Club building and site improvements planned for the Gladsky Marine Site as part of redevelopment work associated with Phase I of the Garvies Point Waterfront Revitalization Project (GPWRP). This EWP has been prepared in accordance with the environmental specifications for the project (included as Appendix A). This EWP will be followed for site activities upland of the NYSDEC Article 25 jurisdictional limits. The area of the site subject to this EWP are shown on plans included as Appendix B.

1.1 Site Location and Description

The Gladsky Marine Site is located in the County of Nassau, New York and is identified as Section 21, Block A, Lot 12 on the Nassau County Tax Map. A site vicinity map is included as Figure 1 and a site plan is included as Figure 2. The site occupies approximately 0.85 acres and is bounded by Garvies Point Road to the north, Glen Cove Creek to the south, Nassau County Department of Public Works (NCDPW) sewage pump station property to the east and the Anglers Club property to the west.

1.2 Environmental Summary

The site has been utilized in the past as a concrete plant, sand/gravel facility and as a storage/maintenance yard for boats. Environmental investigations performed at the site identified the presence of soil and groundwater contamination, primarily heavy metals and semi-volatile organic compounds (SVOCs), attributed to historical site usage.

Remedial activities were completed at the site to make the site acceptable for restricted-residential use. These activities included:

1. Excavation and off-site disposal of a minimum of the top two feet of soils across the entire site with several areas excavated deeper to remove impacted soils.
2. Collection and analysis of confirmatory soil samples documenting the soil quality of the native soils that were left in place. It should be noted that soil quality at some areas of the site were documented above restricted-residential use soil cleanup objectives (RRUSCOs) specified in 6 New York Codes, Rules, and Regulation

(NYCRR) Part 375, but were deemed acceptable to remain in place beneath engineering controls (ECs), as approved by the NYSDEC. See Figure 3 for excavation extents, locations of confirmatory soil samples, and summary of soil quality left in place.

3. A demarcation layer consisting of black geotextile membrane was placed on the ground across the entire site at the completed excavation depths ranging from two to six feet in depth to separate the native soils (where soils documented above RRUSCOs were left in place) and the NYSDEC-approved composite cap system consisting of a minimum of 24 inches of soil meeting RRUSCOs. See Figure 3 for location of demarcation layer.

With the completion of the remedial activities summarized above, the NYSDEC considered the site acceptable for restricted-residential use with the implementation of a Site Management Plan (SMP) and filing of an environmental easement to ensure compliance with the SMP by future owners. The SMP provides details for operation, maintenance, and monitoring (OM&M) of the site as well defines use and development restrictions.

1.3 Redevelopment

The Gladsky Marine Site is included within the Phase I construction area of the GPWRP. Site improvements will include construction of the single-story Anglers Club building and construction of a bike path and park on the remainder of the site. Construction activities are anticipated to disturb the composite cap system currently installed at the site. The composite cap system is a permanent EC for the site and disturbance of the EC will require compliance with the SMP. In accordance with the SMP, excavation activities that extend beneath the composite cap are to be performed under a NYSDEC-approved EWP which defines site requirements and protocols to be followed.

2.0 NOTIFICATION REQUIREMENTS

Prior to the start of redevelopment activities, the site owner or their representative will notify the NYSDEC. A minimum of 7-days' notice for non-intrusive work that requires regulatory oversight (material import, material placement, demarcation installation, etc.) and 15-days notification for intrusive site work will be provided. Table 1 includes the current contact information for the above notification. The information on this table will be updated as necessary to provide accurate contact information.

Table 1: Notifications*

Contact Name/Organization	Phone	Email
Heide-Marie Dudek, P.E., NYSDEC	518-402-9813	Heidi.Dudek@dec.ny.gov

* Note: Notifications are subject to change and will be updated as necessary.

This notification will include:

- A detailed description of the work to be performed is included in Section 3.0 of this EWP. Changes to the scope of work will be reported to the notification list as soon as possible.
- Existing environmental conditions are detailed in Section 3.4, and Figure 3 of this EWP. Changes to existing environmental conditions will be reported to the notification list as they are discovered.
- Work detailed in this EWP is tentatively scheduled to begin in August of 2017. A confirmed start date will be provided a minimum of 7-days' notice for non-intrusive work that requires regulatory oversight (material import, material placement, demarcation installation, etc.) and 15-days notification for intrusive site work.
- Work will be performed in compliance with this EWP and 29 code of federal regulations (CFR) 1910.120.
- Health and safety requirements for work covered by this EWP are summarized in Section 5.0; a Health and Safety Plan (HASP) is included as Appendix C.
- The planned scope of work covered by this EWP includes excavation of site soils, reuse of approved excavated soils that meet reuse criteria as presented in Section 4.9 and the SMP, and disposal of site soils, as necessary, import of

materials in accordance with Section 4.12, and the installation of ECs. The disposal facilities will be identified and provided to the notification list for approval prior to shipping material to the facilities.

3.0 SCOPE OF WORK

3.1 Survey Work

Surveys will be completed by a Land Surveyor licensed to practice in New York State.

3.1.1 Initial Site Survey

Prior to the performance of construction activities, an initial site survey will be performed by the Contractor to verify the existing site conditions and establish the exact limits of the work. The survey will include the following:

- Property boundary (metes and bounds) and established reference points.
- Limits of the property subject to this EWP.
- Ground surface elevations measured across the entire site at the intersection points of a 50-foot by 50-foot grid.
- Existing site features (e.g., site structures, limits of paved areas, fences, gates, etc.)

3.1.2 Intermediate Site Survey

During construction activities, an intermediate survey will be performed by the Contractor to verify project milestones. The survey will include the following:

- Following the completion of excavations, the extent of excavation and location of confirmatory / endpoint soil samples will be surveyed.
- Following the completion of backfilling and grading activities, a survey will be performed to memorialize the subgrade elevations prior to the installation of the demarcation layer.
- Survey of sample points should be performed within 24 hours of collection, with samples flagged and excavation/running of heavy equipment in proximity to the sample area prohibited until the sample point is surveyed.

3.1.3 Final Site Survey

Upon completion of redevelopment activities, an as-built survey will be performed by the Contractor depicting all final site features, including demarcation limits and final elevations documenting successful installation of ECs.

3.2 Excavation Work

3.2.1 Incidental Soil Disturbance

During the planned construction activities, incidental soil disturbance outside that needed for construction of the site improvements, may occur below the existing demarcation layer. Such instances may include but not be limited to unanticipated elevation changes where site access is needed, trenching activities for temporary utilities for construction trailers and equipment, silt fencing, etc. Please note that trenching activities for the temporary utilities described above would include similar measures as trenching for silt fence, where a ditch witch or similar would be used to create a small trench to allow for the installation of the silt fence or temporary utility. Incidental site disturbance activities will be coordinated with the on-site regulatory representatives. At a minimum, soil screening protocols and the community air monitoring plan (CAMP) will be followed during these activities.

3.2.2 Excavation

The anticipated excavation work upland of the NYSDEC Article 25 jurisdictional limits (See figures included in Appendix B for the NYSDEC Article 25 jurisdictional limits and work area subject to this EWP) will consist of the following intrusive activities:

- Spot excavation into native soils, if necessary, for the installation of pile caps, utilities and/or subgrade structures will be performed following the policies and procedures outlined in this EWP.

Appendix D includes a cut and fill plan for regrading (Sheet C-33). Only work not associated with the marina is included in this EWP.

3.2.3 Soil Stockpiling

Following excavation of soils from the site as described in Section 3.2, excess soils will be stockpiled on-site, as necessary. Soil stockpiles will be constructed in such a manner as to comply with Section 4.5 of this EWP, and with the Storm Water Pollution Prevention Plan (SWPPP) developed for the site. These soils will be sampled in accordance with Section 4.9 of this EWP to evaluate their suitability for reuse on-site below an EC.

3.2.4 Clearing and Grubbing

Prior to the commencement of excavation work, existing vegetation within the limits of the work area will be removed and disposed off-site, (i.e., trees, stumps, overgrown grass/brush, bushes) as necessary. Material that will be shipped off-site shall have the planned disposal facility approved in advance by the NYSDEC. Clearing and grubbing waste will be scanned for radiation before shipping. Woody vegetation which is kept separate from site soils may be chipped, mulched, and disposed of as yard waste, but root balls and materials which has been mixed with site soils will be assumed to have the potential for contamination, and disposed of as hazardous or nonhazardous waste, as appropriate. Disposal facilities will be submitted for approval to the NYSDEC before shipping. Root balls and material mixed with site soils will be stockpiled in compliance with Section 4.5.

3.2.5 Debris

Debris encountered during excavations performed at the site shall be segregated from the soil stockpiles by the contractor.

Construction and demolition (C&D) debris that does not contain hazardous materials, such as concrete, brick, or stone, may be disposed of at a NYSDEC registered or permitted recycling facility, or an active regulated construction and demolition debris municipal solid waste landfill that is permitted by the NYSDEC and which meets the current design standards for municipal solid waste facilities of 6 NYCRR Part 360. Material that will be shipped off-site shall have the planned disposal facility approved in advance by the NYSDEC.

C&D debris that does not contain hazardous materials, such as concrete, brick, or stone, may be crushed on-site to generate recycled concrete aggregate (RCA) for reuse on-site. Health and safety provisions, including the CAMP monitoring and dust control measures (as specified in Section 5.0) will be followed during concrete crushing activities. RCA generated by concrete crushing at the site shall be reused beneath the existing demarcation layer located at two feet below grade or an impervious layer.

3.3 Vapor Barrier and Sub-Slab Depressurization System

As part of construction, a soil vapor intrusion system consisting of a vapor barrier and sub-slab depressurization system (SSDS) will be installed beneath the Anglers Club building foundation. The finished subgrade beneath the building will be established to allow for the installation of the vapor barrier and SSDS to be installed without further excavation into native soils beyond the excavation work specified in Section 3.2. The vapor barrier will consist of a Geo-Seal Vapor Intrusion Barrier (or approved substitute). The vapor barrier and SSDS will be installed in accordance with the design drawings included in Appendix D (see Sheets SVM-1 and SVM-2).

3.4 Remaining Contamination at the Site.

As documented in the Final Engineering Report (FER), low level concentrations of metals in excess of RRUSCOs specified in 6 NYCRR Part 375 remain in soils at the site. This contamination has been demarcated on-site by the existing demarcation layer. These low-level concentrations are currently managed by the ECs previously installed and will continue to be managed by the ECs to be installed as part of this EWP. Remaining contamination that is disturbed during excavation work at the site will be managed under this EWP and in accordance with the SMP.

Figure 3 illustrates the locations and concentrations of metals in excess of RRUSCOs.

4.0 SOIL AND MATERIALS MANAGEMENT

4.1 Demarcation Layer Maintenance

During completion of the remedial action described in the FER, a demarcation layer was installed at the site.

During construction activities, excavations are anticipated to extend beyond the existing demarcation layer. Upon completion of excavation activities, the demarcation layer will be reinstalled, as necessary. The demarcation layer will consist of highly visible orange construction fencing or equivalent material to provide an observable reference layer.

Appendix D includes figures showing the planned extent and details for demarcation layers (see Sheets C-18, C-19, C-20, C-21, C-22, C-23, C-24, C-28, C-29, C-30, C-31, C-32, C-34).

4.2 Confirmation Sampling

Confirmatory soil sampling will be performed for new excavations that breach the existing demarcation layer and extend into native soils to document the soil quality that will remain in place following completion of construction. Confirmation sampling will be performed (as described below) in compliance with DER-10.

Sampling frequency will consist of the following:

1. For each new excavation where final excavation is complete, confirmatory soil sampling will be performed in compliance with DER-10 5.4(b)5.
2. Sidewall samples should be biased in the direction of surface runoff.
3. For excavations 20 to 300 feet or greater in perimeter:
    - For surface removals (0 to 24 inches), one sample from the top of each sidewall for every 30 linear feet of sidewall and one sample from the excavation bottom for every 900 square feet of bottom area.
    - For subsurface removals, one sample from each sidewall for every 30 linear feet of sidewall and one sample from the excavation bottom for every 900 square feet of bottom area.
4. If an excavation is enlarged horizontally or vertically, additional soil samples will be collected as described by 1-3 above.

For excavation sidewalls, samples will be collected from up to five foot horizons.

The collected samples will be analyzed utilizing the following methodology:

- Target Analyte List (TAL) Metals by United States Environmental Protection Agency (USEPA) Method 6010C/7471B; and
- SVOCs by USEPA Method 8270D.

The sample volume will be transferred to a stainless-steel bowl and homogenized. Once homogenized, samples will be transferred to laboratory supplied glassware, packed in a cooler with ice and shipped under proper chain-of-custody procedures to a New York State Department of Health (NYSDOH) environmental laboratory approval program (ELAP) certified laboratory for analysis in accordance with NYSDEC Analytical Services Protocol (ASP) Category B Data Deliverable packages and Electronic Data Deliverables (EDDs, in EQuIS format) will be furnished by the laboratory. Sampling equipment decontamination will be performed in accordance with the project quality assurance project plan (QAPP) (Appendix F). Survey of sample points should be performed within 24 hours of collection, with samples flagged and excavation/running of heavy equipment in proximity to the sample area prohibited until the sample point is surveyed.

The results of the associated analysis will be compared to RRUSCOs. In the event a compound exceeds its respective RRUSCO, it will be allowed to remain in place beneath an EC and will be documented in the SMP.

The results of the confirmation sampling will be provided in a tabular and map summary of sample results to the NYSDEC project manager at the completion of the excavation work. Laboratory analytical reports will be provided to the NYSDEC project manager within 72 hours of receipt.

4.3 Contaminated Soil Excavation Contingency

In the event soil screening exceeds the photo-ionization detector (PID) action levels (100 parts per million (ppm)) or if grossly contaminated media (soils exhibiting staining, product, petroleum odors, etc.) or residual source material are encountered, such material will be excavated to the extent feasible and properly disposed off-site until PID readings are below 100 ppm and/or no visual impact is observed. Material that will be shipped off-site shall have the planned disposal facility approved in advance by the NYSDEC.

4.3.1 Remedial Confirmatory Soil Sampling

Following removal of contaminated soil as determined by field screening and visual means, confirmatory soil sampling will be performed.

Sampling frequency will consist of the following:

1. For each new excavation where final excavation is complete or expansion of an excavation to remove contamination is complete, confirmatory soil sampling will be performed in compliance with DER-10 5.4(b)5.
2. In the absence of PID readings or visual/olfactory contamination, sidewall samples should be biased in the direction of surface runoff.
3. For excavations 20 to 300 feet or greater in perimeter:
    - For surface removals (0 to 24 inches), one sample from the top of each sidewall for every 30 linear feet of sidewall and one sample from the excavation bottom for every 900 square feet of bottom area.
    - For subsurface removals, one sample from each sidewall for every 30 linear feet of sidewall and one sample from the excavation bottom for every 900 square feet of bottom area.
4. For sampling of volatile organics, samples should be taken within 24 hours of excavation, and should be taken from the zero to six-inch interval at the excavation floor. Samples taken after 24 hours should be taken at six to twelve inches.
5. Post remediation soil samples for laboratory analysis should be taken immediately after contaminated soil removal.
6. If an excavation is enlarged horizontally or vertically, additional soil samples will be collected as described by 1-5 above.

For excavation sidewalls, samples will be collected from up to five foot horizons.

The collected samples will be analyzed utilizing the following methodology:

- TAL Metals by USEPA Method 6010C/7471B;
- SVOCs by USEPA Method 8270D; and
- Volatile Organic Compounds (VOCs) by USEPA Method 8260B.

Samples collected for volatile organic analysis will be collected utilizing tera-core sampling devices. The remaining sample volume will be transferred to a stainless-steel bowl and homogenized. Once homogenized, samples will be transferred to laboratory supplied glassware, packed in a cooler with ice and shipped under proper chain-of-custody procedures to a NYSDOH ELAP certified laboratory for analysis in accordance with NYSDEC ASP Category B Data Deliverable packages and EDDs (in EQuIS format) will be furnished by the laboratory. Sampling equipment decontamination will be performed in accordance with the project QAPP (Appendix F). Survey of sample points should be performed within 24 hours of collection, with samples flagged and excavation/running of heavy equipment in proximity to the sample area prohibited until the sample point is surveyed.

The results of the associated analysis will be compared to RRUSCOs. In the event a compound exceeds its respective RRUSCO, it will be allowed to remain in place beneath an EC and will be documented in the SMP.

The results of the confirmation sampling will be provided in a tabular and map summary of sample results to the NYSDEC project manager at the completion of the excavation work. Laboratory analytical reports will be provided to the NYSDEC project manager within 72 hours of receipt.

4.4 Soil Screening Methods

Visual, olfactory and instrument-based (e.g. PID) soil screening will be performed by a PE or person under their supervision during excavation activities. Soil screening will be performed when intrusive work is done and will include excavation and intrusive work performed during development, such as excavations for foundations and utility work.

Soils will be segregated based on screening results into material that requires off-site disposal, and material that can be reused on-site. Material that will be shipped off-site shall have the planned disposal facility approved in advance by the NYSDEC. Further discussion of offsite disposal of materials and on-site reuse is provided in Sections 4.8 and 4.9 of this EWP.

4.5 Soil Staging Methods

Stockpiles of excavated soils and other materials shall be located at least 50 feet from the property boundaries where possible. Soil stockpiles will be continuously encircled with a berm and/or silt fence. Hay bales or equivalent inserts will be used as needed near catch basins, surface waters and other discharge points. Stockpiles will be constructed in a manner that complies with the SWPPP developed for the site.

Excavated soil from suspected areas of contamination will be stockpiled separately from clean soil and construction materials. Stockpiles will be used only when necessary and will be removed as soon as practicable. Excavated soils will be stockpiled on, at a minimum, a total of 20-mil plastic sheeting, will be kept covered with properly anchored tarps and/or plastic sheeting, and will be routinely inspected. Broken or ripped covers will be promptly replaced.

Stockpiles will be inspected at a minimum once each week and after storm events. Results of inspections will be recorded in a logbook and maintained at the site and available for inspection by the NYSDEC.

4.6 Materials Excavation and Load-Out

A PE or person under their supervision will oversee intrusive work and the excavation and load-out of excavated material, if required. Material that will be shipped off-site shall have the planned disposal facility approved in advance by the NYSDEC.

The owner of the property and remedial party (if applicable) and its contractors are responsible for safe execution of intrusive and other work performed under this Plan.

The presence of utilities and easements on the site will be investigated by the Contractor. It will be determined whether a risk or impediment to the planned work under this EWP is posed by utilities or easements on the site.

Loaded vehicles leaving the site will be appropriately covered with transport canopies free from large tears and in proper working condition, manifested, and placarded in accordance with appropriate Federal, State, local, and New York State Department of Transportation (NYSDOT) requirements (and all other applicable transportation requirements).

Whenever possible, vehicles will attempt to remain on areas that have been stabilized with clean stone or other aggregate thus reducing the possibility of coming in contact with native soils. Vehicles transporting material off-site will be cleaned prior to leaving the site. Cleaning will consist of the following:

- Vehicles and equipment leaving the site that have the potential to have come in contact with site soils:
    - A truck wash will be operated on-site. The PE or person under their supervision will be responsible for ensuring that outbound trucks and equipment will be washed at the truck wash before leaving the site until the activities performed under this section are complete. Truck wash waters will be collected and disposed of off-site in an appropriate manner.
- Vehicles that have remained on a dry egress path with clean stone or other aggregate (these egress paths are to be restricted to egress between areas where native soil contamination is unlikely) and did not load or come in contact with any native soils while on-site:
    - A dry truck cleaning station will be operated on-site, as appropriate and discussed with the on-site regulatory representatives. The PE or person under their supervision will be responsible for ensuring that dust that may have accumulated on outbound trucks will be brushed off before leaving the site until the activities performed under this section are complete.

Locations where vehicles enter or exit the site shall be inspected daily for evidence of off-site soil tracking.

The PE or person under their supervision will be responsible for ensuring that egress points for truck and equipment transport from the site are clean of dirt and other materials derived from the site during intrusive excavation activities. Cleaning of the adjacent streets will be performed as needed to maintain a clean condition with respect to site-derived materials.

4.7 Materials Transport Off-Site

Material that will be shipped off-site shall have the planned disposal facility approved in advance by the NYSDEC. Transport of materials will be performed by licensed haulers in

accordance with appropriate local, State, and Federal regulations, including 6 NYCRR Part 364. Haulers will be appropriately licensed and trucks properly placarded.

Material transported by trucks exiting the site will be secured with transport canopies free from large tears and in proper working condition. If loads contain wet material capable of producing free liquid, truck liners will be used.

Truck transport routes are as follows:

- Exit the site on Garvies Point Road toward Herb Hill Road;
- Turn right on Herb Hill Road;
- Turn right on Charles Street;
- Continue to Glen Cove Avenue;
- Turn left onto Glen Cove Avenue;
- Take the first right onto Pratt Blvd./NY-107;
- Continue south on Route 107 to Glen Cove Road;
- Continue south on Glen Cove Road and merge onto Route 495.

Trucks loaded with site materials will exit the vicinity of the site using only these approved truck routes. This is the most appropriate route and takes into account: (a) limiting transport through residential areas and past sensitive sites; (b) use of city mapped truck routes; (c) prohibiting off-site queuing of trucks entering the facility; (d) limiting total distance to major highways; (e) promoting safety in access to highways; and (f) overall safety in transport.

Trucks will be prohibited from stopping and idling in the neighborhood outside the project site. Egress points for truck and equipment transport from the site will be kept clean of dirt and other materials during site remediation and development. Queuing of trucks will be performed on-site in order to minimize off-site disturbance. Off-site queuing will be prohibited.

4.8 Materials Disposal Off-Site

Excess materials that cannot be reused on-site will be treated as contaminated and regulated material, and will be transported and disposed of in accordance with local, State (including

6 NYCRR Part 360) and Federal regulations. Material that will be shipped off-site shall have the planned disposal facility approved in advance by the NYSDEC.

If disposal of material from this site is proposed for unregulated off-site disposal (i.e. clean soil removed for development purposes), a request with appropriate documentation (e.g., sample data) will be made to NYSDEC. Unregulated off-site management of materials from this site will not occur without NYSDEC approval.

Off-site disposal locations for excavated soils will be identified as soon as practical following waste characterization sampling. This will include estimated quantities and a breakdown by class of disposal facility if appropriate, i.e. hazardous waste disposal facility, solid waste landfill, petroleum treatment facility, C&D recycling facility, etc. Actual disposal quantities and associated documentation will be reported to the NYSDEC in the Periodic Review Report (PRR). This documentation will include: waste profiles, test results, facility acceptance letters, manifests, bills of lading and facility receipts. Laboratory analytical reports will be provided to the NYSDEC project manager within 72 hours of receipt.

Soils that are determined to be non-hazardous historic fill, and contaminated soils taken off-site will be handled, at minimum, as a Municipal Solid Waste per 6 NYCRR Part 360-1.2. Material that does not meet unrestricted use soil cleanup objectives (UUSCOs) is prohibited from being taken to a New York State recycling facility (6 NYCRR Part 360-16 Registration Facility).

4.9 Materials Reuse On-site

The PE will ensure that procedures defined for materials reuse in this EWP are followed. Material originating from above the existing demarcation layer may be placed back in place above the demarcation layer. Material originating from beneath the existing demarcation layer which does not fail screening criteria may be reused beneath the existing demarcation layer or an impervious surface, and will not be reused within a cover soil layer, within landscaping berms, or as backfill for subsurface utility lines.

Organic matter (wood, roots, stumps, etc.) or other solid waste derived from clearing and grubbing of the site will not be reused on-site.

Materials proposed for on-site reuse include site soils and materials previously used as backfill during the remedial action.

Soil and fill that is derived from the property and located beneath the demarcation layer that is sampled in accordance with NYSDEC DER-10 Section 5.4(e)4 may be reused on-site under the following conditions:

- Soils/Fill that are below RRUSCOs may be used as backfill material beneath the composite cover system which consists of a two-foot cap of clean fill material and/or impervious paved/concrete surfaces.
- Soils/Fill that do not meet RRUSCOs will be disposed of off-site in accordance with Section 4.8 of this EWP.

Soils/Fill that is derived from the property and located beneath demarcation layer #1 which are proposed to be reused on-site will be sampled at the frequency specified in DER-10 Table 5.4(e)10. NYSDOH ELAP certified labs will be used for sample analyses. Sample results will be provided in a tabular summary of sample results to the NYSDEC project manager for approval prior to reuse. Samples will be analyzed for the following parameters:

- For soils/fill derived from the property and located beneath demarcation layer #1 to be reused beneath ECs:
  - TAL Metals by USEPA Method 6010C/7471B.

In no instance, will materials originating from on-site be reused at another regulated site. "Reuse on-site" means material that is excavated during the redevelopment, does not leave the property, is relocated within the same property on comparable soil/fill material, and addressed pursuant to ECs. The PE will ensure that reused materials are segregated from other materials to be exported from each site and that procedures defined for material reuse in this EWP are followed.

4.10 Fluids Management

Liquids to be removed from the site, including but not limited to, excavation dewatering, decontamination waters and groundwater monitoring well purge and development waters, will be handled, transported and disposed in accordance with applicable local, State, and Federal regulations. Material that will be shipped off-site shall have the planned disposal

facility approved in advance by the NYSDEC. Dewatering, purge and development fluids will not be recharged back to the land surface or subsurface of the site, and will be managed off-site, unless prior approval is obtained from the NYSDEC.

Discharge of water generated during large-scale construction activities to surface waters (i.e. a local pond, stream or river) will be performed under a state pollution discharge elimination system (SPDES) permit or NYSDEC's memorandum titled "Generic Effluent Criteria for Surface Water Discharged" and dated August 28, 2013; discharge to the municipal sewer system will be performed under a sewage discharge permit.

Liquids to be discharged into the sewer system will receive prior approval by the NCDPW. The fluid will be pretreated as necessary to meet the County's discharge criteria. Sample results required for sewage discharge will be provided to the NYSDEC within 72 hours of receipt from the laboratory.

A comprehensive dewatering plan for the Gladsky Marine Site is included as Appendix G.

4.11 Cover System Restoration

A composite cover system consisting of a minimum of 24 inches of clean soil on top of a demarcation layer was previously installed at the site. The portions of the composite cover system that will be disturbed will be restored with either 24 inches of clean soil, building slabs or concrete covered sidewalks.

4.12 Backfill from Off-Site Sources

Materials proposed for import onto the site will be approved by the PE and will be in compliance with provisions in this EWP prior to receipt at the site. A Request to Import/Reuse Fill or Soil form, which can be found at http://www.dec.ny.gov/regulations/67386.html, will be prepared and submitted to the NYSDEC project manager allowing a minimum of 5 business days for review and approval.

Proposed sources of backfill material or cover soil to be imported to the site will be evaluated to identify source location, current/historical usage, and applicable documentation of soil quality. This information will be provided to the NYSDEC project

manager for approval. Material from industrial sites, spill sites, or other environmental remediation sites or potentially contaminated sites will not be imported to the site.

The following potential sources may be used pending attainment of backfill and cover soil quality objectives:

- Clean soil from construction projects at non-industrial sites in compliance with applicable laws and regulations;
- Clean soil from roadway or other transportation-related projects in compliance with applicable laws and regulations;
- Clean RCA from facilities permitted or registered by the regulations of NYSDEC;
- Materials where the NYSDEC has issued a beneficial use determination (BUD), pursuant to 6 NYCRR Part 360;
- Gravel, rock or stone consisting of virgin material from a permitted mine or quarry.

Materials received for import to the site will be approved by a PE and will be in compliance with provisions in this EWP. The materials may be placed following approval of backfill by the NYSDEC. The PRR will report the source of the fill, evidence that an inspection was performed on the source, chemical sampling results, frequency of testing, and a site map indicating the locations where backfill or soil cover was placed.

4.12.1 Source Screening and Testing (Soil)

Soils to be imported for use as backfill will be sampled at the frequency specified in DER-10 Table 5.4(e)10 or at an alternate frequency approved by the NYSDEC project manager. NYSDOH ELAP certified labs will be used for sample analyses. Sample results will be provided in a tabular summary of sample results to the NYSDEC project manager prior to import. Samples will be analyzed for the following parameters:

- VOCs by USEPA Method 8260C
- SVOCs by USEPA Method 8270D
- Target Analyte List (TAL) Metals by USEPA Method 6010C/7471B
- Pesticides & PCBs by USEPA Method 8081B/8082A
- Trivalent & Hexavalent Chromium by USEPA Method 7196A

- Total Cyanide by USEPA Method 9012B
- Silvex by USEPA Method 8151A

Imported soils will meet the backfill and cover soil quality standards established in 6 NYCRR 375-6.7(d). Based on an evaluation of the land use, protection of groundwater and protection of ecological resources criteria, the resulting soil quality standards for the site will be as follows:

- Lower of RRUSCOs or protection of groundwater soil cleanup objectives (POGWSCOs).

Soils that meet 'exempt' fill requirements under 6 NYCRR Part 360, but do not meet backfill or cover soil objectives for this site, will not be imported onto the site without prior approval by the NYSDEC. Solid waste will not be imported onto the site.

4.12.2 Source Screening and Testing (RCA)

RCA will be imported from facilities permitted or registered by NYSDEC. A PE is responsible to ensure that the facility is compliant with 6 NYCRR Part 360 registration and permitting requirements for the period of acquisition of RCA. RCA imported to the Site must be derived from recognizable and uncontaminated concrete. RCA material is not acceptable for, and will not be used as cover material.

The facility will provide a certification indicating that RCA is derived only from uncontaminated concrete, staged in dedicated areas, and not comingled with other materials. The facility will also indicate the frequency they perform chemical characterization of their materials to ensure compliance with their registration and/or permit and supply chemical testing results for the specific materials requested to be imported at the frequency specified in their registration or permit. In the event, chemical characterization is not a requirement of the permit or registration, representative samples will be collected of the materials to be imported to the site by the site contractor. For the purposes of this EWP, testing should occur at least on a monthly basis. At a minimum the testing should include analysis for total arsenic and lead by USEPA Method 6010C.

4.12.3 Source Screening (Virgin Materials)

Gravel, rock, and/or stone consisting of virgin material will be imported from permitted mines or quarries. A PE is responsible to ensure that the facility is compliant with permitting requirements for the period of acquisition. Gravel, rock, and/or stone is not acceptable for, and will not be used as cover material.

Gravel, rock, and/or stone consisting of virgin material will be imported directly from the permitted mine/quarry or from a dedicated transfer facility which only stores virgin materials. A dedicated transfer facility will be defined as a facility that only accepts and stores virgin materials from permitted or registered mines/quarries. The facilities may not accept or store other materials nor blend the virgin materials with such material. A NYSDEC representative must visit the dedicated transfer facility prior to allowing shipment from said facility.

4.12.4 Import Screening

Trucks entering the site with imported soils will be securely covered with transport canopies free from large tears and in proper working condition. Imported soils will be stockpiled separately from excavated materials in accordance with SWPPP requirements. Imported soils will be bermed pursuant to SWPPP requirements.

Inspection of imported fill material will include visual, olfactory and PID screening for evidence of contamination. Materials imported to the Site will be subject to inspection, as follows:

- Trucks with imported fill material will be in compliance with applicable laws and regulations and will enter the site at designated locations;
- The PE is responsible to ensure that every truck load of imported material is inspected for evidence of contamination; and,
- Fill material will be free of solid waste including pavement materials, debris, stumps, roots, and other organic matter, as well as ashes, oil, perishables or foreign matter.

4.12.5 Import of *Clean Cover*

Imported soil will be uncontaminated, clean soil that meets the requirements of 6 NYCRR Part 375-6.7(d).

The imported uncontaminated, clean soil cover will be from an approved source/facility and will be evaluated by the PE to ensure:

1) That a segregated stockpile is properly maintained at the source and will not be comingled with other material prior to importing and grading the clean soil material at the site;
2) That the material does not include solid waste, including construction and demolition material, as it is prohibited;
3) That screening for evidence of contamination by visual, olfactory and PID soil screening practices prior to testing at the source as well as upon importing to the Site for grading is completed; and,
4) That soil samples will be collected from the segregated stockpile at the source at a frequency specified in Table 5.4(e)10 of DER-10 or at an alternate frequency approved by the NYSDEC Project Manager and analyzed for the following Full List parameters:
    a. VOCs by USEPA Method 8260C
    b. SVOCs by USEPA Method 8270D
    c. TAL Metals by USEPA Method 6010C/7471B
    d. Pesticides & PCBs by USEPA Method 8081B/8082A
    e. Trivalent & Hexavalent Chromium by USEPA Method 7196A
    f. Total Cyanide by USEPA Method 9012B
    g. Silvex by USEPA Method 8151A

Upon receipt of the segregated stockpile analytical results collected at the source, a Request to Import/Reuse Fill or Soil form will be submitted to the NYSDEC Project Manager for review/approval prior to importing. The report will include the following:

1) Summary of number of samples collected and analyzed, tabulated data and comparison to RRUSCOs and POGWSCOs;
2) Analytical data sheets and chain of custody documentation;
3) Summary of number of tons (number cubic of yards);
4) Photographs from the segregated stockpile at the source with sample point locations identified;

5) An affidavit from the source/facility on company letterhead stating that the segregated stockpile for number of tons (number of cubic yards) has been properly maintained at the source and complies with the requirements listed above; and,
6) A copy of source/facility NYSDEC permit, if applicable.

The materials may be placed following approval of backfill by the NYSDEC.

A highly visible demarcation barrier (i.e. geosynthetic material or equivalent) will be installed beneath the clean soil/fill surface cover. Upon importing and grading the approved clean soil cover on top of a highly visible demarcation barrier, the following documentation will be presented in the PRR:

1) Truck transportation slips from the source to the site;
2) Confirmation of number of tons (number cubic of yards) of approved clean soil cover material imported and graded at the site on top of highly visible demarcation barrier;
3) Site plan depicting areas where the approved clean soil cover has been placed; and,
4) Photographs documenting the importing and grading of the approved clean soil cover across the site with the underlying highly visible demarcation barrier (i.e. geosynthetic material or equivalent).

4.12.6 Approved Fill Sources

Two sources of fill material have previously been reviewed and approved by the NYSDEC for use at the GPWRP. These sources include the following:

1. North Hills Construction Site Soils: On January 09, 2017, PWGC submitted a request to import 25,500 cubic yards of materials from the North Hills Construction Site to be utilized as clean cover at the GPWRP. The request included a characterization report which detailed characterization of the materials in accordance with DER-10 and confirmed that the materials requested for import met the analytical requirements of clean fill. The NYSDEC approved the import and use request in a January 12, 2017 emails. The material is currently staged on Parcel

Upper C of the Li Tungsten Superfund Site and on the southwestern corner of the Captain's Cove Condominium Site.

2. Tilcon Quarry Stone: On January 31, 2017, PWGC submitted a request to import up to 5,000 cubic yards of virgin quarry stone from Tilcon's Haverstraw Quarry to be utilized as fill beneath engineering controls or for temporary site stabilization at the GPWRP. The request included a copy of the mining permit and virgin stone certification letter. The NYSDEC approved the import and use request in a February 6, 2017 email. The material can be generated at the facility and transported to the site as necessary.

3. Tilcon Quarry Stone: On April 03, 2017, PWGC submitted a request to import up to 5,000 cubic yards of virgin quarry stone (3/4") from Tilcon's Haverstraw Quarry to be utilized as fill beneath ECs or for temporary site stabilization at the GPWRP. The request included a copy of the mining permit and virgin stone certification letter. The NYSDEC approved the import and use request in a April 11, 2017 email. The material can be generated at the facility and transported to the site as necessary

4.13 Stormwater Pollution Prevention

A SWPPP that conforms to the requirements of the NYSDEC Division of Water guidelines and New York State regulations for the redevelopment work has been prepared for the site. The SWPPP will be implemented during work conducted under this EWP. Additionally, at a minimum the following control measures will be followed:

Stormwater barriers will be inspected twice a week and after storm events. Results of inspections will be recorded in a logbook and maintained at the site and available for inspection by the NYSDEC. Necessary repairs shall be made immediately.

Accumulated sediments will be removed as required to keep the barrier and hay bale check functional.

Undercutting or erosion of the silt fence toe anchor shall be repaired immediately with appropriate backfill materials.

Manufacturer's recommendations will be followed for replacing silt fencing damaged due to weathering.

Erosion and sediment control measures identified in the SWPPP shall be observed to ensure that they are operating correctly. Where discharge locations or points are accessible, they shall be inspected to ascertain whether erosion control measures are effective in preventing significant impacts to receiving waters.

Silt fencing or hay bales will be installed around the entire perimeter of the construction area.

4.14 Excavation Contingency Plan

If underground tanks or other previously unidentified contaminant sources are found during post-remedial subsurface excavations or development related construction, excavation activities will be suspended in the affected area until sufficient equipment is mobilized to address the condition.

Sampling will be performed on product, sediment and surrounding soils, etc. as necessary to determine the nature of the material and proper disposal method. Chemical analysis will be performed for a full list of analytes (TAL metals; Target Compound List (TCL) volatiles and semi-volatiles, TCL pesticides and polychlorinated biphenyls (PCBs)), unless the site history and previous sampling results provide a sufficient justification to limit the list of analytes. In this case, a reduced list of analytes will be proposed to the NYSDEC for approval prior to sampling.

Identification of unknown or unexpected contaminated media identified by screening during intrusive site work will be promptly communicated by phone to the NYSDEC Project Manager. Reportable quantities of petroleum product will also be reported to the NYSDEC spills hotline. These findings will be also included in the PRR.

5.0 HEALTH AND SAFETY

5.1 Health and Safety Plan

A site-specific HASP for environmental work is included as Appendix C. Contractors or sub-contractors working at the site may adopt this HASP or provide their own HASP for review and approval by the NYSDEC prior to conducting work. If contractors provide their own HASP, it must meet the minimum requirements of the HASP included in Appendix C. The HASP is consistent with the requirements of NYSDEC DER–10, Occupational Safety and Health Administration (OSHA) (29 CFR 1910 and 1926), federal, state and local authorities. The Health and Safety Plan will be followed during any ground intrusive activities that may encounter contaminated soil at the site.

During site redevelopment, the owner's contractor will be required to follow a HASP for general construction activities. The HASP for environmental work will only apply during intrusive activities that breach the demarcation layer (see Section 4.1).

5.2 Community Air Monitoring Plan

Real-time air monitoring for VOCs and particulate levels at the perimeter of the exclusion zone or work area will be performed in accordance with the CAMP included as Appendix E. Air monitoring locations will be adjusted on a daily or more frequent basis based on actual wind directions to provide an upwind and downwind monitoring station. Continuous monitoring will be performed for ground intrusive activities and during the handling of contaminated or potentially contaminated media. Ground intrusive activities include, but are not limited to, soil excavation and handling, and foundation pile/pile cap installation. CAMP monitoring shall continue until native soils and/or fill material are capped by a minimum of 12-inches of clean cover material or a final impervious layer (e.g., pavement or building slab).

Periodic monitoring for VOCs will be performed during non-intrusive activities such as the collection of soil and sediment samples or the collection of groundwater samples from existing monitoring wells. Periodic monitoring during sample collection, for instance, will consist of taking a reading upon arrival at a sample location, monitoring while opening a well cap or overturning soil, monitoring during well bailing/purging, and taking a reading prior to leaving a sample location. Depending upon the proximity of potentially exposed

individuals, continuous monitoring may be performed during sampling activities. Examples of such situations include groundwater sampling at wells on the curb of a busy urban street, in the midst of a public park, or adjacent to a school or residence. Exceedances of action levels observed during performance of the CAMP will be reported to the NYSDEC and NYSDOH Project Managers immediately.

5.3 Odor Control Plan

This odor control plan is capable of controlling emissions of nuisance odors off-site. Specific odor control methods which may be used on a routine basis may include:

- Limiting the area of open excavations.
- Limiting the size of soil stockpiles.
- Shrouding open excavations with tarps and other covers.
- Use of foams to cover exposed odorous soils.
- Other industry standard odor control methods.
- Other method approved by the on-site NYSDEC field inspector.

If nuisance odors are identified at the site boundary, or if odor complaints are received, work generating such odors will be halted and the source of odors will be identified and corrected. Work will not resume in the area in question until nuisance odors have been abated. NYSDEC and NYSDOH will be notified of odor events and of any other complaints about the project. Implementation of odor controls, including the halt of work, is the responsibility of the site contractor, and any measures that are implemented will be discussed in the PRR.

Necessary means will be employed to prevent on- and off-site nuisances. These measures may include: (a) limiting the area of open excavations and size of soil stockpiles; (b) shrouding open excavations with tarps and other covers; and (c) using foams to cover exposed odorous soils. If odors develop and cannot be otherwise controlled, additional means to eliminate odor nuisances will include: (d) direct load-out of soils to trucks for off-site disposal; (e) use of chemical odorants in spray or misting systems; and, (f) use of staff to monitor odors in surrounding neighborhoods.

5.4 Dust Control Plan

A dust suppression plan that addresses dust management during intrusive on-site work may include one or more of the items listed below:

- Dust suppression will be achieved using a dedicated on-site water truck, or other on-site water source for road wetting. The truck will be equipped with a water cannon capable of spraying water directly onto off-road areas including excavations and stockpiles.
- Clearing and grubbing of larger sites will be done in stages to limit the area of exposed, unvegetated soils vulnerable to dust production.
- Gravel may be used on roadways, as appropriate, to provide a clean and dust-free road surface.
- On-site roads will be limited in total area to minimize the area required for water truck sprinkling.

5.5 Other Nuisances

A plan for rodent control will be developed and utilized (if necessary) by the contractor prior to and during site clearing and site grubbing, and during remedial work.

A plan will be developed and utilized by the contractor for remedial work to ensure compliance with local noise control ordinances.

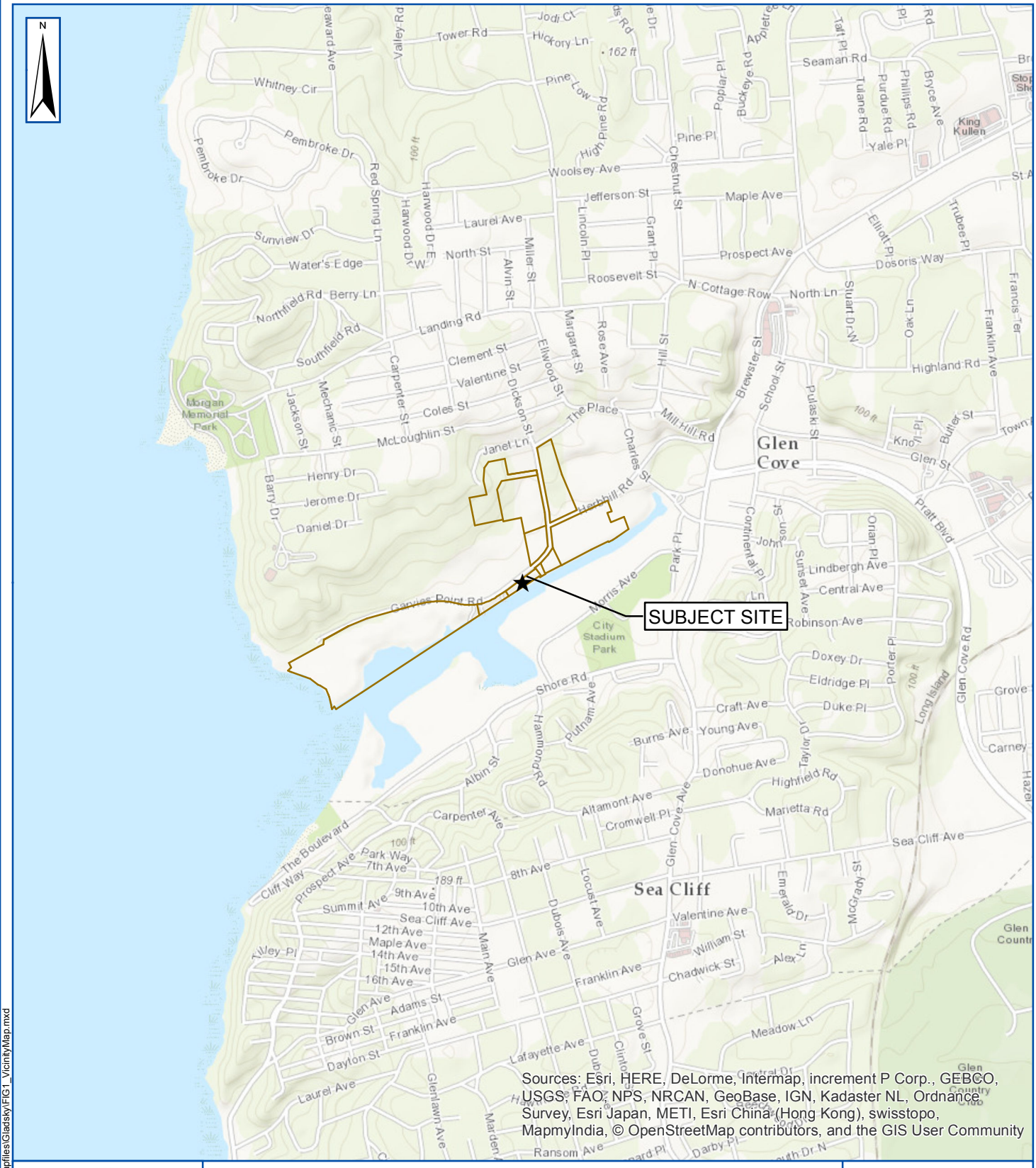
6.0 QUALITY ASSURANCE/QUALITY CONTROL

The QAPP, included as Appendix F, presents the objectives, functional activities, methods, and quality assurance / quality control (QA/QC) requirements associated with sample collection and laboratory analysis for construction activities. The QAPP follows requirements detailed in DER-10, Section 2.

The components of the QAPP include:

- Project Organization,
- Sampling requirements, including methodology, identification, quantity, volumes, locations, frequency, chain of custody procedures, and sample packaging,
- Field/Laboratory data control requirements,
- Equipment decontamination, and
- Field documentation.

FIGURE



SUBJECT SITE VICINITY

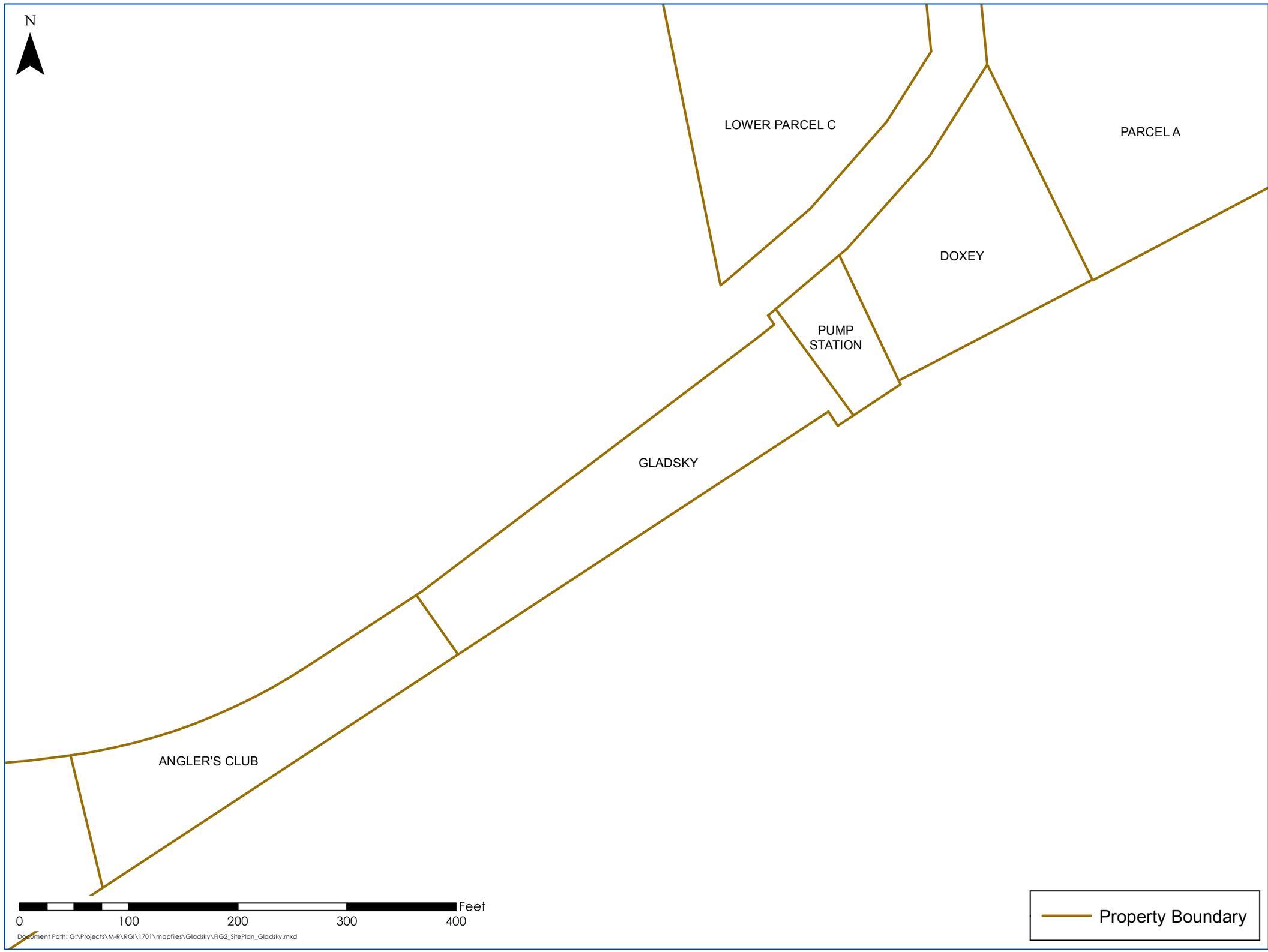
GLADSKY SITE
Glen Cove, NY

0 ¼ ½ ¾ 1 Miles

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Approved by:	DE
Figure No:	1

Document Path: G:\Projects\M-R\RGI\1701\mapfiles\Gladsky\FIG1_VicinityMap.mxd



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DRAWING PREPARED FOR:

RXR GLEN-ISLE PARTNERS
625 RXR PLAZA
UNIONDALE, NEW YORK

REVISION	DATE	INITIAL	COMMENTS

DRAWING INFORMATION:

Project:	RGI1701	Designed by:	DE
Date:	7/7/2017	Drawn by:	JCG
Scale:	AS SHOWN	Approved by:	DE

SITE PLAN

GLEN ISLE

FIGURE NO:

2

N

Client Sample ID:	B5
Sample Elevation:	8.4'
Sampling Date:	6/14/2010
Arsenic, Total	6
Cadmium, Total	0.239 U
Mercury, Total	0.03 J

Client Sample ID:	B6
Sample Elevation:	8.2'
Sampling Date:	6/14/2010
Arsenic, Total	8.54
Cadmium, Total	0.313 U
Mercury, Total	0.12

Client Sample ID:	B7
Sample Elevation:	7.5'
Sampling Date:	6/16/2010
Arsenic, Total	5.57
Cadmium, Total	0.33
Mercury, Total	0.19

Client Sample ID:	B9
Sample Elevation:	7.5'
Sampling Date:	6/16/2010
Arsenic, Total	2.26
Cadmium, Total	0.26 J
Mercury, Total	0.17

Client Sample ID:	SW12
Sample Elevation:	5.7'
Sampling Date:	7/6/2010
Arsenic, Total	1.52
Cadmium, Total	0.094 JN
Mercury, Total	0.11 U

Client Sample ID:	SW13
Sample Elevation:	5.9'
Sampling Date:	7/6/2010
Arsenic, Total	1.7
Cadmium, Total	0.114 JN
Mercury, Total	0.11 U

Client Sample ID:	SW14
Sample Elevation:	6.5'
Sampling Date:	7/6/2010
Arsenic, Total	2.99
Cadmium, Total	0.44 N
Mercury, Total	0.11 U

Notes:
Units are in parts per million.
U - Not Detected.
J - Estimated Value.
N - Presumptive Evidence of a Compound.
* - Values Outside of QC Limits.

	NYSDEC RRUSCO
Arsenic, Total	16
Cadmium, Total	4.3
Mercury, Total	0.81

Client Sample ID:	B4
Sample Elevation:	8.0'
Sampling Date:	6/14/2010
Arsenic, Total	12.4
Cadmium, Total	0.219 U
Mercury, Total	0.03 J

Client Sample ID:	SW5
Sample Elevation:	7.7'
Sampling Date:	6/16/2010
Arsenic, Total	9.04
Cadmium, Total	0.334
Mercury, Total	0.17

Client Sample ID:	SW4
Sample Elevation:	8.7'
Sampling Date:	6/14/2010
Arsenic, Total	15.8
Cadmium, Total	0.527
Mercury, Total	0.13

Client Sample ID:	SW3
Sample Elevation:	8.6'
Sampling Date:	6/14/2010
Arsenic, Total	7.08
Cadmium, Total	0.244 U
Mercury, Total	0.04 J

Client Sample ID:	SW10
Sample Elevation:	7.0'
Sampling Date:	7/6/2010
Arsenic, Total	3.17
Cadmium, Total	0.37 N
Mercury, Total	0.1 U

Client Sample ID:	SW2
Sample Elevation:	8.6'
Sampling Date:	6/14/2010
Arsenic, Total	17.4
Cadmium, Total	9.38
Mercury, Total	0.13

Client Sample ID:	SW2A
Sample Elevation:	8.9'
Sampling Date:	7/13/2010
Arsenic, Total	7.11
Cadmium, Total	0.295 J
Mercury, Total	0.02 J

Client Sample ID:	B2
Sample Elevation:	7.6'
Sampling Date:	6/14/2010
Arsenic, Total	1.77
Cadmium, Total	0.213 U
Mercury, Total	0.1 U

Client Sample ID:	B1
Sample Elevation:	7.4'
Sampling Date:	6/14/2010
Arsenic, Total	5.13
Cadmium, Total	0.304 U
Mercury, Total	0.03 J

Client Sample ID:	SW1
Sample Elevation:	8.0'
Sampling Date:	6/14/2010
Arsenic, Total	16.3
Cadmium, Total	0.622
Mercury, Total	0.15

Client Sample ID:	B14
Sample Elevation:	5.3'
Sampling Date:	10/26/2010
Arsenic, Total	5.9
Cadmium, Total	0.317
Mercury, Total	0.04 U*

Client Sample ID:	B3
Sample Elevation:	8.0'
Sampling Date:	6/14/2010
Arsenic, Total	3
Cadmium, Total	0.321 U
Mercury, Total	0.03 J

Client Sample ID:	SW9
Sample Elevation:	7.1'
Sampling Date:	7/6/2010
Arsenic, Total	5.83
Cadmium, Total	0.338 N
Mercury, Total	0.1 U

Client Sample ID:	B11
Sample Elevation:	6.6'
Sampling Date:	7/6/2010
Arsenic, Total	1.32
Cadmium, Total	0.245 JN
Mercury, Total	0.11 U

Client Sample ID:	B15
Sample Elevation:	6.9'
Sampling Date:	10/26/2010
Arsenic, Total	6.01
Cadmium, Total	0.255 J
Mercury, Total	0.03 U*

Client Sample ID:	SW8
Sample Elevation:	7.4'
Sampling Date:	7/6/2010
Arsenic, Total	3.59
Cadmium, Total	0.424 N
Mercury, Total	0.4

Client Sample ID:	SW7
Sample Elevation:	6.8'
Sampling Date:	7/6/2010
Arsenic, Total	2.55
Cadmium, Total	0.265 JN
Mercury, Total	0.1 U

Client Sample ID:	SW19
Sample Elevation:	7.1'
Sampling Date:	10/26/2010
Arsenic, Total	4.91
Cadmium, Total	0.078 J
Mercury, Total	0.03 U*

Client Sample ID:	SW-19A
Sample Elevation:	
Sampling Date:	12/23/2010
Arsenic, Total	1.66
Cadmium, Total	0.258 J
Mercury, Total	0.11 U

Client Sample ID:	SW15
Sample Elevation:	6.1'
Sampling Date:	7/6/2010
Arsenic, Total	2.91
Cadmium, Total	0.41 N
Mercury, Total	0.11 U

Client Sample ID:	B12
Sample Elevation:	3.1'
Sampling Date:	7/6/2010
Arsenic, Total	4.02
Cadmium, Total	0.256 JN
Mercury, Total	0.11 U

Client Sample ID:	B13
Sample Elevation:	3.4
Sampling Date:	7/6/2010
Arsenic, Total	1.02
Cadmium, Total	0.11 JN
Mercury, Total	0.11 U

Client Sample ID:	SW20
Sample Elevation:	7.9'
Sampling Date:	10/26/2010
Arsenic, Total	1.46
Cadmium, Total	0.021 J
Mercury, Total	0.03 U*

Client Sample ID:	SW18
Sample Elevation:	5.8'
Sampling Date:	7/6/2010
Arsenic, Total	2.26
Cadmium, Total	0.12 JN
Mercury, Total	0.11 U

Client Sample ID:	SW11
Sample Elevation:	6.1'
Sampling Date:	7/6/2010
Arsenic, Total	2.11
Cadmium, Total	0.206 JN
Mercury, Total	0.11 U

Client Sample ID:	B8
Sample Elevation:	7.4'
Sampling Date:	6/16/2010
Arsenic, Total	10.2
Cadmium, Total	2.57
Mercury, Total	0.86

Client Sample ID:	SW16
Sample Elevation:	6.7'
Sampling Date:	7/6/2010
Arsenic, Total	2.14
Cadmium, Total	0.172 JN
Mercury, Total	0.11 U

Client Sample ID:	SW17
Sample Elevation:	6.8'
Sampling Date:	7/6/2010
Arsenic, Total	2.32
Cadmium, Total	0.207 JN
Mercury, Total	0.11 U

Client Sample ID:	SW6
Sample Elevation:	7.5'
Sampling Date:	6/16/2010
Arsenic, Total	14.6
Cadmium, Total	0.45
Mercury, Total	0.2

Client Sample ID:	SW21
Sample Elevation:	7.7'
Sampling Date:	10/26/2010
Arsenic, Total	0.744 J
Cadmium, Total	0.227 U
Mercury, Total	0.03 U*N

Client Sample ID:	B10
Sample Elevation:	7.1'
Sampling Date:	6/16/2010
Arsenic, Total	3.28
Cadmium, Total	0.224 J
Mercury, Total	0.19

Client Sample ID:	B17
Sample Elevation:	6.2'
Sampling Date:	10/26/2010
Arsenic, Total	4.49
Cadmium, Total	0.135 J
Mercury, Total	0.04 U*

Client Sample ID:	B16
Sample Elevation:	7.0'
Sampling Date:	10/26/2010
Arsenic, Total	4.51
Cadmium, Total	0.128 J
Mercury, Total	0.04 U*

Excavation Area 1 (approx. 2')

Excavation Area 2 (approx. 3')

Excavation Area 2 (approx. 7')

Excavation Area 4 (approx. 3')

GARVIES POINT RD

SW-1 SW-2 SW-3 SW-4 SW-5 SW-6 SW-7 SW-8 SW-9 SW-10 SW-11 SW-12 SW-13 SW-14 SW-15 SW-16 SW-17 SW-18 SW-19 SW-20 SW-21
B-1 B-2 B-3 B-4 B-5 B-6 B-7 B-8 B-9 B-10 B-11 B-12 B-13 B-14 B-15 B-16

0 80 160 240 320 Feet

Document Path: G:\Projects\M-R\RGI\17011\mapfiles\Gladsky\FIG3_SitePlan_Gladsky_spider.mxd

Endpoint Sample Location
- Bottom
- Sidewall
- Curbline
- Excavation Extent
- Limits of Demarcation Layer
- Property Boundary

Exceeds RRUSCO

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DRAWING PREPARED FOR:

RXR GLEN-ISLE PARTNERS
625 RXR PLAZA
UNIONDALE, NEW YORK

REVISION	DATE	INITIAL	COMMENTS

DRAWING INFORMATION:

Project:	RGI1701	Designed by:	DE
Date:	8/11/2017	Drawn by:	TS
Scale:	AS SHOWN	Approved by:	DE

GLADSKY EXCAVATION AREAS 1-4 METAL RESULTS

GLEN ISLE

FIGURE NO:

3

APPENDIX A

ENVIRONMENTAL SPECIFICATIONS

GARVIES POINT WATERFRONT REVITALIZATION PROJECT
PHASE I
ENVIRONMENTAL SPECIFICATIONS

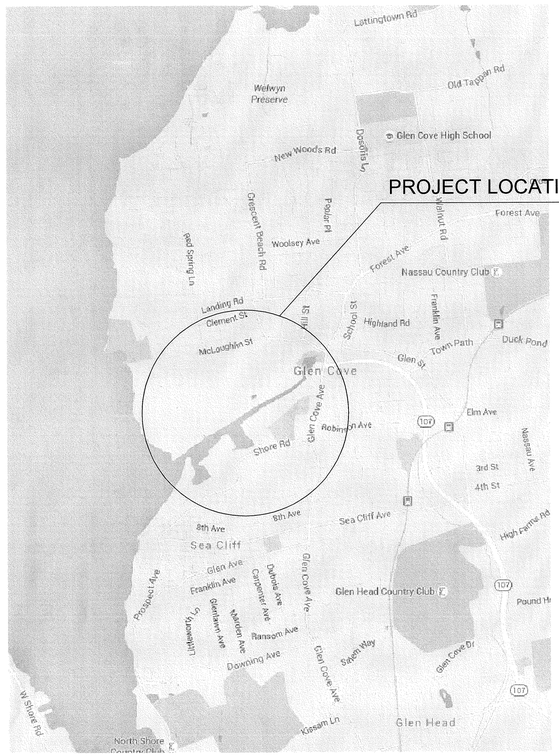
PREPARED FOR: RXR GLEN ISLE PARTNERS, LLC
625 RXR PLAZA
UNIONDALE, NY 11556

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630 JOHNSON AVENUE, SUITE 7
BOHEMIA, NY 11716

AUGUST, 2017

SHEET INDEX

SH. NO.	TITLE
1 EN-01	COVER SHEET
2 EN-02	ENVIRONMENTAL SPECIFICATIONS SHEET-1
3 EN-03	ENVIRONMENTAL SPECIFICATIONS SHEET-2
4 EN-04	ENVIRONMENTAL DETAILS SHEET-1
5 EN-05	ENVIRONMENTAL DETAILS SHEET-2
6 EN-06	WORK ZONE & CONFIRMATION SAMPLING SPECIFICATIONS
7 EN-07	GROUNDWATER MONITORING WELL DETAILS
8 EN-08	GROUNDWATER MONITORING LOCATION PLAN
9 EN-09	REMAINING CONTAMINATION PLAN



SCALE: 1" = 2,000'

PWGC

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STATE OF NEW YORK
PAUL W. GROSSER
LICENSED PROFESSIONAL ENGINEER

SCOPE

A. THESE ENVIRONMENTAL SPECIFICATIONS HAVE BEEN COMPILED IN COORDINATION WITH THE SITES' EXCAVATION WORK PLAN FOR CONSTRUCTION. THEY GOVERN THE ENVIRONMENTAL ASPECT OF GROUND INTRUSIVE ACTIVITIES WHICH OCCUR IN NATIVE SITE SOILS OR WHICH BREACH EXISTING DEMARCATION BARRIERS INSTALLED ON THE SITES (INTRUSIVE WORK). 9

B. NO WORK ASSOCIATED WITH MARINAS WILL BE COMPLETED UNDER THIS EXCAVATION PLAN.

1.0 HEALTH & SAFETY

A. A SITE-SPECIFIC HEALTH & SAFETY PLAN (HASP) HAS BEEN DEVELOPED FOR THE WORK. THE CONTRACTOR MAY ADOPT THIS HASP OR PROVIDE THEIR OWN HASP FOR REVIEW AND APPROVAL BY THE NEW YORK STATE PROFESSIONAL ENGINEER (NYSPE) PRIOR TO CONDUCTING WORK. THE NYSPE WILL BE CONTRACTED DIRECTLY BY THE OWNER.

B. PERSONNEL INVOLVED IN SITE ACTIVITIES WHICH MAY DISTURB SOILS AT THE REGULATED PROPERTIES; LI TUNGSTEN SUPERFUND SITE, DOXEY SITE, GLADSKY MARINE SITE (SEE EN-06 FOR LIMITS OF REGULATED PROPERTIES) SHALL HAVE THE FOLLOWING TRAINING:

C. INITIAL SITE TRAINING: INITIAL SITE BRIEFING WILL BE PROVIDED ON-SITE BY THE NYSPE, OR PERSONNEL UNDER THEIR SUPERVISION, FOR PROJECT PERSONNEL AND PROJECT SUPPORT PERSONNEL INVOLVED WITH INTRUSIVE WORK PRIOR TO INITIAL ENTRY ONTO THE REGULATED PROPERTIES. SITE TRAINING WILL ALSO BE PROVIDED ON AN AS NEEDED BASIS TO SPECIFICALLY ADDRESS THE ACTIVITIES, PROCEDURES, MONITORING, AND EQUIPMENT FOR THE SITE OPERATIONS. SUCH TRAINING WILL INCLUDE SITE AND FACILITY LAYOUT, HAZARDS, AND EMERGENCY SERVICES AT THE SITE, AND WILL DETAIL PROVISIONS CONTAINED WITHIN THE HASP. THIS TRAINING WILL BE DOCUMENTED BY THE NYSPE, OR PERSONNEL UNDER THEIR SUPERVISION,.

C.A. CONTACT PROJECT PERSONNEL TRAINING & MEDICAL SURVEILLANCE (WITHIN THE LIMITS OF THE LI TUNGSTEN SUPERFUND SITE): WORKERS DESIGNATED TO WORK IN THE EXCLUSION ZONE (SEE 4.0 WORK ZONES, C. AND EN-06), ARE REQUIRED TO HAVE SUCCESSFULLY MET THE INITIAL AND REFRESHER TRAINING REQUIREMENTS PURSUANT TO OSHA 29 CFR 1926.65(E). ALL CONTACT PERSONNEL ENGAGED IN ON-SITE ACTIVITIES ON THIS PROJECT MUST MEET THE REQUIREMENTS OF 29 CFR 1926.65(F). MEDICAL SURVEILLANCE APPLICABILITY WILL BE DETERMINED BY EACH EMPLOYEE'S EMPLOYER. ADDITIONALLY, ANY EMPLOYEE REQUIRED TO WEAR A RESPIRATOR MUST BE APPROVED BY A LICENSED HEALTH CARE PROVIDER FOR RESPIRATOR USE AS DEFINED IN THE OSHA RESPIRATORY STANDARD 29 CFR 1910.134. PROOF OF TRAINING AND MEDICAL CLEARANCE WILL BE SUBMITTED TO THE NYSPE PRIOR TO CONSTRUCTION ACTIVITIES.

C.B. CONFINED SPACE TRAINING: IF CONFINED SPACES ARE INVOLVED, EMPLOYEES SHALL BE TRAINED TO RECOGNIZE CONFINED SPACES, THE HAZARDS OF WORKING IN A CONFINED SPACE, AND THE REQUIREMENTS OF THIS PROCEDURE. ANY CONFINED SPACE ENTRY WILL BE CONDUCTED USING THE OSHA CONFINED SPACE STANDARD FOR CONSTRUCTION (29 CFR 1926 SUBPART AA) AS A GUIDELINE.

C.C. RADIATION AWARENESS TRAINING (WITHIN THE LIMITS OF THE LI TUNGSTEN SUPERFUND SITE): WORKERS SHALL BE BRIEFED ON THE RADIOLOGICAL STATUS OF THE SITE BY THE THIRD PARTY RADIOLOGICAL CONSULTANT. THE THIRD PARTY RADIOLOGICAL CONSULTANT WILL BE CONTRACTED DIRECTLY BY THE PROPERTY OWNER. WORKERS ARE EXPECTED TO UNDERSTAND THE ROLES AND RESPONSIBILITIES OF THE RADIATION MONITORING TECHNICIANS AND WILL BE EXPECTED TO WORK UNDER THE DIRECTION OF THE RADIATION MONITORING TECHNICIANS IF APPLICABLE. NO FORMAL RADIATION WORKER TRAINING IS NECESSARY UNLESS DOSIMETRY DEVICES ARE ISSUED. IN LIEU OF FORMAL RADIATION WORKER TRAINING, PRE-JOB BRIEFINGS SHALL INCLUDE RADIATION SAFETY TOPICS FOR DISCUSSION.

2.0 NOTIFICATION

A. PRIOR TO THE START OF REDEVELOPMENT ACTIVITIES, THE SITE OWNER OR THEIR REPRESENTATIVE WILL NOTIFY UNITED STATES ENVIRONMENTAL PROTECTION AGENCY (USEPA) AND/OR NYSDEC. A MINIMUM OF 7-DAYS' NOTICE FOR NON-INTRUSIVE WORK THAT REQUIRES REGULATORY OVERSIGHT (MATERIAL IMPORT, MATERIAL PLACEMENT, DEMARCATION INSTALLATION, ETC.) AND 15-DAYS NOTIFICATION FOR INTRUSIVE SITE WORK WILL BE PROVIDED. TABLE 1 INCLUDES THE CURRENT CONTACT INFORMATION FOR THE ABOVE NOTIFICATION. THE INFORMATION ON THIS TABLE WILL BE UPDATED AS NECESSARY TO PROVIDE ACCURATE CONTACT INFORMATION.

CONTACT NAME/ORGANIZATION	PHONE	EMAIL
LORENZO THANTU, USEPA *LI TUNGSTEN ONLY	212-637-4240	THANTU.LORENZO@EPA.GOV
HEIDE-MARIE DUDEK, P.E., NYSDEC	518-402-9813	HEIDI.DUDEK@DEC.NY.GOV

B. THIS NOTIFICATION WILL INCLUDE:

B.A. A DETAILED DESCRIPTION OF THE WORK TO BE PERFORMED IS INCLUDED IN SECTION 3.0 OF THIS EWP. CHANGES TO THE SCOPE OF WORK WILL BE REPORTED TO THE NOTIFICATION LIST AS SOON AS POSSIBLE.

B.B. EXISTING ENVIRONMENTAL CONDITIONS ARE DETAILED IN SECTION 3.4, AND FIGURES 1 THROUGH 3 OF THE EXCAVATION WORK PLAN (EWP). CHANGES TO EXISTING ENVIRONMENTAL CONDITIONS WILL BE REPORTED TO THE NOTIFICATION LIST AS THEY ARE DISCOVERED.

B.C. A CONFIRMED START DATE WILL BE PROVIDED A MINIMUM OF 7-DAYS' NOTICE FOR NON-INTRUSIVE WORK THAT REQUIRES REGULATORY OVERSIGHT (MATERIAL IMPORT, MATERIAL PLACEMENT, DEMARCATION INSTALLATION, ETC.) AND 15-DAYS NOTIFICATION FOR INTRUSIVE SITE WORK.

B.D. WORK WILL BE PERFORMED IN COMPLIANCE WITH THE SITE SPECIFIC EWP AND 29 CODE OF FEDERAL REGULATIONS (CFR) 1910.120.

B.E. HEALTH AND SAFETY REQUIREMENTS FOR WORK COVERED BY THE EWPs ARE SUMMARIZED IN SECTION 5.0 OF THE EWPs; A HEALTH AND SAFETY PLAN (HASP) IS INCLUDED AS APPENDIX B OF THE EWPs.

B.F. THE PLANNED SCOPE OF WORK COVERED BY THE EWPs INCLUDES THE REUSE OF EXCAVATED SOILS ONSITE, ASSUMING THEY MEET THE REQUIREMENTS DETAILED IN SECTION 4.8 OF THE EWPs. AS SUCH, IT IS NOT ANTICIPATED THAT AN OFFSITE DISPOSAL FACILITY WILL BE REQUIRED. SHOULD SOILS REQUIRE OFFSITE DISPOSAL, THE DISPOSAL FACILITY WILL BE IDENTIFIED AND PROVIDED TO THE NOTIFICATION LIST FOR APPROVAL PRIOR TO SHIPPING MATERIAL TO THE FACILITY.

B.G. THE PLANNED SCOPE OF WORK COVERED BY THE EWPs INCLUDES:

B.G.A. DOXEY:

B.G.A.A. THE PLANNED SCOPE OF WORK COVERED BY THIS EWP INCLUDES EXCAVATION OF SITE SOILS, REUSE OF APPROVED EXCAVATED SOILS THAT MEET REUSE CRITERIA AS PRESENTED IN "MATERIALS RE-USE ON-SITE" AND THE INTERIM SMP, AND DISPOSAL OF SITE SOILS, AS NECESSARY. THE DISPOSAL FACILITIES WILL BE IDENTIFIED AND PROVIDED TO THE NOTIFICATION LIST FOR APPROVAL PRIOR TO SHIPPING MATERIAL TO THE FACILITIES. ADDITIONALLY, WORK COVERED BY THE EWP INCLUDES IMPORTING APPROXIMATELY 1,500 CUBIC YARDS OF BACKFILL MATERIAL TO THE SITE. SOURCES OF FILL MATERIAL HAVE BEEN IDENTIFIED AND ARE DETAILED IN SECTION 4.12. IN THE EVENT, ADDITIONAL SOURCES ARE REQUIRED, THE SOURCE WILL BE PROVIDED TO THE NOTIFICATION LIST FOR APPROVAL PRIOR TO IMPORTING MATERIAL TO THE SITE. SUCH MATERIAL WILL MEET THE REQUIREMENTS SPECIFIED IN SECTION 4.12 AND THE SMP.

B.G.B. GLADSKY:

B.G.B.A. THE PLANNED SCOPE OF WORK COVERED BY THE SITE SPECIFIC EWP INCLUDES EXCAVATION OF SITE SOILS, REUSE OF APPROVED EXCAVATED SOILS THAT MEET REUSE CRITERIA AS PRESENTED IN "MATERIALS RE-USE ON-SITE" AND THE INTERIM SMP, AND DISPOSAL OF SITE SOILS, AS NECESSARY. THE DISPOSAL FACILITIES WILL BE IDENTIFIED AND PROVIDED TO THE NOTIFICATION LIST FOR APPROVAL PRIOR TO SHIPPING MATERIAL TO THE FACILITIES. ADDITIONALLY, THE PLANNED SCOPE OF WORK COVERED BY THIS EWP INCLUDES IMPORTING APPROXIMATELY 4,000 CUBIC YARDS OF BACKFILL MATERIAL TO THE SITE. SOURCES OF FILL MATERIAL HAVE BEEN IDENTIFIED AND ARE DETAILED IN SECTION 4.12 OF THE EWP. IN THE EVENT ADDITIONAL SOURCES ARE REQUIRED, THE SOURCE WILL BE PROVIDED TO THE NOTIFICATION LIST FOR APPROVAL PRIOR TO IMPORTING MATERIAL TO THE SITE. SUCH MATERIAL WILL MEET THE REQUIREMENTS SPECIFIED IN SECTION 4.12 OF THE EWP.

B.G.C. LI TUNGSTEN:

B.G.C.A. THE PLANNED SCOPE OF WORK COVERED BY THE SITE SPECIFIC EWP INCLUDES EXCAVATION OF SITE SOILS, REUSE OF APPROVED EXCAVATED SOILS THAT MEET REUSE CRITERIA AS PRESENTED IN "MATERIALS RE-USE ON-SITE" AND THE INTERIM SMP, AND DISPOSAL OF SITE SOILS, AS NECESSARY. THE DISPOSAL FACILITIES WILL BE IDENTIFIED AND PROVIDED TO THE NOTIFICATION LIST FOR APPROVAL PRIOR TO SHIPPING MATERIAL TO THE FACILITIES. ADDITIONALLY, PLANNED SCOPE OF WORK COVERED BY THE EWP INCLUDES REUSE OF APPROXIMATELY 30,000 CUBIC YARDS BELOW AN EC, ASSUMING THEY MEET THE REQUIREMENTS DETAILED IN SECTION 4.9 OF THE EWP, AND IMPORTING APPROXIMATELY 21,000 CUBIC YARDS OF BACKFILL MATERIAL TO THE SITE. SOURCES OF FILL MATERIAL HAVE BEEN IDENTIFIED AND ARE DETAILED IN SECTION 4.12 OF THE EWP. IN THE EVENT, ADDITIONAL SOURCES ARE REQUIRED, THE SOURCE WILL BE PROVIDED TO THE NOTIFICATION LIST FOR APPROVAL PRIOR TO IMPORTING MATERIAL TO THE SITE. SUCH MATERIAL WILL MEET THE REQUIREMENTS SPECIFIED IN SECTION 4.12 OF THE EWP.

3.0 SURVEY REQUIREMENTS

A. SURVEYS WILL BE COMPLETED BY A LAND SURVEYOR LICENSED TO PRACTICE IN NEW YORK STATE.

B. INITIAL SITE SURVEY:

B.A. PRIOR TO THE PERFORMANCE OF CONSTRUCTION ACTIVITIES, AN INITIAL SITE SURVEY WILL BE PERFORMED BY THE CONTRACTOR TO VERIFY THE EXISTING SITE CONDITIONS AND ESTABLISH THE EXACT LIMITS OF THE WORK. THE SURVEY WILL INCLUDE THE FOLLOWING:

B.A.A. PROPERTY BOUNDARY (METES AND BOUNDS) AND ESTABLISHED REFERENCE POINTS.

B.A.B. GROUND SURFACE ELEVATIONS MEASURED ACROSS THE ENTIRE SITE AT THE INTERSECTION POINTS OF A 50-FOOT BY 50-FOOT GRID.

B.A.C. EXISTING SITE FEATURES (E.G., SITE STRUCTURES, LIMITS OF PAVED AREAS, FENCES, GATES, ETC.).

B.A.D. NYSDEC ARTICLE 25 (TIDAL WETLAND) JURISDICTIONAL LIMITS.

B.A.E. SURVEY THE PROPOSED BULKHEAD LINE.

C. INTERMEDIATE SITE SURVEY:

C.A. DURING CONSTRUCTION ACTIVITIES, AN INTERMEDIATE SURVEY WILL BE PERFORMED BY THE CONTRACTOR TO VERIFY PROJECT MILESTONES. THE SURVEY WILL INCLUDE THE FOLLOWING:

C.A.A. SURVEY OF SAMPLE POINTS SHOULD BE PERFORMED WITHIN 24 HOURS OF COLLECTION, WITH SAMPLES FLAGGED AND EXCAVATION/RUNNING OF HEAVY EQUIPMENT IN PROXIMITY TO THE SAMPLE AREA PROHIBITED UNTIL THE SAMPLE POINT IS SURVEYED.

C.A.B. FOLLOWING THE COMPLETION OF EXCAVATIONS, THE EXTENT OF EXCAVATION SHALL BE SURVEYED WITHIN 24 HOURS.

C.A.C. FOLLOWING THE COMPLETION OF BACKFILLING AND GRADING ACTIVITIES, A SURVEY WILL BE PERFORMED TO MEMORIALIZE THE SUBGRADE ELEVATIONS PRIOR TO THE INSTALLATION OF THE DEMARCATION LAYER.

D. FINAL SITE SURVEY:

D.A. UPON COMPLETION OF REDEVELOPMENT ACTIVITIES, AN AS-BUILT SURVEY WILL BE PERFORMED BY THE CONTRACTOR DEPICTING ALL FINAL SITE FEATURES, INCLUDING DEMARCATION LIMITS AND FINAL ELEVATIONS DOCUMENTING SUCCESSFUL INSTALLATION OF ENGINEERING CONTROLS.

E. SURVEYS WILL BE SUBMITTED TO THE NYSPE FOR REVIEW.

4.0 WORK ZONES

A. THE CONTRACTOR WILL PRODUCE AND PROVIDE THE PROPOSED WORK ZONES FOR APPROVAL BY THE NYSPE PRIOR TO THE COMMENCEMENT OF ANY WORK. THE CONTRACTOR SHALL DEMARCATE WORK ZONES PRIOR TO IMPLEMENTATION OF CONSTRUCTION. WORK ZONES ARE DEFINED AS PER THE CODE OF FEDERAL REGULATIONS. PROPOSED WORK ZONES ARE SHOWN ON SHEET EN-06.

B. THE CLEAN ZONE WILL BE A CONTAMINANT-FREE AREA DESIGNATED FOR VISITORS AND/OR CONSTRUCTION STAFF. THE CLEAN ZONE WILL BE LOCATED AT PARCEL UPPER C.

C. THE EXCLUSION ZONE WILL BE LOCATED ADJACENT TO THE EXCAVATION FRONT. AS THE EXCAVATION FRONT WILL BE CONTINUOUSLY CHANGING, THE LOCATION OF THIS ZONE WILL ALSO CHANGE. ALL ACTIVITIES, WHICH MAY INVOLVE EXPOSURE TO SITE CONTAMINANTS, HAZARDOUS MATERIALS AND/OR CONDITIONS DEEMED ABOVE ACCEPTABLE LEVELS, SHOULD BE CONSIDERED AN EXCLUSION ZONE. THE CONTRACTOR MAY ESTABLISH MORE THAN ONE EXCLUSION ZONE WHERE DIFFERENT LEVELS OF PROTECTION MAY BE EMPLOYED OR DIFFERENT HAZARDS EXIST. THE SIZE OF THE EXCLUSION ZONE SHALL BE DETERMINED BY THE CONTRACTOR ALLOWING ADEQUATE SPACE FOR THE ACTIVITY TO BE COMPLETED, FIELD MEMBERS AND EMERGENCY EQUIPMENT. THE CONTRACTOR SHALL DEMARCATE THE EXCLUSION ZONE WITH CONSTRUCTION FENCING OR OTHER METHODS APPROVED BY THE NYSPE. CLOSURE OF EACH EXCLUSION ZONE AND REMOVAL OF BARRIERS WILL NOT OCCUR UNTIL THE AREA IS INSPECTED AND APPROVED BY THE NYSPE, OR PERSON(S) UNDER SUPERVISION OF.

D. THE CONTRACTOR SHALL ESTABLISH A SUPPORT ZONE WHICH WILL CONSIST OF A MATERIAL PROCESSING AREA AND A MATERIALS SUPPORT AREA. THE SUPPORT ZONE IS AN UNCONTAMINATED AREA THAT WILL BE THE FIELD SUPPORT AREA FOR MOST OPERATIONS. THE SUPPORT ZONE PROVIDES FOR FIELD TEAM COMMUNICATIONS AND STAGING FOR EMERGENCY RESPONSE. APPROPRIATE SAFETY EQUIPMENT WILL BE LOCATED IN THIS ZONE AS OUTLINED IN THE SITE-SPECIFIC HASP. POTENTIALLY CONTAMINATED PERSONNEL/MATERIALS ARE NOT ALLOWED IN THIS ZONE. THE ONLY EXCEPTION WILL BE APPROPRIATELY PACKAGED/DECONTAMINATED AND LABELED SAMPLES.

E. ANY EXCLUSION ZONE ESTABLISHED ON THE SITE WILL BE CONTIGUOUS WITH A CONTAMINANT REDUCTION ZONE, INCLUDING DECONTAMINATION FACILITIES FOR ALL NECESSARY EQUIPMENT, VEHICLES, AND PERSONNEL WHICH ENTER THE EXCLUSION ZONE. THE CONTAMINANT REDUCTION ZONE IS ESTABLISHED BETWEEN THE EXCLUSION ZONE AND THE SUPPORT ZONE. THE CONTAMINANT REDUCTION ZONE CONTAINS THE CONTAMINATION REDUCTION CORRIDOR AND PROVIDES FOR AN AREA FOR DECONTAMINATION OF PERSONNEL AND PORTABLE HAND-HELD EQUIPMENT, TOOLS AND HEAVY EQUIPMENT. A PERSONNEL DECONTAMINATION AREA WILL BE PROVIDED AT EACH CONTAMINATE REDUCTION ZONE. THE CONTAMINANT REDUCTION ZONE WILL BE USED FOR EXCLUSION ZONE ENTRY AND EGRESS IN ADDITION TO ACCESS FOR HEAVY EQUIPMENT AND EMERGENCY SUPPORT SERVICES.

5.0 CLEARING AND GRUBBING

A. PRIOR TO THE COMMENCEMENT OF CONSTRUCTION ACTIVITIES, EXISTING VEGETATION, FORMER BUILDING FOUNDATIONS, DEBRIS, ETC. FOUND TO EXIST WITHIN THE LIMITS OF CONSTRUCTION WILL BE REMOVED AS NEEDED. PRIOR TO THE COMMENCEMENT OF EXCAVATION WORK, EXISTING VEGETATION WITHIN THE LIMITS OF THE WORK AREA WILL BE REMOVED AND DISPOSED OFF-SITE, (I.E., TREES, STUMPS, OVERGROWN GRASS/BRUSH, BUSHES) AS NECESSARY. WOODY VEGETATION WHICH IS KEPT SEPARATE FROM SITE SOILS MAY BE CHIPPED, MULCHED, AND DISPOSED OF AS YARD WASTE, BUT ROOT BALLS AND MATERIALS WHICH HAVE BEEN MIXED WITH SITE SOILS WILL BE ASSUMED TO HAVE THE POTENTIAL FOR CONTAMINATION, AND DISPOSED OF AS HAZARDOUS OR NONHAZARDOUS WASTE, AS APPROPRIATE. DISPOSAL FACILITIES WILL BE SUBMITTED FOR APPROVAL TO THE USEPA AND NYSDEC BEFORE SHIPPING. ROOT BALLS AND MATERIAL MIXED WITH SITE SOILS WILL BE STOCKPILED IN COMPLIANCE WITH SECTION 4.5 OF SITE SPECIFIC EWP. CLEARING AND GRUBBING WASTE SHALL BE SCANNED FOR RADIATION BEFORE SHIPPING. 8

B. MATERIAL WILL BE REUSED AS DETERMINED BENEFICIAL AND IN ACCORDANCE TO THESE ENVIRONMENTAL SPECIFICATIONS. MATERIAL DETERMINED NOT BENEFICIAL SHALL BE DISPOSED OFFSITE BY THE CONTRACTOR IN ACCORDANCE WITH LOCAL, STATE, AND FEDERAL REGULATIONS. C&D MATERIAL WILL BE FIELD SCREENED TO DETERMINE IF IT CONTAINS HAZARDOUS MATERIALS ACCORDING TO B.A.-B.C. BELOW.

B.A. DEBRIS (INCLUDING C&D DEBRIS) ENCOUNTERED DURING EXCAVATIONS PERFORMED AT THE LI TUNGSTEN SUPERFUND SITES SHALL BE SEGREGATED FROM THE SOIL STOCKPILES BY THE CONTRACTOR. THE DEBRIS WILL BE SURVEYED BY A THIRD PARTY RADIATION CONSULTANT AND ENVIRONMENTAL CONSULTANT. 8

B.A.B. IF ANY RADIATION LEVELS ARE DETECTED THAT EXCEED THE APPROPRIATE SCREENING CRITERIA ACCORDING TO THE RADIATION MONITORING PLAN (RMP), A THIRD PARTY RADIATION CONSULTANT WILL PROVIDE DIRECTION TO THE CONTRACTOR FOR APPROPRIATE DISPOSAL REQUIREMENTS.

B.A.C. DEBRIS THAT FAILS FIELD SCREENING METHODS (PHOTO-IONIZATION DETECTOR (PID) ACTION LEVELS (100 PARTS PER MILLION) OR IF GROSS CONTAMINATION OR RESIDUAL MATERIAL CONTAINING IMPACT ABOVE RARCs, THE DEBRIS SHALL BE DISPOSED OFF-SITE.

B.B. CONSTRUCTION AND DEMOLITION (C&D) DEBRIS THAT DOES NOT CONTAIN HAZARDOUS MATERIALS SHALL BE DISPOSED OF BY THE CONTRACTOR AT A NYSDEC REGISTERED OR PERMITTED RECYCLING FACILITY OR AN ACTIVE REGULATED CONSTRUCTION AND DEMOLITION DEBRIS MUNICIPAL SOLID WASTE LANDFILL THAT IS PERMITTED BY THE NYSDEC AND WHICH MEETS THE CURRENT DESIGN STANDARDS FOR MUNICIPAL SOLID WASTE FACILITIES OF 6 NYCRR PART 360.

B.C. C&D DEBRIS THAT DOES NOT CONTAIN HAZARDOUS MATERIALS AND MEETS REUSE REQUIREMENTS DEFINED BELOW MAY BE CRUSHED ONSITE TO GENERATE RCA FOR REUSE BENEATH THE COMPOSITE CAP.

B.C.A. CRUSHED CONCRETE THAT MEETS RARCs FOR THE SITE MAY BE USED AS BACKFILL MATERIAL BENEATH THE COMPOSITE COVER SYSTEM PENDING APPROVAL OF NYSDEC & USEPA, AND

B.C.B. CRUSHED CONCRETE THAT DOES NOT MEET THE RARCs FOR THE SITE WILL BE DISPOSED OF OFFSITE IN ACCORDANCE WITH SECTION 4.7 OF THE EWP.

6.0 SOIL SCREENING

A. VISUAL, OLFACTORY AND INSTRUMENT-BASED (E.G PHOTOIONIZATION DETECTOR) SOIL SCREENING WILL BE PERFORMED BY THE NYSPE, OR PERSONNEL UNDER THEIR SUPERVISION, OR REPRESENTATIVE OF, DURING EXCAVATION AND GROUND INTRUSIVE WORK PERFORMED DURING SITE DEVELOPMENT, SUCH AS EXCAVATIONS FOR FOUNDATIONS AND UTILITY WORK.

A.A. SOILS WITH STAINING, DISCOLORATION, NOTICEABLE PETROLEUM ODOR, OR INSTRUMENT READINGS IN EXCESS OF 100 PARTS PER MILLION WILL BE STOCKPILED AS DETAILED IN SECTION 6.0-SOIL STAGING METHODS.

B. RADIOLOGICAL MONITORING AND SCREENING WILL BE PERFORMED BY A THIRD PARTY RADIATION CONSULTANT DURING ALL EXCAVATION AND GROUND INTRUSIVE WORK PERFORMED AT THE LI TUNGSTEN SUPERFUND SITE, SUCH AS EXCAVATION FOR FOUNDATIONS AND UTILITY WORK. RADIOLOGICAL MONITORING TO BE CONTRACTED DIRECTLY BY THE OWNER.

B.A. SOIL WITH COUNTS ABOVE THE APPROPRIATE SCREENING CRITERIA WILL BE STOCKPILED SEPARATELY AS DETAILED IN SECTION 6.0-SOIL STAGING METHODS.

7.0 SOIL STAGING METHODS

A. EXCAVATED SOIL THAT FAILS SCREENING CRITERIA WILL BE STOCKPILED SEPARATELY FROM CLEAN SOIL AND CONSTRUCTION MATERIALS BY THE CONTRACTOR.

B. THE CONTRACTOR WILL DESIGNATE THE PROPOSED STOCKPILE LOCATIONS TO THE NYSPE FOR APPROVAL.

C. STOCKPILE AREAS SHALL BE SIZED BY THE CONTRACTOR AS NECESSARY TO PERFORM THEIR WORK, SHALL CONFORM TO THE STOCKPILE DETAILS ON EN-04, BE IN COMPLIANCE WITH THE STORMWATER POLLUTION PREVENTION PLAN PREPARED FOR THE GARVIES POINT WATERFRONT REDEVELOPMENT - PHASE I, AND SHALL NOT HAVE A SLOPE GREATER THAN THE NATURAL REPOSE OF THE MATERIAL BEING STOCKPILED.

D. PROPOSED ENVIRONMENTAL SPECIFICATIONS AND DETAILS FOR ENVIRONMENTAL ASPECT OF CONSTRUCTION ONLY. EROSION AND SEDIMENT CONTROL SPECIFICATIONS AND DETAILS TO BE IMPLEMENTED ACCORDING TO THE SITE SPECIFIC SWPPP AND ACCORDING TO SHEETS C-25 AND C-26 OF CIVIL PLANS.

E. STOCKPILES OF EXCAVATED SOILS AND OTHER MATERIALS SHALL BE LOCATED AT LEAST 50 FEET FROM THE PROPERTY BOUNDARIES WHERE POSSIBLE.

F. EXCAVATED SOILS WILL BE STOCKPILED BY THE CONTRACTOR ON, AT MINIMUM, A TOTAL OF 20 MIL SHEETING.

G. CLEAN SOIL STOCKPILES SHALL BE TEMPORARY SEEDED IF THEY ARE TO BE INACTIVE FOR 30 DAYS OR LONGER. CONTAMINATED SOILS SHALL BE COVERED THE SAME DAY THEY ARE CREATED. COVERS SHALL BE PROPERLY ANCHORED TARPAULIN AND/OR PLASTIC SHEETING. COVERED STOCKPILES SHALL BE KEPT COVERED EXCEPT WHEN BEING ADDED TO OR TAKEN FROM.

H. STOCKPILE AREAS SHALL HAVE RUN-ON AND RUN-OFF CONTROL SYSTEMS CAPABLE OF PREVENTING FLOW ONTO AND OFF OF THE STOCKPILED MATERIAL, FROM A MINIMUM OF A 10-YEAR, 24-HOUR STORM EVENT. AT THE SITE, THIS STORM EVENT IS EQUIVALENT TO APPROXIMATELY 5 INCHES OF RAINFALL IN 24 HOURS. SOIL STOCKPILES WILL BE CONTINUOUSLY ENCIRCLED WITH STRAW BALES AND/OR A SILT FENCE. STRAW BALES AND/OR SILT FENCHING WILL BE USED AS NEEDED NEAR CATCH BASINS, SURFACE WATERS AND OTHER DISCHARGE POINTS.

I. WHILE IN PLACE, STOCKPILES WILL BE INSPECTED DAILY BY THE CONTRACTOR, AND BEFORE AND AFTER STORM EVENTS. RESULTS OF INSPECTIONS WILL BE RECORDED IN A LOGBOOK AND MAINTAINED AT THE SITE AND AVAILABLE FOR INSPECTION BY THE NYSPE, USEPA, AND NYSDEC REPRESENTATIVES. DEFICIENCIES WILL BE REPORTED TO THE NYSPE, OR PERSONNEL UNDER THEIR SUPERVISION, BY THE CONTRACTOR WITHIN 24 HOURS WITH A DESCRIPTION OF APPROPRIATE CORRECTION ACTION.

J. CONTRACTOR TO MAINTAIN STOCKPILES AS NECESSARY INCLUDING: STOCKPILES THAT ARE DAMAGED SHALL BE TAKEN OUT OF SERVICE, THE MATERIAL REMOVED IF NECESSARY TO REPAIR THE DAMAGE, AND ANY VISIBLE RELEASES TO THE ENVIRONMENT CONTAINED. THE DAMAGE SHALL BE REPAIRED, OR THE STOCKPILE PERMANENTLY TAKEN OUT OF SERVICE. ANY REPAIRS MUST BE INSPECTED AND APPROVED BY THE NYSPE, OR PERSONNEL UNDER THEIR SUPERVISION, PRIOR TO THE STOCKPILE BEING PLACED BACK IN SERVICE.

K. AT PROJECT CLOSEOUT, WASTE RESIDUES, CONTAINMENT SYSTEMS, AND OTHER EQUIPMENT SHALL BE DECONTAMINATED AND DISPOSED OFF-SITE AT AN APPROPRIATE FACILITY BY THE CONTRACTOR.

8.0 MATERIALS EXCAVATION AND LOAD-OUT

A. THE NYSPE, OR PERSONNEL UNDER THEIR SUPERVISION, WILL OVERSEE GROUND INTRUSIVE WORK AND THE EXCAVATION AND LOAD-OUT OF EXCAVATED MATERIALS PERFORMED BY THE CONTRACTOR.

B. GROUND INTRUSIVE ACTIVITIES WILL BE PERFORMED BY THE CONTRACTOR IN COMPLIANCE THE SITE SPECIFIC EXCAVATION WORK PLAN (EWP), WITH THESE SPECIFICATIONS AND APPLICABLE LAWS AND REGULATIONS. 8

C. THE PRESENCE OF UTILITIES AND EASEMENT ON THE SITE WILL BE FULLY INVESTIGATED BY THE CONTRACTOR PRIOR TO PERFORMANCE OF INVASIVE WORK BY, USING AT A MINIMUM, THE ONE-CALL SYSTEM (811).

D. IF PID ACTION LEVELS (100 PPM), RADIOLOGICAL ACTION LEVELS (AS APPLICABLE), OR IF GROSS CONTAMINATION* OR RESIDUAL SOURCE MATERIAL ARE ENCOUNTERED, AS DETERMINED BY CONFIRMATORY SAMPLING (SECTION 9.0), SUCH MATERIAL WILL BE EXCAVATED AND PROPERLY DISPOSED OFF-SITE BY THE CONTRACTOR. SEE EN-09 FOR KNOWN LOCATIONS OF RESIDUAL CONTAMINATION.

D.A. *GROSSLY CONTAMINATED MEDIA MEANS SOIL, SEDIMENT, SURFACE WATER, OR GROUNDWATER WHICH CONTAINS SOURCES OR SUBSTANTIAL QUANTITIES OF MOBILE CONTAMINATION IN THE FORM OF NON-AQUESOUS PHASE LIQUID THAT IS IDENTIFIABLE BY EITHER VISUALLY, THROUGH STRONG ODOR, BY ELEVATED CONTAMINANT VAPOR LEVELS, OR IS OTHERWISE READILY DETECTABLE WITHOUT LABORATORY ANALYSIS AS DEFINED IN 6 NYCRR 375-1.2 (U).

E. PRIOR TO OFF-SITE DISPOSAL OF MATERIALS FROM THE SITE, THE CONTRACTOR WILL CHARACTERIZE THE MATERIALS IN ACCORDANCE WITH THE REQUIREMENT OF THE PROPOSED DISPOSAL FACILITIES. THE FOLLOWING WILL BE PROVIDED TO THE NYSPE.

E.A. THE CONTRACTOR WILL OBTAIN A LETTER OF COMMITMENT FROM THE PROPOSED DISPOSAL FACILITY. THE LETTER SHOULD STATE THAT THE DISPOSAL FACILITY IS PERMITTED TO ACCEPT AND HAS THE AVAILABLE CAPACITY TO RECEIVE THE WASTE THAT WILL BE SHIPPED FROM THE SITE.

E.B. THE NYSPE WILL SUBMIT PROPOSED DISPOSAL FACILITIES AND REQUIRED DOCUMENTATION TO NECESSARY REGULATORY AUTHORITIES HAVING JURISDICTION OVER SITE FOR REVIEW AND APPROVAL.

F. CONTRACTOR TO PROVIDE TRANSPORT OF MATERIALS WHICH MUST BE PERFORMED BY LICENSED HAULERS IN ACCORDANCE WITH APPROPRIATE LOCAL, STATE, AND FEDERAL REGULATIONS, INCLUDING 6 NYCRR PART 364. HAULERS WILL BE APPROPRIATELY LICENSED AND TRUCKS PROPERLY PLACARDED. TRANSPORTING OF MATERIAL MUST BE PERFORMED IN ACCORDANCE WITH APPLICABLE FEDERAL, STATE, AND LOCAL LAWS AND REGULATIONS. CONTRACTOR TO SUPPLY LIST OF TRANSPORTERS TO NYSPE FOR APPROVAL. NYSPE, OR PERSONNEL UNDER THEIR SUPERVISION, WILL ENSURE ONLY APPROVED TRUCKS ARE LOADED WITH MATERIALS.

F.A. THE NYSPE WILL SUBMIT PROPOSED TRUCKING CONTRACTORS AND REQUIRED DOCUMENTATION TO NECESSARY REGULATORY AUTHORITIES HAVING JURISDICTION OVER SITE FOR REVIEW AND APPROVAL.

G. MATERIAL TRANSPORTED BY TRUCKS EXITING THE SITE WILL BE SECURED WITH COVERS. IF LOADS CONTAIN WET MATERIAL CAPABLE OF PRODUCING FREE LIQUID (I.E. MATERIAL FAILS THE PAINT FILTER TEST), TRUCK LINERS WILL BE USED. MATERIALS REMOVED FROM THE SITE MUST BE TRANSPORTED DIRECTLY TO THE DISPOSAL FACILITY.

H. TRUCKS WILL BE REQUIRED TO STOP AT A TRUCK INSPECTION STATION CLOSE TO THE SITE'S EXIT, AS DETERMINED BY THE NYSPE, OR PERSONNEL UNDER THEIR SUPERVISION, AND EXAMINED FOR EVIDENCE OF CONTAMINATED SOIL BY THE NYSPE, OR PERSONNEL UNDER THEIR SUPERVISION. TRUCKS WILL BE DECONTAMINATED BY CONTRACTOR AS NECESSARY AS DIRECTED BY THE NYSPE, OR PERSONNEL UNDER THEIR SUPERVISION. CONTRACTOR TO DISPOSE OF ALL WASTE MATERIALS GENERATED. CONTRACTOR TO CONTAINERIZE WASTE MATERIALS, CHARACTERIZE WASTE MATERIAL, AND DISPOSE OF PROPERLY.

I. VEHICLES DEEMED CONTAMINATED BY THE NYSPE, OR PERSONNEL UNDER THEIR SUPERVISION, MUST BE PROPERLY DECONTAMINATED AT APPROVED CONSTRUCTION ENTRANCE/DECON AREA BEFORE LEAVING THE SITE BY THE CONTRAC

9.0 CONFIRMATORY & END-POINT SAMPLING

A. CONFIRMATORY SOIL SAMPLING WILL BE PERFORMED FOR NEW EXCAVATIONS THAT BREACH DEMARCATION LAYER #1 (DESCRIBED IN SECTION 4.1 OF THE EXCAVATION WORK PLAN) OR EXTEND INTO NATIVE SOILS TO DOCUMENT THE SOIL QUALITY THAT WILL REMAIN IN PLACE BENEATH EC.

B. CONFIRMATION SAMPLING WILL BE PERFORMED FOR NEW EXCAVATIONS (AS DESCRIBED BELOW) IN COMPLIANCE WITH DER-10 5.4(b).

C. IF AREAS IN THE SIDEWALLS AND EXCAVATION BOTTOMS EXCEED THE PHOTO-IONIZATION DETECTOR (PID) ACTION LEVELS (100 PARTS PER MILLION), RADIOLOGICAL ACTIONS LEVELS (SEE RMP FOR APPROPRIATE SCREENING CRITERIA), OR IF GROSS CONTAMINATION (I.E., SOILS EXHIBITING STAINING, PRODUCT, PETROLEUM ODORS) OR RESIDUAL MATERIAL CONTAINING IMPACT ABOVE RARCS ARE ENCOUNTERED, SUCH MATERIAL WILL BE EXCAVATED AND PROPERLY DISPOSED OFF-SITE IN ACCORDANCE WITH SECTIONS 4.6 AND 4.7 OF THE EWP.

D. SAMPLING FREQUENCY WILL CONSIST OF THE FOLLOWING TO COMPLY WITH THE REQUIREMENTS OF NYSDEC DER-10, INCLUDING BUT NOT LIMITED TO THE FOLLOWING:

D.A. FOR EACH NEW EXCAVATION WHERE FINAL SITE GRADES ARE REACHED OR EXPANSION OF AN EXCAVATION TO REMOVE CONTAMINATION, CONFIRMATORY SOIL SAMPLING WILL BE PERFORMED IN COMPLIANCE WITH DER-10 5.4(B)5.

D.B. IN THE ABSENCE OF PID READINGS OR VISUAL/OLFACTORY CONTAMINATION, SIDEWALL SAMPLES SHOULD BE BIASED IN THE DIRECTION OF SURFACE RUNOFF. SIDEWALLS DEFINED AS A CONTINUOUS, STRAIGHT LINEAR FACE OF AN EXCAVATION (I.E., A RECTANGULAR EXCAVATION HAS FOUR (4) SIDEWALLS).

D.C. FOR EXCAVATIONS 20 TO 300 FEET OR GREATER IN PERIMETER:

D.C.A. FOR SURFACE REMOVALS (0 TO 24 INCHES), ONE SAMPLE FROM THE TOP OF EACH SIDEWALL FOR EVERY 30 LINEAR FEET OF SIDEWALL AND ONE SAMPLE FROM THE EXCAVATION BOTTOM FOR EVERY 900 SQUARE FEET OF BOTTOM AREA.

D.C.B. FOR SUBSURFACE REMOVALS, ONE SAMPLE FROM EACH SIDEWALL FOR EVERY 30 LINEAR FEET OF SIDEWALL AND ONE SAMPLE FROM THE EXCAVATION BOTTOM FOR EVERY 900 SQUARE FEET OF BOTTOM AREA.

D.D. FOR SAMPLING OF VOLATILE ORGANICS, SAMPLES SHOULD BE TAKEN WITHIN 24 HOURS OF EXCAVATION, AND SHOULD BE TAKEN FROM THE ZERO TO SIX-INCH INTERVAL AT THE EXCAVATION FLOOR. SAMPLES TAKEN AFTER 24 HOURS SHOULD BE TAKEN AT SIX TO TWELVE INCHES.

D.E. POST REMEDIATION SOIL SAMPLES FOR LABORATORY ANALYSIS SHOULD BE TAKEN IMMEDIATELY AFTER CONTAMINATED SOIL REMOVAL.

E. IF AN EXCAVATION IS ENLARGED HORIZONTALLY OR VERTICALLY, ADDITIONAL SOIL SAMPLES WILL BE COLLECTED AS DESCRIBED BY D.A.-D.E. ABOVE.

F. FOR EXCAVATION SIDEWALLS, SAMPLES WILL BE COLLECTED FROM UP TO FIVE FOOT HORIZONS. THE COLLECTED SAMPLES WILL BE ANALYZED UTILIZING THE FOLLOWING METHODOLOGY:

F.A. LI TUNGSTEN SUPERFUND SITE AND CAPTAINS COVE STATE SUPERFUND SITE

F.B. ALL SAMPLES WILL BE ANALYZED FOR ARSENIC AND LEAD BY USEPA METHOD 6010.

F.C. SAMPLES FROM AREAS EXCEEDING PID ACTION LEVELS (100 PARTS PER MILLION) OR IF GROSS CONTAMINATION (I.E, SOILS EXHIBITING STAINING, PRODUCT, PETROLEUM ODORS) IS ENCOUNTERED WILL BE ANALYZED FOR VOCS BY USEPA METHOD 8260 AND SVOCS BY USEPA METHOD 8270.

F.D. SAMPLES FROM AREAS EXCEEDING RADIOLOGICAL ACTION LEVELS (SEE RMP FOR CRITERIA) WILL BE ANALYZED FOR RADIUM 226 AND OTHER GAMMA EMITTERS BY USEPA METHOD 901.1, AS APPLICABLE.

F.D.A. GLADSKY MARINE SITE

9 F.D.A.A. TARGET ANALYTE LIST (TAL) METALS BY USEPA METHOD 6010/7471; AND

F.D.A.B. SVOCs BY USEPA METHOD 8270.

F.D.B. DOXEY SITE

9 F.D.B.A. TAL METALS BY USEPA METHOD 6010; AND

F.D.B.B. SVOCs BY USEPA METHOD 8270.

F.D.C. SAMPLES COLLECTED FOR VOLATILE ORGANIC ANALYSIS WILL BE COLLECTED UTILIZING TERA-CORE SAMPLING DEVICES. THE REMAINING SAMPLE VOLUME WILL BE PARTIALLY TRANSFERRED TO A STAINLESS STEEL BOWL AND HOMOGENIZED. ONCE HOMOGENIZED, SAMPLES WILL BE TRANSFERRED TO LABORATORY SUPPLIED GLASSWARE, PACKED IN A COOLER WITH ICE AND SHIPPED UNDER PROPER CHAIN-OF-CUSTODY PROCEDURES TO A NEW YORK STATE DEPARTMENT OF HEALTH (NYSDOH) ENVIRONMENTAL LABORATORY APPROVAL PROGRAM (ELAP) CERTIFIED LABORATORY FOR ANALYSIS IN ACCORDANCE WITH NYSDEC ANALYTICAL SERVICES PROTOCOL (ASP) CATEGORY B DATA DELIVERABLE PACKAGES AND ELECTRONIC DATA DELIVERABLES (EDDS, IN EQUIS FORMAT) WILL BE FURNISHED BY THE LABORATORY.

G. SAMPLING EQUIPMENT DECONTAMINATION WILL BE PERFORMED IN ACCORDANCE WITH THE PROJECT QUALITY ASSURANCE PROJECT PLAN (QAPP) (APPENDIX F OF THE EXCAVATION WORK PLAN).

8 H. SURVEY OF SAMPLE POINTS SHALL BE PERFORMED WITHIN 24 HOURS OF COLLECTION, WITH SAMPLES FLAGGED AND EXCAVATION/RUNNING OF HEAVY EQUIPMENT IN THE SAMPLE AREA PROHIBITED UNTIL THE SAMPLE POINT IS SURVEYED.

I. THE RESULTS OF THE ASSOCIATED ANALYSIS WILL BE COMPARED TO THE SITE-SPECIFIC CLEANUP CRITERIA INCLUDED IN THE SITES' DECISION DOCUMENTS.

J. IN THE EVENT A CONFIRMATION SAMPLE EXCEEDS THE SITES' STANDARDS, EXCAVATION WILL CONTINUE UNTIL ATTAINMENT OF ACCEPTABLE SOIL ANALYTICAL DATA IS ACHIEVED.

K. THE RESULTS OF THE CONFIRMATION SAMPLING WILL BE PROVIDED IN A TABULAR AND MAP SUMMARY OF SAMPLE RESULTS TO THE USEPA AND NYSDEC PROJECT MANAGERS AT THE COMPLETION OF THE EXCAVATION WORK. LABORATORY ANALYTICAL REPORTS WILL BE PROVIDED TO THE USEPA AND NYSDEC PROJECT MANAGERS WITHIN 72 HOURS OF RECEIPT.

10.0 MATERIALS REUSE ON-SITE

A. MATERIALS PROPOSED FOR REUSE ONSITE WILL BE CHARACTERIZED IN ACCORDANCE WITH NYSDEC DER-10 SECTION 5.4(E), 4. BY THE CONTRACTOR, WILL MEET THE CLEANUP GOALS ESTABLISHED IN THE DECISION DOCUMENTS FOR THE SITES, WILL BE REVIEWED BY THE NYSPE, AND APPROVED BY THE NYSDEC AND USEPA PRIOR TO REUSE. "REUSE ONSITE" MEANS MATERIAL THAT IS EXCAVATED DURING DEVELOPMENT, DOES NOT LEAVE THE PROPERTY, AND IS RELOCATED WITHIN THE SAME PROPERTY (E.G. DOXEY TO DOXEY, LI TUNGSTEN TO LI TUNGSTEN, ETC.).

A.A. LI TUNGSTEN SUPERFUND SITE: MATERIALS PROPOSED FOR REUSE WILL BE CHARACTERIZED IN ACCORDANCE WITH NYSDEC DER-10 SECTION 5.4e, 4. BY THE CONTRACTOR AND WILL MEET THE CLEANUP GOALS ESTABLISHED IN THE DECISION DOCUMENTS FOR THE SITES.

A.A.A. DOXEY SITE AND GLADSKY MARINE SITE: MATERIAL ORIGINATING FROM THE EXISTING CLEAN COVER MAY BE REUSED WITHIN THE TOP TWO FEET OF SITE SOILS ABOVE THE EXISTING DEMARCATION LAYER. MATERIAL ORIGINATING FROM BENEATH THE EXISTING DEMARCATION LAYER #2 WHICH DOES NOT FAIL SCREENING CRITERIA MAY BE REUSED BENEATH THE EXISTING DEMARCATION LAYER #2 OR AN IMPERVIOUS SURFACE, AND WILL NOT BE REUSED WITHIN A COVER SOIL LAYER, WITHIN LANDSCAPING BERMS, OR AS BACKFILL FOR SUBSURFACE UTILITY LINES. MATERIAL ORIGINATING FROM BENEATH THE EXISTING DEMARCATION LAYER #1 (NATIVE SOILS), WHICH DOES NOT FAIL SCREENING CRITERIA AND MEETS REUSE CRITERIA WILL BE PLACED BELOW DEMARCATION LAYER #2 (SEE SECTION 4.1), OR AN IMPERVIOUS SURFACE, AND WILL NOT BE REUSED WITHIN A COVER SOIL LAYER, WITHIN LANDSCAPING BERMS, OR AS BACKFILL FOR SUBSURFACE UTILITY LINES.

A.A.B. MATERIALS PROPOSED FOR REUSE WILL BE REVIEWED BY THE NYSPE AND BE APPROVED BY THE NYSDEC AND USEPA PRIOR TO REUSE. "REUSE ONSITE' MEANS MATERIAL THAT IS EXCAVATED DURING DEVELOPMENT, DOES NOT LEAVE THE PROPERTY, AND IS RELOCATED WITHIN THE SAME PROPERTY (E.G. DOXEY TO DOXEY, LI TUNGSTEN TO LI TUNGSTEN, ETC.).

B. THE CONTRACTOR WILL COLLECT REPRESENTATIVE SAMPLES FROM THE MATERIAL PROPOSED FOR REUSE AT THE BELOW FREQUENCY.

CONTAMINANT SOIL QUANTITY (CUBIC YARDS)	VOCS DISCRETE SAMPLES	SVOCS, INORGANICS & PCBS/PESTICIDES	
		COMPOSITE	DISCRETE SAMPLES/COMPOSITE
0-50	1	1	EACH COMPOSITE SAMPLE FOR ANALYSIS IS CREATED FROM 3-5 DISCRETE SAMPLES FROM REPRESENTATIVE LOCATIONS IN THE FILL.
50-100	2	1	
100-200	3	1	
200-300	4	1	
300-400	4	2	
400-500	5	2	
500-800	6	2	
800-1000	7	2	
>1000	ADD AN ADDITIONAL 2 VOC AND 1 COMPOSITE FOR EACH ADDITIONAL 1000 CUBIC YARDS OR CONSULT DITH DER		

C. THE CONTRACTOR WILL RETAIN A NYSDOH ELAP CERTIFIED LABORATORY TO PERFORM ANALYSIS FOR ALL SAMPLES. THE CONTRACTOR WILL PROVIDE THE NYSPE A TABULAR AND MAP SUMMARY OF ALL SAMPLE RESULTS. ENVIRONMENTAL SAMPLE ANALYSIS WILL BE PERFORMED IN ACCORDANCE WITH THE NYSDEC ANALYTICAL SERVICES PROTOCOL AND DATA WILL BE REPORTED BY THE NYSPE IN ACCORDANCE WITH THE NYSDEC DER EQUIS DATA REPORTING REQUIREMENTS.

C.A. THE CONTRACTOR WILL PREPARE A QUALITY ASSURANCE PROJECT PLAN (QAPP) FOR APPROVAL BY THE NYSPE.

D. THE SAMPLES WILL BE ANALYZED FOR REUSE BELOW AN ENGINEERING CONTROL ACCORDING TO THE FOLLOWING:

D.A. LI TUNGSTEN SUPERFUND SITE

D.A.A. ARSENIC AND LEAD BY USEPA METHOD 6010.

D.B. GLADSKY MARINE SITE

9 D.B.A. TAL METALS ACCORDING TO USEPA METHOD 6010.

D.C. DOXEY SITE

9 D.C.A. TAL METALS ACCORDING TO USEPA METHOD 6010.

E. THE CONTRACTOR WILL COMPLETE A "REQUEST TO REUSE SOIL FORM" FOR SUBMISSION TO THE NYSPE. ALONG WITH THE REQUEST, THE CONTRACTOR WILL SUBMIT THE FOLLOWING TO THE NYSPE:

E.A. SUMMARY OF NUMBER OF SAMPLES COLLECTED AND ANALYZED, AND ANALYTICAL SUMMARY TABLES.

E.B. ANALYTICAL DATA SHEETS AND CHAIN OF CUSTODY DOCUMENTS.

E.C. SUMMARY OF NUMBER OF CUBIC YARDS PROPOSED FOR REUSE.

E.D. PHOTOGRAPHS FROM THE STOCKPILE WITH SAMPLE POINT LOCATIONS IDENTIFIED.

E.E. PLAN SHOWING THE LOCATION WHERE SOILS WILL BE PLACED.

F. THE NYSPE WILL REVIEW AVAILABLE DATA PROVIDED BY THE CONTRACTOR AND DETERMINE WHETHER THE MATERIAL IS APPROPRIATE FOR REUSE.

F.A. UPON NYSPE APPROVAL, THE PACKAGE WILL BE PROVIDED TO THE EPA/NYSDEC FOR APPROVAL.

11.0 FLUIDS MANAGEMENT

A. LIQUIDS TO BE REMOVED FROM THE SITE, INCLUDING BUT NOT LIMITED TO, EXCAVATION DEWATERING, DECONTAMINATION WATERS AND GROUNDWATER MONITORING WELL PURGE AND DEVELOPMENT WATERS, WILL BE HANDLED, TRANSPORTED AND DISPOSED IN ACCORDANCE WITH APPLICABLE LOCAL, STATE, AND FEDERAL REGULATIONS BY THE CONTRACTOR.

B. LIQUIDS TO BE DISCHARGED INTO THE SEWER SYSTEM INCLUDING BUT NOT LIMITED TO EXCAVATION DEWATERING, DECONTAMINATION WATERS, AND GROUNDWATER MONITORING WELL PURGE AND DEVELOPMENT WATERS, WILL RECEIVE PRIOR APPROVAL BY THE NASSAU COUNTY DEPARTMENT OF PUBLIC WORKS. DISCHARGE TO THE SEWER SYSTEM WILL REQUIRE AN AUTHORIZATION AND SAMPLING DATA DEMONSTRATING THAT THE GROUNDWATER MEETS THE COUNTY'S DISCHARGE CRITERIA. THE CONTRACTOR SHALL PROVIDE A TREATMENT DESIGN TO THE NYSPE FOR REVIEW AND APPROVAL. THE DEWATERING FLUID WILL BE PRETREATED AS NECESSARY TO MEET THE COUNTY'S DISCHARGE CRITERIA. THE CONTRACTOR SHALL PROVIDE A TREATMENT DESIGN TO THE NYSPE FOR REVIEW AND APPROVAL.

C. DISCHARGE OF WATER GENERATED DURING LARGE-SCALE CONSTRUCTION ACTIVITIES INCLUDING BUT NOT LIMITED TO, EXCAVATION DEWATERING, DECONTAMINATION WATERS, AND GROUNDWATER MONITORING WELL PURGE AND DEVELOPMENT WATERS, TO LAND SURFACES OR SURFACE WATERS (I.E. A LOCAL POND, STREAM OR RIVER) WILL BE PERFORMED UNDER A SPDES PERMIT OR NYSDEC'S MEMORANDUM TITLED "GENERIC EFFLUENT CRITERIA FOR SURFACE WATER DISCHARGED" AND DATED AUGUST 28, 2013. THE WATER WILL BE PRETREATED AS NECESSARY. THE CONTRACTOR SHALL PROVIDE A TREATMENT DESIGN TO THE NYSPE FOR REVIEW AND APPROVAL.

12.0 BACKFILL FROM OFF-SITE SOURCES

A. THE CONTRACTOR WILL IMPORT MATERIALS TO THE SITE AS NECESSARY. MATERIALS PROPOSED FOR IMPORT TO THE SITE WILL BE APPROVED BY THE NYSPE, NYSDEC, AND USEPA. CONTRACTOR SHALL PERFORM WORK IN COMPLIANCE WITH THE SITE SPECIFIC EWP.

B. IMPORTED SOILS WILL MEET THE BACKFILL AND COVER SOIL QUALITY STANDARDS ESTABLISHED IN 6 NYCRR 375-6.7(D).

C. THE FOLLOWING POTENTIAL SOURCES MAY BE USED PENDING ATTAINMENT OF BACKFILL AND SOIL QUALITY OBJECTIVES:

C.A. CLEAN SOIL FROM CONSTRUCTION PROJECTS AT NON-INDUSTRIAL SITES IN COMPLIANCE WITH APPLICABLE LAWS AND REGULATIONS.

C.B. CLEAN SOIL FROM ROADWAY OR OTHER TRANSPORTATION-RELATED PROJECTS IN COMPLIANCE WITH APPLICABLE LAWS AND REGULATIONS.

C.C. CLEAN RECYCLED CONCRETE AGGREGATE (RCA) FROM FACILITIES PERMITTED OR REGISTERED BY THE REGULATIONS OF NYSDEC.

C.D. MATERIALS WHERE THE NYSDEC HAS ISSUED A BENEFICIAL USE DETERMINATION, PURSUANT TO 6 NYCRR PART 360.

C.E. GRAVEL, ROCK, OR STONE CONSISTING OF VIRGIN MATERIAL FROM A PERMITTED MINE OR QUARRY.

D. THE IMPORTED MATERIAL WILL BE FROM AN APPROVED SOURCE/FACILITY AND WILL BE EVALUATED BY THE NYSPE TO ENSURE:

D.A. THAT A SEGREGATED STOCKPILE IS PROPERLY MAINTAINED AT THE SOURCE AND WILL NOT BE COMINGLED WITH ANY OTHER MATERIAL PRIOR TO IMPORTING AND GRADING THE CLEAN SOIL MATERIAL AT THE SITE.

D.B. THAT THE MATERIAL DOES NOT INCLUDE ANY SOLID WASTE, INCLUDING CONSTRUCTION AND DEMOLITION MATERIAL.

D.C. THAT SCREENING FOR EVIDENCE OF CONTAMINATION BY VISUAL, OLFACTORY AND PID SOIL SCREENING PRACTICES PRIOR TO TESTING AT THE SOURCE AS WELL AS UPON IMPORTING TO THE SITE FOR GRADING IS COMPLETED.

D.D. THAT SOIL SAMPLES WERE COLLECTED FROM THE SEGREGATED STOCKPILE AT THE SOURCE AT A FREQUENCY SPECIFIED IN TABLE 5.4(E)10 OF DER-10 AND ANALYZED FOR THE FOLLOWING FULL LIST OF PARAMETERS.

D.D.A. VOCS BY USEPA METHOD 8260

D.D.B. SVOCS BY USEPA METHOD 8270

D.D.C. PESTICIDES BY EPA METHOD 8081

D.D.D. PCBS BY EPA METHOD 8082

D.D.E. METALS BY USPEA METHOD 6010C/7471B

D.D.F. STONE/RCA USED FOR DECON PADS AND STABILIZED CONSTRUCTION ENTRANCES SHALL BE WASHED, CLEAN, AND CONTAIN LITTLE TO NO FINES.

E. THE CONTRACTOR WILL COMPLETE A "REQUEST TO IMPORT FILL OF SOIL FORM" FOR SUBMISSION TO THE NYSPE FOR EACH SOURCE. ALONG WITH THE REQUEST, THE CONTRACTOR WILL SUBMIT THE FOLLOWING TO THE NYSPE:

E.A. SUMMARY OF NUMBER OF SAMPLES COLLECTED AND ANALYZED, AND ANALYTICAL SUMMARY TABLES.

E.B. ANALYTICAL DATA SHEETS AND CHAIN OF CUSTODY DOCUMENTS.

E.C. SUMMARY OF NUMBER OF CUBIC YARDS PROPOSED FOR IMPORT.

E.D. PHOTOGRAPHS FROM THE SEGREGATED STOCKPILE AT THE SOURCE WITH SAMPLE POINT LOCATIONS IDENTIFIED.

E.E. AN AFFIDAVIT FROM THE SOURCE/FACILITY ON COMPANY LETTERHEAD STATING THAT THE SEGREGATED STOCKPILE FOR NUMBER OF CUBIC YARDS HAS BEEN PROPERLY MAINTAINED AT THE SOURCE AND COMPLIES WITH THE REQUIREMENTS LISTED ABOVE.

E.F. A COPY OF THE SOURCE/FACILITY NYSDEC PERMIT, IF APLLICABLE.

E.G. CONTRACTOR TO ALLOW A MINIMUM OF 5 BUSINESS DAYS FOR REVIEW AND APPROVAL OF USEPA AND NYSDEC PROJECT MANAGERS.

F. MATERIAL MAY BE PLACED FOLLOWING APPROVAL OF BACKFILL BY THE NYSDEC.

G. THE NYSPE, OR PERSONNEL UNDER THEIR SUPERVISION, WILL INSPECT EACH LOAD OF IMPORTED MATERIAL FOR EVIDENCE OF CONTAMINATION AND SOLID WASTE.

H. THE CONTRACTOR WILL SUPPLY TRUCK TRANSPORTATION SLIPS FOR MATERIAL IMPORTED TO THE SITE TO THE NYSPE, OR PERSONNEL UNDER THEIR SUPERVISION.

I. TRUCKS ENTERING THE SITE WITH IMPORTED SOILS WILL BE SECURELY COVERED. IMPORTED SOILS WILL BE STOCKPILED SEPARATELY FROM EXCAVATED MATERIALS AND COVERED TO PREVENT DUST RELEASES.

13.0 COVER SYSTEM INSTALLATION

A. THE CONTRACTOR WILL INSTALL A COMPOSITE COVER SYSTEM THROUGHOUT THE REGULATED SITES (LI TUNGSTEN, DOXEY, GLADSKY). THE COMPOSITE COVER SYSTEM WILL BE COMPRISED OF ONE OF THE FOLLOWING AND ACCORDING TO COVER SYSTEM DETAILS ON SHEET EN-04:

A.A. A MINIMUM OF 24 INCHES OF SOIL MEETING THE REQUIREMENTS OF 6 NYCRR PART 375-6.7(D).

A.B. RCA NOT TO BE USED AS COVER SYSTEM MATERIAL.

A.C. ASPHALT PAVEMENT.

A.D. CONCRETE-COVERED SIDEWALKS

A.E. CONCRETE BUILDING SLABS

A.F. A DEMARCATION BARRIER WILL BE INSTALLED BY THE CONTRACTOR PRIOR TO PLACEMENT OF THE CLEAN SOIL COVER. DEMARCATION BARRIER TO CONSIST OF HIGH VISIBILITY ORANGE CONSTRUCTION FENCING MADE OF POLYPROPYLENE OR POLYETHYLENE, OR APPROVED EQUIVALENT.

14.0 SOIL VAPOR MITIGATION SYSTEM INSTALLATION

A. THE BUILDING CONTRACTOR SHALL PROVIDE A SOIL VAPOR MITIGATION SYSTEM FOR ALL STRUCTURES AS DESIGNED IN SOIL VAPOR EXTRACTION (SVE) PLANS; SVE-1 THROUGH SVE-9. THE SOIL VAPOR MITIGATION SYSTEM WILL INCLUDE THE FOLLOWING:

A.A. VAPOR BARRIER.

A.B. SUB-SLAB DEPRESSURIZATION SYSTEM

15.0 GROUNDWATER MONITORING WELL NETWORK

A. A GROUNDWATER MONITORING WELL NETWORK IS CURRENTLY IN PLACE WITHIN THE REDEVELOPMENT AREA AS SHOWN ON THE GROUNDWATER MONITORING WELL LOCATION PLAN ON SHEET EN-08.

B. THE CONTRACTOR WILL CONFIRM THE PRESENCE/ABSENCE OF THE GROUNDWATER MONITORING WELLS AND PROVIDE A LIST TO THE NYSPE DETAILING THE GROUNDWATER MONITORING WELLS THAT WILL BE DISTURBED AS PART OF CONSTRUCTION ACTIVITIES. THE NYSPE WILL PROVIDE THE LIST TO THE REGULATORY AGENCIES TO DETERMINE WHICH GROUNDWATER MONITORING WELLS WILL NEED TO BE REINSTALLED/RELOCATED AT THE COMPLETION OF CONSTRUCTION ACTIVITIES.

C. THE CONTRACTOR WILL DECOMMISSION THE GROUNDWATER MONITORING WELLS TO BE DISTURBED IN ACCORDANCE WITH NYSDEC'S CP-43 - GROUNDWATER MONITORING WELL DECOMMISSIONING POLICY, AS SHOWN ON THE MONITORING WELL DECOMMISSIONING DETAIL ON SHEET EN-07.

D. FOLLOWING COMPLETION OF CONSTRUCTION ACTIVITIES, THE CONTRACTOR WILL REINSTALL/RELOCATE GROUNDWATER MONITORING WELLS.

E. THE CONTRACTOR WILL UTILIZE HOLLOW STEM AUGER DRILLING METHODS TO REINSTALL GROUNDWATER MONITORING WELLS.

E.A. THE GROUNDWATER MONITORING WELLS WILL BE CONSTRUCTED OF TWO-INCH DIAMETER, SCHEDULE 40 PVC CASING AND SCREEN WITH 0.010 INCH SLOT. THE WELLS WILL BE CONSTRUCTED WITH A 10 FOOT SCREEN SECTION AND RISER TO GRADE UNLESS PRECLUDED BY HYDROGEOLOGIC CONDITIONS. THE WELL ANNULUS WILL BE FILLED WITH #2 MORIE SAND, OR EQUIVALENT, TO TWO FEET ABOVE THE WELL SCREEN. THE SCREEN WILL BE SET WITH SEVEN (7) FEET INTO AND THREE (3) FEET ABOVE THE WATER TABLE AT THE TIME OF INSTALLATION. A TWO-FOOT FINE SAND LAYER WILL BE INSTALLED ABOVE THE SCREEN FOLLOWED BY A TWO-FOOT BENTONITE SEAL. ABOVE THE BENTONITE LAYER, THE ANNULUS AROUND THE WELL WILL BE FILLED WITH A CEMENT/BENTONITE GROUT. A CONCRETE SURFACE PAD (2 FEET BY 2 FEET BY 6-INCH) WILL BE INSTALLED. THE WELLS WILL BE FINISHED WITH FLUSH MOUNT CURB BOXES. (SEE ATTACHED WELL CONSTRUCTION DETAIL).

F. SAMPLING AND MONITORING OF THE GROUNDWATER MONITORING WELLS WILL BE PERFORMED BY THE NYSPE, OR PERSONNEL UNDER THEIR SUPERVISION.

16.0 COMMUNITY AIR MONITORING

A. REAL-TIME AIR MONITORING FOR VOCS AND PARTICULATE LEVELS AT THE PERIMETER OF THE EXCLUSION ZONE OR WORK AREA WILL BE PERFORMED BY THE NYSPE, OR PERSONNEL UNDER THEIR SUPERVISION, DURING SOIL INTRUSIVE ACTIVITIES.

B. THE NYSPE, OR PERSONNEL UNDER THEIR SUPERVISION, WILL NOTIFY THE CONTRACTOR OF ANY AIR MONITORING EXCEEDANCES AND INSTRUCT THE CONTRACTOR TO IMPLEMENT THE FOLLOWING CONTROL PLANS AS NECESSARY:

B.A. ODOR CONTROL PLAN (TO BE IMPLEMENTED AS NECESSARY)

B.A.A. THE CONTRACTOR WILL LIMIT THE AREA OF OPEN EXCAVATIONS AND SIZE OF SOIL PILES, WHENEVER POSIBBLE.

B.A.C. THE CONTRACTOR WILL USE FOAMS TO COVER EXPOSED ODOROUS SOILS, AS REQUIRED.

B.B. DUST CONTROL PLAN (TO BE IMPLEMENTED AS NECESSARY)

B.B.A. THE CONTRACTOR WILL USE A DEDICATED WATER SPRAY METHODOLOGY FOR ROADS, EXCAVATION AREAS, AND STOCKPILES.

B.B.B. THE CONTRACTOR WILL LIMIT THE TOTAL AREA OF ONSITE ROADS TO MINIMIZE THE AREA REQUIRE FOR WATER TRUCK SPRINKLING.

B.B.C. THE CONTRACTOR WILL CLEAR AND GRUB THE SITE IN STAGES TO LIMIT THE AREA EXPOSED.

B.B.E. THE CONTRACTOR WILL EXERCISE EXTRA CARE DURING DRY AND HIGH-WIND PERIODS.

B.B.F. THE CONTRACTOR WILL USE GRAVEL OR RCA ON EGRESS AND OTHER ROADWAYS TO PROVIDE A CLEAN AND DUST FREE ROAD SURFACE.

17.0 REMAINING CONTAMINATION

A. THIS DETAIL IDENTIFIES THE LOCATIONS OF REMAINING CONTAMINATION IN EXCESS OF SITE SPECIFIC CLEANUP OBJECTIVES. LOCATIONS ARE SHOWN ON THE REMAINING CONTAMINATION PLAN LOCATED ON SHEET EN-09.

A.A. AREA 1: A SURFACE SAMPLE (0-0.5') SHOWED LEVELS OF RESIDUAL CONTAMINANTS AT THIS LOCATION. THE HORIZONTAL AND VERTICAL EXTENTS OF IMPACT ARE CURRENTLY UNKNOWN.

CONTAMINANT	DETECTED CONCENTRATION (PPM)	CLEANUP CONCENTRATION (PPM)
ARSENIC	221	16
BARIUM	485	400
CADMIUM	35.9	4.3
COPPER	636	270
LEAD	4,460	400

A.B. AREA 2: A SURFACE SAMPLE (0-0.5') SHOWED LEVELS OF RESIDUAL CONTAMINANTS AT THIS LOCATION. THE HORIZONTAL AND VERTICAL EXTENTS OF IMPACT ARE CURRENTLY UNKNOWN.

CONTAMINANT	DETECTED CONCENTRATION (PPM)	CLEANUP CONCENTRATION (PPM)
CADMIUM	15.4	4.3

A.C. AREA 3: A SUBSURFACE SAMPLE (4-6') SHOWED LEVELS OF RESIDUAL CONTAMINANTS AT THIS LOCATION. THE HORIZONTAL AND VERTICAL EXTENTS OF IMPACT ARE CURRENTLY UNKNOWN.

CONTAMINANT	DETECTED CONCENTRATION (PPM)	CLEANUP CONCENTRATION (PPM)
LEAD	585	400

A.D. AREA 4: TWO SAMPLES (0-0.5' & 1.5-2') SHOWED LEVELS OF RESIDUAL CONTAMINANTS AT THIS LOCATION. THE HORIZONTAL AND VERTICAL EXTENTS OF IMPACT ARE CURRENTLY UNKNOWN.

CONTAMINANT	DETECTED CONCENTRATION (PPM)	CLEANUP CONCENTRATION (PPM)
ARSENIC	31.4 / 27.2	16

A.E. AREA 5: A SUBSURFACE SAMPLE (10-12') SHOWED LEVELS OF RESIDUAL CONTAMINANTS AT THIS LOCATION. THE HORIZONTAL AND VERTICAL EXTENTS OF IMPACT ARE CURRENTLY UNKNOWN.

CONTAMINANT	DETECTED CONCENTRATION (PPM)	CLEANUP CONCENTRATION (PPM)
ARSENIC	24.5	16

A.F. AREA 6: PREVIOUS REMEDIAL ACTIONS WERE PERFORMED IN THIS AREA WHICH INCLUDED REMOVAL OF THE FIRST TWO FEET OF SOILS. SOILS BENEATH TWO FEET WERE LEFT IN PLACE AND CONTAMINATION IS PRESUMED TO EXIST AT UNKNOWN CONCENTRATIONS BELOW TWO FEET.

CONTAMINANT	DETECTED CONCENTRATION (PPM)	CLEANUP CONCENTRATION (PPM)
SVOCS	UNKNOWN	RRUSCOS
METALS	UNKNOWN	RRUSCOS

B. REMOVAL ASSUMPTIONS

#	APPROXIMATE AREA	APPROXIMATE THICKNESS	APPROXIMATE VOLUME	ANTICIPATED WASTE DISPOSAL
1	5'X5'	0.5'	12.5 FT^3	HAZARDOUS (LEAD)
2	5'X5'	0.5'	12.5 FT^3	NON-HAZ (METALS)
3	5'X5'	2'	50 FT^3	NON-HAZ (METALS)
4	5'X5'	2'	50 FT^3	NON-HAZ (METALS)
5	5'X5'	2'	50 FT^3	NON-HAZ (METALS)
6	8,100 FT^2	10'	81,000 FT^3	NON-HAZ (PETROLEUM/METALS)

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CONSULTANTS

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12	DOXEY, GLADSKY, & PARCEL A DEC REVISIONS	08-14-2017
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3	ISSUED FOR BID	08-08-2016
2	BID PACKAGE ADDENDUM 1	06-30-2016
1	CLIENT REVIEW	06-03-2016

Designed By	DWH	Date Submitted	6-3-16
Drawn By	MTS	Date Created	5-24-16
Approved By	DWH	Scale	AS NOTED

Client:
RXR GLEN ISLE PARTNERS, LLC
625 RXR PLAZA
UNIONDALE, NY 11556

Project:
GARVIES POINT WATERFRONT REVITALIZATION PROJECT

Project Address:
GARVIES POINT, GLEN COVE
NASSAU COUNTY, NEW YORK

County Tax Map Number:
Contract Number:
Regulatory Reference Number:

Title of Drawing:
ENVIRONMENTAL SPECIFICATIONS SHEET 2

STATE OF NEW YORK — PAUL W. GROSSER — NO. 086814 — LICENSED PROFESSIONAL ENGINEER

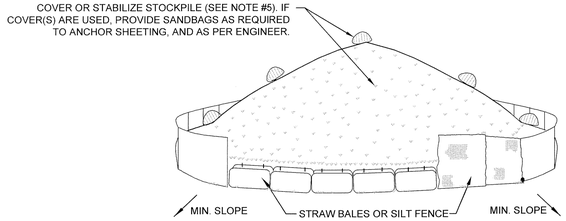
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Drawing Number:
EN-03

Sheet 3 of 9

PWGC Project Number:
RGI1603

PWGC FILE NAME: C:\Users\user\Google Drive\RGI1603\AUTOCAD\Environmental Specifications\2017-08-14 - Env. Plans & Specs - Doxey, Gladsky, & Parcel A.dwg [SPECIFICATIONS SHEET 2]
PLOT DATE/TIME: Aug 14, 2017 2:56pm - Ali Ataollahi

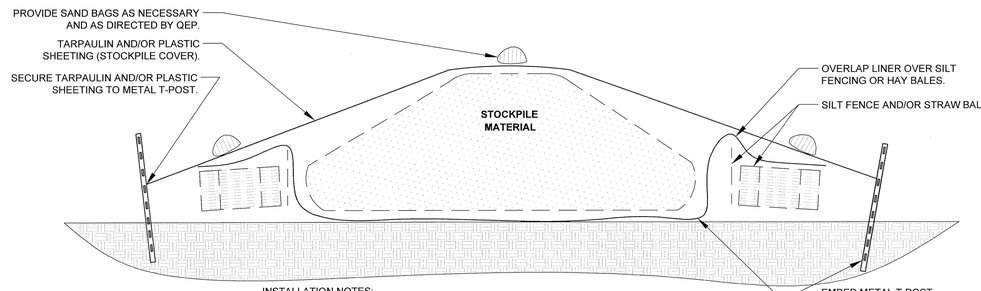


INSTALLATION NOTES:

1. AREA CHOSEN FOR STOCKPILING OPERATION SHALL BE DRY AND STABLE.
2. MAXIMUM SLOPE OF STOCKPILE TO BE NATURAL REPOSE OF MATERIAL BEING STOCKPILED.
3. PROVIDE A MINIMUM OF TWENTY (20) MIL TOTAL LINER THICKNESS BENEATH ALL STOCKPILES.
4. WITHIN 24 HOURS OF FORMING ANY SOIL STOCKPILE, EACH CLEAN PILE SHALL BE SURROUNDED WITH EITHER SILT FENCING AND/OR STRAW BALES.
5. STOCKPILES SHALL BE COVERED OR STABILIZED IF THEY ARE TO BE INACTIVE FOR A PERIOD OF 30 DAYS OR LONGER. ACCEPTABLE COVERS INCLUDE PROPERLY ANCHORED PLASTIC SHEETING AND/OR TARPAULIN.
6. SEE DETAIL FOR INSTALLATION OF SILT FENCE AND STRAW BALES, SHEET EN-05.
7. ALTERNATES REQUIRE APPROVAL BY NYSPE.

CLEAN SOIL STOCKPILING

SCALE: NOT TO SCALE

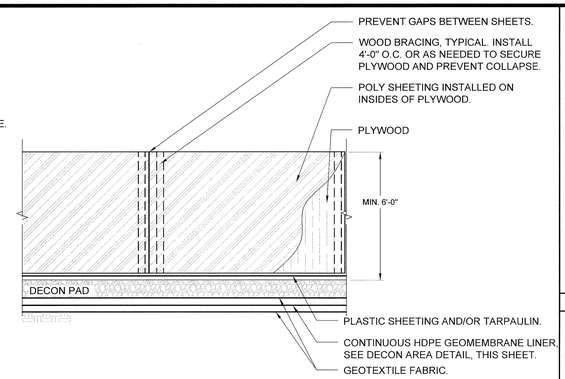


INSTALLATION NOTES:

1. AREA CHOSEN FOR STOCKPILING OPERATION SHALL BE DRY AND STABLE.
2. MAXIMUM SLOPE OF STOCKPILE TO BE NATURAL REPOSE OF MATERIAL BEING STOCKPILED.
3. WITHIN 24 HOURS OF FORMING ANY SOIL STOCKPILE, EACH CLEAN PILE SHALL BE SURROUNDED WITH EITHER SILT FENCING AND/OR STRAW BALES, AND THEN COVERED WITH PROPERLY ANCHORED PLASTIC SHEETING AND/OR TARPAULIN. A MINIMUM OF TWENTY (20) MIL TOTAL LINER THICKNESS SHALL BE PLACED BENEATH THE STOCKPILE.
4. SEE DETAILS FOR INSTALLATION OF SILT FENCE AND STRAW BALES ON EN-05.
5. ALTERNATES REQUIRE APPROVAL BY NYSPE.

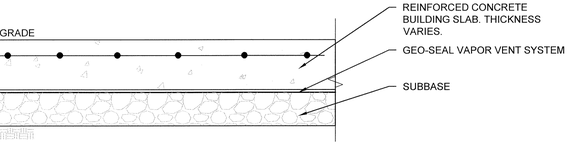
CONTAMINATED STOCKPILE DETAIL

SCALE: NOT TO SCALE



TYPICAL SPLASH GUARD DETAIL

SCALE: NOT TO SCALE



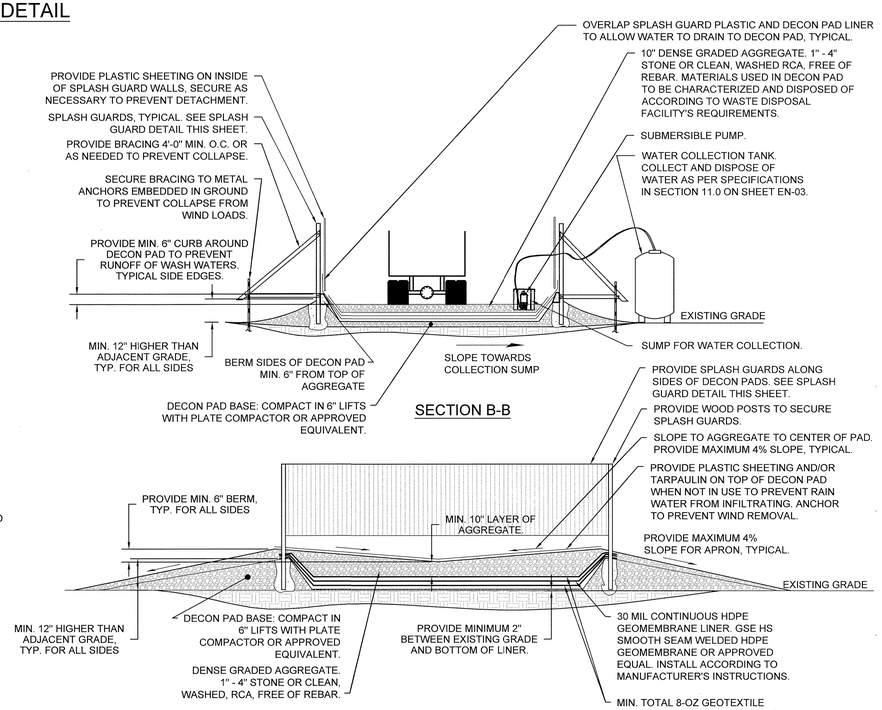
NOTE:
DETAILS PROVIDED FOR ENVIRONMENTAL COMPLIANCE. SEE GARVIES POINT WATERFRONT REDEVELOPMENT PHASE I SITE PLANS (LANDSCAPE ARCHITECTURE'S PLANS), PUBLIC INFRASTRUCTURE IMPROVEMENTS (CIVIL ENGINEER'S PLANS), ELECTRICAL PLANS, ESPLANADE PLANS, SOIL VAPOR EXTRACTION (SVE) PLANS, AND SIGNING PLANS FOR DESIGN GUIDANCE.

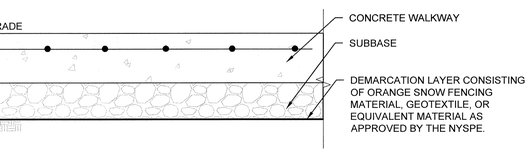
TYPICAL CONCRETE BUILDING SLAB COVER SYSTEM DETAIL

SCALE: NOT TO SCALE

1. DECON PAD TO BE MIN. 12" HIGHER THAN SURROUNDING GRADE AT ALL EDGES, AND
2. TO BE MINIMUM 20' WIDE X 50' LONG, BUT SIZED TO ACCOMMODATE FULL LENGTH AND WIDTH OF VEHICLES REQUIRING DECONTAMINATION, AND
3. (8) ALL SIDES OF DECON PAD TO BE PROVIDED WITH A MINIMUM OF 6" OF CURBING TO CONTAIN WASH WATERS FROM MIGRATING OUT OF DECON PAD.
4. LINED WITH A MINIMUM OF A 30 MIL CONTINUOUS HDPE GEOMEMBRANE LINER. GSE HS SMOOTH SEAM WELDED HDPE GEOMEMBRANE OR APPROVED EQUAL (INSTALL ACCORDING TO MANUFACTURER'S INSTRUCTIONS), AND
5. PROVIDED WITH A MIN. TOTAL OF 8-OZ GEOTEXTILE LINER ABOVE AND BELOW THE GEOMEMBRANE LINER, AND
6. PROVIDED WITH A MINIMUM OF 10" THICK LAYER OF CLEAN OR WASHED STONE WITH LITTLE TO NO FINES, AND
7. PROVIDED WITH A COLLECTION SUMP, SUBMERSIBLE PUMP, AND WATER STORAGE TANKS AS REQUIRED TO CONTAIN ALL GENERATED LIQUIDS, AND
8. PROVIDED WITH ANCHORED POLY SHEETING AND/OR TARPAULIN ON TOP OF AGGREGATE WHEN NOT IN USE TO PREVENT INFILTRATION OF RAINWATER, AND
9. PROVIDED WITH SPLASH GUARDS AS SHOWN ON SPLASH GUARD DETAIL ON EN-04.
10. DECON PAD TO BE REINFORCED WITH CLEAN STONE AS NEEDED TO PREVENT SEDIMENT FROM TRACKING OFF-SITE.

TRUCK WASH ALTERNATE 1 SPECIFICATIONS

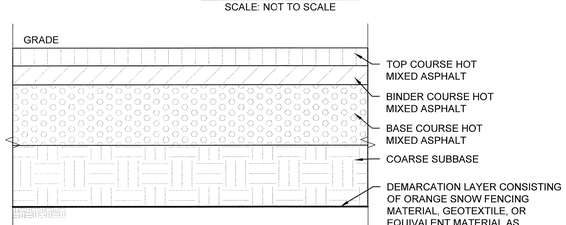




NOTE:
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TYPICAL CONCRETE-COVERED SIDEWALK COVER SYSTEM DETAIL

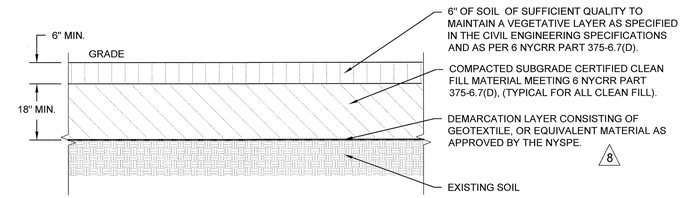
SCALE: NOT TO SCALE



NOTE:
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TYPICAL ASPHALT PAVEMENT COVER SYSTEM DETAIL

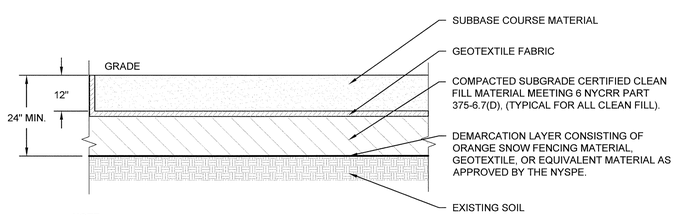
SCALE: NOT TO SCALE



NOTE:
DETAILS PROVIDED FOR ENVIRONMENTAL COMPLIANCE. SEE GARVIES POINT WATERFRONT REDEVELOPMENT PHASE I SITE PLANS (LANDSCAPE ARCHITECTURE'S PLANS), PUBLIC INFRASTRUCTURE IMPROVEMENTS (CIVIL ENGINEER'S PLANS), ELECTRICAL PLANS, ESPLANADE PLANS, SOIL VAPOR EXTRACTION (SVE) PLANS, AND SIGNING PLANS FOR DESIGN GUIDANCE.

TYPICAL CLEAN SOIL COVER SYSTEM DETAIL

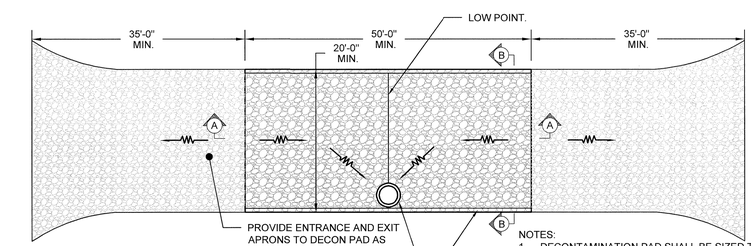
SCALE: NOT TO SCALE



NOTE:
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TYPICAL GRAVEL DRIVEWAY COVER SYSTEM DETAIL

SCALE: NOT TO SCALE



NOTES:
1. DECONTAMINATION PAD SHALL BE SIZED TO ACCOMMODATE THE FULL LENGTH AND WIDTH OF VEHICLES REQUIRING DECONTAMINATION.
2. CONSTRUCTION ENTRANCE TO BE REINFORCED WITH ADDITIONAL AGGREGATE AS NEEDED TO PREVENT MATERIAL FROM BEING TRACKED OFF-SITE.
3. CHANGES TO DECON PAD/SPLASH GUARDS REQUIRE APPROVAL OF NYSPE.
4. SEE TRUCK WASH ALTERNATE 1 SPECIFICATIONS, THIS SHEET.

PLAN VIEW

TRUCK WASH ALTERNATE 1 DETAIL

NOT TO SCALE

NOTE: TRUCK DECON PAD ALTERNATE 2 DETAIL & SPECIFICATIONS LOCATED ON SHEET EN-05.

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CONSULTANTS

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9 (A)	DOXEY, GLADSKY, & PARCEL A DEC REVISIONS	05-12-2017
8	DOXEY & GLADSKY EWF REVISIONS (A)	03-08-2017
7	NYSDEC COMMENTS (A)	03-01-2017
6	NYSDEC COMMENTS (A)	02-20-2017
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Designed By	DWH	Date Submitted	6-3-16
Drawn By	MTS	Date Created	5-24-16
Approved By	DWH	Scale	AS NOTED

Client:
RXR GLEN ISLE PARTNERS, LLC
625 RXR PLAZA
UNIONDALE, NY 11556

Project:

GARVIES POINT WATERFRONT REVITALIZATION PROJECT

Project Address:
GARVIES POINT, GLEN COVE
NASSAU COUNTY, NEW YORK

County Tax Map Number:
Contract Number:
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Title of Drawing:

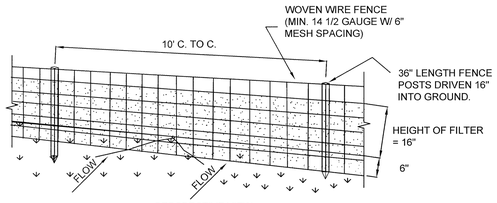
ENVIRONMENTAL DETAILS SHEET-1

STATE OF NEW YORK — PAUL W. GROSSER — 058668 — LICENSED PROFESSIONAL ENGINEER

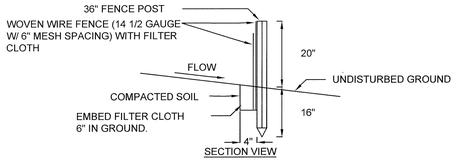
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Drawing Number:
EN-04
Sheet of
4 9
PWGC Project Number:
RGI1603

PWGC FILE NAME: C:\Users\mstone\Google Drive\RGI1603\CAD\Environmental Specifications\2017-08-14 - Env. Plans & Specs - Doxey, Gladsky, & Parcel A.dwg (DETAILS SHEET-1) PLOT DATE/TIME: Aug 14, 2017 - 2:26pm - By: mstone



PERSPECTIVE VIEW



SECTION VIEW

INSTALLATION NOTES:

1. WOVEN WIRE FENCE TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES OR STAPLES. POSTS SHALL BE STEEL EITHER "T" OR "U" TYPE OR HARDWOOD.

2. FILTER CLOTH TO BE FASTENED SECURELY TO WOVEN WIRE FENCE WITH TIES SPACED EVERY 24" AT TOP AND MID SECTION. FENCE SHALL BE WOVEN WIRE, 14 1/2 GAUGE, 6" MESH OPENING.

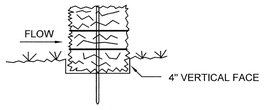
3. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVER-LAPPED BY SIX INCHES AND FOLDED. FILTER CLOTH SHALL BE EITHER FILTER X, MIRAFI 100X, STABILINKA T140N, OR APPROVED EQUIVALENT.

4. PREFABRICATED UNITS SHALL BE GEOFAB, ENVIROFENCE, OR APPROVED EQUIVALENT.

5. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE.

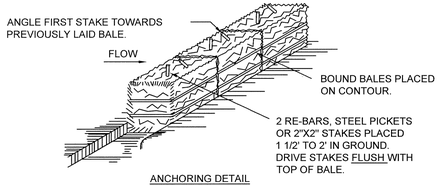
SILT FENCING INSTALLATION DETAIL

NOT TO SCALE



BEDDING DETAIL
NOT TO SCALE

DRAINAGE AREA NO MORE THAN 1/4 ACRE PER 100 FEET OF STRAW BALE DIKE FOR SLOPES LESS THAN 25%.



ANCHORING DETAIL
NOT TO SCALE

INSTALLATION NOTES:

1. BALES SHALL BE PLACED AT THE TOE OF A SLOPE OR ON THE CONTOUR AND IN A ROW WITH ENDS TIGHTLY ABUTTING THE ADJACENT BALES.

2. EACH BALE SHALL BE EMBEDDED IN THE SOIL A MINIMUM OF (4) INCHES, AND PLACED SO THE BINDINGS ARE HORIZONTAL.

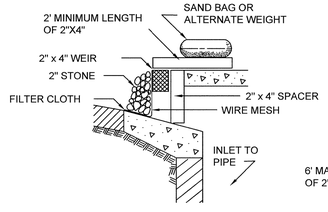
3. BALES SHALL BE SECURELY ANCHORED IN PLACE BY EITHER TWO STAKES OR RE-BARS DRIVEN THROUGH THE BALE. THE FIRST STAKE IN EACH BALE SHALL BE DRIVEN TOWARD THE PREVIOUSLY LAID BALE AT AN ANGLE TO FORCE THE BALES TOGETHER. STAKES SHALL BE DRIVEN FLUSH WITH THE BALE.

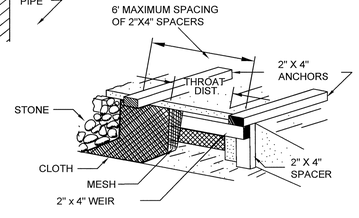
4. INSPECTION SHALL BE FREQUENT AND REPAIR REPLACEMENT SHALL BE MADE PROMTLY AS NEEDED.

5. BALES SHALL BE REMOVED WHEN THEY HAVE SERVED THEIR USEFULLNESS SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.

STRAW BALE INSTALLATION DETAIL

NOT TO SCALE





INSTALLATION NOTES:

1. FILTER FABRIC SHALL HAVE AN EOS OF 40-85.

2. WOODEN FRAME SHALL BE CONSTRUCTED OF 2" x 4" CONSTRUCTION GRADE LUMBER.

3. WIRE MESH ACROSS THROAT SHALL BE A CONTINUOUS PIECE 30 INCH MINIMUM WIDTH WITH A LENGTH 4 FEET LONGER THAN THE THROAT. IT SHALL BE SHAPED AND SECURELY NAILED TO A 2" x 4" WEIR.

4. THE WEIR SHALL BE SECURELY NAILED TO 2" x 4" SPACERS 9 INCHES LONG SPACED NO MORE THAN 6 FEET APART.

5. THE ASSEMBLY SHALL BE PLACED AGAINST THE INLET AND SECURED BY 2" x 4" ANCHORS 2 FEET LONG EXTENDING ACROSS THE TOP OF THE INLET AND HELD IN PLACE BY SANDBAGS OR ALTERNATE WEIGHTS.

6. SILT SACS WILL BE USED TO PROTECT INLETS FLUSH WITH GRADE.

INLET PROTECTION DETAIL

SCALE: NOT TO SCALE

STABILIZED CONSTRUCTION ENTRANCE SPECIFICATIONS

1. STABILIZED CONSTRUCTION ENTRANCE TO BE CONSTRUCTED AND MAINTAINED ACCORDING TO GARVIES POINT PHASE I CONSTRUCTION SWPPP, GARVIES POINT WATERFRONT REDEVELOPMENT PHASE I CIVIL PLANS, AND INCLUDING THE FOLLOWING:
2. STONE SIZE - USE 1"-4" STONE, OR CLEAN/WASHED RECLAIMED OR RECYCLED CONCRETE EQUIVALENT WITH LITTLE TO NO FINES.
3. LENGTH - NOT LESS THAN 50 FEET.
4. STONE THICKNESS - NOT LESS THAN SIX (6) INCHES.
5. WIDTH - TWELVE (12) FOOT MINIMUM, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS. TWENTY FOUR FEET (24') IF SINGLE ENTRANCE TO SITE.
6. GEOTEXTILE - WILL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING OF STONE.
7. SURFACE WATER - ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED BENEATH THE ENTRANCE. IF PIPING IS IMPRACTICAL, A MOUNTABLE BERM WITH 5:1 SLOPES WILL BE PERMITTED.
8. MAINTENANCE - THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHT-OF-WAYS. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHT-OF-WAYS MUST BE REMOVED IMMEDIATELY.
9. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON DESIGNATED DECON AREA OF CONSTRUCTION ENTRANCE.
10. PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED AFTER EACH RAIN EVENT.

TRUCK WASH/DECON PAD SPECIFICATIONS

1. ALL TRUCK WASHES OPERATED ON-SITE TO BE IN COMPLIANCE WITH GARVIES POINT DEVELOPMENT PHASE I ENVIRONMENTAL SPECIFICATIONS INCLUDING BUT NOT LIMITED TO THE FOLLOWING:

1.1. SPLASH GUARDS TO BE MINIMUM 6' IN HEIGHT (SEE DETAIL ON EN-04), AND
1.1.1. DRAIN TO DECON PAD, AND
1.1.2. BUILT TO WITHSTAND WIND LOADS.

1.2. TOP OF TRUCK WASH TO BE MINIMUM 12" HIGHER THAN EXISTING GRADE.

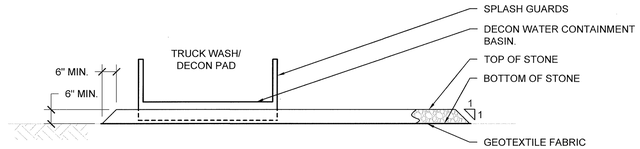
1.3. TRUCK WASH/DECON PAD SHALL BE PROVIDED WITH A COLLECTION SUMP, SUBMERSIBLE PUMP, AND WATER STORAGE TANKS AS REQUIRED TO CONTAIN ALL GENERATED LIQUIDS PRIOR TO DISPOSAL.

1.4. SIZED TO FACILITATE THE WASHING OF ALL TRUCKS AND MACHINERY NECESSARY.

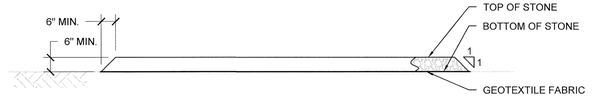
1.5. CONTRACTOR TO ENSURE DECON WATERS GENERATED ARE DISPOSED OF ACCORDING TO ENVIRONMENTAL SPECIFICATIONS, AS NECESSARY.

1.6. ALTERNATES TO PROPOSED TRUCK WASH TO BE SUBMITTED AND APPROVED BY THE NYSPE PRIOR TO USE.

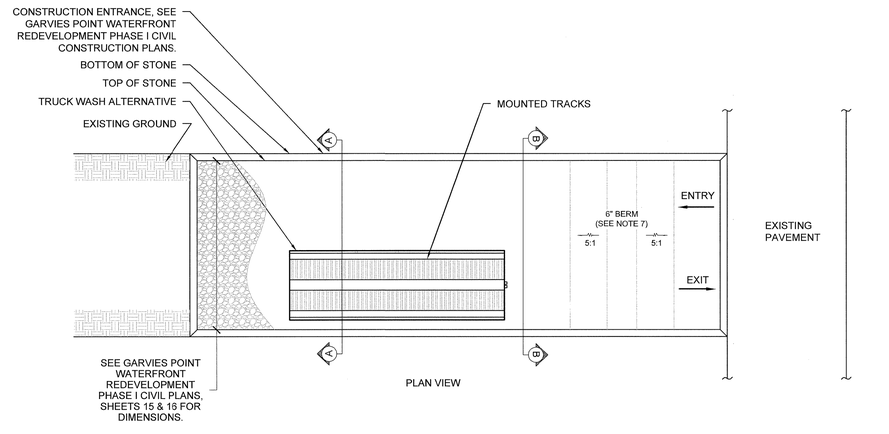
TRUCK WASH ALTERNATE 2 SPECIFICATIONS



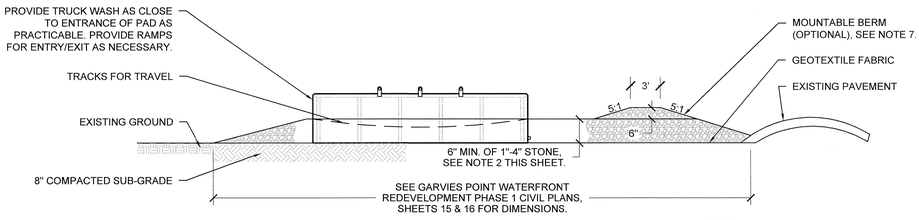
SECTION A-A



SECTION B-B



PLAN VIEW



PROFILE

NOTES:
1. SEE TRUCK WASH ALTERNATE 2 SPECIFICATIONS, THIS SHEET.

TRUCK WASH ALTERNATE 2 DETAIL

NOT TO SCALE

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Strategic Environmental and Engineering Solutions

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CONSULTANTS

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12	DOXEY, GLADSKY, & PARCEL A DEC REVISIONS	08-14-2017
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1	CLIENT REVIEW	06-03-2016

Designed By	DWH	Date Submitted	6-3-16
Drawn By	MTS	Date Created	5-24-16
Approved By	DWH	Scale	AS NOTED

Client:
RXR GLEN ISLE PARTNERS, LLC
625 RXR PLAZA
UNIONDALE, NY 11556

Project:

GARVIES POINT WATERFRONT REVITALIZATION PROJECT

Project Address:
GARVIES POINT, GLEN COVE
NASSAU COUNTY, NEW YORK

County Tax Map Number: | Contract Number:
Regulatory Reference Number:

Title of Drawing:

ENVIRONMENTAL DETAILS SHEET-2

STATE OF NEW YORK — BRIAN W. GROSSER — 083944 — LICENSED PROFESSIONAL ENGINEER

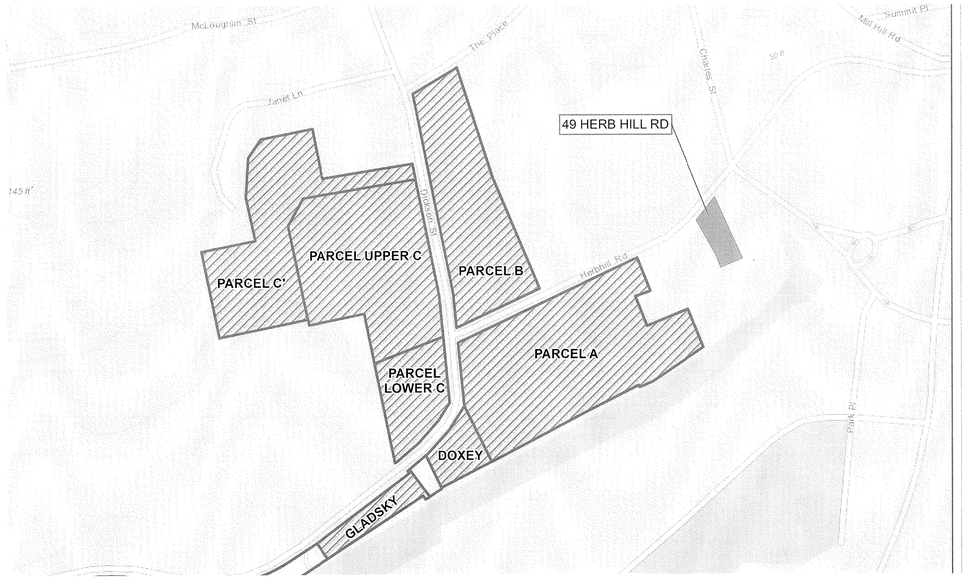
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Drawing Number: EN-05

Sheet 5 of 9

PWGC Project Number: RGI1603

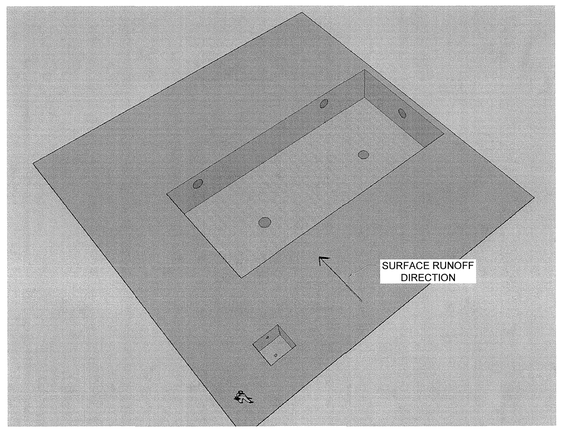
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PLOT DATE/TIME: Aug 14, 2017 2:30pm - By: pwgcmc



WORK ZONE PLAN VIEW

0 250 500

SCALE: 1" = 250'



CONFIRMATION SAMPLING DIAGRAM

SCALE: NOT TO SCALE

PWGC

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3	ISSUED FOR BID	08-08-2016
2	BID PACKAGE ADDENDUM 1	06-30-2016
1	CLIENT REVIEW	06-03-2016

Designed By	DWH	Date Submitted	6-3-16
Drawn By	MTS	Date Created	5-24-16
Approved By	DWH	Scale	AS NOTED

Client:

RXR GLEN ISLE PARTNERS, LLC
625 RXR PLAZA
UNIONDALE, NY 11556

Project:

GARVIES POINT WATERFRONT REVITALIZATION PROJECT

Project Address:

GARVIES POINT, GLEN COVE
NASSAU COUNTY, NEW YORK

County Tax Map Number: | Contract Number:

Regulatory Reference Number:

Title of Drawing:

WORK ZONE & CONFIRMATION SAMPLING SPECIFICATIONS

STATE OF NEW YORK — PAUL W. GROSSER — 088554 — LICENSED PROFESSIONAL ENGINEER

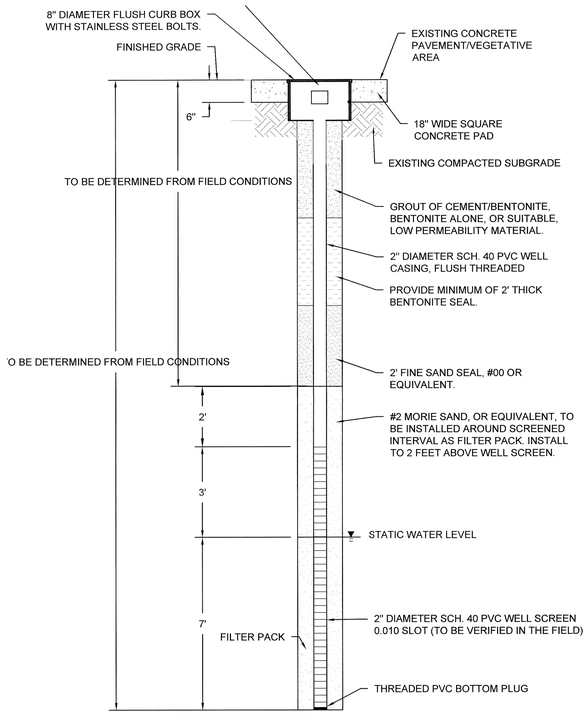
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Drawing Number: EN-06

Sheet 6 of 9

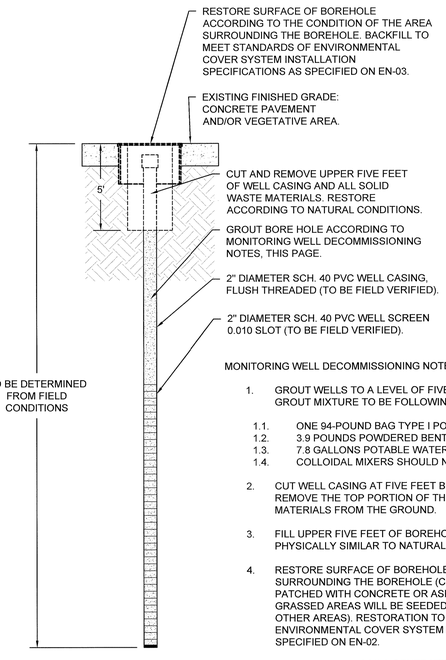
PWGC Project Number: RGI1603

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PLOT DATE/TIME: Aug 14,2017 2:54pm By: kristen



MONITORING WELL INSTALLATION DETAIL

SCALE: NOT TO SCALE



MONITORING WELL DECOMMISSIONING NOTES:

1. GROUT WELLS TO A LEVEL OF FIVE FEET BELOW THE LAND SURFACE. GROUT MIXTURE TO BE FOLLOWING:
   - 1.1. ONE 94-POUND BAG TYPE I PORTLAND CEMENT;
   - 1.2. 3.9 POUNDS POWDERED BENTONITE; AND
   - 1.3. 7.8 GALLONS POTABLE WATER.
   - 1.4. COLLOIDAL MIXERS SHOULD NOT BE USED.
2. CUT WELL CASING AT FIVE FEET BELOW THE LAND SURFACE AND REMOVE THE TOP PORTION OF THE WELL CASING AND ASSOCIATED MATERIALS FROM THE GROUND.
3. FILL UPPER FIVE FEET OF BOREHOLE TO LAND SURFACE WITH MATERIAL PHYSICALLY SIMILAR TO NATURAL SOILS.
4. RESTORE SURFACE OF BOREHOLE TO THE CONDITION OF THE AREA SURROUNDING THE BOREHOLE (CONCRETE OR ASPHALT WILL BE PATCHED WITH CONCRETE OR ASPHALT OF SAME TYPE AND THICKNESS, GRASSED AREAS WILL BE SEEDED, AND TOPSOIL WILL BE USED IN OTHER AREAS). RESTORATION TO MEET STANDARDS OF ENVIRONMENTAL COVER SYSTEM INSTALLATION SPECIFICATIONS AS SPECIFIED ON EN-02.
5. DISPOSE OF ALL SOILS GENERATED DURING THE DECOMMISSIONING PROCESS PROPERLY.

MONITORING WELL DECOMMISSIONING DETAIL

SCALE: NOT TO SCALE

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1	CLIENT REVIEW	06-03-2016

Designed By:	DWH	Date Submitted:	6-3-16
Drawn By:	MTS	Date Created:	5-24-16
Approved By:	DWH	Scale:	AS NOTED

Client:
RXR GLEN ISLE PARTNERS, LLC
625 RXR PLAZA
UNIONDALE, NY 11556

Project:

GARVIES POINT WATERFRONT REVITALIZATION PROJECT

Project Address:
GARVIES POINT, GLEN COVE
NASSAU COUNTY, NEW YORK

County Tax Map Number:

Contract Number:

Regulatory Reference Number:

Title of Drawing:

GROUNDWATER MONITORING WELL DETAILS

STATE OF NEW YORK — MARK W. GROSSER — 088664 — LICENSED PROFESSIONAL ENGINEER

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Drawing Number:

EN-07

Sheet 7 of 9

PWGC Project Number:

RGI1603

PWGC FILE NAME: C:\Users\wordpc\Google Drive\RGI1603\CAD\Environmental Specifications\2017-08-14 - Env. Plans & Specs - Doxey, Gladsky, & Parcel A.dwg MONITORING WELL DETAILS
PLOT DATE/TIME: Aug 14, 2017 2:26pm By: caitlin



EXISTING MONITORING WELL LOCATION PLAN

0 100 200

SCALE: 1" = 100'

PWGC

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CONSULTANTS

12	3	DOXEY, GLADSKY, & PARCEL A DEC REVISIONS	08-14-2017
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1		CLIENT REVIEW	06-03-2016
Number		Revision Description	Revision Date

Designed By: DWH | Date Submitted: 6-3-16
Drawn By: MTS | Date Created: 5-24-16
Approved By: DWH | Scale: AS NOTED

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625 RXR PLAZA
UNIONDALE, NY 11556

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NASSAU COUNTY, NEW YORK

County Tax Map Number: | Contract Number:

Regulatory Reference Number:

Title of Drawing:

GROUNDWATER MONITORING WELL LOCATION PLAN

STATE OF NEW YORK — FRANK W. GROSSER — 088904 — LICENSED PROFESSIONAL ENGINEER

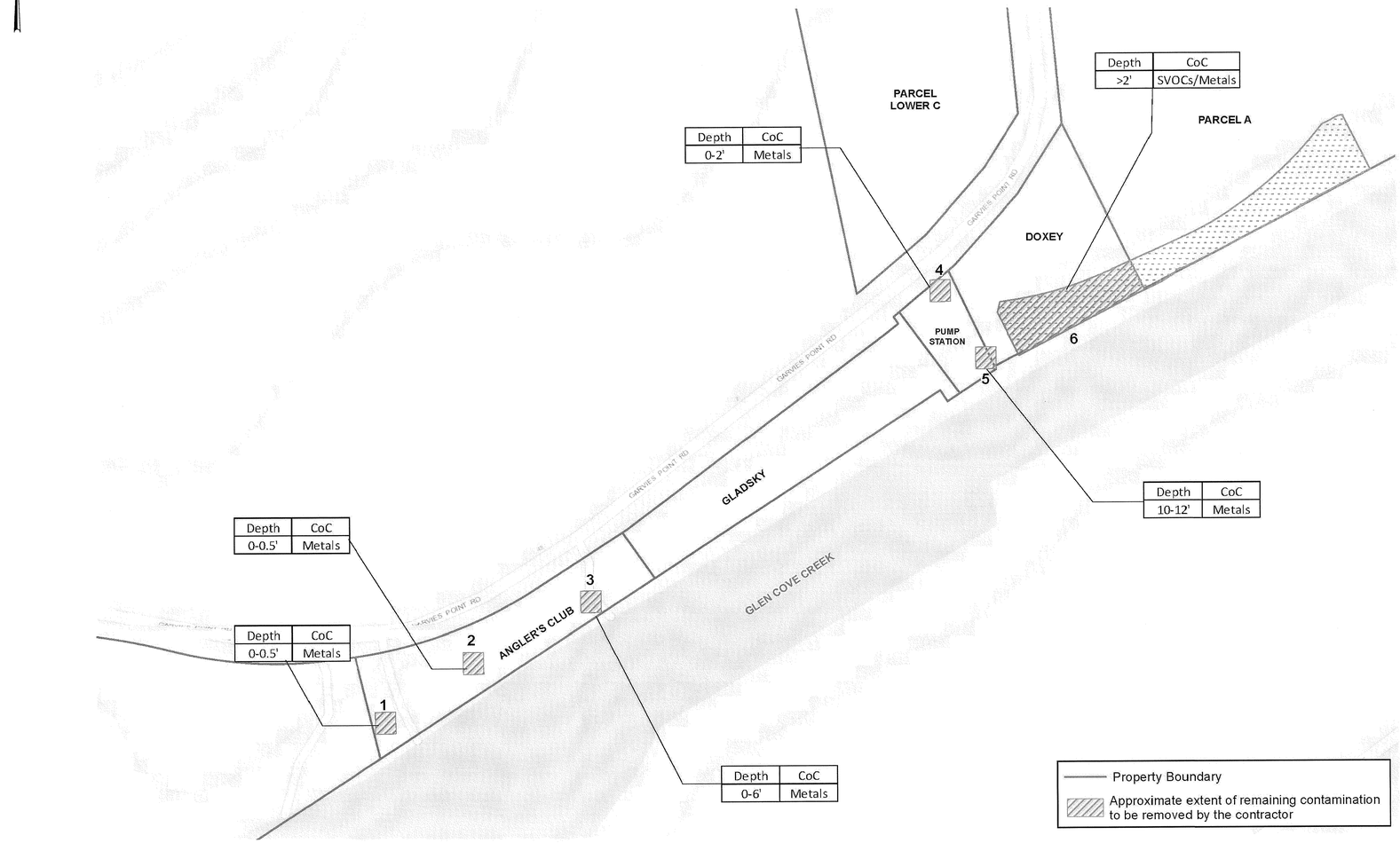
Drawing Number: EN-08

Sheet 8 of 9

PWGC Project Number: RGI1603

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PROJECT FILE NAME: C:\Users\user\Google Drive\RGI1603\CAD\Environmental Specifications\2017-08-14 - Env. Plans & Specs - Doxey, Gladsky, & Parcel A-Aug\MONITORING WELL LOCATION PLAN.dwg
PLOT DATE/TIME: Aug 14, 2017 - 2:23pm - By: sweber



REMAINING CONTAMINATION PLAN VIEW

0 75 150

SCALE: 1" = 75'

PWGC

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Designed By: DWH | Date Submitted: 6-3-16
Drawn By: MTS | Date Created: 5-24-16
Approved By: DWH | Scale: AS NOTED

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Regulatory Reference Number:

Title of Drawing:

REMAINING CONTAMINATION PLAN

PAUL W. GROSSER — STATE OF NEW YORK — 085844 — LICENSED PROFESSIONAL ENGINEER

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Drawing Number: EN-09

Sheet 9 of 9

PWGC Project Number: RGI1603

PWGC FILE NAME: C:\Users\dwh\Google Drive\PROJECTS\ACAD\Environmental Specifications\2017-08-14 - Env. Plans & Specs - Doxey, Gladsky, & Parcel A - DEC Revisions\2017-08-14 - Env. Plans & Specs - Doxey, Gladsky, & Parcel A Awg REMAINING CONTAMINATION PLAN.dwg
PLOT DATE/TIME: Aug 14, 2017 12:51pm - By: dwhitn

APPENDIX B

NYSDEC ARTICLE 25 JURISDICTION LIMITS

Landward limit of tidal wetland jurisdiction under Article 25 of the ECL was confirmed by NYSDEC in their 6/11/2010 letter. A map of NYSDEC Art. 25 (Tidal Wetlands) Jurisdictional Limits can be found in Appendix N of the FEIS.

NOTES:
1. ALL WORK LANDWARD OF THE MEAN HIGH TIDE LINE MUST BE COMPLETED UNDER THE GLADSKY SITE MANAGEMENT PLAN.
2. ALL WORK SEAWARD OF THE MEAN HIGH TIDE LINE MUST BE COMPLETED UNDER THE DREDGING & EXCAVATION WORK PLAN.
3. OPEN CELL BULKHEAD TO BE CONSTRUCTED LANDWARD OF SHW.
4. TOTAL ANGLERS MARINA BOAT SLIPS = 38
5. LANDWARD LIMIT OF TIDAL WETLANDS EQUIVALENT TO MHW AS DETERMINED BY LAND USE ECOLOGICAL SERVICES, INC.

LEGEND

UPLAND EXCAVATION

FILL TO BE PLACED SEAWARD OF MHW TO MEET PROPOSED GRADE.

APPROX. 250 CY CLEAN SAND/LOAM TO BE PLACED LANDWARD OF THE CONSTRUCTED OPEN CELL BULKHEAD. AREA OF FILL PLACEMENT APPROX. 1,100 SQ. FT. FILL TO BE PLACED IN ACCORDANCE WITH THE DREDGING & EXCAVATION WORK PLAN

EXCAVATION OF 12, 012 SF OF UPLAND LANDWARD OF MHW LINE. 334 CY TO BE REMOVED BETWEEN MHW AND SHW. 1890 CY TO BE REMOVED LANDWARD OF SHW. OVER EXCAVATE MARINA AREA BY 1' (445 CY) AND CAP WITH 4" OF GRAVEL (148 CY) AND 8" OF CLEAN APPROVED SAND (297 CY).

PROPOSED 56'-0" OF ALUMINUM RAMP (TYP.)

NYSDEC ART.25 (TIDAL WETLANDS) JURISDICTIONAL LIMITS

MATCH LINE SEE A-107

PROPOSED 12"x40'-0" TIMBER FLOAT POLE TYP.

PROPOSED 12"x40'-0" TIMBER MOORING POLE TYP.

PROPOSED MAIN TIMBER FLOATING DOCK (TYP.)

PROPOSED STEEL OPEN CELL WALL

APPROXIMATE MHW (3.3' NAVD)

APPROXIMATE MLW (-3.9' NAVD)

LINE OF TURBIDITY CUTRAIN

FEDERAL NAVIGATION CHANNEL

EXISTING 2,100 SQ. OF ANGLERS CLUB DOCKS TO BE REMOVED.

PROPOSED TIMBER FINGER FLOAT (TYP.)

APPROXIMATE SHW (4.9' NAVD)

NYSDEC ART.25 (TIDAL WETLANDS) JURISDICTIONAL LIMITS (10' NGVD CONTOUR)

DREDGING ENVELOPE IS 16,000 SF +/-. APPROX. 1,777 CY TO BE DREDGED TO A DEPTH OF - 6'-0" MLW + 591 CY OF 1 FOOT OVER DREDGE TO BE CAPPED WITH 8" OF CLEAN APPROVED UPLAND SAND AND 4" OF GRAVEL

EXISTING LIMIT OF RIPRAP AND PILE & TOE WALL TO BE REMOVED

GLEN COVE CREEK 150'-200'± WIDE

EBB FLOOD

Angler's Club (dredging)
Sand 66%
Silt/Clay 34%

ESPLANADE

576' FROM FERRY TERMINAL

444'-6 1/2"

TOTAL LENGTH OF OPEN CELL BULKHEAD = 444'-6 1/2"

No work will be performed seaward of the NYSDEC ART 25 (Tidal Wetlands) Jurisdictional Limits

Line of NYSDEC ART 25 (Tidal Wetlands) Jurisdictional Limits

MATCH LINE SEE A-105

Landward limit of tidal wetland jurisdiction under Article 25 of the ECL was confirmed by NYSDEC in their 6/11/2010 letter. A map of NYSDEC Art. 25 (Tidal Wetlands) Jurisdictional Limits can be found in Appendix N of the FEIS.

1	ANGLER'S CLUB MARINA PLAN
	1" = 60'

ADVANCED AMERICAN ENGINEERING PLLC
445 BROADHOLLOW ROAD, SUITE 25
MELVILLE, NEW YORK 11747
PHONE - 631.930.5337

GLEN COVE CREEK WATERFRONT REDEVELOPMENT PROJECT
RXR GLEN ISLE PARTNERS LLC
WATER FRONT PERMITTING PLANS
CITY OF GLEN COVE
NASSAU COUNTY, NEW YORK

SUBMITTALS

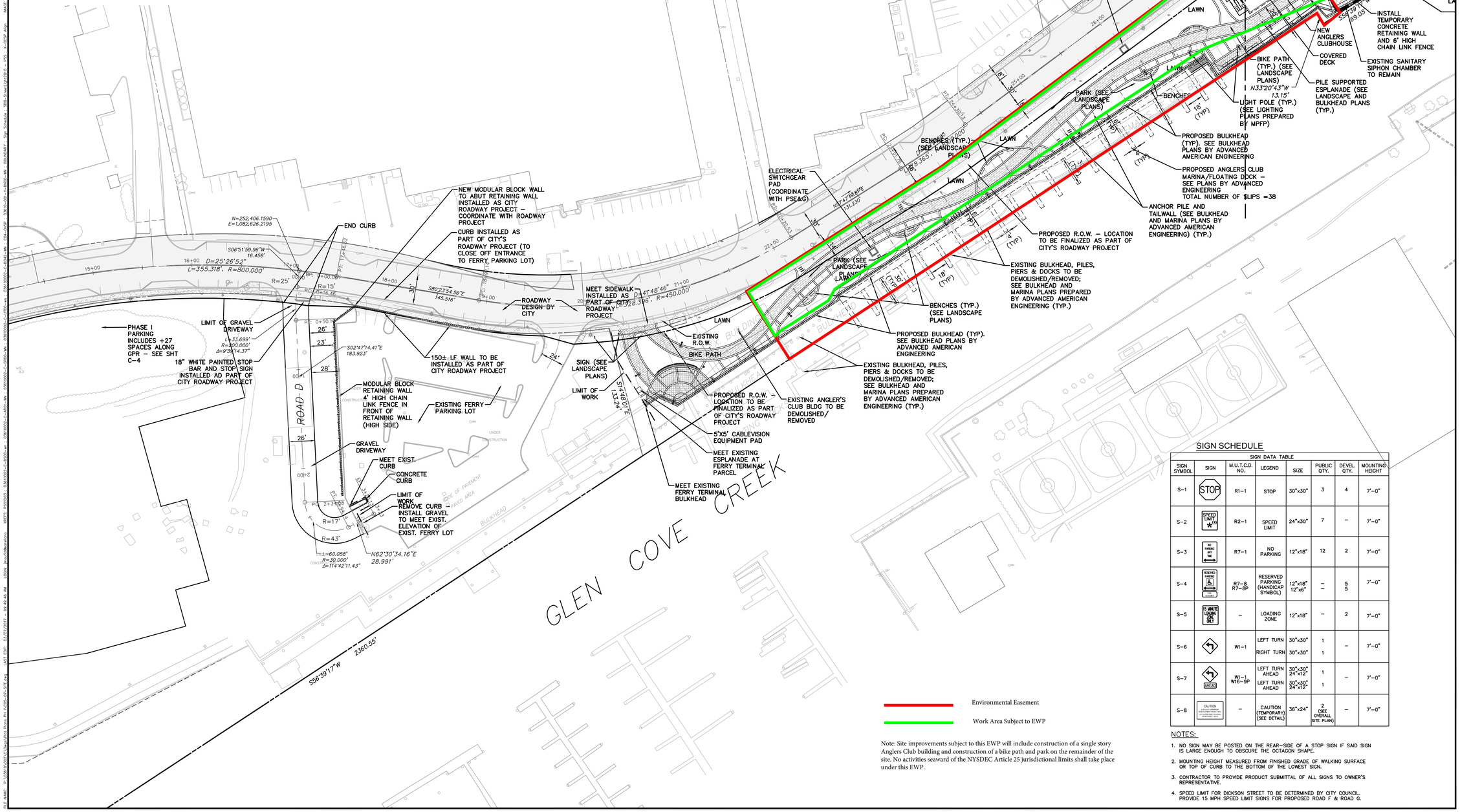
REV	DATE	DESCRIPTION	BY
A	08/08/16	PERMIT PLANS	JAJ
B	11/03/16	PERMIT PLANS	JAJ
C	01/17/17	PERMIT PLANS	JAJ
D	02/09/17	PERMIT PLANS	JAJ
E	02/13/17	PERMIT PLANS	JAJ
F	03/02/17	PERMIT PLANS	NT
F	03/07/17	PERMIT PLANS	NT

SHEET NUMBER
A-106

PUD PARKING SUMMARY

Block	Planned Uses	Zoning Requirements/ Consistency with Findings	Parking Required	Planned Inventory: Private/ Off-St	Private/ On-St	Public/ On-St	Valet Loading	Total	Surplus/ Deficit	Potential Landbank	New Inventory	Surplus/ Deficit	ADA Spaces: Req'd	ADA Spaces: Prov.
East Parcel														
Res/Comm. Uses														
Block H	*177 rental units*	*1.65 /unit*	*293*	*311*				*311*	*6*				*8*	*8*
	3,055 sf retail	*1/265 /sf retail*	*12*											
Block I	*208 rental units*	*1.65 /unit*	*344*	*332*				*332*	*-12*				*8*	*8*
Block D	*50,000 sf office bldg*	*1/274 /sf office*	*183*	*250*				*250*	*67*				*7*	*7*
Block E	*101 rental units*	*1.65 /unit*	*167*	*167*				*167*	*0*				*6*	*6*
Block F	*56 condo workforce units*	*1.85 /unit*	*104*	*97*				*97*	*-7*				*4*	*5*
Block G	*55 rental workforce units*	*1.65 /unit*	*91*	*90*				*90*	*-1*				*4*	*6*
Block J	*14,570 sf retail*	*1/265 /sf retail*	*55*					*0*	*-55*				*0*	*0*
Road E						*18*		*18*	*18*				*1*	*2*
Road F						*10*		*10*	*10*				*1*	*1*
Subtotal - Res/Commercial			**1249**	**1247**	**28**			**1275**	**26**		**1275**	**26**	**39**	**43**
Public Uses														
Transient Marina & Anglers Marina	*95 slips*	*0.63 per slip*	*60*											
Accessible Park	*11 acres*	*2.62 per acre*	*29*											
Subtotal - Public			**89**			**125**		**125**	**36**		**125**	**36**	**5**	**5**
Total East Side			**1338**	**1247**	**28**	**125**		**1400**	**62**		**1400**	**62**	**44**	**48**
West Parcel														
Res/Comm. Uses														
Blocks A1 and A2	*346 condo units*	*1.85 /unit*	*641*	*524*			*117*	*641*	*-63**				*13*	*13*
Restaurant	*3,000 sf*	*1/53 /sf rest.*	*63**											
Block B	*167 condo units*	*1.85 /unit*	*309*	*312*				*312*	*3*				*8*	*9*
Subtotal - Residential			**1013**	**836**			**117**	**953**	**-60**		**953**	**-60**	**21**	**22**
Public Uses														
Small Boat Marina	*25 slips*	*0.63 per slip*	*16*											
Accessible Park	*7.35 acres*	*2.62 per acre*	*20*											
Sunset Beach	*1.4 acres*	*8 per acre*	*12*											
Subtotal - Public			*48*			*130*	*6*	*136*	*88*	*69*	*205*	*157*	*7*	*13*
Total West Side			**1061**	**836**	**0**	**130**	**123**	**1089**	**28**	*69*	*1158*	*97*	**28**	**35**
Totals			**2399**	**2083**	**28**	**255**	**123**	**2489**	**90**	**69**	**2558**	**159**	**72**	**83**

*Includes 57 spaces + 6 valet spaces along Road A
Note: Parking tabulation is representative of the full PUD Development (Phase I, Phase II and future Block J)
Required accessible parking numbers are based upon Table 208.2 of the ADAAG



Note: Site improvements subject to this EWP will include construction of a single story Anglers Club building and construction of a bike path and park on the remainder of the site. No activities seaward of the NYSDEC Article 25 jurisdictional limits shall take place under this EWP.

SIGN SCHEDULE

SIGN SYMBOL	SIGN	M.U.T.C.D. NO.	LEGEND	SIZE	PUBLIC QTY.	DEVEL. QTY.	MOUNTING HEIGHT
S-1	STOP	R1-1	STOP	30"x30"	3	4	7'-0"
S-2	SPEED LIMIT XX	R2-1	SPEED LIMIT	24"x30"	7	–	7'-0"
S-3	NO PARKING ANY TIME	R7-1	NO PARKING	12"x18"	12	2	7'-0"
S-4	RESERVED PARKING VIOLATORS SUBJECT TO FINE	R7-8 R7-8P	RESERVED PARKING (HANDICAP SYMBOL)	12"x18" 12"x6"	– –	5 5	7'-0"
S-5	15 MINUTE LOADING ZONE ONLY	–	LOADING ZONE	12"x18"	–	2	7'-0"
S-6		W1-1	LEFT TURN	30"x30"	1	–	7'-0"
			RIGHT TURN	30"x30"	1		
S-7	AHEAD	W1-1 W16-9P	LEFT TURN AHEAD	30"x30" 24"x12"	1	–	7'-0"
			LEFT TURN AHEAD	30"x30" 24"x12"	1		
S-8	CAUTION	–	CAUTION (TEMPORARY) (SEE DETAIL)	36"x24"	2 (SEE OVERALL SITE PLAN)	–	7'-0"

NOTES:

1. NO SIGN MAY BE POSTED ON THE REAR-SIDE OF A STOP SIGN IF SAID SIGN IS LARGE ENOUGH TO OBSCURE THE OCTAGON SHAPE.
2. MOUNTING HEIGHT MEASURED FROM FINISHED GRADE OF WALKING SURFACE OR TOP OF CURB TO THE BOTTOM OF THE LOWEST SIGN.
3. CONTRACTOR TO PROVIDE PRODUCT SUBMITTAL OF ALL SIGNS TO OWNER'S REPRESENTATIVE.
4. SPEED LIMIT FOR DICKSON STREET TO BE DETERMINED BY CITY COUNCIL. PROVIDE 15 MPH SPEED LIMIT SIGNS FOR PROPOSED ROAD F & ROAD G.

REV./ ISSUE	DATE	DESCRIPTION
1	10/01/12	PUD SITE PLAN SUBMISSION
2	5/23/14	REV. PER CITY COMMENTS
3	8/14/14	REV. PER CITY COMMENTS
4	11/14/14	REV. PER CITY COMMENTS
5	1/22/15	PROGRESS SET
6	4/10/15	PROGRESS SET
7	6/22/15	CD SET
8	7/30/15	ISSUED FOR BUILDING PERMIT
9	2/19/16	ISSUED FOR PRICING
~~10~~	~~3/31/16~~	~~ISSUED FOR BID SET~~
11	8/08/16	ISSUED FOR BID
12	12/22/16	REV. PER CITY COMMENTS
13	12/23/16	ADDENDUM No. 1
14	3/08/17	PARCEL A, DOXEY AND GLADSKY PROPERTIES EWP'S

CONSULTANT

MINNO WASKO
ARCHITECTS AND PLANNERS
80 LAMBERT LANE, SUITE 105, LAMBERTVILLE, NEW JERSEY 08530 MINNOWASKO.COM

CONSULTANT

MPFP
M. PAUL FRIEDBERG & PARTNERS / MPFP LLC
41 East 11th Street
New York, New York 10003
tele. 212. 477. 6366
fax. 212. 477. 6548

ORIENTATION / KEY PLAN

NORTH

GRAPHIC SCALE
40 0 20 40 80
(IN FEET)
1 inch = 40 ft.

PAUL.US. SOKOLOWSKI AND SARTOR ENGINEERING, P.C.
67B MOUNTAIN BLVD EXT.
P.O. BOX 4039
WARREN, NEW JERSEY 07059
PHONE: (732) 560-9700

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JOSEPH J. FLEMING, P.E.
PROFESSIONAL ENGINEER
N.Y. LIC. NO. 66591

SIGNATURE DATE

CLIENT

RXR GLEN ISLE PARTNERS LLC

PROJECT

GARVIES POINT WATERFRONT REDEVELOPMENT PHASE I

CITY OF GLEN COVE, NASSAU COUNTY, NEW YORK

SHEET TITLE

SITE PLAN C

JOB NO.: 03610-0002
DATE: 9/27/2012
DRAWN: GY
CHECK: PAR
SCALE: 1"=40'

BINDING ORDER:
SHEET OF
SHEET NO.

C-7

APPENDIX C
HEALTH AND SAFETY PLAN

P.W. GROSSER CONSULTING ENGINEER & HYDROGEOLOGIST, P.C.
PROJECT No. RGI1701

HEALTH AND SAFETY PLAN

GARVIES POINT WATERFRONT REVITALIZATION PROJECT
GELN COVE, NEW YORK

SUBMITTED:
JULY 2017

PREPARED FOR:
New York State Department of Environmental Conservation
Division of Environmental Remediation
Remedial Bureau A, Section C
625 Broadway
Albany, New York 12233

ON BEHALF OF:
RXR Glen Isle Partners, LLC
625 RXR Plaza
Uniondale, New York 11556

PREPARED BY:
P.W. Grosser Consulting Engineer & Hydrogeologist, P.C.
630 Johnson Avenue, Suite 7
Bohemia, New York 11716

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APPENDIX B	SITE SAFETY AMENDMENT FORM
APPENDIX C	CHEMICAL HAZARDS
APPENDIX D	FIALD INCIDENT REPORT

1.0 STATEMENT OF COMMITMENT

On-site employees have the potential to be exposed to chemical contaminants of concern identified within the soil/fill during the planned activities to be performed as part of this scope of work. P.W. Grosser Consulting Engineer & Hydrogeologist, P.C. (PWGC's) policy is to minimize the possibility of work-related exposure through awareness and qualified supervision, health and safety training, use of appropriate personal protective equipment (PPE), and the following activity specific safety protocols contained in this Health and Safety Plan (HASP). PWGC has established a guidance program to implement this policy in a manner that protects personnel to the maximum reasonable extent.

This HASP describes emergency response procedures for actual and potential chemical hazards. Persons are to acknowledge that they understand the potential hazards and the contents of this Health and Safety policy by signing off on receipt of the document. Contractors and suppliers are retained as independent contractors and are responsible for ensuring the health and safety of their own employees as it relates to general construction practices.

2.0 INTRODUCTION

This document describes the health and safety guidelines developed by PWGC at the request of RXR Glen Isle Partners, LLC for the proposed scope of work. In accordance with the Occupational Safety and Health Administration (OSHA) 29 code of federal regulations (CFR) Part 1910.120 Hazardous Waste Operations and Emergency Response Final rule, this HASP, including the attachments, addresses safety and health hazards relating to each phase of site operations and is based on the best information available. The HASP may be revised by PWGC at the request of RXR Glen Isle Partners, LLC upon receipt of new information regarding site conditions. Changes will be documented by written amendments.

2.1 Site Safety Plan Acceptance, Acknowledgement, and Amendments

The environmental site safety officer is responsible for informing personnel entering the work area of the contents of this plan and ensuring that each person signs the safety plan acknowledging the on-site hazards and procedures required to minimize exposure to adverse effects of these hazards. A copy of the Acknowledgement Form is included in **Appendix A**.

Site conditions may warrant an amendment to the HASP. Amendments to the HASP are acknowledged by completing forms included in **Appendix B**.

2.2 Safety Meetings

The environmental site safety officer will hold safety (tailgate or tool box) meetings to ensure that on-site personnel understand the site conditions and operating procedures and to address safety questions and concerns. Meeting minutes and attendance will be recorded. Project staff will discuss and remedy health and safety issues at these meetings.

2.3 Key Personnel – Roles and Responsibilities

The following key personnel are planned for this project:

- Environmental Project Manager
- Environmental Site Safety Officer

The environmental project manager is responsible for overall project administration and, with guidance from the environmental site safety officer, for supervising the implementation of this HASP. The site safety officer will conduct (tailgate or tool box) safety meetings at the project site and oversee daily safety issues. Each subcontractor and supplier is also responsible for the health and safety of its employees. If there is any dispute about health and safety or project activities, on-site personnel will attempt to resolve the issue. If the issue cannot be resolved at the site, then the environmental project manager will be consulted.

The environmental site safety officer is responsible for the following:

1. Educating personnel about information in this HASP and other safety requirements to be observed during site operations, including, but not limited to, designation of work zones and levels of protection.
2. Coordinating site safety decisions with the environmental project manager.
3. Monitoring the condition and status of known on-site hazards specified in this HASP.
4. Maintaining records of safety problems, corrective measures and documentation of chemical exposures (the environmental site safety officer will document these conditions in a bound notebook and maintain a copy of the notebook on-site).

The person who observes safety concerns and potential hazards that have not been addressed in the safety meetings should immediately report their observations/concerns to the environmental site safety officer or appropriate key personnel.

3.0 CHEMICAL HAZARDS

Review of historical information and investigations from the site indicates that the soil at the site are contaminated with metals which are present at parts per million (ppm) levels in soil. These compounds may present an occupational exposure hazard during site operations, if disturbed.

The chemicals identified above may influence the central nervous system, respiratory system and may cause chronic liver and kidney damage. Acute exposure symptoms may include headache, dizziness, nausea, diarrhea and skin and eye irritation. Specific information on the chemicals identified at the sites can be found in Table 4-1 as well as on the Material Safety Data Sheets found in **Appendix C**.

Table 4-1

Chemical Hazards

COMPOUND	CAS#	OSHA PEL	ROUTES OF EXPOSURE	SYMPTOMS OF EXPOSURE	TARGET ORGANS	PHYSICAL DATA
Arsenic	7440-38-2	TWA 0.5 mg/m^3	Inhalation Ingestion Skin/Eye	Irritation skin, possible dermatitis, respiratory distress, diarrhea, kidney damage, muscle tremor, convulsions, possible gastrointestinal tract, reproductive effects, possible liver damage.	Skin, respiratory system, kidneys, central nervous system, liver, gastrointestinal tract, reproductive system	VP= unavailable Appearance and odor vary depending upon the specific organic arsenic
Cadmium	7440-43-9	TWA 0.002 mg/m^3	Inhalation Ingestion	Cough, sore throat, redness, pain, abdominal pain, diarrhea, headache, nausea, vomiting	Kidneys	Soft Blue-White Metal Lumps or Grey powder
Mercury	7439-97-6	TWA 0.025 mg/m^3	Inhalation Ingestion Skin/Eye	Abdominal pain, cough, diarrhea, shortness of breath, vomiting, fever	Central nervous system, kidneys	Silvery liquid metal

4.0 PERSONAL PROTECTIVE EQUIPMENT

Personal protective equipment (PPE) shall be selected in accordance with OSHA 29 CFR 1910.120(c), (g), and 1910.132. Protective equipment shall be NIOSH approved; head protection shall conform to 1910.135; eye and face protection shall conform to 1910.133; and foot protection shall conform to 1910.136. **It is anticipated that work will be performed in Level D PPE.**

4.1 Level D

Level D PPE consists of:

- standard work uniform, coveralls, or tyvek, as needed;
- steel toe work boots;
- hard hat;
- gloves, as needed;
- safety glasses;
- hearing protection;

5.0 CONTINGENCY PLAN/EMERGENCY RESPONSE PLAN

Site personnel should be prepared in the event of an emergency. Emergencies can take many forms: illnesses, injuries, chemical exposure, fires, explosions, spills, leaks, releases of harmful contaminants, or sudden changes in the weather.

Emergency telephone numbers and a map to the hospital (**Figure 1**) will be maintained in the field office. Site personnel should be familiar with the emergency procedures, and the locations of site safety, first aid, and communication equipment.

5.1 Emergency Equipment On-Site

Private telephones: Site personnel.

Emergency Alarms: On-site vehicle horns.

First aid kits: On-site, in vehicles or office.

5.2 Emergency Telephone Numbers

Table 6-1

Emergency Telephone Numbers

Nearest Hospital:

North Shore University Hospital at Glen Cove
101 St. Andrews Lane
Glen Cove, NY 11542
(516) 674-7300

Contact	Firm or Agency	Telephone Number
Police		911
Fire		911
Ambulance		911
Site Owner	RXR Glen Isle Partners, LLC Dan Rosato	(516) 524-5957
Environmental Project Manager	Derek Ersbak PWGC	(516) 852-6750
Environmental Health & Safety Officer	Amanda Racaniello PWGC	(516) 417-1822
NYSDEC Site Contact	Heidi-Marie Dudek	(518) 402-9813
New York Poison Control		(800)222-1222
Center for Disease Control		(800)311-3435

5.3 Personnel Responsibilities during an Emergency

The environmental project manager is primarily responsible for responding to and correcting any emergency situations associated with environmental safety. However, in the absence of the environmental project manager, the environmental site safety officer shall act as the environmental project manager's on-site designee and perform the following tasks:

- Take appropriate measures to protect personnel; and
- Determine the cause of incident and make recommendations to prevent recurrence.

5.4 Medical Emergencies

A person who becomes ill or injured, first aid will be administered while waiting for an ambulance or paramedics. A Field Accident Report (**Appendix D**) will be filled out for any injury.

A person transporting an injured/exposed person to a clinic or hospital for treatment will take the directions to the hospital and information on the chemical(s) to which they may have been exposed.

APPENDIX A

SITE SAFETY PLAN ACCEPTANCE AND ACKNOWLEDGMENT FORM

Name (Print and Sign)	***Date***

APPENDIX B

SITE SAFETY AMENDMENT FORM

PWGC
Strategic Environmental Engineering Solutions

SITE SAFETY PLAN AMENDMENT FORM

SITE SAFETY PLAN AMENDMENT # _____: _____

SITE NAME: _____

REASON FOR AMENDMENT: _____

_____

_____

ALTERNATIVE PROCEDURES: _____

_____

_____

REQUIRED CHANGES IN PPE: _____

_____

_____

_____ _____
PROJECT SUPERINTENDENT DATE

_____ _____
HEALTH & SAFETY CONSULTANT DATE

_____ _____
SITE SAFETY OFFICER DATE

P.W. Grosser Consulting, Inc • P.W. Grosser Consulting Engineer & Hydrogeologist, PC
630 Johnson Avenue, Suite 7 • Bohemia, NY 11716 • Branch Location - Seattle, WA
PH 631.589.6353 • FX 631.589.8705 • www.pwgrosser.com

APPENDIX C

CHEMICAL HAZARDS

ARSENIC

0013
October 1999

CAS No: 7440-38-2
RTECS No: CG0525000
UN No: 1558
EC No: 033-001-00-X

Grey arsenic
As
Atomic mass: 74.9

TYPES OF HAZARD/ EXPOSURE	ACUTE HAZARDS/SYMPTOMS	PREVENTION	FIRST AID/FIRE FIGHTING
FIRE	Combustible. Gives off irritating or toxic fumes (or gases) in a fire.	NO open flames. NO contact with strong oxidizers. NO contact with hot surfaces.	Powder, water spray, foam, carbon dioxide.
EXPLOSION	Risk of fire and explosion is slight when exposed to hot surfaces or flames in the form of fine powder or dust.	Prevent deposition of dust; closed system, dust explosion-proof electrical equipment and lighting.	
EXPOSURE		**PREVENT DISPERSION OF DUST! AVOID ALL CONTACT! AVOID EXPOSURE OF (PREGNANT) WOMEN!**	**IN ALL CASES CONSULT A DOCTOR!**
Inhalation	Cough. Sore throat. Shortness of breath. Weakness. See Ingestion.	Closed system and ventilation.	Fresh air, rest. Artificial respiration may be needed. Refer for medical attention.
Skin	Redness.	Protective gloves. Protective clothing.	Remove contaminated clothes. Rinse skin with plenty of water or shower.
Eyes	Redness.	Face shield or eye protection in combination with breathing protection if powder.	First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then take to a doctor.
Ingestion	Abdominal pain. Diarrhoea. Nausea. Vomiting. Burning sensation in the throat and chest. Shock or collapse. Unconsciousness.	Do not eat, drink, or smoke during work. Wash hands before eating.	Rinse mouth. Induce vomiting (ONLY IN CONSCIOUS PERSONS!). Refer for medical attention.

SPILLAGE DISPOSAL	PACKAGING & LABELLING	
Evacuate danger area! Sweep spilled substance into sealable containers. Carefully collect remainder, then remove to safe place. Chemical protection suit including self-contained breathing apparatus. Do NOT let this chemical enter the environment.	T Symbol N Symbol R: 23/25-50/53 S: (1/2-)20/21-28-45-60-61 UN Hazard Class: 6.1 UN Pack Group: II	Do not transport with food and feedstuffs. Marine pollutant.

EMERGENCY RESPONSE	SAFE STORAGE
Transport Emergency Card: TEC (R)-61GT5-II	Separated from strong oxidants, acids, halogens, food and feedstuffs. Well closed.

IPCS
International Programme on Chemical Safety

Prepared in the context of cooperation between the International Programme on Chemical Safety and the European Commission
© IPCS 2005

SEE IMPORTANT INFORMATION ON THE BACK.

IMPORTANT DATA

Physical State; Appearance
ODOURLESS, BRITTLE, GREY, METALLIC-LOOKING CRYSTALS.

Chemical dangers
Upon heating, toxic fumes are formed. Reacts violently with strong oxidants and halogens, causing fire and explosion hazard. Reacts with acids to produce toxic arsine gas (see: ICSC 0222).

Occupational exposure limits
TLV: 0.01 mg/m^3 as TWA; A1 (confirmed human carcinogen); BEI issued; (ACGIH 2004).
MAK: Carcinogen category: 1; Germ cell mutagen group: 3A; (DFG 2004).

Routes of exposure
The substance can be absorbed into the body by inhalation of its aerosol and by ingestion.

Inhalation risk
Evaporation at 20/C is negligible; a harmful concentration of airborne particles can, however, be reached quickly, when dispersed.

Effects of short-term exposure
The substance is irritating to the eyes, the skin and the respiratory tract. The substance may cause effects on the gastrointestinal tract, cardiovascular system, central nervous system and kidneys, resulting in severe gastroenteritis, loss of fluid, and electrolytes, cardiac disorders, shock, convulsions and kidney impairment. Exposure above the OEL may result in death. The effects may be delayed. Medical observation is indicated.

Effects of long-term or repeated exposure
Repeated or prolonged contact with skin may cause dermatitis. The substance may have effects on the mucous membranes, skin, peripheral nervous system, liver and bone marrow, resulting in pigmentation disorders, hyperkeratosis, perforation of nasal septum, neuropathy, liver impairment, anaemia. This substance is carcinogenic to humans. Animal tests show that this substance possibly causes toxicity to human reproduction or development.

PHYSICAL PROPERTIES

Sublimation point: 613/C
Density: 5.7 g/cm^3

Solubility in water: none

ENVIRONMENTAL DATA

The substance is toxic to aquatic organisms. It is strongly advised that this substance does not enter the environment.

NOTES

The substance is combustible but no flash point is available in literature.
Depending on the degree of exposure, periodic medical examination is suggested.
Do NOT take working clothes home.
Refer also to cards for specific arsenic compounds, e.g., Arsenic pentoxide (ICSC 0377), Arsenic trichloride (ICSC 0221), Arsenic trioxide (ICSC 0378), Arsine (ICSC 0222).
Card has been partly updated in October 2004. See sections Occupational Exposure Limits, EU classification, Emergency Response.
Card has been partly updated in October 2005 in section Effects of long-term or repeated exposure.

ADDITIONAL INFORMATION

LEGAL NOTICE Neither the EC nor the IPCS nor any person acting on behalf of the EC or the IPCS is responsible for the use which might be made of this information

©IPCS 2005

CADMIUM

0020
April 2005

CAS No: 7440-43-9
RTECS No: EU9800000
UN No: 2570
EC No: 048-002-00-0

Cd
Atomic mass: 112.4

TYPES OF HAZARD/ EXPOSURE	ACUTE HAZARDS/SYMPTOMS	PREVENTION	FIRST AID/FIRE FIGHTING
FIRE	Flammable in powder form and spontaneously combustible in pyrophoric form. Gives off irritating or toxic fumes (or gases) in a fire.	NO open flames, NO sparks, and NO smoking. NO contact with heat or acid(s).	Dry sand. Special powder. NO other agents.
EXPLOSION	Finely dispersed particles form explosive mixtures in air.	Prevent deposition of dust; closed system, dust explosion-proof electrical equipment and lighting.	

EXPOSURE		**PREVENT DISPERSION OF DUST! AVOID ALL CONTACT!**	**IN ALL CASES CONSULT A DOCTOR!**
Inhalation	Cough. Sore throat.	Local exhaust or breathing protection.	Fresh air, rest. Refer for medical attention.
Skin		Protective gloves.	Remove contaminated clothes. Rinse and then wash skin with water and soap.
Eyes	Redness. Pain.	Safety goggles or eye protection in combination with breathing protection.	First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then take to a doctor.
Ingestion	Abdominal pain. Diarrhoea. Headache. Nausea. Vomiting.	Do not eat, drink, or smoke during work.	Rest. Refer for medical attention.

SPILLAGE DISPOSAL	**PACKAGING & LABELLING**	
Evacuate danger area! Personal protection: chemical protection suit including self-contained breathing apparatus. Remove all ignition sources. Sweep spilled substance into containers. Carefully collect remainder, then remove to safe place.	T+ Symbol N Symbol R: 45-26-48/23/25-62-63-68-50/53 S: 53-45-60-61 Note: E UN Hazard Class: 6.1	Airtight. Unbreakable packaging; put breakable packaging into closed unbreakable container. Do not transport with food and feedstuffs.

EMERGENCY RESPONSE	**SAFE STORAGE**
	Fireproof. Dry. Keep under inert gas. Separated from igntion sources, oxidants acids, food and feedstuffs.

IPCS
International Programme on Chemical Safety

Prepared in the context of cooperation between the International Programme on Chemical Safety and the European Commission © IPCS 2005

SEE IMPORTANT INFORMATION ON THE BACK.

IMPORTANT DATA

Physical State; Appearance
SOFT BLUE-WHITE METAL LUMPS OR GREY POWDER. MALLEABLE. TURNS BRITTLE ON EXPOSURE TO 80/C AND TARNISHES ON EXPOSURE TO MOIST AIR.

Physical dangers
Dust explosion possible if in powder or granular form, mixed with air.

Chemical dangers
Reacts with acids forming flammable/explosive gas (hydrogen - see ICSC0001). Dust reacts with oxidants, hydrogen azide, zinc, selenium or tellurium, causing fire and explosion hazard.

Occupational exposure limits
TLV: (Total dust) 0.01 mg/m^3; (Respirable fraction) 0.002 mg/m^3; as TWA; A2 (suspected human carcinogen); BEI issued; (ACGIH 2005).
MAK: skin absorption (H); Carcinogen category: 1; Germ cell mutagen group: 3A; (DFG 2004).

Routes of exposure
The substance can be absorbed into the body by inhalation of its aerosol and by ingestion.

Inhalation risk
A harmful concentration of airborne particles can be reached quickly when dispersed, especially if powdered.

Effects of short-term exposure
The fume is irritating to the respiratory tract. Inhalation of fume may cause lung oedema (see Notes). Inhalation of fumes may cause metal fume fever. The effects may be delayed. Medical observation is indicated.

Effects of long-term or repeated exposure
Lungs may be affected by repeated or prolonged exposure to dust particles. The substance may have effects on the kidneys, resulting in kidney impairment. This substance is carcinogenic to humans.

PHYSICAL PROPERTIES

Boiling point: 765/C
Melting point: 321/C
Density: 8.6 g/cm^3

Solubility in water: none
Auto-ignition temperature: (cadmium metal dust) 250/C

ENVIRONMENTAL DATA

NOTES

Reacts violently with fire extinguishing agents such as water, foam, carbon dioxide and halons.
Depending on the degree of exposure, periodic medical examination is indicated.
The symptoms of lung oedema often do not become manifest until a few hours have passed and they are aggravated by physical effort. Rest and medical observation are therefore essential.
Do NOT take working clothes home.
Cadmium also exists in a pyrophoric form (EC No. 048-011-00-X), which bears the additional EU labelling symbol F, R phrase 17, and S phrases 7/8 and 43. UN numbers and packing group will vary according to the physical form of the substance.

ADDITIONAL INFORMATION

LEGAL NOTICE Neither the EC nor the IPCS nor any person acting on behalf of the EC or the IPCS is responsible

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MERCURY

0056
April 2004

CAS No: 7439-97-6
RTECS No: OV4550000
UN No: 2809
EC No: 080-001-00-0

Quicksilver
Liquid silver
Hg
Atomic mass: 200.6

TYPES OF HAZARD/ EXPOSURE	ACUTE HAZARDS/SYMPTOMS	PREVENTION	FIRST AID/FIRE FIGHTING
FIRE	Not combustible. Gives off irritating or toxic fumes (or gases) in a fire.		In case of fire in the surroundings: use appropriate extinguishing media.
EXPLOSION	Risk of fire and explosion.		In case of fire: keep drums, etc., cool by spraying with water.
EXPOSURE		**STRICT HYGIENE! AVOID EXPOSURE OF (PREGNANT) WOMEN! AVOID EXPOSURE OF ADOLESCENTS AND CHILDREN!**	**IN ALL CASES CONSULT A DOCTOR!**
Inhalation	Abdominal pain. Cough. Diarrhoea. Shortness of breath. Vomiting. Fever or elevated body temperature.	Local exhaust or breathing protection.	Fresh air, rest. Artificial respiration if indicated. Refer for medical attention.
Skin	MAY BE ABSORBED! Redness.	Protective gloves. Protective clothing.	Remove contaminated clothes. Rinse and then wash skin with water and soap. Refer for medical attention.
Eyes		Face shield, or eye protection in combination with breathing protection.	First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then take to a doctor.
Ingestion		Do not eat, drink, or smoke during work. Wash hands before eating.	Refer for medical attention.

SPILLAGE DISPOSAL	PACKAGING & LABELLING	
Evacuate danger area in case of a large spill! Consult an expert! Ventilation. Collect leaking and spilled liquid in sealable non-metallic containers as far as possible. Do NOT wash away into sewer. Do NOT let this chemical enter the environment. Chemical protection suit including self-contained breathing apparatus.	T Symbol N Symbol R: 23-33-50/53 S: (1/2-)7-45-60-61 UN Hazard Class: 8 UN Pack Group: III	Special material. Do not transport with food and feedstuffs.

EMERGENCY RESPONSE	STORAGE
Transport Emergency Card: TEC (R)-80GC9-II+III	Provision to contain effluent from fire extinguishing. Separated from food and feedstuffs. Well closed.

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International Programme on Chemical Safety

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SEE IMPORTANT INFORMATION ON THE BACK.

IMPORTANT DATA

Physical State; Appearance
ODOURLESS, HEAVY AND MOBILE SILVERY LIQUID METAL.

Chemical dangers
Upon heating, toxic fumes are formed. Reacts violently with ammonia and halogens causing fire and explosion hazard. Attacks aluminium and many other metals forming amalgams.

Occupational exposure limits
TLV: 0.025 mg/m^3 as TWA; (skin); A4; BEI issued; (ACGIH 2004).
MAK: 0.1 mg/m^3; Sh; Peak limitation category: II(8); Carcinogen category: 3B; (DFG 2003).

Routes of exposure
The substance can be absorbed into the body by inhalation of its vapour and through the skin, also as a vapour!

Inhalation risk
A harmful contamination of the air can be reached very quickly on evaporation of this substance at 20/C.

Effects of short-term exposure
The substance is irritating to the skin. Inhalation of the vapours may cause pneumonitis. The substance may cause effects on the central nervous system and kidneys. The effects may be delayed. Medical observation is indicated.

Effects of long-term or repeated exposure
The substance may have effects on the central nervous system and kidneys, resulting in irritability, emotional instability, tremor, mental and memory disturbances, speech disorders. May cause inflammation and discoloration of the gums. Danger of cumulative effects. Animal tests show that this substance possibly causes toxic effects upon human reproduction.

PHYSICAL PROPERTIES

Boiling point: 357/C
Melting point: -39/C
Relative density (water = 1): 13.5
Solubility in water: none
Vapour pressure, Pa at 20/C: 0.26
Relative vapour density (air = 1): 6.93
Relative density of the vapour/air-mixture at 20/C (air = 1): 1.009

ENVIRONMENTAL DATA

The substance is very toxic to aquatic organisms. In the food chain important to humans, bioaccumulation takes place, specifically in fish.

NOTES

Depending on the degree of exposure, periodic medical examination is indicated.
No odour warning if toxic concentrations are present.
Do NOT take working clothes home.

ADDITIONAL INFORMATION

LEGAL NOTICE Neither the EC nor the IPCS nor any person acting on behalf of the EC or the IPCS is responsible

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APPENDIX D

FIELD ACIDENT REPORT

PWGC
Strategic Environmental Engineering Solutions

FIELD ACCIDENT REPORT

This report is to be filled out by the designated Site Safety Officer after EVERY accident.

PROJECT NAME: _____ PROJECT. NO.: _____

Date of Accident: _____ Time: _____ Report By: _____

Type of Accident (Check One):

( ) Vehicular ( ) Personal ( ) Property

Name of Injured: _____ DOB or Age _____

How Long Employed: _____

Names of Witnesses: _____

Description of Accident: _____

_____

_____

Action Taken: _____

_____

_____

Did the Injured Lose Any Time? _____ How Much (Days/Hrs.)? _____

Was Safety Equipment in Use at the Time of the Accident (Hard Hat, Safety Glasses, Gloves, Safety Shoes, etc.)? _____

_____

_____

(If not, it is the EMPLOYEE'S sole responsibility to process his/her claims through his/her Health and Welfare Fund.)

INDICATE STREET NAMES, DESCRIPTION OF VEHICLES, AND NORTH ARROW

_____

_____

_____

P.W. Grosser Consulting, Inc • P.W. Grosser Consulting Engineer & Hydrogeologist, PC
630 Johnson Avenue, Suite 7 • Bohemia, NY 11716 • Branch Location - Seattle, WA
PH 631.589.6353 • FX 631.589.8705 • www.pwgrosser.com

APPENDIX D
DESIGN DRAWINGS

GARVIES POINT WATERFRONT REDEVELOPMENT
PHASE I - BUILDING I, MARINA BUILDING 1 AND ANGLERS CLUB CONSTRUCTION
CITY OF GLEN COVE, NASSAU COUNTY, NEW YORK

PROPERTY OWNER
RXR GLEN ISLE PARTNERS, LLC
c/o RXR REALTY
625 RXR PLAZA
UNIONDALE, NY 11556
TELEPHONE: (516) 506-6000

CIVIL ENGINEER/ SURVEYOR:
PAULUS SOKOLOWSKI AND SARTOR ENGINEERING, PC
67B MOUNTAIN BOULEVARD EXTENSION
WARREN, NJ 07059
TELEPHONE: (732) 560-9700

LANDSCAPE ARCHITECT
M. PAUL FRIEDBERG & PARTNERS, LLC
120 BROADWAY, FLOOR 20
NEW YORK, NY 10271
TELEPHONE: (212) 447-6366

ENVIRONMENTAL CONSULTANT
PW GROSSER CONSULTING, INC.
630 JOHNSON AVE, SUITE 7
BOHEMIA, NY 11716
TELEPHONE: (631) 589-6353

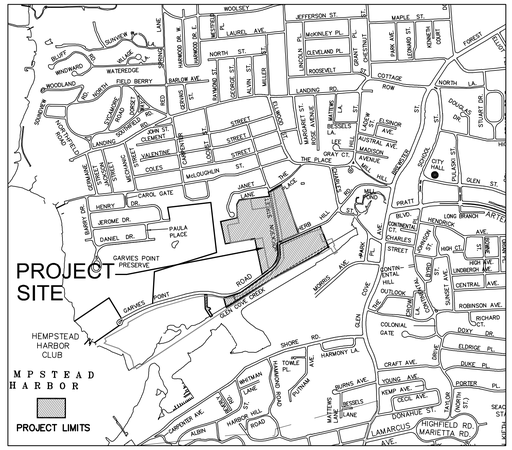
MEP ENGINEER
RW SULLIVAN ENGINEERING
THE SCHRAFFT CENTER
529 MAIN ST. SUITE 203
BOSTON, MA 02129-1107
TELEPHONE: (617) 523-8227

BULKHEAD/MARINA ENGINEER
ADVANCED AMERICAN ENGINEERING PLLC
445 BROAD HOLLOW ROAD, SUITE 25
MELVILLE, NY 11747
TELEPHONE: (631) 930-5337

WORK ZONE/TRAFFIC CONTROL ENGINEER
GREENMAN-PEDERSEN, INC.
325 WEST MAIN STREET
BABYLON, NY 11702
TELEPHONE: (631) 587-5060

SIGN CONSULTANT
RUSSELL DESIGN
115 5TH AVE, 2ND FLOOR
NEW YORK, NY 10003
TELEPHONE: (646) 225-6517

LAND USE/ WETLANDS PERMITTING
LAND USE ECOLOGICAL SERVICES, INC
570 EXPRESSWAY DR. SOUTH SUITE 2F
MEDFORD, NY 11763
TELEPHONE: (631) 727-2400



GRAPHIC SCALE
1000 0 500 1000 2000
(IN FEET)
1 inch = 1000 ft.

KEY PLAN



DRAWING LIST

SITE/CIVIL

SHEET NO.	DWG. TITLE	DWG. SCALE	ISSUED DATE	LAST REV. DATE
C-1	COVER SHEET	AS SHOWN	10/1/2012	3/8/2017
C-2	LEGEND AND GENERAL NOTES	AS SHOWN	10/1/2012	3/8/2017
C-3	EXISTING CONDITIONS	1"=120'	10/1/2012	3/8/2017
C-4	OVERALL SITE PLAN	1"=120'	10/1/2012	3/8/2017
~~C-4A~~	~~SCOPE OF WORK OVERALL PLAN~~	~~1"=80'~~	~~2/19/2016~~	~~12/22/2016~~
~~C-4B~~	~~SCOPE OF WORK PLAN A~~	~~1"=80'~~	~~3/2/2016~~	~~12/22/2016~~
~~C-4C~~	~~SCOPE OF WORK PLAN B~~	~~1"=80'~~	~~3/2/2016~~	~~12/22/2016~~
~~C-4D~~	~~SCOPE OF WORK PLAN C~~	~~1"=80'~~	~~3/2/2016~~	~~12/22/2016~~
~~C-4E~~	~~SCOPE OF WORK PLAN BLDG H, I AND MARINA SUPPORT BLDG~~	~~1"=80'~~	~~3/2/2016~~	~~12/22/2016~~
~~C-5~~	~~SITE PLAN A~~	~~1"=40'~~	~~10/1/2012~~	~~1/6/2017~~
C-6	SITE PLAN B	1"=40'	10/1/2012	3/8/2017
C-7	SITE PLAN C	1"=40'	10/1/2012	3/8/2017
~~C-8~~	~~GRADING PLAN A~~	~~1"=40'~~	~~10/1/2012~~	~~1/6/2017~~
C-9	GRADING PLAN B	1"=40'	10/1/2012	3/8/2017
C-10	GRADING PLAN C	1"=40'	10/1/2012	3/8/2017
~~C-11~~	~~UTILITY PLAN A~~	~~1"=40'~~	~~10/1/2012~~	~~1/6/2017~~
C-12	UTILITY PLAN B	1"=40'	10/1/2012	3/8/2017
C-13	UTILITY PLAN C	1"=40'	10/1/2012	3/8/2017
~~C-14~~	~~SOIL EROSION AND SEDIMENT CONTROL PLAN A~~	~~1"=40'~~	~~10/1/2012~~	~~1/6/2017~~
C-15	SOIL EROSION AND SEDIMENT CONTROL PLAN B	1"=40'	10/1/2012	3/8/2017
C-16	SOIL EROSION AND SEDIMENT CONTROL PLAN C	1"=40'	10/1/2012	3/8/2017
~~C-17~~	~~PROFILES OF DICKSON STREET & ROAD C~~	~~AS SHOWN~~	~~10/1/2012~~	~~1/6/2017~~
C-18	SITE DETAILS	AS SHOWN	10/1/2012	3/8/2017
C-19	SITE DETAILS	AS SHOWN	10/1/2012	3/8/2017
C-20	UTILITY DETAILS	AS SHOWN	10/1/2012	3/8/2017
C-21	UTILITY DETAILS	AS SHOWN	10/1/2012	3/8/2017
C-22	UTILITY DETAILS	AS SHOWN	10/1/2012	3/8/2017
C-23	UTILITY DETAILS (IRRIGATION CHAMBERS)	AS SHOWN	10/1/2012	3/8/2017
C-24	UTILITY DETAILS (JELLYFISH UNITS)	AS SHOWN	10/1/2012	3/8/2017
C-25	SOIL EROSION AND SEDIMENT CONTROL DETAILS	AS SHOWN	10/1/2012	3/8/2017
C-26	SOIL EROSION AND SEDIMENT CONTROL DETAILS	AS SHOWN	10/1/2012	3/8/2017
C-27	PUD MASTER PLAN	1"=200'	10/1/2012	3/8/2017
C-28	SANITARY SEWER PROFILES	1"=40'H; 1"=4'V	2/19/2016	3/8/2017
C-29	STORM SEWER PROFILES	1"=40'H; 1"=4'V	6/3/2014	3/8/2017
C-30	STORM SEWER PROFILES	1"=40'H; 1"=4'V	6/3/2014	3/8/2017
C-31	STORM SEWER PROFILES	1"=40'H; 1"=4'V	6/3/2014	3/8/2017
C-32	STORM SEWER PROFILES	1"=40'H; 1"=4'V	6/3/2014	3/8/2017
C-33	SITE CROSS SECTIONS - PLAN	1"=60'	8/14/2014	3/8/2017
C-34	SITE CROSS SECTIONS AND ENGINEERING CONTROLS	1"=50'H; 1"=10'V	8/14/2014	3/8/2017
~~C-35~~	~~DICKSON STREET SECTIONS~~	~~AS SHOWN~~	~~3/31/2016~~	~~1/6/2017~~
~~C-36~~	~~UTILITY DETAILS~~	~~AS SHOWN~~	~~3/31/2016~~	~~1/6/2017~~
~~C-37~~	~~UTILITY DETAILS~~	~~AS SHOWN~~	~~3/31/2016~~	~~1/6/2017~~
~~C-38~~	~~UTILITY DETAILS~~	~~AS SHOWN~~	~~3/31/2016~~	~~1/6/2017~~
~~C-39~~	~~UTILITY DETAILS~~	~~AS SHOWN~~	~~3/31/2016~~	~~1/6/2017~~
~~C-40~~	~~TRAFFIC MAINTENANCE AND PROTECTION~~	~~AS SHOWN~~	~~3/31/2016~~	~~12/22/2016~~
~~C-41~~	~~DICKSON STREET DETOUR~~	~~AS SHOWN~~	~~3/31/2016~~	~~8/8/2016~~

SOIL VAPOR MITIGATION

SHEET NO.	DWG. TITLE	ISSUED DATE	LAST REV. DATE
BUILDING I			
SVM-1	SOIL VAPOR MITIGATION DESIGN PLAN GARAGE 1	4/22/2015	3/7/2017
SVM-2	SOIL VAPOR MITIGATION SYSTEM DETAILS	4/22/2015	3/7/2017
ANGLERS CLUB			
SVM-1	SOIL VAPOR MITIGATION DESIGN PLAN GARAGE 1	2/19/2016	3/7/2017
SVM-2	SOIL VAPOR MITIGATION SYSTEM DETAILS	2/19/2016	3/7/2017
MARINA BUILDING			
SVM-1	SOIL VAPOR MITIGATION DESIGN PLAN GARAGE 1	2/19/2016	3/7/2017
SVM-2	SOIL VAPOR MITIGATION SYSTEM DETAILS	2/19/2016	3/7/2017

ENVIRONMENTAL SPECIFICATIONS

SHEET NO.	DWG. TITLE	ISSUED DATE	LAST REV. DATE
EN-01	COVER SHEET	5/24/2016	3/10/2017
EN-02	ENVIRONMENTAL SPECIFICATIONS SHEET-1	5/24/2016	3/10/2017
EN-03	ENVIRONMENTAL SPECIFICATIONS SHEET-2	5/24/2016	3/10/2017
EN-04	ENVIRONMENTAL DETAILS SHEET-1	5/24/2016	3/10/2017
EN-05	ENVIRONMENTAL DETAILS SHEET-2	5/24/2016	3/10/2017
EN-06	WORK ZONE & CONFIRMATION SAMPLING SPECIFICATION	5/24/2016	3/10/2017
EN-07	GROUNDWATER MONITORING WELL DETAILS	5/24/2016	3/10/2017
EN-08	GROUNDWATER MONITORING LOCATION PLAN	5/24/2016	3/10/2017
EN-09	REMAINING CONTAMINATION PLAN	5/24/2016	3/10/2017

LANDSCAPE & LIGHTING DRAWING LIST

SHEET NO.	DWG. TITLE	ISSUED DATE	LAST REV. DATE
BUILDING I			
L-00	COVER SHEET	9/26/2014	3/8/2017
L-100	1ST FL. KEY & DIMENSION PLAN	9/26/2014	3/8/2017
L-101	COURTYARD TERRACE KEY & DIMENSION PLAN	9/26/2014	3/8/2017
L-102	GREENROOF KEY & DIMENSION PLAN	9/26/2014	3/8/2017
L-200	1ST FL. GRADING PLAN	9/26/2014	3/8/2017
L-201	COURTYARD TERRACE GRADING PLAN	9/26/2014	3/8/2017
L-201A	COURTYARD TERRACE SUBGRADING PLAN	9/26/2014	3/8/2017
L-300	1ST FL. PLANTING PLAN	9/26/2014	3/8/2017
L-301	COURTYARD TERRACE PLANTING & LIGHTING PLAN	9/26/2014	3/8/2017
L-302	FIRST FLOOR IRRIGATION PLAN	9/26/2014	3/8/2017
L-302A	FIRST FLOOR IRRIGATION SCHEDULES	9/26/2014	3/8/2017
L-303	COURTYARD TERRACE IRRIGATION PLAN	9/26/2014	3/8/2017
L-303A	COURTYARD TERRACE IRRIGATION SCHEDULE	9/26/2014	3/8/2017
L-304	GREEN ROOF IRRIGATION PLAN	9/26/2014	3/8/2017
L-305	FIRST FLOOR LIGHTING PLAN	9/26/2014	3/8/2017
L-400	FIRST FLOOR MATERIAL PLAN	9/26/2014	3/8/2017
L-401	COURTYARD TERRACE MATERIALS PLAN	9/26/2014	3/8/2017
L-402	GREEN ROOF MATERIALS PLAN	9/26/2014	3/8/2017
L-403	PLANTER & FENCE LAYOUT PLAN	9/26/2014	3/8/2017
L-404	FIRST FLOOR WALLS KEY PLAN	9/26/2014	3/8/2017
L-405	COURTYARD TERRACE WALLS KEY PLAN	9/26/2014	3/8/2017
L-500	BUILDING I ELEVATIONS	9/26/2014	3/8/2017
L-501	FIRST FLOOR SECTIONS	9/26/2014	3/8/2017
L-502	FIRST FLOOR SECTIONS	9/26/2014	3/8/2017
L-503	COURTYARD TERRACE SECTIONS	9/26/2014	3/8/2017
L-503A	COURTYARD TERRACE SECTIONS	9/26/2014	3/8/2017
L-504	PRECAST WALL ELEVATIONS - SITE	9/26/2014	3/8/2017
L-505	PRECAST WALL ELEVATIONS - TERRACE 1	9/26/2014	3/8/2017
L-506	PRECAST WALL ELEVATIONS - TERRACE 2	9/26/2014	3/8/2017
L-507	PRECAST WALL ELEVATIONS - TERRACE 2 CONTINUED	9/26/2014	3/8/2017
L-508	PRECAST WALL ELEVATIONS - TERRACE 3	9/26/2014	3/8/2017
L-600	SITE DETAILS	9/26/2014	3/8/2017
L-601	SITE DETAILS	9/26/2014	3/8/2017
L-602	SITE DETAILS	9/26/2014	3/8/2017
L-603	SITE DETAILS	9/26/2014	3/8/2017
L-604	DRAINAGE DETAILS	9/26/2014	3/8/2017
L-605	FENCE DETAILS	9/26/2014	3/8/2017
L-606	FENCE DETAILS	9/26/2014	3/8/2017
L-607	FENCE DETAILS	9/26/2014	3/8/2017
L-608	OUTDOOR KITCHEN DETAILS	9/26/2014	3/8/2017
L-609	OUTDOOR KITCHEN DETAILS	9/26/2014	3/8/2017
L-610	FURNITURE DETAILS	9/26/2014	3/8/2017
L-611	FIRE PIT DETAILS	9/26/2014	3/8/2017
L-612	BENCH DETAILS	9/26/2014	3/8/2017
L-612A	BENCH DETAILS	9/26/2014	3/8/2017
L-613	PLANTING DETAILS	9/26/2014	3/8/2017
L-614	IRRIGATION DETAILS	9/26/2014	3/8/2017
L-615	PLANTER DETAILS	9/26/2014	3/8/2017
L-616	PLANTER DETAILS	9/26/2014	3/8/2017
L-617	PLANTER DETAILS	9/26/2014	3/8/2017
L-618	PLANTER DETAILS	9/26/2014	3/8/2017
L-619	PLANTER DETAILS	9/26/2014	3/8/2017
L-700	TRELLIS DETAILS	9/26/2014	3/8/2017
L-701	TRELLIS DETAILS	9/26/2014	3/8/2017
L-800	COURTYARD TERRACE DECK FRAMING PLAN	9/26/2014	3/8/2017
L-801	DECK DETAILS	9/26/2014	3/8/2017
L-802	DECK HATCH DETAIL	9/26/2014	3/8/2017

MARINA BUILDING 1 & ANGLERS CLUB			
L-00	COVER SHEET	9/26/2014	3/8/2017
L-001	OVERALL SITE PLAN	9/26/2014	3/8/2017
L-100 THRU L-110A	KEY & DIMENSION PLAN	9/26/2014	3/8/2017
L-111 THRU L-113	SITE ENLARGEMENTS KEY & DIMENSION	9/26/2014	3/8/2017
L-200 THRU L-210	GRADING PLAN	9/26/2014	3/8/2017
L-300 THRU L-314	PLANTING PLAN	9/26/2014	3/8/2017
L-314A	BIOFILTRATION SYSTEM PLAN & DETAIL	9/26/2014	3/8/2017
L-315 THRU L-328	LIGHTING PLAN	9/26/2014	3/8/2017
L-329 THRU L-339	IRRIGATION PLAN	9/26/2014	3/8/2017
L-340	IRRIGATION SCHEDULE	9/26/2014	3/8/2017
L-400 THRU L-410	MATERIALS PLAN	9/26/2014	3/8/2017
L-411	PLAYGROUND SAFETY SURFACE MATERIALS ENLARGEMENT	9/26/2014	3/8/2017
L-413	WALLS KEY PLAN	9/26/2014	3/8/2017
L-415	WALLS KEY PLAN	9/26/2014	3/8/2017
L-416	WALLS KEY PLAN	9/26/2014	3/8/2017
L-417	MATERIALS PLAN	9/26/2014	3/8/2017
L-500 THRU L-503	SECTIONS	9/26/2014	3/8/2017
L-504	TRELLIS AREA SECTIONS	9/26/2014	3/8/2017
L-505	SECTIONS AT GAZEBO	9/26/2014	3/8/2017
L-506	ROUNDABOUT SECTION	9/26/2014	3/8/2017
L-507	PRECAST WALL ELEVATIONS	9/26/2014	3/8/2017
L-600 THRU L-603	PAVEMENT DETAILS	9/26/2014	3/8/2017
L-604 THRU L-610	SITE AMENITIES DETAILS	9/26/2014	3/8/2017
L-611	IRRIGATION DETAILS	9/26/2014	3/8/2017
L-700 THRU L-710	GUARDRAIL LAYOUT	9/26/2014	3/8/2017
L-800 THRU L-803	PLAY STRUCTURE DETAILS	9/26/2014	3/8/2017
L-900 THRU L-901	TRELLIS DETAILS	9/26/2014	3/8/2017
L-1100	ALTERNATE 1 KEY & DIMENSION PLAN	9/26/2014	3/8/2017
L-1200	ALTERNATE 1 GRADING PLAN	9/26/2014	3/8/2017
L-1300	ALTERNATE 1 PLANTING PLAN	9/26/2014	3/8/2017
L-1302	ALTERNATE 1 IRRIGATION PLAN	9/26/2014	3/8/2017
L-1302A	ALTERNATE 1 IRRIGATION SCHEDULE	9/26/2014	3/8/2017
L-1305	ALTERNATE 1 LIGHTING PLAN	9/26/2014	3/8/2017
L-1400	ALTERNATE 1 MATERIAL PLAN	9/26/2014	3/8/2017

REV./ ISSUE	DATE	DESCRIPTION
1	10/01/12	PUD SITE PLAN SUBMISSION
2	5/23/14	REV. PER CITY COMMENTS
3	8/14/14	REV. PER CITY COMMENTS
4	11/14/14	REV. PER CITY COMMENTS
5	1/22/15	PROGRESS SET
6	4/10/15	PROGRESS SET
7	7/30/15	ISSUED FOR BUILDING PERMIT
8	2/19/16	ISSUED FOR PRICING
~~9~~	~~3/31/16~~	~~ISSUED FOR BID SET~~
10	8/08/16	ISSUED FOR BID
11	12/22/16	REV. PER CITY COMMENTS
12	12/23/16	ADDENDUM No. 1
13	1/06/17	PARCEL B (BLDG H) EWP
14	3/08/17	PARCEL A, DOXEY AND GLADSKY PROPERTIES EWP'S

CONSULTANT

MINNO WASKO
ARCHITECTS AND PLANNERS
80 LAMBERT LANE, SUITE 105, LAMBERTVILLE, NEW JERSEY 08530 MINNOWASKO.COM

CONSULTANT

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M. PAUL FRIEDBERG & PARTNERS / MPFP LLC
41 East 11th Street
New York, New York 10003
tele. 212. 477. 6366
fax. 212. 477. 6548

ORIENTATION / KEY PLAN

PAULUS, SOKOLOWSKI AND SARTOR ENGINEERING, P.C.
67B MOUNTAIN BLVD EXT.
P.O. BOX 4039
WARREN, NEW JERSEY 07059
PHONE: (732) 560-9700

ALL DIMENSIONS MUST BE VERIFIED BY THE CONTRACTOR. NOTIFY PAULUS, SOKOLOWSKI AND SARTOR OF ANY CONFLICTS, ERRORS, AMBIGUITIES OR DISCREPANCIES IN THE CONTRACT DRAWINGS OR SPECIFICATIONS BEFORE PROCEEDING WITH CONSTRUCTION.

ALL DIMENSIONS SHALL BE AS NOTED IN WORDS OR NUMBERS ON THE CONTRACT DRAWINGS. DO NOT SCALE THE DRAWINGS TO DETERMINE DIMENSIONS.

THESE CONTRACT DRAWINGS CONTAIN DATA INTENDED SPECIFICALLY FOR THE NOTED PROJECT. THEY ARE NOT TO BE USED OR REUSED FOR USE ON EXTENSIONS OF THIS PROJECT OR FOR REUSE ON ANY OTHER PROJECT.

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UNLESS THESE DRAWINGS ARE SPECIFICALLY DESIGNATED AS "CONSTRUCTION ISSUE", THESE DRAWINGS SHALL NOT BE USED FOR CONSTRUCTION OR IMPROVEMENTS DEPICTED THEREIN. CONTRACTORS SHALL NOTIFY THE DESIGN ENGINEER TO OBTAIN CONSTRUCTION DOCUMENTS.

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JOSEPH J. FLEMING, P.E.
PROFESSIONAL ENGINEER
N.Y. LIC. NO. 66591

SIGNATURE DATE

CLIENT

RXR GLEN ISLE PARTNERS LLC

PROJECT

GARVIES POINT WATERFRONT REDEVELOPMENT PHASE I

CITY OF GLEN COVE, NASSAU COUNTY, NEW YORK

SHEET TITLE

COVER SHEET

JOB NO.: 03610-0002
DATE: 9/27/2012
DRAWN: GY
CHECK: PAR
SCALE: AS SHOWN

BINDING ORDER:
SHEET OF
SHEET NO.

C-1

PLOT NAME: P:\03610\000\Design\Plot Plans\Plot_A.dwg LAST EDIT: 03/09/2017 - 03:05:45 PM USER: bradasch@bradasch.net XREFs: 03610003 -- BASE.dwg

SUBJECT PROPERTIES

SEC. BLK. LOT	OWNERS NAMES	ADDRESS-PROPERTY OR ADDRESS ON DEED
SEC. 31 BLK. G		
31 G 311	City of Glen Cove – Industrial Dev. Agency	9 Glen Street, Glen Cove, NY 11542
SEC. 21 BLK. 259		
21 259 1	City of Glen Cove – Industrial Dev. Agency	9 Glen Street, Glen Cove, NY 11542
21 259 2	City of Glen Cove	9–13 Glen Street, Glen Cove, NY 11542
21 259 3	City of Glen Cove	9–13 Glen Street, Glen Cove, NY 11542
21 259 4	City of Glen Cove	9–13 Glen Street, Glen Cove, NY 11542
SEC. 21 BLK. A		
21 A 12	City of Glen Cove – Community Dev. Agency	9–13 Glen Street, Glen Cove, NY 11542
21 A 14	City of Glen Cove – Industrial Dev. Agency	9 Glen Street, Glen Cove, NY 11542
21 A 15	City of Glen Cove – Industrial Dev. Agency	9 Glen Street, Glen Cove, NY 11542
21 A 114	City of Glen Cove – Industrial Dev. Agency	10 Garvies Point Road, Glen Cove, NY 11542
21 A 142	City of Glen Cove – Industrial Dev. Agency	9 Glen Street, Glen Cove, NY 11542
21 A 431	City of Glen Cove – Industrial Dev. Agency	9 Glen Street, Glen Cove, NY 11542
21 A 459	City of Glen Cove – Industrial Dev. Agency	9 Glen Street, Glen Cove, NY 11542
21 A 541	City of Glen Cove – Industrial Dev. Agency	9 Glen Street, Glen Cove, NY 11542
21 A 542	City of Glen Cove – Industrial Dev. Agency	9 Glen Street, Glen Cove, NY 11542
21 A 543	City of Glen Cove – Industrial Dev. Agency	9 Glen Street, Glen Cove, NY 11542
21 A 544	City of Glen Cove – Industrial Dev. Agency	9 Glen Street, Glen Cove, NY 11542
21 A 545	City of Glen Cove – Industrial Dev. Agency	9 Glen Street, Glen Cove, NY 11542
21 A 648	City of Glen Cove – Industrial Dev. Agency	9 Glen Street, Glen Cove, NY 11542
21 A 649	City of Glen Cove – Industrial Dev. Agency	9 Glen Street, Glen Cove, NY 11542
21 A 650	City of Glen Cove – Industrial Dev. Agency	9 Glen Street, Glen Cove, NY 11542
21 A 661 & 662	Herb Hill Holdings LLC	45 Herb Hill Rd, Glen Cove, NY 11542

OWNERS NAMES FOR 300' RADIUS MAP, GLEN COVE, NY

SEC. BLK. LOT	OWNERS NAMES	ADDRESS-PROPERTY OR ADDRESS ON DEED
SEC. 31 BLK. G		
31 G 2	Paul T. Canarick	3 Cedar St, Glen Cove, NY 11542
31 G 9	Herb Hill Associates	19 Black Hawk Road, Scarsdale, NY 10583
31 G 211	Herb Hill Associates	19 Black Hawk Road, Scarsdale, NY 10583
31 G 613	City of Glen Cove	9–11 School Street, Glen Cove, NY 11542
31 G 3,5,13,213,227&614	Konica Imaging USA Inc.	5800 Foremost Drive Suite 310, Grand Rapids, MI 49546
31 G 615	Konica Imaging USA Inc.	5800 Foremost Drive Suite 310, Grand Rapids, MI 49546
SEC. 31 BLK. 48		
31 48 212	Edward J. & Sophia Van Bremmer	41 Dickson Street, Glen Cove, NY 11542
31 48 213	Edward Bracchi & Martha Segovia	43 Dickson Street, Glen Cove, NY 11542
31 48 214	Robert H. Parker & James H. Parker	45 Dickson Street, Glen Cove, NY 11542
31 48 215	LE Krupka & R Krupka	48 The Place, Glen Cove, NY 11542
31 48 216	Joseph & Teresa Nowak	46 The Place, Glen Cove, NY 11542
31 48 217	M Murphy & V Pullo	42 The Place, Glen Cove, NY 11542
31 48 218	Laurant Caballero & Edwardo Rodgers	44 The Place, Glen Cove, NY 11542
31 48 221	Jeremy & Brandyna Young	37 Brookville Lane, Old Brookville, NY 11545
31 48 1	Natalie Maruca & Federico III Maruca	106 McLoughlin St., Glen Cove, NY 11542
31 48 2	Caroline McGrath	108 McLoughlin Street, Glen Cove, NY 11542
31 48 3	Carolyn Finnigan, et. al.	110 McLoughlin Street, Glen Cove, NY 11542
31 48 4	Frank Basile & Deborah Basile	112 McLoughlin Street, Glen Cove, NY 11542
31 48 5	Charles Andrew Daniele & Barbara J. Daniele	114 McLoughlin Street, Glen Cove, NY 11542
31 48 6	Richard Armstrong & Isabel Armstrong	116 McLoughlin Street, Glen Cove, NY 11542
31 48 107	Kathleen A. Onorato	118 McLoughlin Street, Glen Cove, NY 11542
SEC. 21 BLK. 259		
21 259 5	Hempstead Harbor Club, Inc.	Garvie's Point Rd. Glen Cove, NY 11542
SEC. 21 BLK. A		
21 A 5 & 214	County of Nassau	1 West Street, Mineola, NY 11501
21 A 6 & 428	Morris Avenue, LLC	PO Box 530, Old Bethpage, NY 11804
21 A 9	City of Glen Cove –Sewer Plant	9–13 Glen Street, Glen Cove, NY 11542
21 A 211	County of Nassau	1 West Street, Mineola, NY 11501
21 A 213	County of Nassau	1 West Street, Mineola, NY 11501
21 A 216,468,507	1 Garvies Point, LLC	506 9th Avenue, New York, NY 10018
21 A 220	County of Nassau	1 West Charles Street, Mineola, NY 11501
21 A 320	City of Glen Cove	9–13 Glen Street, Glen Cove, NY 11542
21 A 421	City of Glen Cove	9–13 Glen Street, Glen Cove, NY 11542
21 A 425	Okin Family Limited Partnership	1044 Merrick Road, Baldwin, NY 11510
21 A 427	Okin Family Limited Partnership	1044 Merrick Road, Baldwin, NY 11510
21 A 442	Hempstead Harbor Club, Inc.	P.O. Box 1, Garvies Point Road, Glen Cove, NY 11542
21 A 466	County of Nassau	1 West Street, Mineola, NY 11501
21 A 473	Edna Dorfman	7 Valley Road, Glen Cove, NY 11542
21 A 474	Edna Dorfman	7 Valley Road, Glen Cove, NY 11542
21 A 475	Edna Dorfman	7 Valley Road, Glen Cove, NY 11542
21 A 476	Edna Dorfman Freeman	7 Valley Road, Glen Cove, NY 11542
21 A 485	City of Glen Cove	9–13 Glen Street, Glen Cove, NY 11542
21 A 489	County of Nassau	1 West Street, Mineola, NY 11501
21 A 499	Nathan Dorfman	7 Valley Road, Glen Cove, NY 11542
21 A 501	A F Kaufman, inc.	50 Dickson Street, Glen Cove, NY 11542
21 A 504	Slant/Fin Corporation	100 Forest Drive, Greenvale, NY 11548
21 A 505	Mattice Industries Sales Co. Inc.	16 Garvies Point Road, Glen Cove, NY 11542
21 A 512	10 Morris Ave Realty, LLC	48 Sherrard Street, Roslyn Heights, NY 11577
21 A 513	Glen Cove Creek Inc.	48 Sherrard Street, Roslyn Heights, NY 11577
21 A 514	Fair Housing Development Fund Corp.	95 School Street, Glen Cove, NY 11542
21 A 515–531	Fair Housing Development Fund Corp.	95 School Street, Glen Cove, NY 11542
21 A 533–540	Fair Housing Development Fund Corp.	95 School Street, Glen Cove, NY 11542
21 A 532	Fair Housing Development Fund Corp.	14 Glen Street, Suite 208, Glen Cove, NY 11542
21 A 550	City of Glen Cove	9–13 Glen Street, Glen Cove, NY 11542
21 A 563	8 Morris Avenue Corp.	8 Morris Avenue, Glen Cove, NY 11542
21 A 564	James & Marina Rant	8 Morris Avenue, Glen Cove, NY 11542
21 A 569	4 Park Place Corp.	4 Park Place, Glen Cove, NY 11542
21 A 642 & 643	76 North Realty Co., LLC	1101 Stewart Avenue, Suite 104, Garden City, NY 11530
21 A 664	47 Herb Hill LLC	47 Herb Hill Rd, Glen Cove, NY 11542
21 A 651	Brewsar Glen Cove Inc.	128 Shore Road, Glen Cove, NY 11542
21 A 652	Joseph Weiser	18 Grace Drive, Old Westbury, NY 11568
21 A 653	City of Glen Cove	9–13 Glen Street, Glen Cove, NY 11542
21 A 657	City of Glen Cove	9–13 Glen Street, Glen Cove, NY 11542
21 A 658	Windsor Fuel Co. Inc.	45 Herb Hill Road, Glen Cove, NY 11542
21 A 659	Windsor Fuel Co. Inc.	80 Windsor Avenue, Mineola, NY 11501
21 A 110	City of Glen Cove	9–13 Glen Street, Glen Cove, NY 11542
21 A 25	City View Estates, LLC	PO Box 31, Mineola, NY 11501
21 A 58	Brewer Glen Cove Inc.	128 Shore Road, Glen Cove, NY 11542
21 A 677	Dominick Mastrianni	49 Herb Hill Rd, Glen Cove, NY 11542
21 A 660	City of Glen Cove	9–13 Glen Street, Glen Cove, NY 11542
21 A 663	City of Glen Cove	9–13 Glen Street, Glen Cove, NY 11542

LEGEND

- PROPERTY LINE
- EXISTING CONTOUR (20)
- PROPOSED CONTOUR 20
- EXISTING SPOT ELEVATION x 20.1
- PROPOSED SPOT ELEVATION 20.1 x
- SS — PROPOSED SANITARY SEWER
- FM — PROPOSED SANITARY FORCE MAIN
- PROPOSED STORM SEWER
- EXISTING STORM MANHOLE (D)
- EXISTING SANITARY MANHOLE (S)
- PROPOSED STORM/SANITARY MANHOLE
- SS — EXISTING SANITARY SEWER
- STM — EXISTING STORM SEWER
- PROPOSED CURB INLET
- PROPOSED AREA INLET
- PROPOSED TRENCH DRAIN
- OFF-SITE STORM SEWERS, SEE GARVIES POINT ROAD DESIGN BY CITY
- EXISTING CURB INLET
- CONCRETE HEAD WALL OR FLARED END SECTION
- PROPOSED RETAINING WALL
- W — PROPOSED WATER LINE
- FW — PROPOSED FIRE WATER
- DW — PROPOSED DOMESTIC WATER
- G — PROPOSED GAS LINE
- E — PROPOSED OVERHEAD ELECTRIC
- TEC — PROPOSED TELEPHONE, ELECTRIC & CABLE LINE
- T — EXISTING TELEPHONE LINE
- G — EXISTING GAS LINE
- W — EXISTING WATER LINE
- UT — EXISTING UNDERGROUND TELEPHONE
- UE — EXISTING UNDERGROUND ELECTRIC
- E — EXISTING OVERHEAD ELECTRIC
- PROPOSED WATER VALVE
- EXISTING WATER VALVE
- PROPOSED THRUST BLOCK
- EXISTING FIRE HYDRANT
- PROPOSED FIRE HYDRANT
- PROPOSED CURB
- P.C. DEPRESSED CURB
- CONCRETE SIDEWALK
- H.C. HANDICAP CURB RAMP
- (10) PARKING SPACE COUNT
- HANDICAP PARKING SPACE
- x — x PROPOSED FENCE
- PROPOSED GUIDE RAIL
- PEDESTRIAN SIGNAL & BOXES
- PATIO AREA
- ORNAMENTAL BRICK PAVERS
- TRAFFIC SIGN (REGULATORY)

GENERAL NOTES

1. ALL ROADWAY PAVEMENT AND PARKING AREA PAVEMENT IMPROVEMENTS TO BE DESIGNED AND INSTALLED IN ACCORDANCE WITH NYSDOT STANDARD SPECIFICATIONS.
2. GARVIES POINT ROAD, HERB HILL ROAD AND DICKSON STREET TO BE OWNED AND MAINTAINED BY THE CITY OF GLEN COVE.
3. STANDARDS OF WORKMANSHIP AND MATERIALS:

   ALL WORK PERFORMED AND MATERIALS SUPPLIED UNDER THIS PROJECT SHALL EQUAL OR EXCEED THE REQUIREMENTS OF THE SPECIFICATIONS AND THE FOLLOWING:
   A. COUNTY OF NASSAU, DEPARTMENT OF PUBLIC WORKS 1964 STANDARD SPECIFICATIONS FOR THE CONSTRUCTION OF HIGHWAYS AND BRIDGES AS CURRENTLY REVISED; (FOR ALL SANITARY SEWER IMPROVEMENTS)
   B. NEW YORK STATE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATION, CONSTRUCTION AND MATERIALS, JAN 2, 2002 WITH ADDENDA (FOR WORK WITHIN GARVIES POINT ROAD AND HERB HILL ROAD RIGHT-OF-WAY, DICKSON STREET RIGHT-OF-WAY, ROAD D, ROAD F AND ROAD G MATERIALS AND PARKING LOT MATERIALS);
   C. ORDINANCES OF THE CITY OF GLEN COVE;
   D. REQUIREMENTS OF UTILITY COMPANIES HAVING JURISDICTION;
   E. THE REQUIREMENTS OF THE OCCUPATIONAL SAFETY AND HEALTH ACT OF 1970 (OSHA);
   F. NASSAU COUNTY HEALTH DEPARTMENT;
   G. NEW YORK STATE AND/OR FEDERAL MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES AS CURRENTLY REVISED;
   H. NEW YORK STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL, LATEST EDITION.
   I. COUNTY OF NASSAU DEPARTMENT OF PUBLIC WORKS "STANDARD DETAILS FOR THE CONSTRUCTION OF SANITARY SEWERS", SHEETS 1–7, DATED MAY 2003
4. CONCRETE:
   A. PORTLAND CEMENT TYPE 2 SHALL BE USED FOR ALL CONCRETE ITEMS EXCEPT AS OTHERWISE STATED.
   B. ALL CONCRETE TO BE AIR ENTRAINED, 4,000 P.S.I. OR 4,500 P.S.I @ 28 DAYS UNLESS OTHERWISE SPECIFIED.
5. ASPHALT PAVEMENT SECTION:
   A. SUBBASE COURSE SHALL CONSIST OF DENSE GRADED AGGREGATE IN CONFORMANCE WITH NYSDOT ITEM 304.14;
   B. BASE COURSE HOT MIX ASPHALT SHALL BE NYSDOT ITEM 402.376902;
   C. INTERMEDIATE BINDER COURSE HOT MIX ASPHALT SHALL BE NYSDOT ITEM 402.196902;
   D. WEARING COURSE HOT MIX ASPHALT SHALL BE NYSDOT ITEM 402.096102.
6. NO WORK SHALL BE PERMITTED WITHIN WETLANDS AREAS WITHOUT APPLICABLE AUTHORIZATION/ PERMITS FROM NYSDEC AND/OR THE ARMY CORPS OF ENGINEERS.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL MAINTENANCE AND PROTECTION OF TRAFFIC . MAINTENANCE OF TRAFFIC SCHEMES SHALL BE IN ACCORDANCE WITH THE PLANS PREPARED BY GPI AND INCLUDED AS PART OF THIS PROJECT. THE NATIONAL MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) AND THE NEW YORK STATE SUPPLEMENT TO THE MUTCD . TRAFFIC SCHEMES SHOWN ON THE PLANS OR IN THE MUTCD ARE TO BE CONSIDERED MINIMUM REQUIREMENTS. THE ENGINEER APPOINTED BY THE CONSTRUCTION MANAGER OR THE CONSTRUCTION MANAGER MAY ORDER ADDITIONAL SIGNS, FLAGGERS, CONES AND REFLECTORIZATION, ETC., IF IT IS DEEMED TO BE NECESSARY.
8. A TEMPORARY PROJECT INFORMATION CAUTION SIGN SHALL BE PLACED ON HERB HILL ROAD IN THE VICINITY OF CHARLES STREET AND ON DICKSON STREET IN THE VICINITY OF HERB HILL ROAD. THE SIGN TEXT SHALL READ:
   "CAUTION. GLEN COVE WATERFRONT REDEVELOPMENT PROJECT AREA. CONSTRUCTION VEHICLES AND EQUIPMENT ENTERING AND LEAVING PROJECT AREA. USE CAUTION WHILE TRAVELING WITHIN PROJECT LIMITS."
9. OWNER/ APPLICANT/ CONSTRUCTION MANAGER TO PROVIDE SURVEY CONTROL TO CONTRACTOR (MINIMUM OF SIX (6) POINTS).
10. IN THE EVENT OF DISCREPANCIES BETWEEN PLANS AND SPECIFICATIONS, PLANS SHALL GOVERN UNLESS SPECIFICATIONS ARE MORE RESTRICTIVE, THEN SPECIFICATIONS SHALL GOVERN. NOTIFY CONSTRUCTION MANAGER OF ALL DISCREPANCIES PRIOR TO INITIATING THE WORK.
11. IN THE GLADSKY, EXISTING ANGLERS CLUB AND PUMP STATION AREAS, AS DEPICTED ON THE REPORT "PHASE IA ARCHAEOLOGICAL ASSESSMENT ADDENDUM II, 2016, GARVIES POINT WATERFRONT DEVELOPMENT" (PAGE 16 OF 28) BY HISTORICAL PERSPECTIVES, INC, THE CONTRACTOR SHOULD NOTIFY THE OWNER AND SITE MANAGER PRIOR TO MAKE SUBSURFACE DISTURBANCE, AND THE OPERATIONS SHOULD BE MONITORED BY PROJECT ARCHAEOLOGICAL CONSULTANTS.
12. ALL EARTHWORK OPERATIONS MUST COMPLY WITH THE PROVISIONS CONTAINED IN THE ENVIRONMENTAL SPECIFICATIONS, THE SITE SPECIFIC EXCAVATION WORK PLANS (EWP'S) AND THE DREDGING AND EXCAVATION WORK PLAN (DEWP).

RETAINING WALL NOTES

1. WALL CONSTRUCTION SHALL BE MONITORED BY A QUALIFIED ENGINEER APPOINTED BY THE CONSTRUCTION MANAGER TO VERIFY FIELD CONDITIONS.
2. THE FOUNDATION SOILS AT EACH WALL LOCATION SHALL BE INSPECTED BY THE ENGINEER APPOINTED BY THE CONSTRUCTION MANAGER AND ANY UNSUITABLE SOILS OR IMPROPERLY COMPACTED EMBANKMENT MATERIAL REMOVED AND REPLACED AS DIRECTED BY THE ENGINEER PRIOR TO WALL CONSTRUCTION TO PROVIDE ADEQUATE BEARING CAPACITY AND MINIMIZE SETTLEMENT.
3. ALL WALL EXCAVATION AND RETAINED SOILS SHALL BE INSPECTED FOR GROUNDWATER CONDITIONS AND ANY ADDITIONAL DRAINAGE PROVISIONS REQUIRED IN THE FIELD SHALL BE INCORPORATED INTO THE WALL CONSTRUCTION AS DIRECTED BY THE ENGINEER APPOINTED BY THE CONSTRUCTION MANAGER AND SHALL BE CONSIDERED ADDITIONAL WORK. NOTIFY THE CONSTRUCTION MANAGER PRIOR TO BEGINNING ADDITIONAL WORK FOR AUTHORIZATION TO PROCEED.
4. WALL BACKFILL MATERIAL SHALL BE TESTED AND APPROVED BY THE ENGINEER APPOINTED BY THE CONSTRUCTION MANAGER FOR USE IN THE REINFORCED SOIL ZONE MEETING THE MINIMUM REQUIREMENTS OF THE APPROVED DESIGN PLANS.
5. ALL SOIL BACKFILL SHALL BE TESTED BY THE ENGINEER APPOINTED BY THE CONSTRUCTION MANAGER FOR MOISTURE, DENSITY, AND COMPACTION PERIODICALLY (EVERY 2' VERTICALLY, 100'–200' C/C) MEETING THE MINIMUM REQUIREMENTS OF THE APPROVED DESIGN PLANS OR PROJECT SPECIFICATIONS.
6. WALL CONSTRUCTION SHALL BE INSPECTED BY THE ENGINEER APPOINTED BY THE CONSTRUCTION MANAGER TO INSURE THE GEOGRID REINFORCEMENT ELEVATIONS AND LENGTHS ARE INSTALLED IN ACCORDANCE WITH THE APPROVED SHOP DRAWINGS (WHERE APPLICABLE).
7. ALL WALL ELEVATIONS, GRADES, AND BACKSLOPE CONDITIONS SHALL BE VERIFIED BY THE ENGINEER APPOINTED BY THE CONSTRUCTION MANAGER IN THE FIELD FOR CONFORMANCE WITH THE APPROVED DESIGN PLANS. ANY REVISIONS TO THE STRUCTURE GEOMETRY OR DESIGN CRITERIA SHALL REQUIRE DESIGN MODIFICATION PRIOR TO PROCEEDING WITH CONSTRUCTION.
8. RETAINING WALL CONSTRUCTION SHALL CONFORM TO THE APPROVED RETAINING WALL BUILDING PERMIT. BACKFILL MATERIAL SHALL BE APPROVED BY THE NYSDEC AND USEPA PRIOR TO PLACEMENT.

FF	FINISHED FLOOR	EP	EXISTING EDGE OF PAVEMENT
GFE	GARAGE FLOOR ELEVATION	GPR	GARVIES POINT ROAD/ROADWAY PROJECT
VIF	VERIFY IN FIELD	SF	SQUARE FEET
TC	TOP OF CURB	C.O.	CLEAN OUT
BC	BOTTOM OF CURB	FH	FIRE HYDRANT
TW	TOP OF WALL	NIC	NOT IN CONTRACT
BW	BOTTOM OF WALL	GPR	GARVIES POINT ROAD
TP	TOP OF PARAPET	HH	HERB HILL ROAD
HP	HIGH POINT		
LP	LOW POINT		
FM	FORCE MAIN		
TYP	TYPICAL		
R=	RADIUS		
BP	BEGIN POINT		
EP	END POINT		
PI	POINT OF INTERSECTION		
PC	POINT OF CURVATURE		
PT	POINT OF TANGENCY		
PCC	POINT OF COMPOUND CURVATURE		
STA	STATION		
GR	GRATE		
INV	INVERT		
DIP	DUCTILE IRON PIPE		
RCP	REINFORCED CONCRETE PIPE		
PVC	POLYVINYL CHLORIDE PIPE		
HDPE	HIGH DENSITY POLYETHYLENE PIPE		
LF	LINEAR FOOT		
H.C.	HANDICAP RAMP		
DC	DEPRESSED CURB		
MH	STORM SEWER MANHOLE		
DI	DRAINAGE INLET		
HW	HEAD WALL		
YD	YARD DRAIN (NYLOPLAST OR APP EQUAL)		
RD	ROOF DRAIN		
OF	OUTFALL		
WQ	WATER QUALITY DEVICE		
SSMH	SANITARY SEWER MANHOLE		
D.H.	DOGHOUSE		
NAD	NORTH AMERICAN DATUM		
NAVD	NORTH AMERICAN VERTICAL DATUM		

- PROPOSED SIGN
- EXISTING SIGN
- PROPOSED LIGHT POLE
- EXISTING LIGHT POLE
- EXISTING TREE
- TREE LINE
- PROPOSED LIGHT POLE
- LIGHT POLE WITHIN ROADWAY PROJECT
- INLET SEDIMENT FILTER
- SILT FENCE

NOTES ON USE OF PLANS

1. UNLESS THESE DRAWINGS ARE SPECIFICALLY DESIGNATED AS "CONSTRUCTION ISSUE," THESE DRAWINGS SHALL NOT BE USED FOR CONSTRUCTION OF THE IMPROVEMENTS DEPICTED HEREIN. CONTRACTORS SHALL NOTIFY THE DESIGN ENGINEER TO OBTAIN CONSTRUCTION DOCUMENTS.
2. ALL DIMENSIONS MUST BE VERIFIED BY THE CONTRACTOR. NOTIFY PAULUS, SOKOLOWSKI & SARTOR ENGINEERING, P.C. THROUGH THE CONSTRUCTION MANAGER OF ANY CONFLICTS, ERRORS, AMBIGUITIES OR DISCREPANCIES IN THE CONTRACT DRAWINGS OR SPECIFICATIONS BEFORE PROCEEDING WITH CONSTRUCTION.
3. ALL DIMENSIONS SHALL BE AS NOTED IN WORDS OR NUMBERS ON THE CONTRACT DRAWINGS. DO NOT SCALE THE DRAWINGS TO DETERMINE DIMENSIONS.
4. THESE CONTRACT DRAWINGS CONTAIN DATA INTENDED SPECIFICALLY FOR THE NOTED PROJECT AND CLIENT. THEY ARE NOT INTENDED FOR USE ON EXTENSIONS OF THIS PROJECT OR FOR REUSE ON ANY OTHER PROJECT.
5. THE COPYING AND/OR MODIFICATION OF THIS DOCUMENT OR ANY OTHER PORTION THEREOF WITHOUT THE WRITTEN PERMISSION OF PAULUS, SOKOLOWSKI, & SARTOR ENGINEERING, P.C. IS PROHIBITED.
6. INFORMATION FOR DESIGN LAYOUT IS CONTAINED SOLELY IN THE WRITTEN DIMENSIONS, BEARINGS, AND ANGLES CONTAINED ON THE DRAWINGS.
7. THIS DIMENSIONAL INFORMATION IS NOT WARRANTED NOR SHOULD IT BE CONSIDERED AS COMPLETE FOR EVERY ASPECT OF THE LAYOUT. STANDARD PRACTICE REQUIRES THAT THE LAYOUT PERSON CHECK THE DIMENSIONAL DATA FOR CONSISTENCY AND TO MAKE SURVEY CALCULATIONS WHICH ARE CUSTOMARY FOR CONSTRUCTION LAYOUT. IN THE EVENT A QUESTION OR INCONSISTENCY IS DISCOVERED, THE USER SHOULD IMMEDIATELY NOTIFY THE ENGINEER OF RECORD THROUGH THE CONSTRUCTION MANAGER.
8. THE GRAPHICAL INFORMATION CONTAINED IN ANY ELECTRONIC FILES, WHICH MAY BE PROVIDED TO CONTRACTOR, IS INTENDED AS DRAWING DATA ONLY. IT IS NOT INTENDED TO SERVE AS SURVEY LAYOUT DATA.
9. ALL SITEWORK UTILITIES TO BE INSTALLED BY SITE CONTRACTOR TO A POINT (5) FIVE FEET FROM THE BUILDING/STRUCTURE IN ACCORDANCE WITH INDUSTRY STANDARDS UNLESS SPECIFICALLY SHOWN OTHERWISE. SITE CONTRACTOR TO COORDINATE WITH BUILDING TRADES. CONTRACTOR TO ENSURE COORDINATION OF UTILITY CONNECTION LOCATIONS. REPORT ANY DISCREPANCIES IMMEDIATELY TO THE ENGINEER OF RECORD THROUGH THE CONSTRUCTION MANAGER.
10. ALL DIMENSIONAL INFORMATION SHOWN HEREON INDICATING BUILDINGS IS BASED UPON FACE OF BUILDING. ALL ROADWAY DIMENSIONS ARE TO INSIDE FACE OF CURBING.

EROSION CONTROL MEASURES

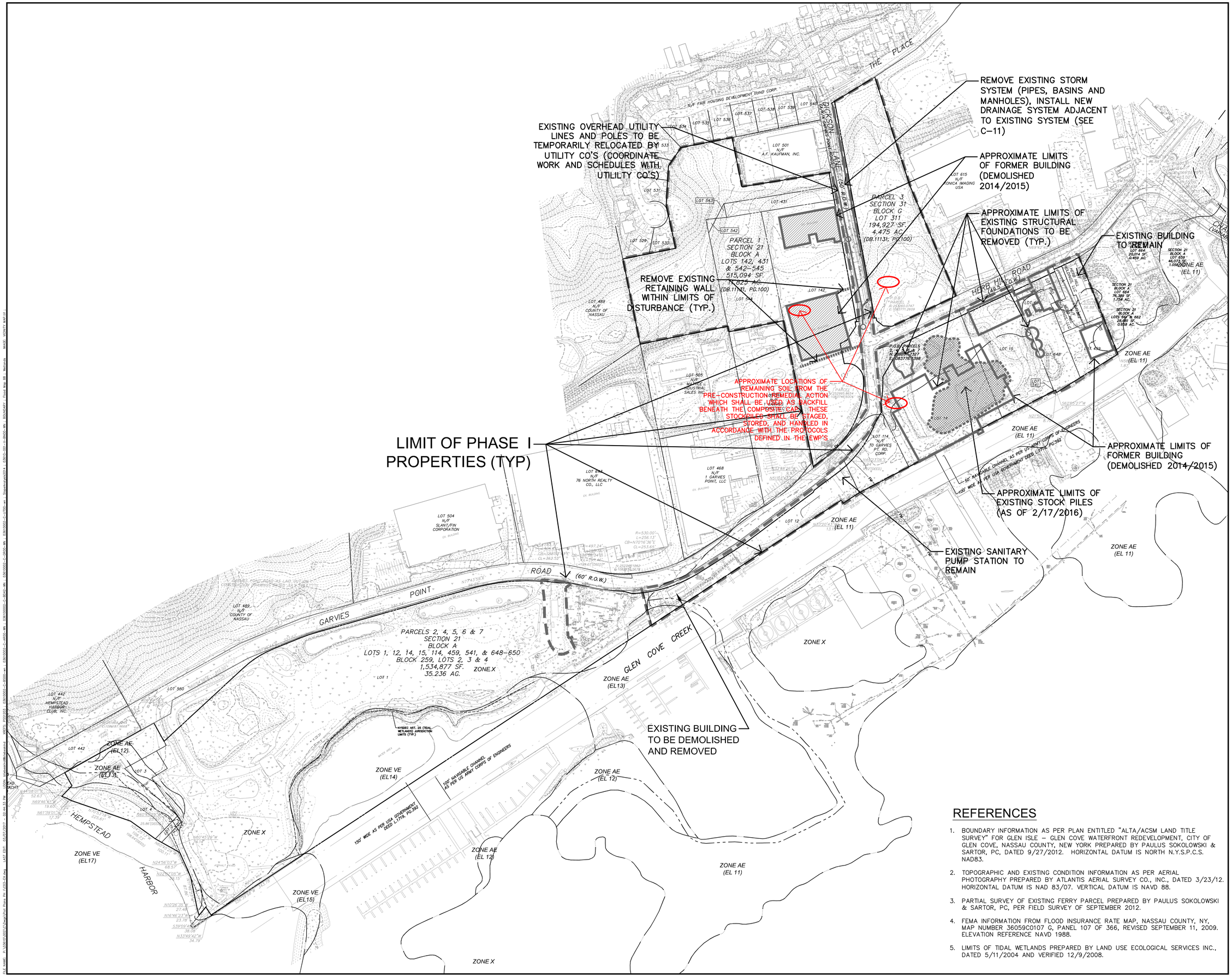
1. DURING THE COURSE OF CONSTRUCTION, CERTAIN EROSION CONTROL MEASURES MAY BECOME NECESSARY TO PREVENT THE TRANSPORT OF SEDIMENT TO OFF-SITE AREAS, DRAINAGE INLETS, ETC. ACTUAL EROSION CONTROL MEASURES WILL BE DICTATED BY FIELD CONDITIONS AS CONSTRUCTION PROGRESSES AND AS DIRECTED BY THE ENGINEER. THE FOLLOWING CONDITIONS SHALL BE OBSERVED:
   A. EXISTING VEGETATION TO REMAIN SHALL BE PROTECTED AND REMAIN UNDISTURBED.
   B. CLEARING AND GRADING SHALL BE SCHEDULED SO AS TO MINIMIZE THE SIZE OF EXPOSED AREAS AND THE LENGTH OF TIME THAT AREAS ARE EXPOSED.
   C. THE LENGTH AND STEEPNESS OF CLEARED SLOPES SHALL BE MINIMIZED TO REDUCE RUNOFF VELOCITIES.
   D. RUNOFF SHALL BE DIVERTED AWAY FROM CLEARED SLOPES.
   E. SEDIMENT SHALL BE TRAPPED ON THE SITE.
   F. SPECIFIC METHODS AND MATERIALS EMPLOYED IN THE INSTALLATION AND MAINTENANCE OF EROSION CONTROL MEASURES SHALL CONFORM TO THE "NEW YORK STATE STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL" BY NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION, LATEST EDITION.
2. SEDIMENT BARRIERS (SILT FENCES, HAY BALES OR APPROVED EQUAL) SHALL BE INSTALLED PRIOR TO ANY GRADING WORK ALONG THE LIMITS OF DISTURBANCES AND SHALL BE MAINTAINED BY THE DEVELOPER/OWNER FOR THE DURATION OF THE WORK. NO SEDIMENT FROM THE SITE SHALL BE PERMITTED TO WASH ONTO ADJACENT PROPERTIES, WETLANDS, ROADS OR WATER BODIES.
3. GRADED AND STRIPPED AREAS AND STOCKPILES SHALL BE KEPT STABILIZED THROUGH THE USE OF TEMPORARY SEEDING AS REQUIRED. SEED MIXTURES SHALL BE IN ACCORDANCE WITH NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION. STOCKPILES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE PROCEDURES DEFINED IN THE EWP (WHICH INCLUDES POLY TO BE INSTALLED BENEATH CLEAN SOIL STOCKPILES).
4. DRAINAGE INLETS INSTALLED AS PART OF THE PROJECT SHALL BE PROTECTED FROM SEDIMENT BUILDUP THROUGH THE USE OF SEDIMENT BARRIERS, SEDIMENT TRAPS, ETC., AS REQUIRED.
5. PROPER MAINTENANCE OF EROSION CONTROL MEASURES IS TO BE PERFORMED AS INDICATED BY PERIODIC INSPECTION AND AFTER HEAVY OR PROLONGED STORMS. MAINTENANCE MEASURES SHALL INCLUDE, BUT ARE NOT LIMITED TO, CLEANING OF SEDIMENT BASINS OR TRAPS, CLEANING OR REPAIR OF SEDIMENT BARRIERS, CLEANING AND REPAIR OF BERMS AND DIVERSIONS AND CLEANING AND REPAIR OF INLET PROTECTION.
6. APPROPRIATE MEANS SHALL BE USED TO CONTROL DUST DURING CONSTRUCTION.
7. A STABILIZED CONSTRUCTION ENTRANCE SHALL BE MAINTAINED TO PREVENT SOIL AND LOOSE DEBRIS FROM BEING TRACKED ONTO LOCAL ROADS. THE CONSTRUCTION ENTRANCE SHALL BE MAINTAINED UNTIL THE SITE IS PERMANENTLY STABILIZED.
8. SEDIMENT BARRIERS AND OTHER EROSION CONTROL MEASURES SHALL REMAIN IN PLACE UNTIL UPLAND DISTURBED AREAS ARE PERMANENTLY STABILIZED. AFTER PERMANENT STABILIZATION, PAVED AREAS SHALL BE CLEANED AND DRAINAGE SYSTEMS CLEANED AND FLUSHED AS NECESSARY.
9. PROVIDE CATCH BASIN FILTER INSERTS IN ALL DRAINAGE INLETS WITHIN THE PROJECT AREA. ALL INSERTS SHALL BE MAINTAINED BY THE CONTRACTOR FOR THE DURATION OF CONSTRUCTION AND UNTIL THE SITE IS PERMANENTLY STABILIZED. CONTRACTOR SHALL INSTALL NEW FILTER INSERTS IN ALL DRAINAGE INLETS AT COMPLETION OF THE WORK; SEE SOIL EROSION DETAILS.
10. MANAGEMENT OF SOIL EXCAVATED DURING CONSTRUCTION SHALL FOLLOW THE PROCEDURES DEFINED IN THE EWP.

DRAINAGE NOTES

1. SITE DRAINAGE PIPE SHALL BE EITHER CLASS IV REINFORCED CONCRETE PIPE CONFORMING TO ASTM C76 OR HIGH DENSITY POLYETHLENE PIPE MEETING THE STANDARDS AND INSTALLATION RECOMMENDATIONS OF ASTM F405 AND THE MANUFACTURER. ALL PIPE SHALL BE INSTALLED WITH A MINIMUM OF 2'–0" OF COVER. WHERE REQUIRED COVER CANNOT BE ACHIEVED, CLASS 52, CEMENT–LINED DUCTILE IRON PIPE SHALL BE USED.
2. ALL PROPOSED DRAINAGE PIPE ON CITY–OWNED ROADWAYS SHALL BE CLASS IV REINFORCED CONCRETE PIPE CONFORMING TO ASTM C76 WITH A MINIMUM OF 2'–0" OF COVER OR HDPE WITH A MINIMUM COVER MEETING MANUFACTURER REQUIREMENTS. WHERE THE REQUIRED COVER CAN NOT BE ACHIEVED, CLASS 52, CEMENT–LINED DUCTILE IRON PIPE SHALL BE USED.
3. ALL DRAINAGE STRUCTURES SHALL MEET NASSAU COUNTY DEPARTMENT OF PUBLIC WORKS STANDARDS AND THE DETAILS & SPECIFICATIONS CONTAINED HEREIN.
4. WHERE PIPES OR CULVERTS ARE TO BE PLACED IN NEWLY MADE FILLS, THE FILL IS TO BE COMPACTED TO A HEIGHT OF 1 FT ABOVE THE PROPOSED TOP OF THE PIPE OR CULVERT OR TO THE SUBGRADE SURFACE, WHICHEVER IS LOWER, PRIOR TO THE START OF TRENCH EXCAVATIONS.
5. WHERE DRAINAGE STRUCTURES ARE TO BE PLACED IN NEWLY MADE FILLS, THE FILL IS TO BE COMPACTED TO A HEIGHT OF 1 FT. ABOVE THE ELEVATION OF THE PROPOSED TOP OF THE HIGHEST ENTERING PIPE OR CULVERT PRIOR TO THE START OF EXCAVATION. HOWEVER, WHEN THE HEIGHT OF FILL IS MORE THAN 6 FT. THE CONTRACTOR WILL BE PERMITTED TO PLACE THE FILL IN STAGES TO MINIMIZE THE DEPTH OF EXCAVATION FOR THE DRAINAGE STRUCTURES.
6. DRAINAGE AND PAVEMENT CONSTRUCTION SHALL BE CERTIFIED AND A DETAILED AS–BUILT PLAN PREPARED AND SUBMITTED TO THE CITY BY A PROFESSIONAL ENGINEER DULY LICENSED BY NEW YORK STATE, PRIOR TO THE ISSUANCE OF A CERTIFICATE OF OCCUPANCY FOR THE SITE.
7. FILL BENEATH DRAINAGE STRUCTURES MUST MEET PROTECTION OF GROUNDWATER CRITERIA, IF APPLICABLE.
8. BACKFILL MATERIAL SHALL BE APPROVED BY THE NYSDEC AND USEPA PRIOR TO PLACEMENT.

ADA NOTES

CONTRACTORS SHALL EXERCISE APPROPRIATE CARE AND PRECISION IN CONSTRUCTION OF ADA (HANDICAP) ACCESSIBLE COMPONENTS FOR THE SITE. THESE COMPONENTS (AS CONSTRUCTED) MUST COMPLY WITH THE BUILDING CODE OF NEW YORK STATE, CHAPTER 11 AND THE 2010 ADA STANDARDS FOR



REFERENCES

1. BOUNDARY INFORMATION AS PER PLAN ENTITLED "ALTA/ACSM LAND TITLE SURVEY" FOR GLEN ISLE – GLEN COVE WATERFRONT REDEVELOPMENT, CITY OF GLEN COVE, NASSAU COUNTY, NEW YORK PREPARED BY PAULUS SOKOLOWSKI & SARTOR, PC, DATED 9/27/2012. HORIZONTAL DATUM IS NORTH N.Y.S.P.C.S. NAD83.
2. TOPOGRAPHIC AND EXISTING CONDITION INFORMATION AS PER AERIAL PHOTOGRAPHY PREPARED BY ATLANTIS AERIAL SURVEY CO., INC., DATED 3/23/12. HORIZONTAL DATUM IS NAD 83/07. VERTICAL DATUM IS NAVD 88.
3. PARTIAL SURVEY OF EXISTING FERRY PARCEL PREPARED BY PAULUS SOKOLOWSKI & SARTOR, PC, PER FIELD SURVEY OF SEPTEMBER 2012.
4. FEMA INFORMATION FROM FLOOD INSURANCE RATE MAP, NASSAU COUNTY, NY, MAP NUMBER 36059C0107 G, PANEL 107 OF 366, REVISED SEPTEMBER 11, 2009. ELEVATION REFERENCE NAVD 1988.
5. LIMITS OF TIDAL WETLANDS PREPARED BY LAND USE ECOLOGICAL SERVICES INC., DATED 5/11/2004 AND VERIFIED 12/9/2008.

REV. / ISSUE	DATE	DESCRIPTION
1	10/01/12	PUD SITE PLAN SUBMISSION
2	5/23/14	REV. PER CITY COMMENTS
3	8/14/14	REV. PER CITY COMMENTS
4	1/22/15	PROGRESS SET
5	4/10/15	PROGRESS SET
6	7/30/15	ISSUED FOR BUILDING PERMIT
7	2/19/16	ISSUED FOR PRICING
8	~~3/31/16~~	~~ISSUED FOR BID SET~~
9	8/08/16	ISSUED FOR BID
10	1/06/17	PARCEL B (BLDG H) EWP
11	2/17/17	REV. PER NYSDEC COMMENTS
12	3/01/17	REV. PER NYSDEC COMMENTS
13	3/08/17	PARCEL A DOKEY AND GLADSKY PROPERTIES EWP'S

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ORIENTATION / KEY PLAN

NORTH

GRAPHIC SCALE
120 0 60 120 240
(IN FEET)
1 inch = 120 ft.

PAULUS, SOKOLOWSKI AND SARTOR ENGINEERING, P.C.
67B MOUNTAIN BLVD EXT.
P.O. BOX 4039
WARREN, NEW JERSEY 07059
PHONE: (732) 560-9700

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JOSEPH J. FLEMING, P.E.
PROFESSIONAL ENGINEER
N.Y. LIC. NO. 66591

SIGNATURE DATE

CLIENT

RXR GLEN ISLE PARTNERS LLC

PROJECT

GARVIES POINT WATERFRONT REDEVELOPMENT PHASE I

CITY OF GLEN COVE, NASSAU COUNTY, NEW YORK

SHEET TITLE

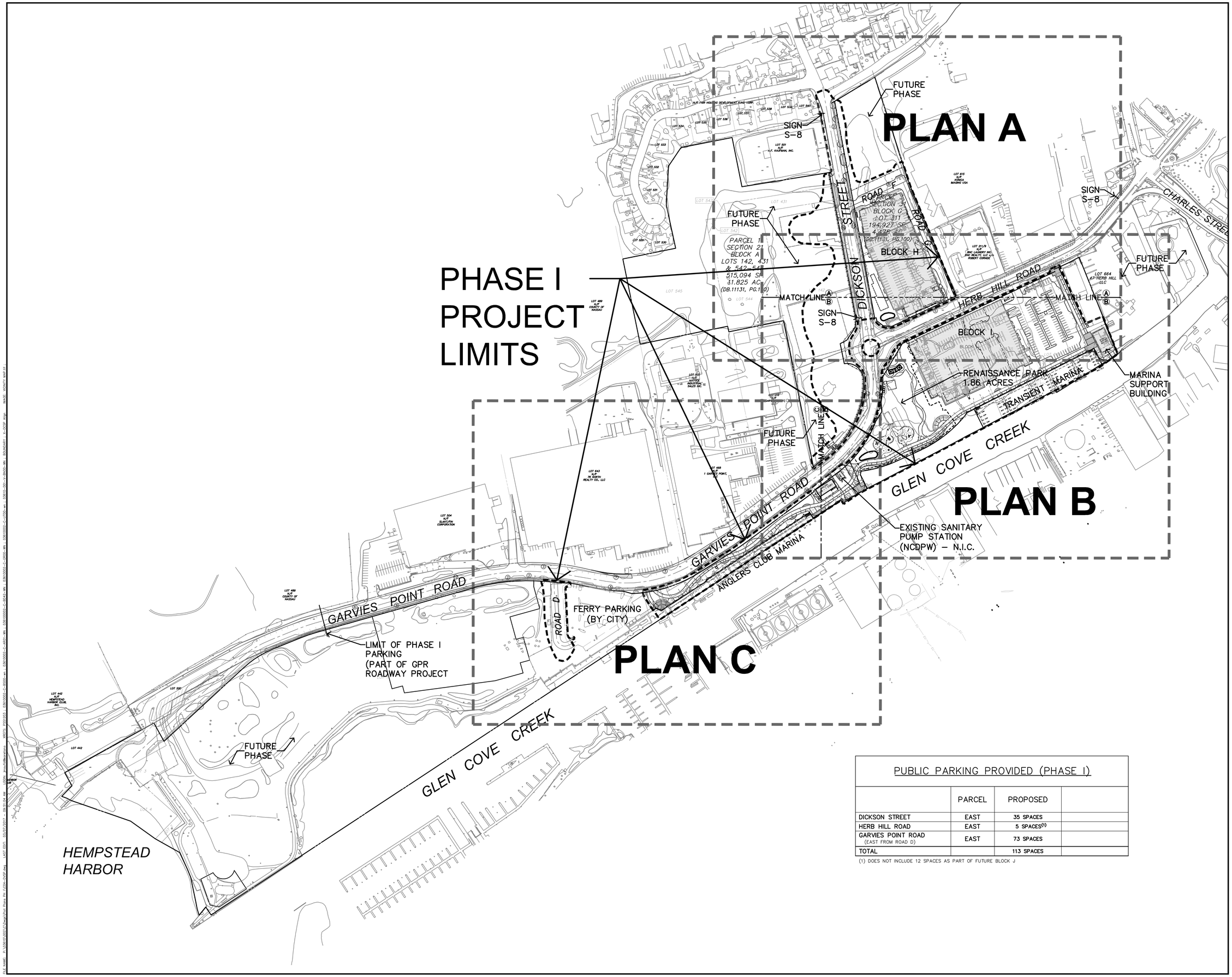
EXISTING CONDITIONS

JOB NO.:	03610-0002
DATE:	9/27/2012
DRAWN:	GY
CHECK:	PAR
SCALE:	1"=120'

BINDING ORDER:
SHEET OF
SHEET NO.

C-3

FILE NAME: P:\03610\000\Drawings\Site Plans\03610-000-V-ENGR-MN_BOUNDARY - Proof Mode.dgn - Wetlands - MAGE - VICINITY MAP.rsf
LAST EDIT: 03/07/2017 - 02:44:53 PM
Bentley Systems, Inc. Haestad Methods SELECTseries 4 08.11.01.03 [08.11.01.03]



PUBLIC PARKING PROVIDED (PHASE I)

	PARCEL	PROPOSED	
DICKSON STREET	EAST	35 SPACES	
HERB HILL ROAD	EAST	5 SPACES(1)	
GARVIES POINT ROAD (EAST FROM ROAD D)	EAST	73 SPACES	
TOTAL		113 SPACES	

(1) DOES NOT INCLUDE 12 SPACES AS PART OF FUTURE BLOCK J

REV. / ISSUE	DATE	DESCRIPTION
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9	8/08/16	ISSUED FOR BID
10	12/22/16	REV. PER CITY COMMENTS
11	12/23/16	ADDENDUM No. 1
12	1/06/17	PARCEL B (BLDG H) EWP
13	2/24/17	SWPPP REVISIONS
14	3/08/17	PARCEL A, DOXEY AND GLADSKY PROPERTIES EWP'S

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ORIENTATION / KEY PLAN

NORTH

GRAPHIC SCALE
120 0 60 120 240
(IN FEET)
1 inch = 120 ft.

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JOSEPH J. FLEMING, P.E.
PROFESSIONAL ENGINEER
N.Y. LIC. NO. 66591

SIGNATURE DATE

CLIENT

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PROJECT

GARVIES POINT WATERFRONT REDEVELOPMENT PHASE I

CITY OF GLEN COVE, NASSAU COUNTY, NEW YORK

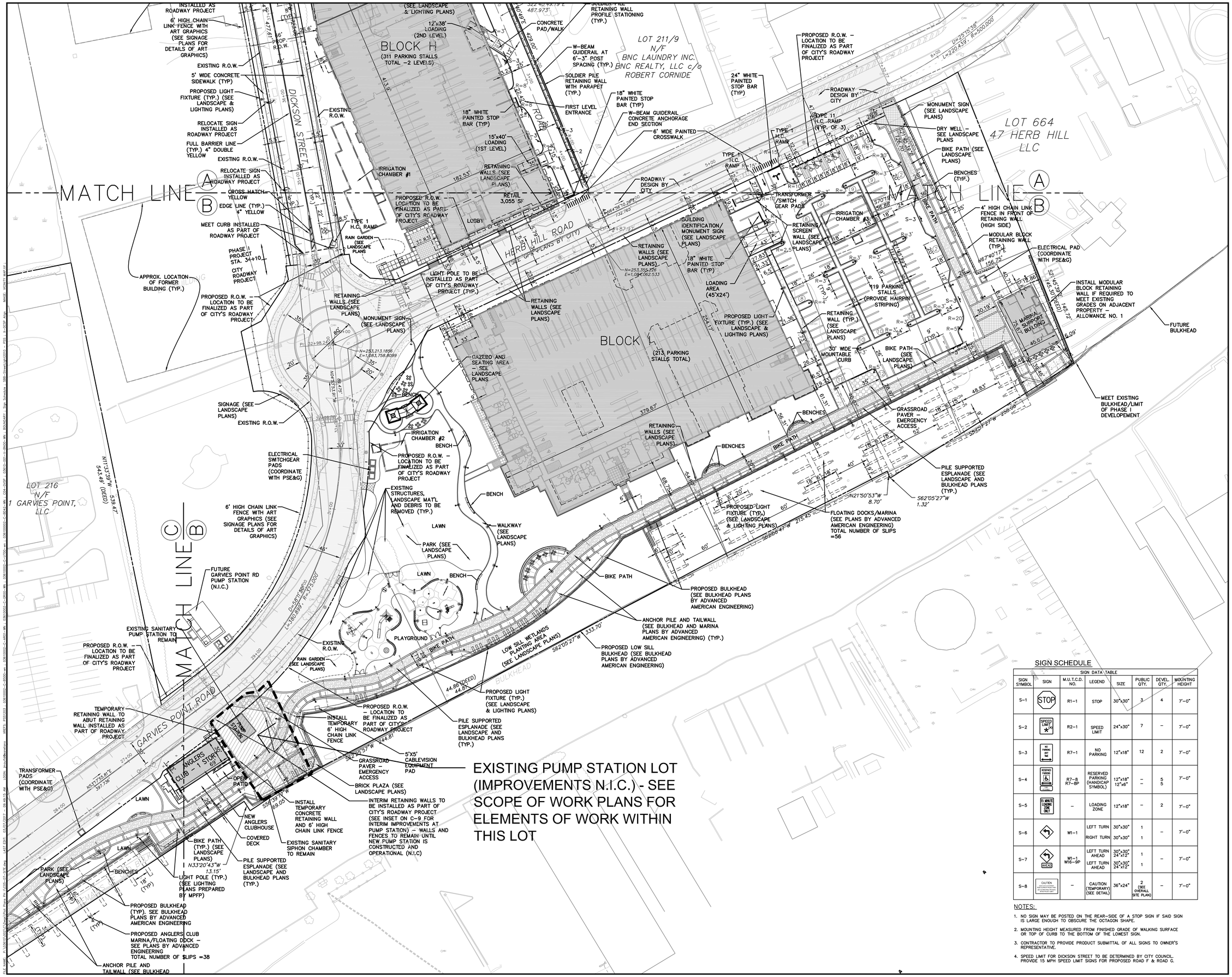
SHEET TITLE

OVERALL SITE PLAN

JOB NO.: 03610-0002
DATE: 9/27/2012
DRAWN: GY
CHECK: PAR
SCALE: 1"=120'

BINDING ORDER:
SHEET OF
SHEET NO.

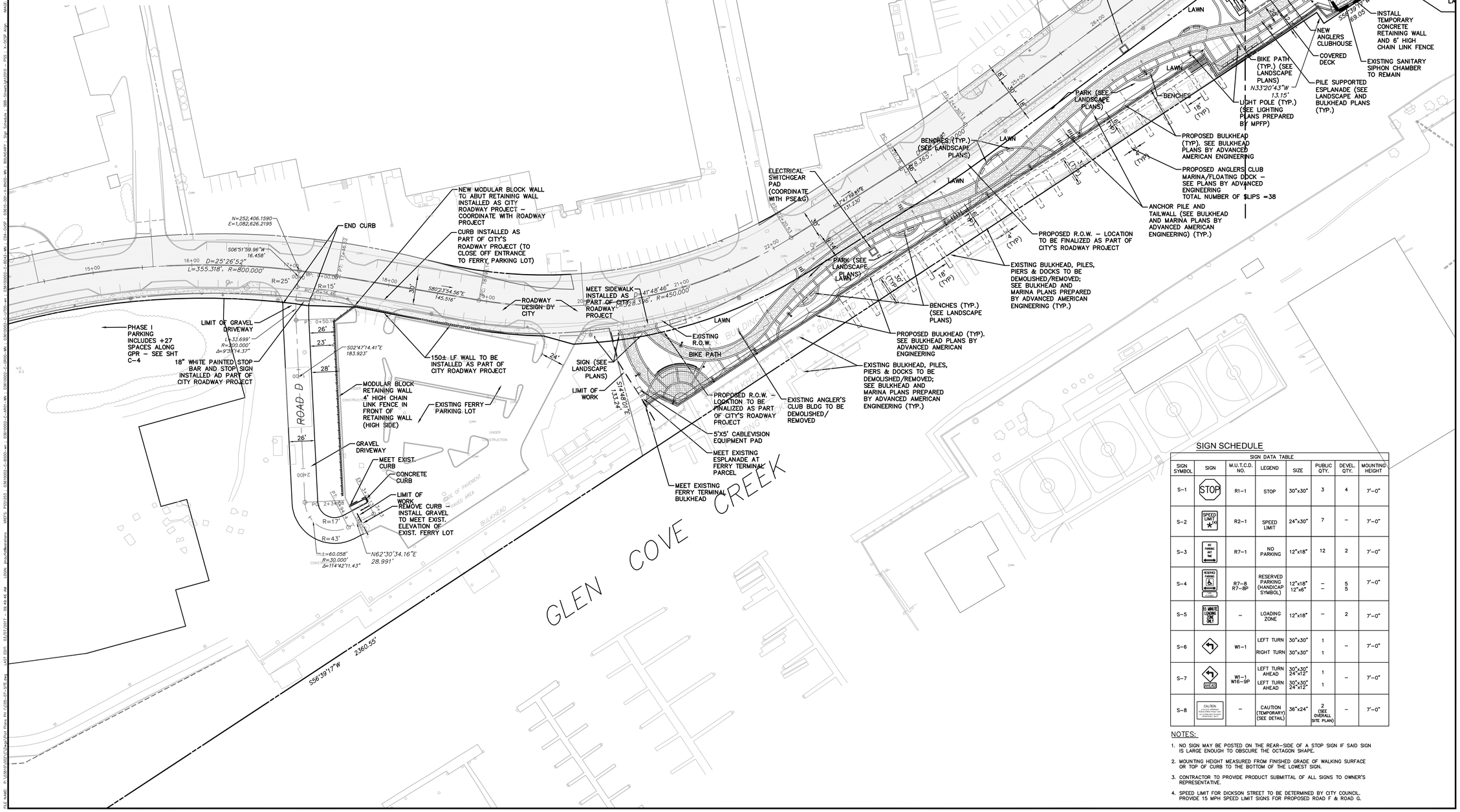
C-4


MATCH LINE A
MATCH LINE B
MATCH LINE C
BLOCK H
(311 PARKING STALLS TOTAL -2 LEVELS)
BLOCK I
(213 PARKING STALLS TOTAL)
LOT 211/9
N/F
BNC LAUNDRY INC.
BNC REALTY, LLC c/o
ROBERT CORNIDE
LOT 664
47 HERB HILL
LLC
LOT 216
N/F
1 GARVIES POINT,
LLC
DICKSON STREET
HERB HILL ROAD
(SEE GRADING PLANS BY CITY)
GARVIES POINT ROAD
BULKHEAD
BIKE PATH
LOBBY
RETAIL
3,055 SF
119 PARKING STALLS (PROVIDE HAIRPIN STRIPING)
30' WIDE MOUNTABLE CURB
MARINA SUPPORT BUILDING
GAZEBO AND SEATING AREA - SEE LANDSCAPE PLANS
PLAYGROUND
ANGLERS CLUB - 1 STORY
NEW ANGLERS CLUBHOUSE
COVERED DECK
OPEN PATIO
EXISTING SANITARY PUMP STATION TO REMAIN
FUTURE GARVIES POINT RD PUMP STATION (N.I.C.)
EXISTING PUMP STATION LOT (IMPROVEMENTS N.I.C.) - SEE SCOPE OF WORK PLANS FOR ELEMENTS OF WORK WITHIN THIS LOT
PROPOSED R.O.W. - LOCATION TO BE FINALIZED AS PART OF CITY'S ROADWAY PROJECT
RETAINING WALLS (SEE LANDSCAPE PLANS)
IRRIGATION CHAMBER #1
IRRIGATION CHAMBER #2
IRRIGATION CHAMBER #3
RAIN GARDEN (SEE LANDSCAPE PLANS)
BENCH
BENCHES
LAWN
PARK (SEE LANDSCAPE PLANS)
SIGNAGE (SEE LANDSCAPE PLANS)
EXISTING R.O.W.
EXISTING SANITARY SIPHON CHAMBER TO REMAIN
INTERIM RETAINING WALLS TO BE INSTALLED AS PART OF CITY'S ROADWAY PROJECT (SEE INSET ON C-9 FOR INTERIM IMPROVEMENTS AT PUMP STATION) -- WALLS AND FENCES TO REMAIN UNTIL NEW PUMP STATION IS CONSTRUCTED AND OPERATIONAL (N.I.C)
INSTALL TEMPORARY CONCRETE RETAINING WALL AND 6' HIGH CHAIN LINK FENCE
INSTALL TEMPORARY 6' HIGH CHAIN LINK FENCE
TEMPORARY RETAINING WALL TO ABUT RETAINING WALL INSTALLED AS PART OF ROADWAY PROJECT
PILE SUPPORTED ESPLANADE (SEE LANDSCAPE AND BULKHEAD PLANS (TYP.)
PROPOSED BULKHEAD (TYP). SEE BULKHEAD PLANS BY ADVANCED AMERICAN ENGINEERING
PROPOSED ANGLERS CLUB MARINA/FLOATING DOCK - SEE PLANS BY ADVANCED ENGINEERING TOTAL NUMBER OF SLIPS =38
ANCHOR PILE AND TAILWALL (SEE BULKHEAD
PROPOSED LOW SILL BULKHEAD (SEE BULKHEAD PLANS BY ADVANCED AMERICAN ENGINEERING)
ANCHOR PILE AND TAILWALL (SEE BULKHEAD AND MARINA PLANS BY ADVANCED AMERICAN ENGINEERING) (TYP.)
PROPOSED BULKHEAD (SEE BULKHEAD PLANS BY ADVANCED AMERICAN ENGINEERING)
FLOATING DOCKS/MARINA (SEE PLANS BY ADVANCED AMERICAN ENGINEERING) TOTAL NUMBER OF SLIPS =56
PROPOSED LIGHT FIXTURE (TYP.) (SEE LANDSCAPE & LIGHTING PLANS)
LIGHT POLE (TYP.) (SEE LIGHTING PLANS PREPARED BY MPFP)
LIGHT POLE TO BE INSTALLED AS PART OF CITY'S ROADWAY PROJECT (TYP.)
PILE SUPPORTED ESPLANADE (SEE LANDSCAPE AND BULKHEAD PLANS (TYP.)
FUTURE BULKHEAD
MEET EXISTING BULKHEAD/LIMIT OF PHASE I DEVELOPEMENT
GRASSROAD PAVER - EMERGENCY ACCESS
BRICK PLAZA (SEE LANDSCAPE PLANS)
5'X5' CABLEVISION EQUIPMENT PAD
TRANSFORMER PADS (COORDINATE WITH PSE&G)
ELECTRICAL SWITCHGEAR PADS (COORDINATE WITH PSE&G)
ELECTRICAL PAD (COORDINATE WITH PSE&G)
TRANSFORMER / SWITCH GEAR PADS
APPROX. LOCATION OF FORMER BUILDING (TYP.)
PHASE I PROJECT STA. 34+10
CITY ROADWAY PROJECT
MEET CURB INSTALLED AS PART OF ROADWAY PROJECT
CROSS HATCH YELLOW
EDGE LINE (TYP.) 4" YELLOW
FULL BARRIER LINE (TYP.) 4" DOUBLE YELLOW
RELOCATE SIGN INSTALLED AS ROADWAY PROJECT
6' HIGH CHAIN LINK FENCE WITH ART GRAPHICS (SEE SIGNAGE PLANS FOR DETAILS OF ART GRAPHICS)
5' WIDE CONCRETE SIDEWALK (TYP)
PROPOSED LIGHT FIXTURE (TYP.) (SEE LANDSCAPE & LIGHTING PLANS)
TYPE 1 H.C. RAMP
TYPE 11 H.C. RAMP (TYP. OF 3)
CONCRETE PAD/WALK
W-BEAM GUIDERAIL AT 6'-3" POST SPACING (TYP.)
SOLDIER PILE RETAINING WALL WITH PARAPET (TYP.)
FIRST LEVEL ENTRANCE
W-BEAM GUIDERAIL CONCRETE ANCHORAGE END SECTION
6" WIDE PAINTED CROSSWALK
18" WHITE PAINTED STOP BAR (TYP)
24" WHITE PAINTED STOP BAR (TYP)
12'x38' LOADING (2ND LEVEL)
15'x40' LOADING (1ST LEVEL)
LOADING AREA (45'X24')
PROPOSED R.O.W. - LOCATION TO BE FINALIZED AS PART OF CITY'S ROADWAY PROJECT
ROADWAY DESIGN BY CITY
GUILDING IDENTIFICATION/ MONUMENT SIGN (SEE LANDSCAPE PLANS)
MONUMENT SIGN (SEE LANDSCAPE PLANS)
DRY WELL - SEE LANDSCAPE PLANS
BIKE PATH (SEE LANDSCAPE PLANS)
BENCHES (TYP.)
4' HIGH CHAIN LINK FENCE IN FRONT OF RETAINING WALL (HIGH SIDE)
MODULAR BLOCK RETAINING WALL (TYP.)
RETAINING SCREEN WALL (SEE LANDSCAPE PLANS)
RETAINING WALL (TYP.) (SEE LANDSCAPE PLANS)
INSTALL MODULAR BLOCK RETAINING WALL IF REQUIRED TO MEET EXISTING GRADES ON ADJACENT PROPERTY - ALLOWANCE NO. 1
GRASSROAD PAVER - EMERGENCY ACCESS
PILE SUPPORTED ESPLANADE (SEE LANDSCAPE AND BULKHEAD PLANS (TYP.)
PROPOSED LOW SILL BULKHEAD (SEE BULKHEAD PLANS BY ADVANCED AMERICAN ENGINEERING)
PROPOSED LIGHT FIXTURE (TYP.) (SEE LANDSCAPE & LIGHTING PLANS)
LOW SILL WETLANDS PLANTING AREA (SEE LANDSCAPE PLANS)
PROPOSED R.O.W. - LOCATION TO BE FINALIZED AS PART OF CITY'S ROADWAY PROJECT
RAIN GARDEN (SEE LANDSCAPE PLANS)
PROPOSED R.O.W. - LOCATION TO BE FINALIZED AS PART OF CITY'S ROADWAY PROJECT
PROPOSED LIGHT FIXTURE (TYP.) (SEE LANDSCAPE & LIGHTING PLANS)
PROPOSED LIGHT FIXTURE (TYP.) (SEE LANDSCAPE & LIGHTING PLANS)
RETAINING WALLS (SEE LANDSCAPE PLANS)
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LOADING AREA (45'X24')
PROPOSED LIGHT FIXTURE (TYP.) (SEE LANDSCAPE & LIGHTING PLANS)
RETAINING WALL (TYP.) (SEE LANDSCAPE PLANS)
BIKE PATH (SEE LANDSCAPE PLANS)
GRASSROAD PAVER - EMERGENCY ACCESS
BENCHES
BENCH
WALKWAY (SEE LANDSCAPE PLANS)
PARK (SEE LANDSCAPE PLANS)
LAWN
BENCH
BIKE PATH
PROPOSED BULKHEAD (SEE BULKHEAD PLANS BY ADVANCED AMERICAN ENGINEERING)
PILE SUPPORTED ESPLANADE (SEE LANDSCAPE AND BULKHEAD PLANS (TYP.)
PROPOSED LIGHT FIXTURE (TYP.) (SEE LANDSCAPE & LIGHTING PLANS)
PROPOSED R.O.W. - LOCATION TO BE FINALIZED AS PART OF CITY'S ROADWAY PROJECT
RETAINING WALLS (SEE LANDSCAPE PLANS)
RETAINING WALLS (SEE LANDSCAPE PLANS)
RETAINING WALLS (SEE LANDSCAPE PLANS)
MONUMENT SIGN (SEE LANDSCAPE PLANS)
SIGNAGE (SEE LANDSCAPE PLANS)
EXISTING R.O.W.
IRRIGATION CHAMBER #2
BENCH
ELECTRICAL SWITCHGEAR PADS (COORDINATE WITH PSE&G)
PROPOSED R.O.W. - LOCATION TO BE FINALIZED AS PART OF CITY'S ROADWAY PROJECT
EXISTING STRUCTURES, LANDSCAPE MAT'L AND DEBRIS TO BE REMOVED (TYP.)
6' HIGH CHAIN LINK FENCE WITH ART GRAPHICS (SEE SIGNAGE PLANS FOR DETAILS OF ART GRAPHICS)
FUTURE GARVIES POINT RD PUMP STATION (N.I.C.)
EXISTING SANITARY PUMP STATION TO REMAIN
PROPOSED R.O.W. - LOCATION TO BE FINALIZED AS PART OF CITY'S ROADWAY PROJECT
RAIN GARDEN (SEE LANDSCAPE PLANS)
TEMPORARY RETAINING WALL TO ABUT RETAINING WALL INSTALLED AS PART OF ROADWAY PROJECT
INSTALL TEMPORARY 6' HIGH CHAIN LINK FENCE
PROPOSED R.O.W. - LOCATION TO BE FINALIZED AS PART OF CITY'S ROADWAY PROJECT
PILE SUPPORTED ESPLANADE (SEE LANDSCAPE AND BULKHEAD PLANS (TYP.)
5'X5' CABLEVISION EQUIPMENT PAD
GRASSROAD PAVER - EMERGENCY ACCESS
BRICK PLAZA (SEE LANDSCAPE PLANS)
INTERIM RETAINING WALLS TO BE INSTALLED AS PART OF CITY'S ROADWAY PROJECT (SEE INSET ON C-9 FOR INTERIM IMPROVEMENTS AT PUMP STATION) -- WALLS AND FENCES TO REMAIN UNTIL NEW PUMP STATION IS CONSTRUCTED AND OPERATIONAL (N.I.C)
INSTALL TEMPORARY CONCRETE RETAINING WALL AND 6' HIGH CHAIN LINK FENCE
NEW ANGLERS CLUBHOUSE
COVERED DECK
EXISTING SANITARY SIPHON CHAMBER TO REMAIN
PILE SUPPORTED ESPLANADE (SEE LANDSCAPE AND BULKHEAD PLANS (TYP.)
BIKE PATH (TYP.) (SEE LANDSCAPE PLANS)
LIGHT POLE (TYP.) (SEE LIGHTING PLANS PREPARED BY MPFP)
PROPOSED BULKHEAD (TYP). SEE BULKHEAD PLANS BY ADVANCED AMERICAN ENGINEERING
PROPOSED ANGLERS CLUB MARINA/FLOATING DOCK - SEE PLANS BY ADVANCED ENGINEERING TOTAL NUMBER OF SLIPS =38
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FLOATING DOCKS/MARINA (SEE PLANS BY ADVANCED AMERICAN ENGINEERING) TOTAL NUMBER OF SLIPS =56
PROPOSED LIGHT FIXTURE (TYP.) (SEE LANDSCAPE & LIGHTING PLANS)
LIGHT POLE TO BE INSTALLED AS PART OF CITY'S ROADWAY PROJECT (TYP.)
PILE SUPPORTED ESPLANADE (SEE LANDSCAPE AND BULKHEAD PLANS (TYP.)
FUTURE BULKHEAD
MEET EXISTING BULKHEAD/LIMIT OF PHASE I DEVELOPEMENT
GRASSROAD PAVER - EMERGENCY ACCESS
BRICK PLAZA (SEE LANDSCAPE PLANS)
5'X5' CABLEVISION EQUIPMENT PAD
TRANSFORMER PADS (COORDINATE WITH PSE&G)
ELECTRICAL PAD (COORDINATE WITH PSE&G)
TRANSFORMER / SWITCH GEAR PADS
APPROX. LOCATION OF FORMER BUILDING (TYP.)
PHASE I PROJECT STA. 34+10
CITY ROADWAY PROJECT
MEET CURB INSTALLED AS PART OF ROADWAY PROJECT
CROSS HATCH YELLOW
EDGE LINE (TYP.) 4" YELLOW
FULL BARRIER LINE (TYP.) 4" DOUBLE YELLOW
RELOCATE SIGN INSTALLED AS ROADWAY PROJECT
6' HIGH CHAIN LINK FENCE WITH ART GRAPHICS (SEE SIGNAGE PLANS FOR DETAILS OF ART GRAPHICS)
5' WIDE CONCRETE SIDEWALK (TYP)
PROPOSED LIGHT FIXTURE (TYP.) (SEE LANDSCAPE & LIGHTING PLANS)
TYPE 1 H.C. RAMP
TYPE 11 H.C. RAMP (TYP. OF 3)
CONCRETE PAD/WALK
W-BEAM GUIDERAIL AT 6'-3" POST SPACING (TYP.)
SOLDIER PILE RETAINING WALL WITH PARAPET (TYP.)
FIRST LEVEL ENTRANCE
W-BEAM GUIDERAIL CONCRETE ANCHORAGE END SECTION
6" WIDE PAINTED CROSSWALK
18" WHITE PAINTED STOP BAR (TYP)
24" WHITE PAINTED STOP BAR (TYP)
12'x38' LOADING (2ND LEVEL)
15'x40' LOADING (1ST LEVEL)
ROADWAY DESIGN BY CITY
PROPOSED R.O.W. - LOCATION TO BE FINALIZED AS PART OF CITY'S ROADWAY PROJECT
GUILDING IDENTIFICATION/ MONUMENT SIGN (SEE LANDSCAPE PLANS)
MONUMENT SIGN (SEE LANDSCAPE PLANS)
DRY WELL - SEE LANDSCAPE PLANS
BIKE PATH (SEE LANDSCAPE PLANS)
BENCHES (TYP.)
4' HIGH CHAIN LINK FENCE IN FRONT OF RETAINING WALL (HIGH SIDE)
MODULAR BLOCK RETAINING WALL (TYP.)
RETAINING SCREEN WALL (SEE LANDSCAPE PLANS)
RETAINING WALL (TYP.) (SEE LANDSCAPE PLANS)
INSTALL MODULAR BLOCK RETAINING WALL IF REQUIRED TO MEET EXISTING GRADES ON ADJACENT PROPERTY - ALLOWANCE NO. 1
GRASSROAD PAVER - EMERGENCY ACCESS
PILE SUPPORTED ESPLANADE (SEE LANDSCAPE AND BULKHEAD PLANS (TYP.)
PROPOSED LOW SILL BULKHEAD (SEE BULKHEAD PLANS BY ADVANCED AMERICAN ENGINEERING)
PROPOSED LIGHT FIXTURE (TYP.) (SEE LANDSCAPE & LIGHTING PLANS)
LOW SILL WETLANDS PLANTING AREA (SEE LANDSCAPE PLANS)
PROPOSED R.O.W. - LOCATION TO BE FINALIZED AS PART OF CITY'S ROADWAY PROJECT
RAIN GARDEN (SEE LANDSCAPE PLANS)
PROPOSED R.O.W. - LOCATION TO BE FINALIZED AS PART OF CITY'S ROADWAY PROJECT

PUD PARKING SUMMARY

Block	Planned Uses	Zoning Requirements/ Consistency with Findings	Parking Required	Planned Inventory: Private/ Off-St	Private/ On-St	Public/ On-St	Valet Loading	Total	Surplus/ Deficit	Potential Landbank	New Inventory	Surplus/ Deficit	ADA Spaces: Req'd	ADA Spaces: Prov.
East Parcel														
Res/Comm. Uses														
Block H	*177 rental units*	*1.65 /unit*	*293*	*311*				*311*	*6*				*8*	*8*
	3,055 sf retail	*1/265 /sf retail*	*12*											
Block I	*208 rental units*	*1.65 /unit*	*344*	*332*				*332*	*-12*				*8*	*8*
Block D	*50,000 sf office bldg*	*1/274 /sf office*	*183*	*250*				*250*	*67*				*7*	*7*
Block E	*101 rental units*	*1.65 /unit*	*167*	*167*				*167*	*0*				*6*	*6*
Block F	*56 condo workforce units*	*1.85 /unit*	*104*	*97*				*97*	*-7*				*4*	*5*
Block G	*55 rental workforce units*	*1.65 /unit*	*91*	*90*				*90*	*-1*				*4*	*6*
Block J	*14,570 sf retail*	*1/265 /sf retail*	*55*					*0*	*-55*				*0*	*0*
Road E					*18*			*18*	*18*				*1*	*2*
Road F					*10*			*10*	*10*				*1*	*1*
Subtotal - Res/Commercial			**1249**	**1247**	**28**			**1275**	**26**		**1275**	**26**	**39**	**43**
Public Uses														
Transient Marina & Anglers Marina	*95 slips*	*0.63 per slip*	*60*											
Accessible Park	*11 acres*	*2.62 per acre*	*29*											
Subtotal - Public			**89**			**125**		**125**	**36**		**125**	**36**	**5**	**5**
Total East Side			**1338**	**1247**	**28**	**125**		**1400**	**62**		**1400**	**62**	**44**	**48**
West Parcel														
Res/Comm. Uses														
Blocks A1 and A2	*346 condo units*	*1.85 /unit*	*641*	*524*			*117*	*641*	*-63**				*13*	*13*
Restaurant	*3,000 sf*	*1/53 /sf rest.*	*63**											
Block B	*167 condo units*	*1.85 /unit*	*309*	*312*				*312*	*3*				*8*	*9*
Subtotal - Residential			**1013**	**836**			**117**	**953**	**-60**		**953**	**-60**	**21**	**22**
Public Uses														
Small Boat Marina	*25 slips*	*0.63 per slip*	*16*											
Accessible Park	*7.35 acres*	*2.62 per acre*	*20*											
Sunset Beach	*1.4 acres*	*8 per acre*	*12*											
Subtotal - Public			*48*			*130*	*6*	*136*	*88*	*69*	*205*	*157*	*7*	*13*
Total West Side			**1061**	**836**	**0**	**130**	**123**	**1089**	**28**	*69*	*1158*	*97*	**28**	**35**
Totals			**2399**	**2083**	**28**	**255**	**123**	**2489**	**90**	**69**	**2558**	**159**	**72**	**83**

*Includes 57 spaces + 6 valet spaces along Road A
Note: Parking tabulation is representative of the full PUD Development (Phase I, Phase II and future Block J)
Required accessible parking numbers are based upon Table 208.2 of the ADAAG



SIGN SCHEDULE

SIGN SYMBOL	SIGN	M.U.T.C.D. NO.	LEGEND	SIZE	PUBLIC QTY.	DEVEL. QTY.	MOUNTING HEIGHT
S-1	STOP	R1-1	STOP	30"x30"	3	4	7'-0"
S-2	SPEED LIMIT XX	R2-1	SPEED LIMIT	24"x30"	7	–	7'-0"
S-3	NO PARKING ANY TIME	R7-1	NO PARKING	12"x18"	12	2	7'-0"
S-4	RESERVED PARKING VIOLATORS SUBJECT TO FINE	R7-8 R7-8P	RESERVED PARKING (HANDICAP SYMBOL)	12"x18" 12"x6"	– –	5 5	7'-0"
S-5	15 MINUTE LOADING ZONE ONLY	–	LOADING ZONE	12"x18"	–	2	7'-0"
S-6		W1-1	LEFT TURN RIGHT TURN	30"x30" 30"x30"	1 1	–	7'-0"
S-7	AHEAD	W1-1 W16-9P	LEFT TURN AHEAD LEFT TURN AHEAD	30"x30" 24"x12" 30"x30" 24"x12"	1 1	–	7'-0"
S-8	CAUTION	–	CAUTION (TEMPORARY) (SEE DETAIL)	36"x24"	2 (SEE OVERALL SITE PLAN)	–	7'-0"

NOTES:

1. NO SIGN MAY BE POSTED ON THE REAR-SIDE OF A STOP SIGN IF SAID SIGN IS LARGE ENOUGH TO OBSCURE THE OCTAGON SHAPE.
2. MOUNTING HEIGHT MEASURED FROM FINISHED GRADE OF WALKING SURFACE OR TOP OF CURB TO THE BOTTOM OF THE LOWEST SIGN.
3. CONTRACTOR TO PROVIDE PRODUCT SUBMITTAL OF ALL SIGNS TO OWNER'S REPRESENTATIVE.
4. SPEED LIMIT FOR DICKSON STREET TO BE DETERMINED BY CITY COUNCIL. PROVIDE 15 MPH SPEED LIMIT SIGNS FOR PROPOSED ROAD F & ROAD G.

REV./ ISSUE	DATE	DESCRIPTION
1	10/01/12	PUD SITE PLAN SUBMISSION
2	5/23/14	REV. PER CITY COMMENTS
3	8/14/14	REV. PER CITY COMMENTS
4	11/14/14	REV. PER CITY COMMENTS
5	1/22/15	PROGRESS SET
6	4/10/15	PROGRESS SET
7	6/22/15	CD SET
8	7/30/15	ISSUED FOR BUILDING PERMIT
9	2/19/16	ISSUED FOR PRICING
~~10~~	~~3/31/16~~	~~ISSUED FOR BID SET~~
11	8/08/16	ISSUED FOR BID
12	12/22/16	REV. PER CITY COMMENTS
13	12/23/16	ADDENDUM No. 1
14	3/08/17	PARCEL A, DOXEY AND GLADSKY PROPERTIES EWE'S

CONSULTANT

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ORIENTATION / KEY PLAN

NORTH

GRAPHIC SCALE
40 0 20 40 80
(IN FEET)
1 inch = 40 ft.

PAUL.US. SOKOLOWSKI AND SARTOR ENGINEERING, P.C.
PSeS
67B MOUNTAIN BLVD EXT.
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WARREN, NEW JERSEY 07059
PHONE: (732) 560-9700

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JOSEPH J. FLEMING, P.E.
PROFESSIONAL ENGINEER
N.Y. LIC. NO. 66591

SIGNATURE DATE

CLIENT

RXR GLEN ISLE PARTNERS LLC

PROJECT

GARVIES POINT WATERFRONT REDEVELOPMENT PHASE I

CITY OF GLEN COVE, NASSAU COUNTY, NEW YORK

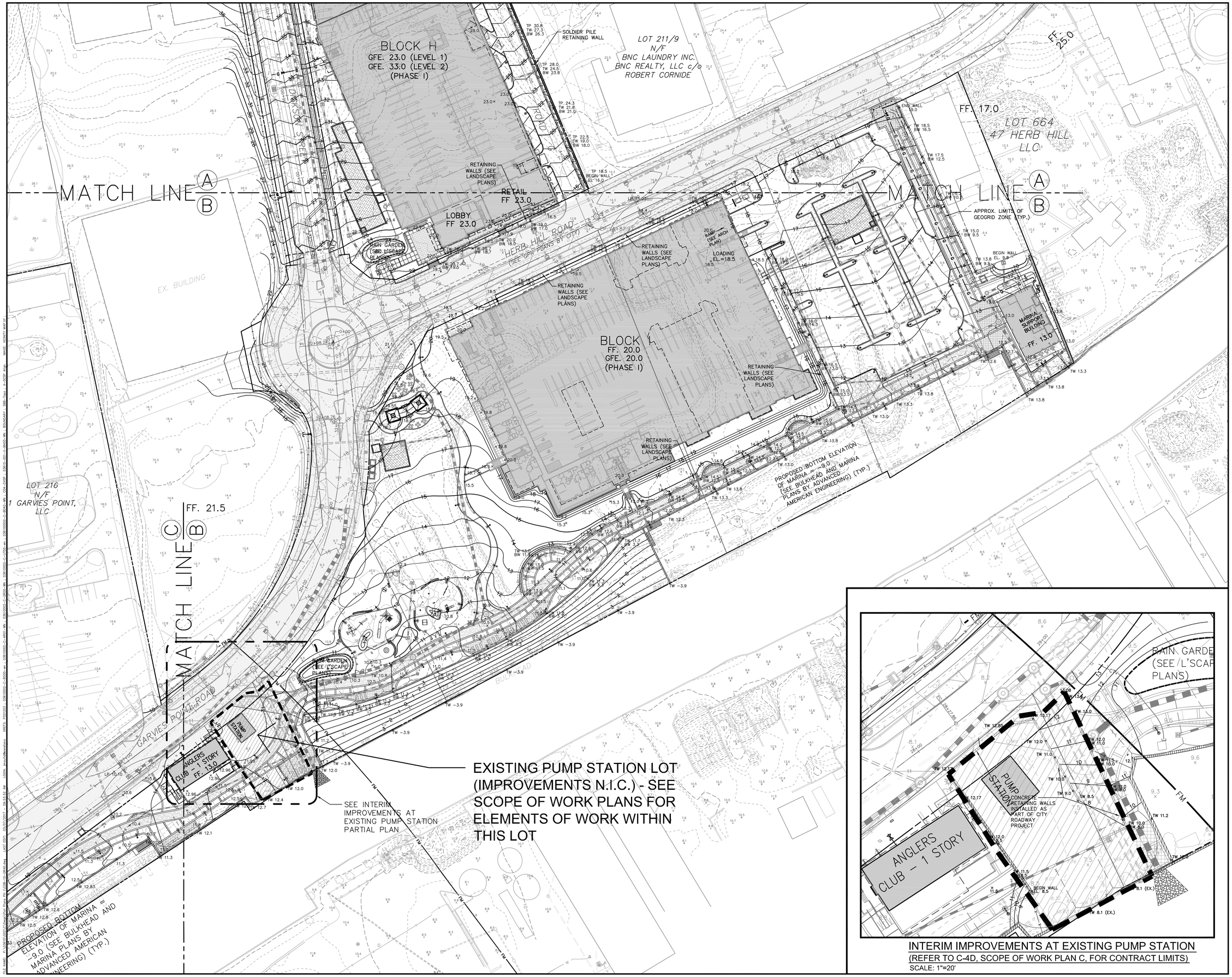
SHEET TITLE

SITE PLAN C

JOB NO.: 03610-0002
DATE: 9/27/2012
DRAWN: GY
CHECK: PAR
SCALE: 1"=40'

BINDING ORDER:
SHEET OF
SHEET NO.

C-7



INTERIM IMPROVEMENTS AT EXISTING PUMP STATION
(REFER TO C-4D, SCOPE OF WORK PLAN C, FOR CONTRACT LIMITS)
SCALE: 1"=20'

REV. / ISSUE	DATE	DESCRIPTION
1	10/01/12	PUD SITE PLAN SUBMISSION
2	5/23/14	REV. PER CITY COMMENTS
3	8/14/14	REV. PER CITY COMMENTS
4	1/22/15	PROGRESS SET
5	4/10/15	PROGRESS SET
6	6/22/15	CD SET
7	7/24/15	ISSUED FOR BUILDING PERMIT
8	2/19/16	ISSUED FOR PRICING
~~9~~	~~3/31/16~~	~~ISSUED FOR BID SET~~
10	8/08/16	ISSUED FOR BID
11	11/28/16	REV. PER CITY COMMENTS
12	3/08/17	PARCEL A, DOXEY AND GLADSKY PROPERTIES LMP'S

CONSULTANT

MINNO WASKO
ARCHITECTS AND PLANNERS
80 LAMBERT LANE, SUITE 105, LAMBERTVILLE, NEW JERSEY 08530 MINNOWASKO.COM

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fax. 212. 477. 6548

ORIENTATION / KEY PLAN

NORTH

GRAPHIC SCALE
40 0 20 40 80
(IN FEET)
1 inch = 40 ft.

PAULUS, SOKOLOWSKI AND SARTOR ENGINEERING, P.C.
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JOSEPH J. FLEMING, P.E.
PROFESSIONAL ENGINEER
N.Y. LIC. NO. 66591

SIGNATURE DATE

CLIENT

RXR GLEN ISLE PARTNERS LLC

PROJECT

GARVIES POINT WATERFRONT REDEVELOPMENT PHASE I

CITY OF GLEN COVE, NASSAU COUNTY, NEW YORK

SHEET TITLE

GRADING PLAN B

JOB NO.: 03610-0002
DATE: 9/27/2012
DRAWN: GY
CHECK: PAR
SCALE: 1"=40'

BINDING ORDER:
SHEET OF
SHEET NO.

C-9

LOT 643
N/F
76 NORTH
REALTY CO., LLC

EX. BUILDING

LOT 468
N/F
1 GARVIES POINT,
LLC

EX. BUILDING

1 GARVIES POINT,
LLC

MATCH LINE (C)(B)

FF. 21.5

GARVIES POINT ROAD

ROAD

CLUB
ANGLERS
1 STORY
FF. 13.0

POOL
STATION

ROAD
GARDEN
(SEE L.SCAPE
PLANS)

PROPOSED BOTTOM ELEVATION OF MARINA = -9.0 (SEE BULKHEAD AND MARINA PLANS BY ADVANCED AMERICAN ENGINEERING) (TYP.)

APPROX. LIMITS OF GEOGRID ZONE (TYP.)

BEGIN WALL EL. 13.2

BULKHEAD

FLOATING DOCKS

GRAVEL AREA

CONCRETE PAVEMENT

PAVED AREA

UNDER CONSTRUCTION

REV./ ISSUE	DATE	DESCRIPTION
1	10/01/12	PUD SITE PLAN SUBMISSION
2	5/23/14	REV. PER CITY COMMENTS
3	8/14/14	REV. PER CITY COMMENTS
4	1/22/15	PROGRESS SET
5	4/10/15	PROGRESS SET
6	6/22/15	CD SET
7	7/24/15	ISSUED FOR BUILDING PERMIT
8	2/19/16	ISSUED FOR PRICING
9	~~3/31/16~~	~~ISSUED FOR BID SET~~
10	8/08/16	ISSUED FOR BID
11	11/28/16	REV. PER CITY COMMENTS
12	3/08/17	PARCEL A, DOXEY AND GLADSKY PROPERTIES LIMIT'S

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fax. 212. 477. 6548

ORIENTATION / KEY PLAN

NORTH

GRAPHIC SCALE

40 0 20 40 80

(IN FEET)
1 inch = 40 ft.

PAULUS, SOKOLOWSKI AND SARTOR ENGINEERING, P.C.

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JOSEPH J. FLEMING, P.E.
PROFESSIONAL ENGINEER
N.Y. LIC. NO. 66591

SIGNATURE DATE

CLIENT

RXR GLEN ISLE PARTNERS LLC

PROJECT

GARVIES POINT
WATERFRONT
REDEVELOPMENT
PHASE I

CITY OF GLEN COVE, NASSAU COUNTY, NEW YORK

SHEET TITLE

GRADING
PLAN C

JOB NO.: 03610-0002
DATE: 9/27/2012
DRAWN: GY
CHECK: PAR
SCALE: 1"=40'

BINDING ORDER:
SHEET OF
SHEET NO.

C-10

PLOT DATE = 03/07/2017 - 10:53:10 AM USER = jmcclellan@psands.com FILES = 03610000-C-GRDP.dwg, 03610000-C-UTPD.dwg, 03610000-C-PROF-WA.dwg, 03610000-C-SWDA.dwg, 03610000-C-BNDY.dwg, 03610000-C-TOPO.dwg, 03610000-C-EXPA.dwg XREFS = P:\01-2013 Projects\Garvies Point Phase I\CAD\Xrefs\03610000-C-BNDY.dwg LAST EDIT = 03/07/2017 - 10:53:10 AM LOGIN = jmcclellan PLOT STYLE TABLE = MASS_MONTY MAP.ctb PLOT SCALE = 1.0000 '= 1.0000' DWG = P:\01-2013 Projects\Garvies Point Phase I\CAD\Layouts\Grading Plans\C-10-GRDP.dwg XREF NAME = N:\03610\0000\Design\Xrefs\03610000-C-BNDY.dwg

MATCH LINE A

MATCH LINE B

EXISTING PUMP STATION LOT (IMPROVEMENTS N.I.C.) - SEE SCOPE OF WORK PLANS FOR ELEMENTS OF WORK WITHIN THIS LOT

REV./ ISSUE	DATE	DESCRIPTION
1	10/01/12	PUD SITE PLAN SUBMISSION
2	5/23/14	REV. PER CITY COMMENTS
3	8/14/14	REV. PER CITY COMMENTS
4	1/22/15	PROGRESS SET
5	4/10/15	PROGRESS SET
6	7/30/15	ISSUED FOR BUILDING PERMIT
7	2/19/16	ISSUED FOR PRICING
8	~~3/31/16~~	~~ISSUED FOR BID SET~~
9	8/08/16	ISSUED FOR BID
10	11/28/16	REV. PER CITY COMMENTS
11	12/22/16	REV. PER CITY COMMENTS
12	12/23/16	ADDENDUM No. 1
13	3/08/17	PARCEL A, DOXEY AND GLADSKY PROPERTIES, EWP'S

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ORIENTATION / KEY PLAN

NORTH

GRAPHIC SCALE

40 0 20 40 80

(IN FEET)
1 inch = 40 ft.

PAULUS, SOKOLOWSKI AND SARTOR ENGINEERING, P.C.
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PROFESSIONAL ENGINEER
N.Y. LIC. NO. 66591

SIGNATURE DATE

CLIENT

RXR GLEN ISLE PARTNERS LLC

PROJECT

GARVIES POINT WATERFRONT REDEVELOPMENT PHASE I

CITY OF GLEN COVE, NASSAU COUNTY, NEW YORK

SHEET TITLE

UTILITY PLAN B

JOB NO.: 03610-0001
DATE: 9/27/2012
DRAWN: GY
CHECK: PAR
SCALE: 1"=40'

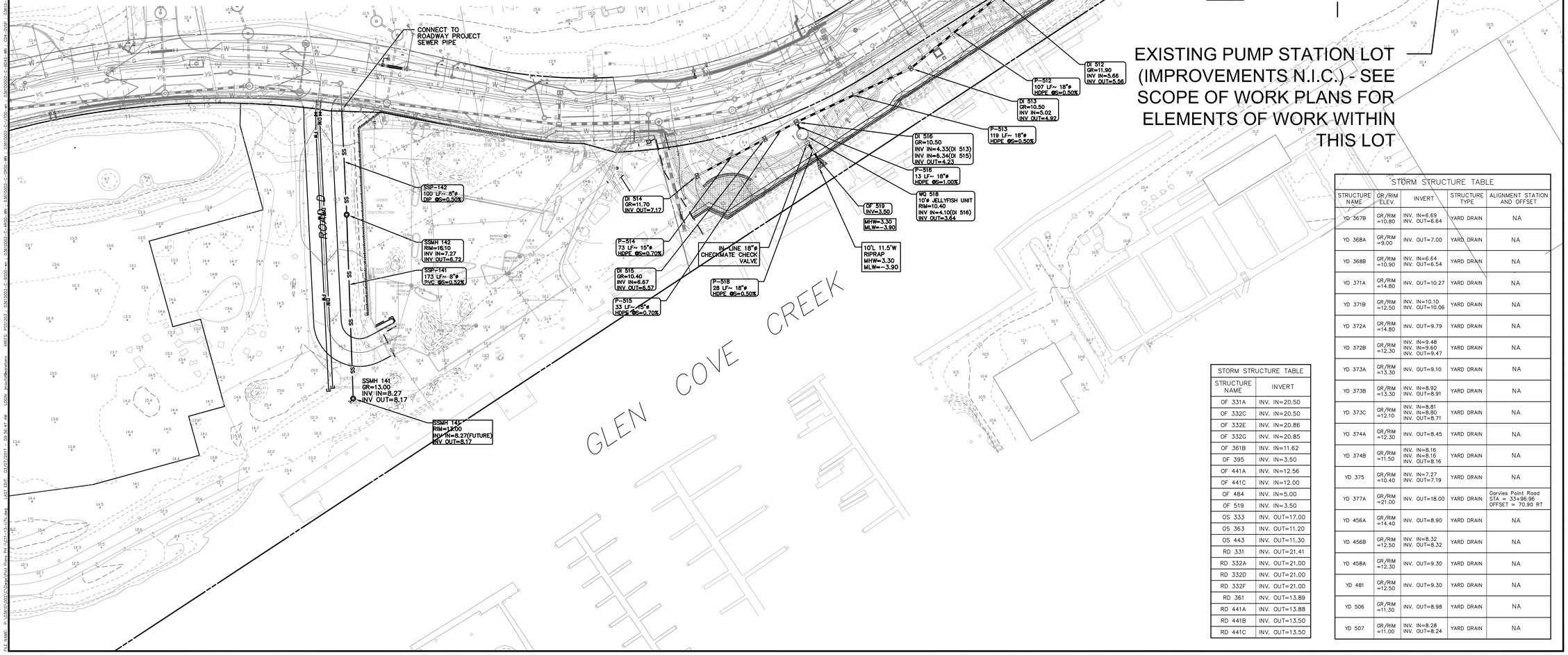
BINDING ORDER:
SHEET OF
SHEET NO.

C-12

STORM STRUCTURE TABLE				
STRUCTURE NAME	GR/RIM ELEV.	INVERT	STRUCTURE TYPE	ALIGNMENT STATION AND OFFSET
DI 305	GR/RIM =36.40	INV. OUT=33.66	TYPE E INLET	NA
DI 306	GR/RIM =38.10	INV. IN=34.35 INV. OUT=34.25	TYPE B INLET	Road F STA = 1+49.29 OFFSET = 13.00 RT
DI 306A	GR/RIM =38.10	INV. OUT=34.60	TYPE E INLET	Road F STA = 1+49.29 OFFSET = -12.00 LT
DI 308	GR/RIM =39.40	INV. OUT=31.69	TYPE B INLET	NA
DI 309	GR/RIM =33.20	INV. OUT=29.70	TYPE B INLET	NA
DI 310	GR/RIM =33.20	INV. IN=27.85 INV. IN=29.45 INV. OUT=25.38	TYPE B INLET	NA
DI 311	GR/RIM =24.00	INV. OUT=20.62	TYPE B INLET	NA
DI 312	GR/RIM =24.00	INV. IN=19.51 INV. IN=20.35 INV. OUT=16.97	TYPE B INLET	NA
DI 313	GR/RIM =15.80	INV. OUT=12.28	TYPE B INLET	NA
DI 314	GR/RIM =15.80	INV. IN=12.03 INV. IN=12.10 INV. OUT=11.71	TYPE B INLET	NA
DI 327A	GR/RIM =40.50	INV. IN=33.46 INV. IN=32.34 INV. OUT=32.24	TYPE E INLET	Garvies Point Road STA = 38+49.56 OFFSET = 49.49 RT
DI 328	GR/RIM =39.80	INV. IN=31.72 INV. IN=33.14 INV. OUT=31.62	TYPE B INLET	Garvies Point Road STA = 38+00.89 OFFSET = 40.71 RT
DI 329	GR/RIM =34.50	INV. IN=29.54 INV. OUT=29.44	TYPE A INLET	Garvies Point Road STA = 36+62.00 OFFSET = 38.07 RT
DI 330	GR/RIM =31.80	INV. IN=27.80 INV. OUT=27.70	TYPE A INLET	NA
DI 335	GR/RIM =25.40	INV. IN=21.40 INV. IN=16.76 INV. OUT=16.65	TYPE E INLET	Garvies Point Road STA = 34+21.96 OFFSET = 42.58 RT
DI 337	GR/RIM =23.15	INV. IN=17.80 INV. IN=16.00 INV. OUT=15.91	TYPE E INLET	Garvies Point Road STA = 33+81.88 OFFSET = 58.52 RT
DI 362A	GR/RIM =19.30	INV. OUT=15.00	TYPE A INLET	NA
DI 365	GR/RIM =13.30	INV. IN=8.69 INV. OUT=8.59	TYPE E INLET	NA
DI 368C	GR/RIM =12.20	INV. OUT=7.77	TYPE A INLET	NA
DI 368D	GR/RIM =9.50	INV. IN=6.45 INV. IN=6.47 INV. OUT=6.33	TYPE A INLET	NA
DI 447	GR/RIM =15.82	INV. OUT=12.00	TYPE B INLET	NA
DI 448	GR/RIM =15.80	INV. OUT=12.00	TYPE B INLET	NA
DI 450	GR/RIM =13.25	INV. OUT=9.70	TYPE B INLET	NA
DI 451	GR/RIM =13.25	INV. OUT=9.70	TYPE B INLET	NA

STORM STRUCTURE TABLE				
STRUCTURE NAME	GR/RIM ELEV.	INVERT	STRUCTURE TYPE	ALIGNMENT STATION AND OFFSET
DI 453	GR/RIM =14.70	INV. OUT=10.90	TYPE B INLET	NA
DI 455	GR/RIM =11.90	INV. IN=8.23 INV. OUT=8.19	TYPE B INLET	NA
DI 456	GR/RIM =11.95	INV. IN=7.85 INV. IN=8.00 INV. OUT=7.75	TYPE B INLET	NA
DI 458	GR/RIM =11.90	INV. IN=8.80 INV. IN=7.04 INV. OUT=6.94	TYPE B INLET	NA
DI 470	GR/RIM =9.65	INV. OUT=7.32	TYPE E INLET	NA
DI 471	GR/RIM =12.50	INV. IN=7.18 INV. IN=7.40 INV. OUT=7.00	TYPE E INLET	NA
DI 509	GR/RIM =10.50	INV. IN=7.80 INV. IN=7.40 INV. OUT=7.30	TYPE E INLET	Garvies Point Road STA = 26+44.40 OFFSET = 42.74 RT
DI 510	GR/RIM =11.60	INV. IN=6.78 INV. OUT=6.68	TYPE A INLET	NA
DI 511	GR/RIM =11.40	INV. IN=6.23 INV. OUT=6.13	TYPE A INLET	NA
DI 512	GR/RIM =11.90	INV. IN=5.66 INV. OUT=5.56	TYPE A INLET	NA
DI 513	GR/RIM =10.50	INV. IN=5.02 INV. OUT=4.92	TYPE A INLET	NA
DI 514	GR/RIM =11.70	INV. OUT=7.17	TYPE A INLET	NA
DI 515	GR/RIM =10.40	INV. IN=6.67 INV. OUT=6.57	TYPE A INLET	NA
DI 516	GR/RIM =10.50	INV. IN=4.33 INV. IN=6.34 INV. OUT=4.23	TYPE E INLET	NA
DI 520	GR/RIM =12.80	INV. OUT=9.19	TYPE A INLET	NA
DI 521	GR/RIM =12.00	INV. IN=8.93 INV. OUT=8.83	TYPE B OVERSIZE INLET	NA
DI 901	GR/RIM =50.40	INV. OUT=45.80	TYPE E INLET	Garvies Point Road STA = 40+36.95 OFFSET = -15.00 LT
DI 902	GR/RIM =50.30	INV. IN=45.50 INV. OUT=45.40	TYPE B INLET	Garvies Point Road STA = 40+36.95 OFFSET = 15.00 RT
DI 903	GR/RIM =41.90	INV. OUT=38.00	TYPE B INLET	Garvies Point Road STA = 38+45.04 OFFSET = -15.00 LT
DI 904	GR/RIM =41.90	INV. IN=37.65 INV. IN=37.70 INV. OUT=37.50	TYPE D INLET	Garvies Point Road STA = 38+43.12 OFFSET = 15.18 RT
DI 905	GR/RIM =32.50	INV. OUT=28.31	TYPE E INLET	Garvies Point Road STA = 36+09.99 OFFSET = -13.80 LT
DI 906	GR/RIM =32.50	INV. IN=28.17 INV. IN=28.00 INV. OUT=27.59	TYPE E INLET	Garvies Point Road STA = 36+09.97 OFFSET = 16.92 RT
INLET 26(GPR)	GR/RIM =24.10	INV. IN=19.70	TYPE B INLET	NA
MH 332B	GR/RIM =33.10	INV. IN=20.89 INV. OUT=20.79	4' DIA. MH	NA

STORM STRUCTURE TABLE				
STRUCTURE NAME	GR/RIM ELEV.	INVERT	STRUCTURE TYPE	ALIGNMENT STATION AND OFFSET
MH 360	GR/RIM =20.00	INV. IN=14.31 INV. IN=14.00 INV. OUT=13.50	5' DIA. MH	NA
MH 361A	GR/RIM =18.30	INV. IN=11.85 INV. OUT=11.75	4' DIA. MH	NA
MH 362	GR/RIM =19.30	INV. IN=13.16 INV. IN=14.46 INV. OUT=13.00	4' DIA. MH	NA
MH 364	GR/RIM =17.50	INV. IN=10.99 INV. IN=10.69 INV. OUT=10.55	4' DIA. MH	NA
MH 366	GR/RIM =10.60	INV. IN=6.71 INV. IN=7.06 INV. OUT=6.24	6' DIA. MH	NA
MH 367	GR/RIM =11.20	INV. IN=5.58 INV. IN=6.09 INV. IN=6.44 INV. OUT=5.50	6' DIA. MH	NA
MH 394	GR/RIM =11.20	INV. IN=4.21 INV. OUT=4.11	6' DIA. MH	NA
MH 444	GR/RIM =15.90	INV. IN=11.00 INV. OUT=10.90	4' DIA. MH	NA
MH 449	GR/RIM =15.95	INV. IN=11.70 INV. IN=11.70 INV. OUT=11.30	4' DIA. MH	NA
MH 452	GR/RIM =13.50	INV. IN=9.40 INV. IN=9.40 INV. IN=9.40 INV. OUT=8.69	5' DIA. MH	NA
MH 457	GR/RIM =12.40	INV. IN=7.75 INV. IN=7.53 INV. OUT=7.35	4' DIA. MH	NA
MH 460	GR/RIM =12.50	INV. IN=6.50 INV. IN=6.43 INV. OUT=6.33	4' DIA. MH	NA
MH 472	GR/RIM =13.20	INV. IN=6.77 INV. OUT=6.67	4' DIA. MH	NA
MH 480	GR/RIM =12.90	INV. IN=6.14 INV. IN=6.30 INV. OUT=6.04	5' DIA. MH	NA
MH 483	GR/RIM =12.70	INV. IN=5.30 INV. IN=8.87 INV. OUT=5.20	5' DIA. MH	NA
MH 522	GR/RIM =11.05	INV. IN=8.59 INV. OUT=8.49	4' DIA. MH	NA
MH 523	GR/RIM =10.78	INV. IN=8.38 INV. OUT=8.32	4' DIA. MH	NA
MH 524	GR/RIM =10.05	INV. IN=7.73 INV. OUT=7.73	4' DIA. MH	NA
WQ 390	GR/RIM =11.45	INV. IN=4.55 INV. OUT=4.34	WQ UNIT	NA
WQ 445	GR/RIM =12.70	INV. IN=8.11 INV. OUT=7.25	WQ UNIT	NA
WQ 459	GR/RIM =12.50	INV. IN=6.87 INV. OUT=6.53	WQ UNIT	NA
WQ 482	GR/RIM =12.60	INV. IN=9.00 INV. OUT=9.00	WQ UNIT	NA
WQ 518	GR/RIM =10.40	INV. IN=4.10 INV. OUT=3.64	WQ UNIT	NA
YD 367A	GR/RIM =10.50	INV. OUT=7.50	YARD DRAIN	NA



STORM STRUCTURE TABLE	
STRUCTURE NAME	INVERT
OF 331A	INV. IN=20.50
OF 332C	INV. IN=20.50
OF 332E	INV. IN=20.86
OF 332G	INV. IN=20.85
OF 361B	INV. IN=11.62
OF 395	INV. IN=3.50
OF 441A	INV. IN=12.56
OF 441C	INV. IN=12.00
OF 484	INV. IN=5.00
OF 519	INV. IN=3.50
OS 333	INV. OUT=17.00
OS 363	INV. OUT=11.20
OS 443	INV. OUT=11.30
RD 331	INV. OUT=21.41
RD 332A	INV. OUT=21.00
RD 332D	INV. OUT=21.00
RD 332F	INV. OUT=21.00
RD 361	INV. OUT=13.89
RD 441A	INV. OUT=13.88
RD 441B	INV. OUT=13.50
RD 441C	INV. OUT=13.50

STORM STRUCTURE TABLE				
STRUCTURE NAME	GR/RIM ELEV.	INVERT	STRUCTURE TYPE	ALIGNMENT STATION AND OFFSET
YD 367B	GR/RIM =10.80	INV. IN=6.69 INV. OUT=6.64	YARD DRAIN	NA
YD 368A	GR/RIM =9.00	INV. OUT=7.00	YARD DRAIN	NA
YD 368B	GR/RIM =10.90	INV. IN=6.64 INV. OUT=6.54	YARD DRAIN	NA
YD 371A	GR/RIM =14.80	INV. OUT=10.27	YARD DRAIN	NA
YD 371B	GR/RIM =12.50	INV. IN=10.10 INV. OUT=10.06	YARD DRAIN	NA
YD 372A	GR/RIM =14.80	INV. OUT=9.79	YARD DRAIN	NA
YD 372B	GR/RIM =12.30	INV. IN=9.48 INV. IN=9.60 INV. OUT=9.47	YARD DRAIN	NA
YD 373A	GR/RIM =13.30	INV. OUT=9.10	YARD DRAIN	NA
YD 373B	GR/RIM =13.30	INV. IN=8.92 INV. OUT=8.91	YARD DRAIN	NA
YD 373C	GR/RIM =12.10	INV. IN=8.81 INV. IN=8.80 INV. OUT=8.71	YARD DRAIN	NA
YD 374A	GR/RIM =12.30	INV. OUT=8.45	YARD DRAIN	NA
YD 374B	GR/RIM =11.50	INV. IN=8.16 INV. IN=8.16 INV. OUT=8.16	YARD DRAIN	NA
YD 375	GR/RIM =10.40	INV. IN=7.27 INV. OUT=7.19	YARD DRAIN	NA
YD 377A	GR/RIM =21.00	INV. OUT=18.00	YARD DRAIN	Garvies Point Road STA = 33+96.96 OFFSET = 70.80 RT
YD 456A	GR/RIM =14.40	INV. OUT=8.90	YARD DRAIN	NA
YD 456B	GR/RIM =12.50	INV. IN=8.32 INV. OUT=8.32	YARD DRAIN	NA
YD 458A	GR/RIM =12.30	INV. OUT=9.30	YARD DRAIN	NA
YD 481	GR/RIM =12.50	INV. OUT=9.30	YARD DRAIN	NA
YD 506	GR/RIM =11.30	INV. OUT=8.98	YARD DRAIN	NA
YD 507	GR/RIM =11.00	INV. IN=8.28 INV. OUT=8.24	YARD DRAIN	NA

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9	8/08/16	ISSUED FOR BID
10	12/22/16	REV. PER CITY COMMENTS
11	12/23/16	ADDENDUM No. 1
12	3/08/17	PARCEL A, DISLEY AND GLADSKY PROPERTIES LIMP'S

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ORIENTATION / KEY PLAN

NORTH

GRAPHIC SCALE
40 0 20 40 80
(IN FEET)
1 inch = 40 ft.

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JOSEPH J. FLEMING, P.E.
PROFESSIONAL ENGINEER
N.Y. LIC. NO. 66591

SIGNATURE DATE

CLIENT

RXR GLEN ISLE PARTNERS LLC

PROJECT

GARVIES POINT WATERFRONT REDEVELOPMENT PHASE I

CITY OF GLEN COVE, NASSAU COUNTY, NEW YORK

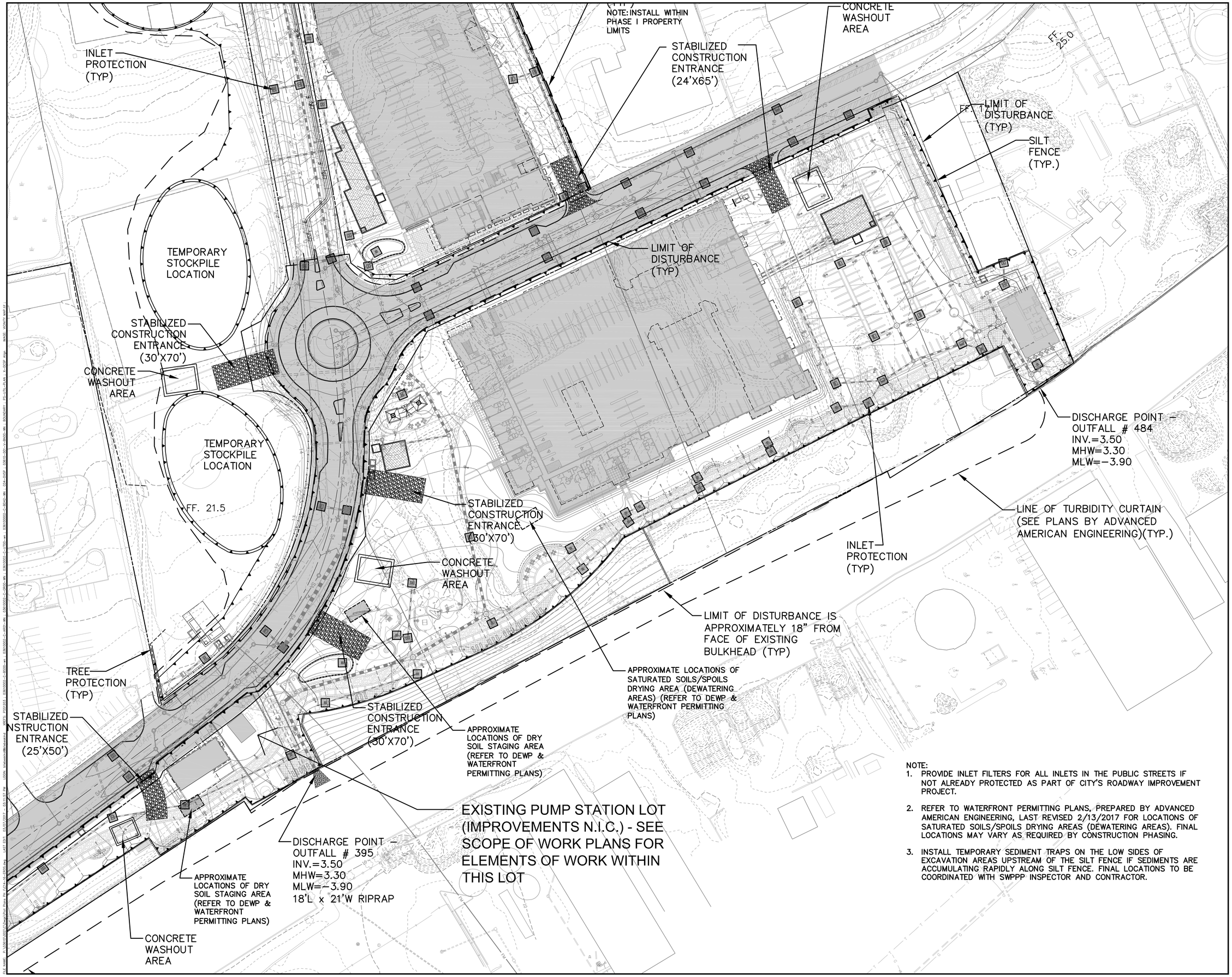
SHEET TITLE

UTILITY PLAN C

JOB NO.: 03610-0002
DATE: 9/27/2012
DRAWN: GY
CHECK: PAR
SCALE: 1"=40'

BINDING ORDER:
SHEET OF
SHEET NO.

C-13



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2. REFER TO WATERFRONT PERMITTING PLANS, PREPARED BY ADVANCED AMERICAN ENGINEERING, LAST REVISED 2/13/2017 FOR LOCATIONS OF SATURATED SOILS/SPOILS DRYING AREAS (DEWATERING AREAS). FINAL LOCATIONS MAY VARY AS REQUIRED BY CONSTRUCTION PHASING.
3. INSTALL TEMPORARY SEDIMENT TRAPS ON THE LOW SIDES OF EXCAVATION AREAS UPSTREAM OF THE SILT FENCE IF SEDIMENTS ARE ACCUMULATING RAPIDLY ALONG SILT FENCE. FINAL LOCATIONS TO BE COORDINATED WITH SWPPP INSPECTOR AND CONTRACTOR.

REV./ ISSUE	DATE	DESCRIPTION
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10	11/28/16	REV. PER CITY COMMENTS
11	12/22/16	REV. PER CITY COMMENTS
12	12/23/16	ADDENDUM No. 1
13	01/26/17	SWPPP REVISIONS
14	02/24/17	SWPPP REVISIONS
15	3/08/17	PARCEL A, DOXEY AND GLADSKY PROPERTIES EWP'S

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ORIENTATION / KEY PLAN

NORTH

40 0 20 40 80
(IN FEET)
1 inch = 40 ft.

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PROFESSIONAL ENGINEER
N.Y. LIC. NO. 66591

SIGNATURE DATE

CLIENT

RXR GLEN ISLE PARTNERS LLC

PROJECT

GARVIES POINT WATERFRONT REDEVELOPMENT PHASE I

CITY OF GLEN COVE, NASSAU COUNTY, NEW YORK

SHEET TITLE

SOIL EROSION & SEDIMENT CONTROL PLAN B

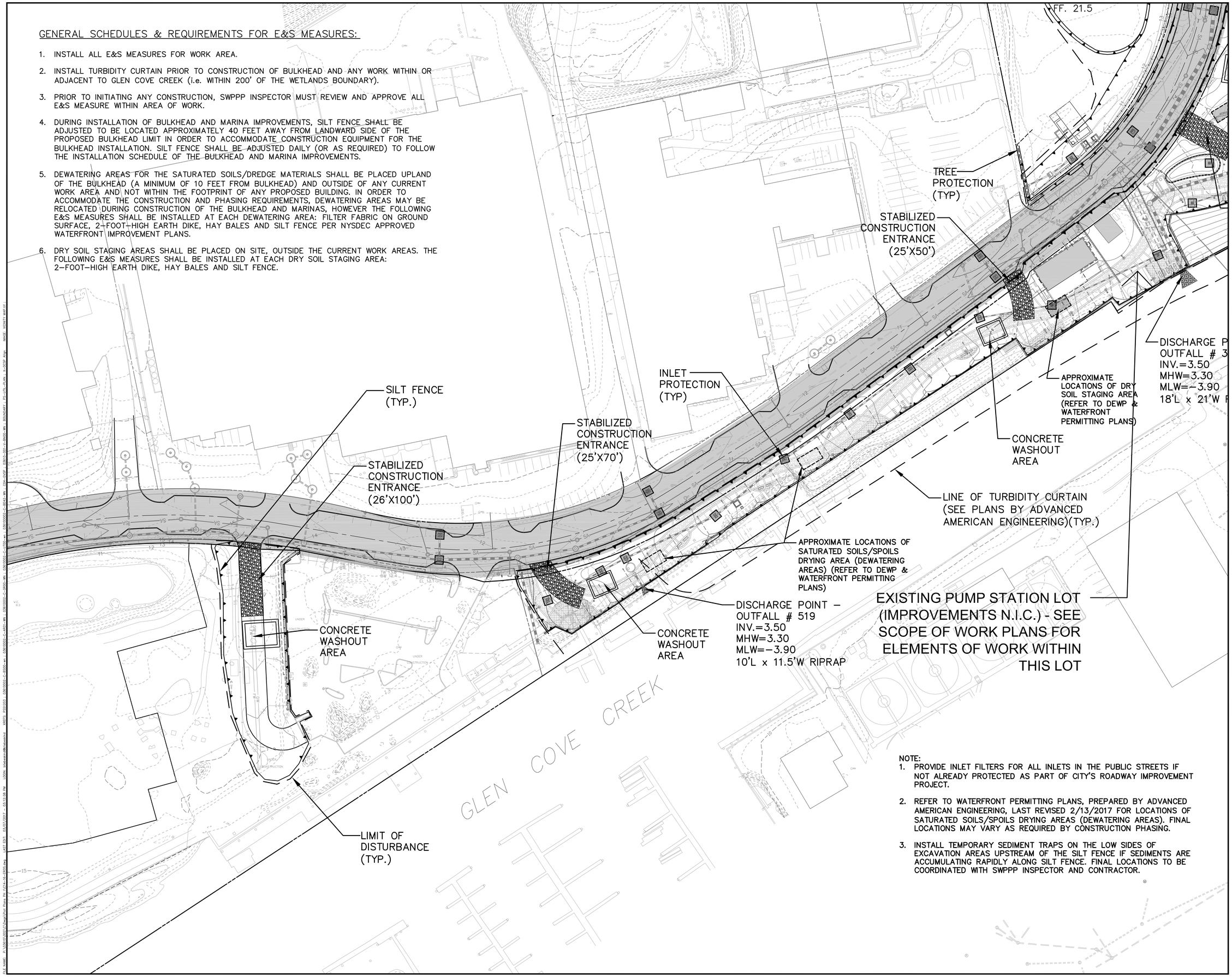
JOB NO.:	03610-0002
DATE:	9/27/2012
DRAWN:	GY
CHECK:	PAR
SCALE:	1"=40'

BINDING ORDER:
SHEET OF
SHEET NO.

C-15

GENERAL SCHEDULES & REQUIREMENTS FOR E&S MEASURES:

1. INSTALL ALL E&S MEASURES FOR WORK AREA.
2. INSTALL TURBIDITY CURTAIN PRIOR TO CONSTRUCTION OF BULKHEAD AND ANY WORK WITHIN OR ADJACENT TO GLEN COVE CREEK (i.e. WITHIN 200' OF THE WETLANDS BOUNDARY).
3. PRIOR TO INITIATING ANY CONSTRUCTION, SWPPP INSPECTOR MUST REVIEW AND APPROVE ALL E&S MEASURE WITHIN AREA OF WORK.
4. DURING INSTALLATION OF BULKHEAD AND MARINA IMPROVEMENTS, SILT FENCE SHALL BE ADJUSTED TO BE LOCATED APPROXIMATELY 40 FEET AWAY FROM LANDWARD SIDE OF THE PROPOSED BULKHEAD LIMIT IN ORDER TO ACCOMMODATE CONSTRUCTION EQUIPMENT FOR THE BULKHEAD INSTALLATION. SILT FENCE SHALL BE ADJUSTED DAILY (OR AS REQUIRED) TO FOLLOW THE INSTALLATION SCHEDULE OF THE BULKHEAD AND MARINA IMPROVEMENTS.
5. DEWATERING AREAS FOR THE SATURATED SOILS/DREDGE MATERIALS SHALL BE PLACED UPLAND OF THE BULKHEAD (A MINIMUM OF 10 FEET FROM BULKHEAD) AND OUTSIDE OF ANY CURRENT WORK AREA AND NOT WITHIN THE FOOTPRINT OF ANY PROPOSED BUILDING. IN ORDER TO ACCOMMODATE THE CONSTRUCTION AND PHASING REQUIREMENTS, DEWATERING AREAS MAY BE RELOCATED DURING CONSTRUCTION OF THE BULKHEAD AND MARINAS, HOWEVER THE FOLLOWING E&S MEASURES SHALL BE INSTALLED AT EACH DEWATERING AREA: FILTER FABRIC ON GROUND SURFACE, 2-FOOT-HIGH EARTH DIKE, HAY BALES AND SILT FENCE PER NYSDEC APPROVED WATERFRONT IMPROVEMENT PLANS.
6. DRY SOIL STAGING AREAS SHALL BE PLACED ON SITE, OUTSIDE THE CURRENT WORK AREAS. THE FOLLOWING E&S MEASURES SHALL BE INSTALLED AT EACH DRY SOIL STAGING AREA: 2-FOOT-HIGH EARTH DIKE, HAY BALES AND SILT FENCE.



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GRAPHIC SCALE
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(IN FEET)
1 inch = 40 ft.

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SIGNATURE DATE

CLIENT

RXR GLEN ISLE PARTNERS LLC

PROJECT

GARVIES POINT WATERFRONT REDEVELOPMENT PHASE I

CITY OF GLEN COVE, NASSAU COUNTY, NEW YORK

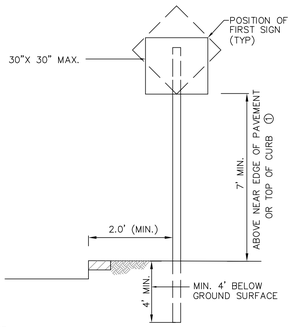
SHEET TITLE

SOIL EROSION & SEDIMENT CONTROL PLAN C

JOB NO.:	03610-0002
DATE:	9/27/2012
DRAWN:	GY
CHECK:	PAR
SCALE:	1"=40'

BINDING ORDER:
SHEET OF
SHEET NO.

C-16

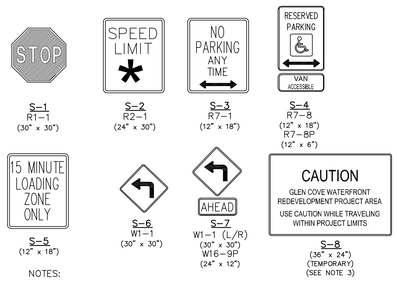


NOTES:

1. THE POST TYPE (TYPE A WITH OR WITHOUT SOIL PLATES OR EXTRA EMBEDMENT, HIGH CAPACITY TYPE A OR TYPE B) AND SIZE SHALL BE BASED ON THE SIGN AREA AND MOUNTING HEIGHT AS PER NYSDOT CURRENT MATERIALS DETAILS OR STANDARD SHEETS.
2. POSTS SHALL BE ERECTED IN ACCORDANCE WITH NYSDOT STANDARDS, AS SHOWN ON THE NYSDOT CURRENT MATERIALS DETAILS OR STANDARD SHEETS. POSTS SHOULD NOT BE ERECTED IN OR STRADDLING THE DITCH LINE.
3. SIGNS WIDER THAN 30" SHALL USE TWO OR MORE POSTS.
4. FOR SIGNS WITH SUPPLEMENTARY PANEL, THE VERTICAL SPACING BETWEEN PANELS SHALL BE 2" MAX.
5. THE VERTICAL DISTANCE TO THE BOTTOM OF THE SIGN SHALL BE AS FOLLOWS:
   A. CLEARANCE OF 7' FROM THE GROUND TO THE BOTTOM OF THE SIGN.
   B. HEIGHT (ABOVE NEAR EDGE OF TRAVEL LANE OR ABOVE TOP OF CURB) SHALL BE 7' ON CONVENTIONAL HIGHWAYS AND EXPRESSWAYS WHERE PARKED VEHICLES OR PEDESTRIAN ARE PRESENT.
   C. WHERE THERE ARE PHYSICAL LIMITATIONS OR VISIBILITY CONSIDERATIONS, THE SIGNS SHALL BE LOCATED AS ORDERED BY THE ENGINEER–IN–CHARGE.
6. THE LATERAL CLEARANCE TO THE EDGE OF THE SIGN SHALL BE DETERMINED AS FOLLOWS:
   A. CURBED SECTIONS, 2' TYPICAL FROM THE FACE OF CURB.
   B. WHERE THERE ARE PHYSICAL LIMITATIONS OR VISIBILITY CONSIDERATIONS, THE SIGNS SHALL BE LOCATED AS ORDERED BY THE ENGINEER–IN–CHARGE.
   C. SEE NYSDOT STANDARD SHEET TITLED "POSITIONING OF TRAFFIC SIGNS (SHEET 2 OF 2)" WHEN GUIDE RAIL IS PRESENT.
7. NO SIGN SHALL BE MOUNTED BACK–TO–BACK WITH STOP SIGN.
8. SIGNS SHALL NOT BE PLACED OR PROTRUDE INTO THE ACCESSIBLE ROUTE.

SIGN MOUNTING DETAIL

NOT TO SCALE

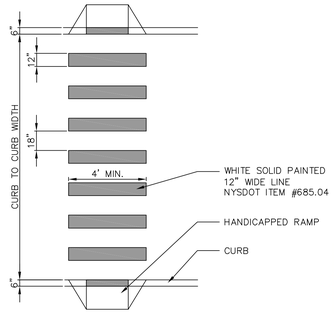


NOTES:

1. ALL SIGN MATERIALS, TEXT AND INSTALLATION GUIDELINES SHALL CONFORM TO THE "MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES" AND NYS SUPPLEMENT.
2. SPEED LIMIT FOR DICKSON STREET TO BE DETERMINED BY CITY COUNCIL. PROVIDE 15 MPH SPEED LIMIT SIGNS FOR PROPOSED ROAD F & ROAD G.
3. CONTRACTOR TO PROVIDE SHOP DRAWING OF PROPOSED TEMPORARY CONSTRUCTION SIGN FOR REVIEW AND APPROVAL BY CITY OF GLEN COVE DEPARTMENT OF PUBLIC WORKS

SITE SIGNAGE

NOT TO SCALE



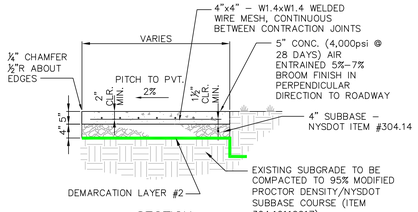
CROSS WALK DETAIL

NOT TO SCALE

DEMARCATION LEGEND

- DEMARCATION LAYER #1
- TRENCH DEMARCATION
- DEMARCATION LAYER #2

NOTE: DEMARCATION LAYER #2 WILL MARK THE TRANSITION FROM FILL MATERIAL AND/OR NATIVE SOILS TO CLEAN COVER MATERIAL. AT A MINIMUM, DEMARCATION LAYER #2 WILL BE INSTALLED IN OPEN AREAS OUTSIDE THE BUILDING FOOTPRINTS INCLUDING BENEATH THE MINIMUM TWO–FOOT CLEAN COVER AREAS, HARDSCAPES, OR IMPERVIOUS COVER MATERIAL. DEMARCATION LAYER #2 MAY ALSO BE INSTALLED BENEATH PORTIONS OF THE FOOTPRINT OF THE BUILDINGS.

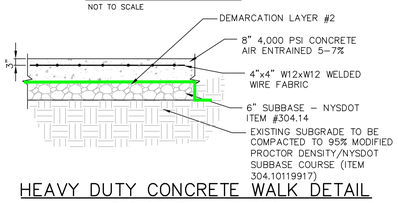


NOTES:

1. ALL EDGES TOOLED ½" R
2. INSTALL EXPANSION JOINT WHERE WALK ABUTS A STRUCTURE OR CONC. PAVEMENT
3. INSTALL EXPANSION JOINT 20'o.c.
4. EXPANSION JOINT MATERIAL SHALL BE BIT. COMPLYING WITH THE REQUIREMENTS OF A.A.S.H.T.O., FLUSH WITH FINISHED GRADE AND SHALL BE INSTALLED IN ONE CONTINUOUS PIECE FOR THE ENTIRE WIDTH OF THE SIDEWALK.
5. CONTRACTION JOINT @ 5'o.c., ¼"W x ¾"D

CONCRETE WALK

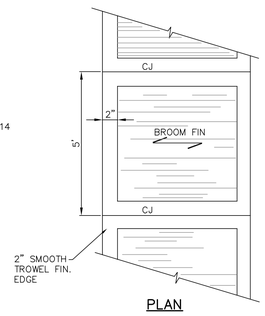
NOT TO SCALE



HEAVY DUTY CONCRETE WALK DETAIL

(FOR DRIVEWAY APRONS)

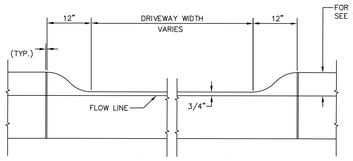
NOT TO SCALE



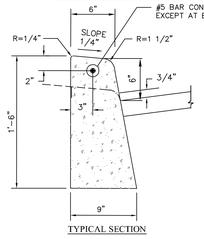
PLAN

NOTES:

1. PROVIDE CONTROL JOINTS AT 15' O.C. (MAX)
2. PROVIDE 3/4"ø X 16" LONG SMOOTH OR DIAMOND DOWELS AT 12" O.C. AT ALL CONSTRUCTION JOINTS



ELEVATION AT DROP CURB



TYPICAL SECTION

NOTES:

1. CONCRETE SHALL HAVE AN AVERAGE COMPRESSIVE STRENGTH OF 4,000 P.S.I. IN 28 DAYS.
2. DROP CURB SHALL BE LOCATED AT DRIVEWAYS AS DIRECTED BY THE ENGINEER.

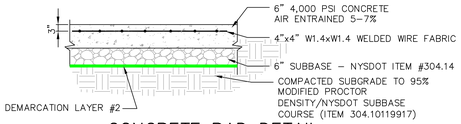
TOLERANCES

A. THE TOP OF CURB (AT THE OUTSIDE OR NON–EXPOSED FACE) AND THE FLOW LINE OF CONCRETE GUTTER SHALL NOT VARY MORE THAN 0.01 FT.FROM A 10 FT. STRAIGHT EDGE PLACED LONGITUDINALLY ALONG THE CURB OR AT THE FLOW LINE OF THE GUTTER.
B. THE FACE OF CURB SHALL NOT VARY MORE THAN 0.03 FT. FROM A 10 FT. STRAIGHT EDGE PLACED LONGITUDINALLY ALONG THE FLOW LINE.
C. THE ELEVATION OF THE TOP OF CURB OR FLOW LINE OF GUTTER SHALL NOT VARY MORE THAN 0.02 FT. FROM THE TRUE ELEVATION LAID OUT IN THE FIELD BY THE ENGINEER.

CONCRETE CURB DETAIL

(FOR DICKSON STREET AND SITE CURBING)

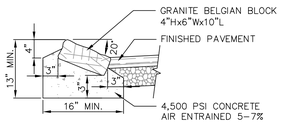
NOT TO SCALE



CONCRETE PAD DETAIL

(FOR TRASH STORAGE AREA)

NOT TO SCALE



SECTION

N.T.S.

MOUNTABLE CURB DETAIL

(AT EMERGENCY ACCESS)

NOT TO SCALE

NOTE:
THE CONTRACTOR WILL INSTALL A COVER SYSTEM PER ENVIRONMENTAL SPECIFICATIONS, DRAWING EN–03 (SECTION 13.0), PREPARED BY P.W. GROSSER CONSULTING, INC. UNLESS NOTED OTHERWISE ON DETAIL.

GENERAL NOTES:

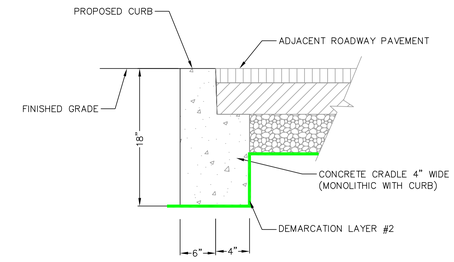
1. THE DIMENSIONS AND SLOPES PRESENTED IN THE DETAILS ARE THE MINIMUM NECESSARY TO COMPLY WITH THE ADA AND DOT STANDARDS. ANY DEVIATION LESS THAN THE MINIMUM WIDTH OR GREATER THAN THE MAXIMUM SLOPE FROM THESE STANDARDS MUST BE DOCUMENTED WITH THE STANDARDS BEING MET TO THE GREATEST EXTENT PRACTICABLE AND CONSISTENT WITH THE MOST CURRENT ADAAG.
2. CURB RAMPS, LANDINGS AND BLENDED TRANSITIONS MAY REQUIRE THE USE OF DETECTABLE WARNINGS. DETECTABLE WARNINGS ON THIS SHEET ARE SHOWN FOR ILLUSTRATION ONLY. REFER TO THE DETECTABLE WARNING DETAILS FOR DETAILS ON PLACEMENT, ORIENTATION & DIMENSIONS. REFER TO CHAPTER 18 OF THE NYSDOT HIGHWAY DESIGN MANUAL FOR MORE INFORMATION.

CURB RAMP NOTES:

3. THE MINIMUM WIDTH FOR SIDEWALK CURB RAMPS IS 5'–0".
4. THE RUNNING SLOPE OF A CURB RAMP SHALL BE 1:20 (5%) MINIMUM (PREFERRED) AND 1:12 (8.33%) MAXIMUM.
5. WHERE THE SLOPE OF THE ROADWAY EXCEEDS 8.33% THE CURB RAMP LENGTH IS THE LENGTH NECESSARY TO MEET THE EXISTING SIDEWALK. IT IS NOT NECESSARY THAT THE RAMP LENGTH EXCEED 15'–0".
6. THE CROSS SLOPE OF CURB RAMPS SHOULD BE AS FLAT AS POSSIBLE, NOT TO EXCEED 1.5% PREFERRED, 2% MAXIMUM. THE CROSS SLOPE AT MIDBLOCK CROSSINGS MAY BE WARPED TO MEET STREET OR HIGHWAY GRADE.
7. THE VERTICAL ALIGNMENT OF A CURB RAMP, EXCLUDING THE FLARES, SHALL BE PLANAR. GRADE BREAKS SHALL BE FLUSH AND PERPENDICULAR TO THE DIRECTION OF THE RAMP RUN.
8. RAMP TRANSITIONS BETWEEN WALKS, LANDINGS, GUTTERS, OR STREETS SHALL BE FLUSH AND FREE OF ABRUPT VERTICAL CHANGES (1/4" MAX).
9. WHERE A PEDESTRIAN CIRCULATION PATH CROSSES THE CURB RAMP, FLARED SIDES WITH ASLOPE OF 10% MAXIMUM, MEASURED PARALLEL TO THE CURB LINE, SHALL BE PROVIDED.

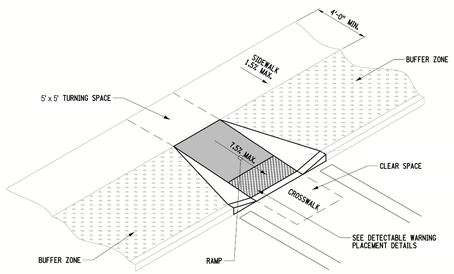
LANDING NOTES:

10. LANDINGS SHALL HAVE A MINIMUM CLEAR DIMENSION OF 5'–0" BY 5'–0" EXCEPT AT THE BOTTOM OF RAMP TYPE 1.
11. THE RUNNING AND CROSS SLOPES ON LANDINGS AT INTERSECTIONS IS 1.5% PREFERRED, MAXIMUM.THE RUNNING AND CROSS SLOPES AT MIDBLOCK CROSSINGS MAY BE WARPED TO MEET STREET OR HIGHWAY GRADE.



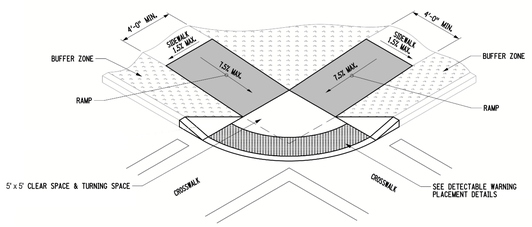
FLUSH CONCRETE CURB

NOT TO SCALE



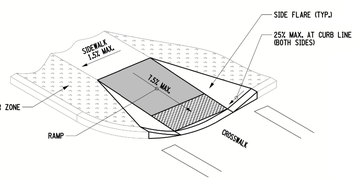
NYSDOT CURB RAMP TYPE 11

NOT TO SCALE



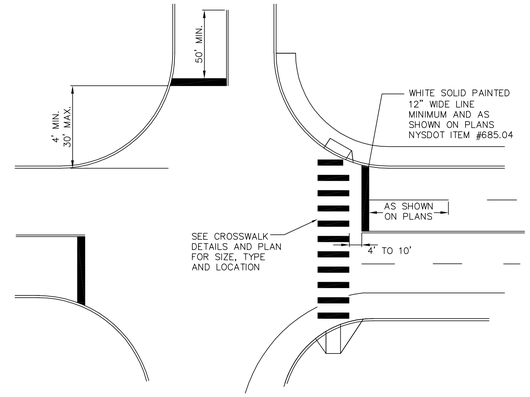
NYSDOT CURB RAMP TYPE 3

NOT TO SCALE



NYSDOT CURB RAMP TYPE 1

NOT TO SCALE

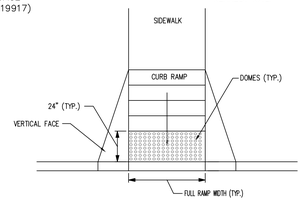


TYPICAL INTERSECTION DETAILS

NOT TO SCALE

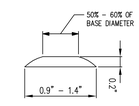
DETECTABLE WARNING NOTES:

THE DETAILS PROVIDED ARE NOT DRAWN TO SCALE. THE QUANTITY OF DOMES DEPICTED ON THE DETECTABLE WARNING UNIT (THE DOMES AND THE ENTIRE 24" LEVEL SURFACE) IS FOR ILLUSTRATION ONLY. DETECTABLE WARNING UNIT DIMENSIONS: THE SIZE OF THE DETECTABLE WARNING FIELD SHALL BE 24" IN THE DIRECTION OF TRAVEL AND SHALL EXTEND THE FULL WIDTH OF THE CURB RAMP OR FLUSH SURFACE, EXCLUSIVE OF SIDE FLARES. DOME ALIGNMENT: THE ROWS OF DOMES SHALL BE ALIGNED TO BE PERPENDICULAR OR RADIAL TO THE GRADE BREAK BETWEEN THE RAMP LANDING OR CURB RAMP AND THE STREET. WHERE DOMES ARE ARRAYED RADIALLY THEY MAY DIFFER IN DOME DIAMETER AND CENTER–TO–CENTER SPACING WITHIN THE RANGES SPECIFIED ON THIS SHEET. COLOR REQUIREMENTS: THE DETECTABLE WARNING FIELD SHALL BE THE COLOR SPECIFIED IN THE CONTRACT DOCUMENTS OR MEET THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS. DETECTABLE WARNINGS LOCATIONS: DETECTABLE WARNINGS SHALL BE LOCATED SO THAT THE EDGE OR CORNER OF THE WARNING FIELD NEAREST TO THE ROADWAY IS 5" TO 9" FROM THE FRONT OF THE CURB OR THE ROADWAY EDGE (12" WHERE TRAVERSABLE CURB IS USED). THE EDGE OF THE DETECTABLE WARNING FIELD NEAREST TO A RAILROAD CROSSING SHALL BE 6'–0" MINIMUM AND 15'–0" MAXIMUM FROM THE CENTERLINE OF THE NEAREST RAIL.

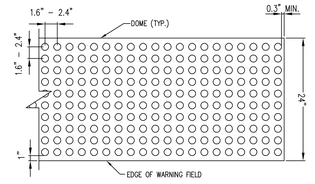


DETECTABLE WARNING AT CURB RAMP

NOT TO SCALE

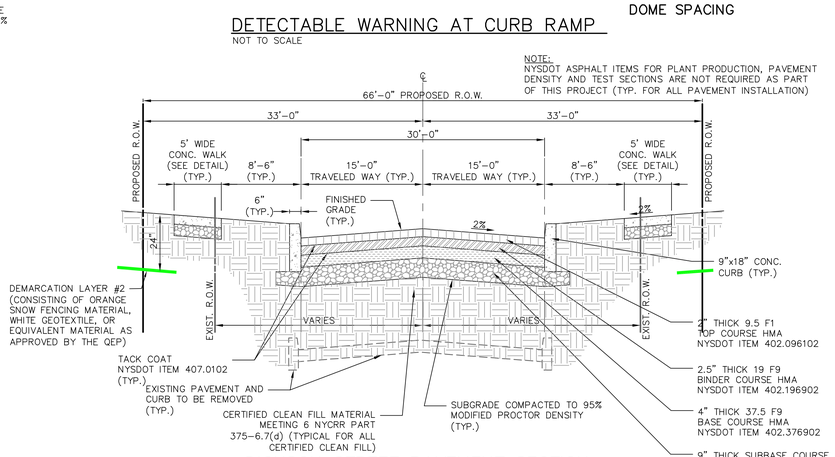


DOME SECTION



DOME SPACING

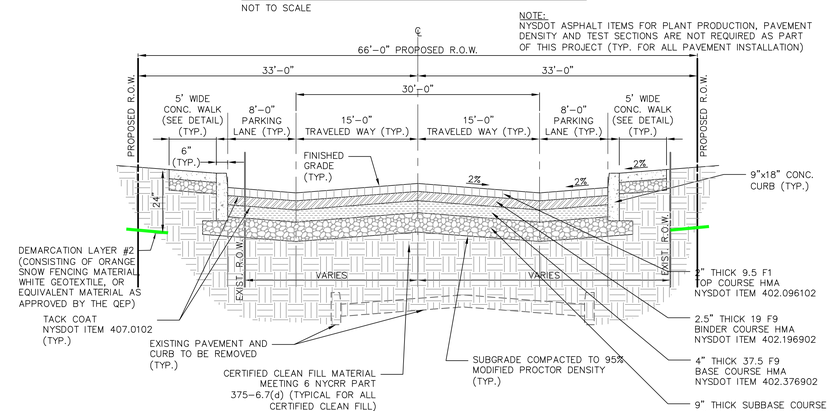
NOTE:
NYSDOT ASPHALT ITEMS FOR PLANT PRODUCTION, PAVEMENT DENSITY AND TEST SECTIONS ARE NOT REQUIRED AS PART OF THIS PROJECT (TYP. FOR ALL PAVEMENT INSTALLATION)



DICKSON STREET PAVEMENT SECTION

NOT TO SCALE

NOTE:
NYSDOT ASPHALT ITEMS FOR PLANT PRODUCTION, PAVEMENT DENSITY AND TEST SECTIONS ARE NOT REQUIRED AS PART OF THIS PROJECT (TYP. FOR ALL PAVEMENT INSTALLATION)



DICKSON STREET PAVEMENT SECTION

(WITH PARALLEL ON–STREET PARKING)

NOT TO SCALE

REV. / ISSUE	DATE	DESCRIPTION
1	5/23/14	REV. PER CITY COMMENTS
2	8/14/14	REV. PER CITY COMMENTS
3	11/14/14	REV. PER CITY COMMENTS
4	1/22/15	PROGRESS SET
5	1/22/15	PROGRESS SET
6	7/30/15	ISSUED FOR BUILDING PERMIT
7	2/19/16	ISSUED FOR PRICING
~~8~~	~~3/31/16~~	~~ISSUED FOR BID SET~~
9	8/08/16	ISSUED FOR BID
10	12/22/16	REV. PER CITY COMMENTS
11	12/23/16	ADDENDUM No. 1
12	1/06/17	PARCEL B (BLDG H) EWP
13	2/17/17	REV. PER NYSDEC COMMENTS
14	3/01/17	REV. PER NYSDEC COMMENTS
15	3/08/17	PARCEL A, DOXEY AND GLADSKY PROPERTIES EWP'S

CONSULTANT

MINNO ■ WASKO
ARCHITECTS AND PLANNERS
80 LAMBERT LANE, SUITE 105, LAMBERTVILLE, NEW JERSEY 08530 MINNOWASKO.COM

CONSULTANT

MPFP
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tele. 212. 477. 6366
fax. 212. 477. 6548

ORIENTATION / KEY PLAN

PAULUS, SOKOLOWSKI AND SARTOR ENGINEERING, P.C.
67B MOUNTAIN BLVD EXT.
P.O. BOX 4039
WARREN, NEW JERSEY 07059
PHONE: (732) 560-9700

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ALL DIMENSIONS SHALL BE AS NOTED IN WORDS OR NUMBERS, ON THE CONTRACT DRAWINGS, DO NOT SCALE THE DRAWINGS TO DETERMINE DIMENSIONS.

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JOSEPH J. FLEMING, P.E.
PROFESSIONAL ENGINEER
N.Y. LIC. NO. 66591

SIGNATURE DATE

CLIENT

RXR GLEN ISLE PARTNERS LLC

PROJECT

GARVIES POINT WATERFRONT REDEVELOPMENT PHASE I

CITY OF GLEN COVE, NASSAU COUNTY, NEW YORK

SHEET TITLE

SITE DETAILS

JOB NO.:	03610-002
DATE:	9/27/2012
DRAWN:	GY
CHECK:	PAR
SCALE:	AS SHOWN

BINDING ORDER:
SHEET OF
SHEET NO.

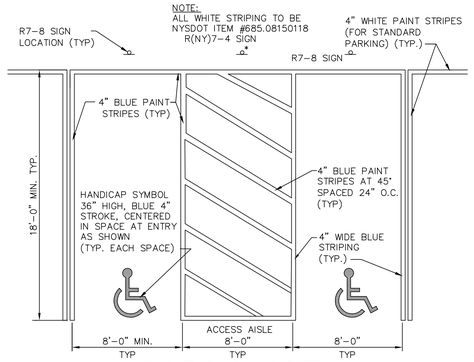
C-18

ALL HANDICAP ACCESSIBLE PARKING SPACES SHALL INCLUDE (1) "HANDICAPPED PARKING" SIGN TO BE PLACED AT THE FRONT OF EACH HANDICAP SPACE. SPACES SHALL BE IN ACCORDANCE WITH ICC/ANSI A117.1, AND THE BUILDING CODE OF NEW YORK STATE, CHAPTER 11 & APPENDIX 'E'.

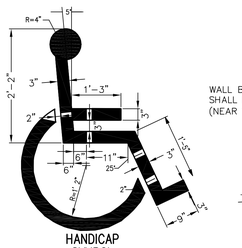
* ACCESS AISLES SHALL BE DESIGNATED BY A SIGN READING "NO STOPPING ANY TIME". THE SIGN SHALL BE LOCATED IN SUCH A WAY AS NOT TO OBSTRUCT THE ACCESS AISLE

ALL SIGNS SHALL BE PERMANENTLY INSTALLED AT A CLEAR HEIGHT OF NOT LESS THAN 7'.

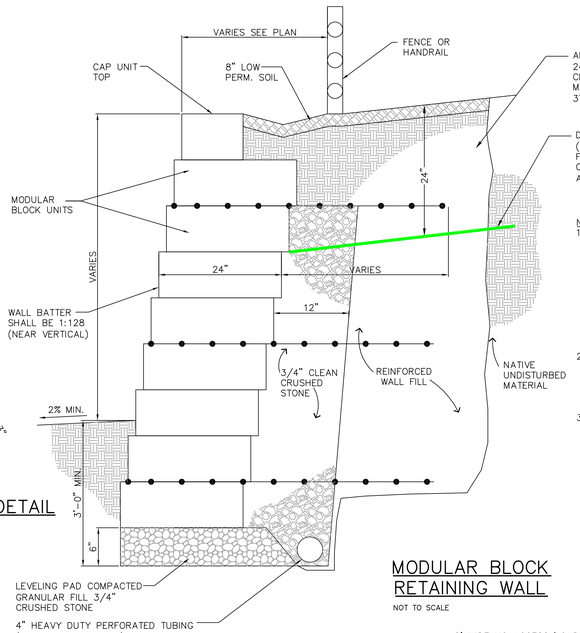
SIGNS SHALL NOT OBSTRUCT OR PROTRUDE INTO THE ACCESSIBLE ROUTE.



HANDICAP PARKING DETAIL
NOT TO SCALE



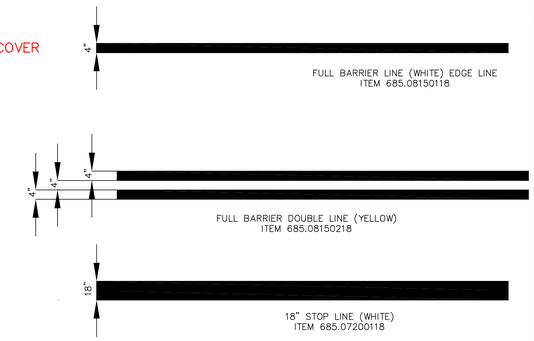
PAVEMENT STRIPING DETAIL
NOT TO SCALE

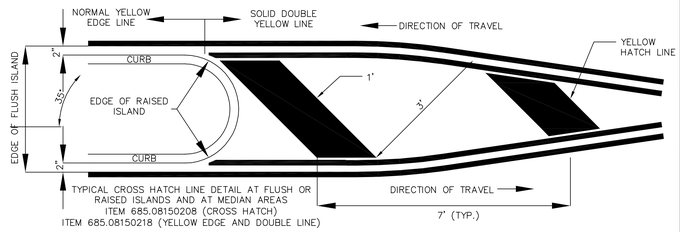


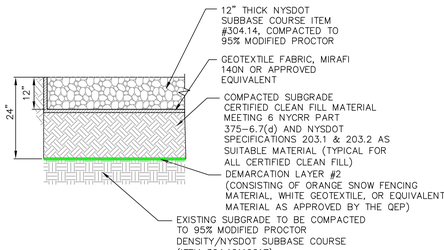
NOTES:
1. CONTRACTOR TO PREPARE DETAILED SIGNED AND SEALED SHOP DRAWINGS INCLUDING ENGINEERING CALCULATIONS FOR WALL STABILITY TO BE PROVIDED WITH SHOP DRAWINGS. CALCULATIONS SHALL INCLUDE GLOBAL STABILITY ANALYSIS. SHOP DRAWINGS MUST INCLUDE: LOCATION OF PERFORATED TUBING AND CONNECTION TO DRAINAGE STRUCTURE; DETAIL OF HOW PIPES ARE TO BE INSTALLED THROUGH THE WALL; DETAIL/LOCATION OF ALL UTILITIES LOCATED BEHIND WALL WITHIN AREA OF GEOGRID.
2. CONTRACTOR MUST COORDINATE LOCATION OF ALL UTILITIES WITHIN CLOSE PROXIMITY TO RETAINING WALLS. NOTE: GRAVITY CONDUIT SHOULD NOT BE INSTALLED WITHIN GEOGRID LAYERS.
3. MODULAR BLOCK BASIS-OF-DESIGN:
   A. MESA RETAINING WALL SYSTEMS
      -STRAIGHT FACE BLOCK
      -COLOR: PEWTER
   B. KEYSTONE RETAINING WALL SYSTEMS
      -COMPAC STRAIGHT FACE UNITS
      -COLOR: CUSTOM (TO BE APPROVED BY LANDSCAPE ARCHITECT)
   C. APPROVED EQUAL

MODULAR BLOCK RETAINING WALL
NOT TO SCALE

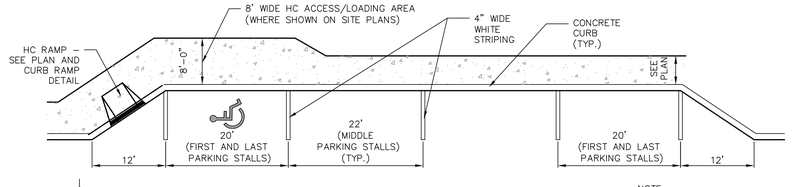
NOTE:
THE CONTRACTOR WILL INSTALL A COVER SYSTEM PER ENVIRONMENTAL SPECIFICATIONS, DRAWING EN-03 (SECTION 13.0), PREPARED BY P.W. GROSSER CONSULTING, INC. UNLESS NOTED OTHERWISE ON DETAIL.





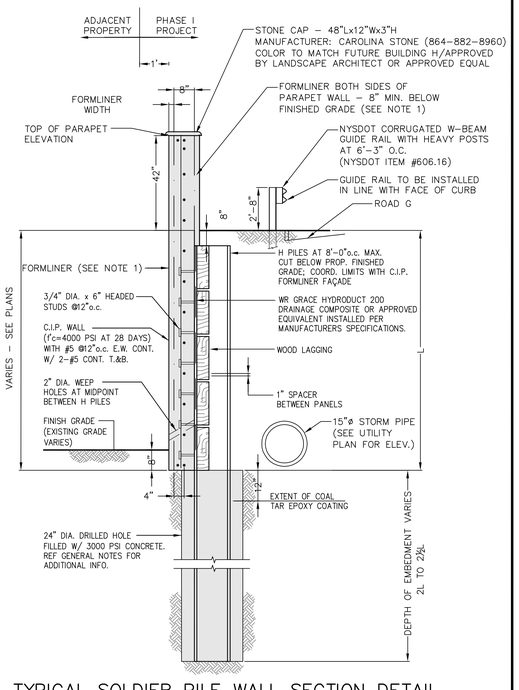


GRAVEL DRIVEWAY DETAIL
(AT ROAD D)
NOT TO SCALE

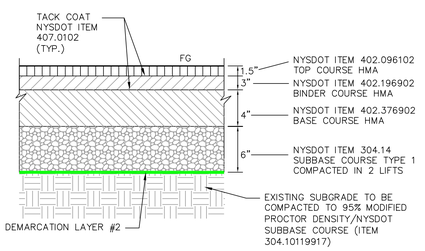


PARALLEL PARKING STALL DETAIL
NOT TO SCALE

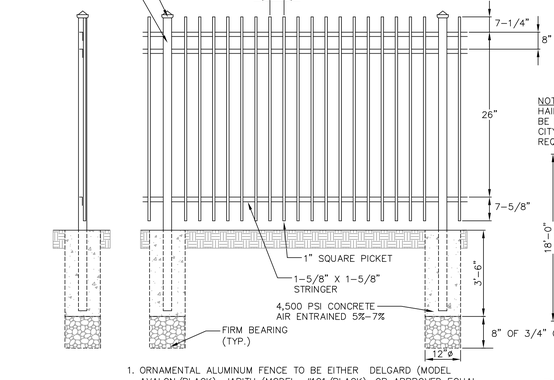
NOTE:
ALL WHITE STRIPING TO BE NYSDOT ITEM #685.08150118



TYPICAL SOLDIER PILE WALL SECTION DETAIL
(ALONG EASTERN SIDE OF ROAD G)
SECTION B-B
NOT TO SCALE



ASPHALT PAVEMENT DETAIL
(ROAD F, G & PARKING AREAS)
NOT TO SCALE

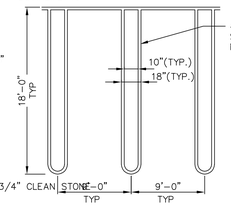


1. ORNAMENTAL ALUMINUM FENCE TO BE EITHER DELGARD (MODEL AVALON/BLACK), JARITH (MODEL: #101/BLACK), OR APPROVED EQUAL.
2. GATE AND CORNER POSTS TO HAVE 14" DIA. FOOTINGS.

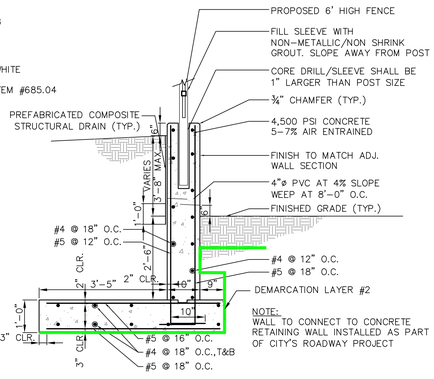
42" HIGH ORNAMENTAL ALUMINUM FENCE DETAIL
(ALONG RETAINING WALLS)
NOT TO SCALE

NOTE:
HAIRPIN STRIPING SHALL BE IN ACCORDANCE WITH CITY OF GLEN COVE REQUIREMENTS

NOTE:
ALL WHITE STRIPING TO BE NYSDOT ITEM #685.08150118

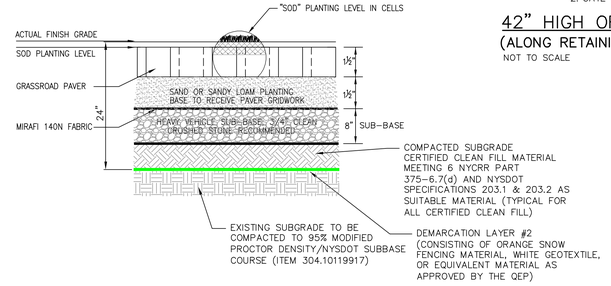


HAIRPIN STRIPING - PARKING STALL DETAIL
NOT TO SCALE



NOTE:
WALL TO CONNECT TO CONCRETE RETAINING WALL INSTALLED AS PART OF CITY'S ROADWAY PROJECT

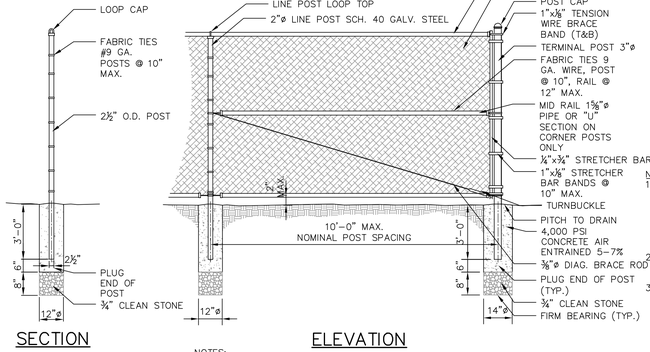
TEMPORARY RETAINING WALL DETAIL
(AT EXISTING PUMP STATION)
NOT TO SCALE



NOTE: SUB-BASE SHALL BE NYSDOT SUBBASE COURSE TYPE 2 GRAVEL ROAD BASE TO A 95% COMPACTION, CONSTRUCTED TO SPECIFICATION OF REGIONAL SOILS ENGINEERING, FIRE AUTHORITY OR OTHER APPLICABLE GOVERNMENTAL OR MUNICIPAL CODES

HEAVY VEHICLE/FIRE ACCESS ROAD
PLANTING LEVEL USING STD. CUT 5/8" SOD

TUFFTRACK™ GRASSROAD PAVER™ EMERGENCY ACCESS DETAIL
(OR APPROVED EQUIVALENT)
NOT TO SCALE



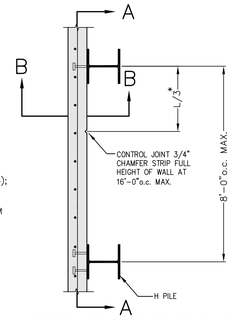
SECTION

ELEVATION

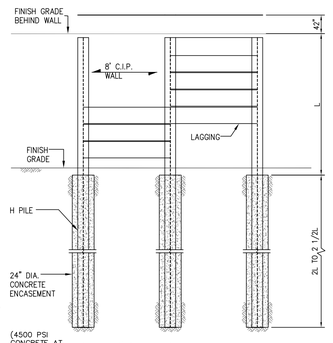
NOTES:
1. PROVIDE "GRAPHICS ARTS" FABRIC WHERE INDICATED ON SITE PLANS (SEE SIGNAGE PLANS FOR DETAILS); PROVIDE 2"x2" SQUARE #9 GAUGE FABRIC, BLACK VINYL COATED FOR OTHER LOCATIONS
2. ALL POSTS AND PIPES TO BE SCHEDULE 40 OR 80 DEPENDING ON HEIGHT (ASTM-F1083)

4' OR 6' HIGH CHAIN LINK FENCE
NOT TO SCALE

NOTES:
1. INTERLOCKING FORMLINER BASIS-OF-DESIGN: PATTERN #17911 - SAN DIEGO DRYSTACK - FITZLOK® BY FITZGERALD FORMLINERS COLOR: INSIGNIA WHITE (FEDERAL STANDARD 17925); 10 YRS NON-FADE
2. SOLDIER PILE WALL SYSTEM TO BE INSTALLED FROM BLOCK H PROPERTY ONLY.
3. CONTRACTOR TO PROVIDE DETAILED SIGNED AND SEALED SHOP DRAWINGS INCLUDING ENGINEERING CALCULATIONS FOR WALL STABILITY. CALCULATIONS SHALL INCLUDE GLOBAL STABILITY ANALYSIS. CALCULATIONS/DESIGN MUST CONSIDER THE PROXIMITY OF THE ADJACENT GUIDE RAIL SYSTEM FOR LOADING AS WELL AS (FUTURE) PROPOSED BUILDING H.
4. CONTRACTOR MUST COORDINATE LOCATION OF ALL UTILITIES WITHIN CLOSE PROXIMITY TO RETAINING WALLS.



TYPICAL SOLDIER PILE WALL CONTROL JOINT DETAIL (PLAN VIEW)
NOT TO SCALE



SOLDIER PILE WALL ELEVATION
SECTION A-A
NOT TO SCALE

DEMARCATION LEGEND

- DEMARCATION LAYER #1
- TRENCH DEMARCATION
- DEMARCATION LAYER #2

NOTE: DEMARCATION LAYER #2 WILL MARK THE TRANSITION FROM FILL MATERIAL AND/OR NATIVE SOILS TO CLEAN COVER MATERIAL. AT A MINIMUM, DEMARCATION LAYER #2 WILL BE INSTALLED IN OPEN AREAS OUTSIDE THE BUILDING FOOTPRINTS INCLUDING BENEATH THE MINIMUM TWO-FOOT CLEAN COVER AREAS, HARDSCAPES, OR IMPERVIOUS COVER MATERIAL. DEMARCATION LAYER #2 MAY ALSO BE INSTALLED BENEATH PORTIONS OF THE FOOTPRINT OF THE BUILDINGS.

REV./ ISSUE	DATE	DESCRIPTION
1	5/23/14	REV. PER CITY COMMENTS
2	8/14/14	REV. PER CITY COMMENTS
3	1/22/15	PROGRESS SET
4	4/10/15	PROGRESS SET
5	7/30/15	ISSUED FOR BUILDING PERMIT
6	2/19/16	ISSUED FOR PRICING
~~7~~	~~3/31/16~~	~~ISSUED FOR BID SET~~
8	8/08/16	ISSUED FOR BID
9	12/22/16	REV. PER CITY COMMENTS
10	12/23/16	ADDENDUM No. 1
11	1/06/17	PARCEL B (BLDG H) EWP
12	2/17/17	REV. PER NYSDEC COMMENTS
13	3/01/17	REV. PER NYSDEC COMMENTS
14	3/08/17	PARCEL A, DOXEY AND GLADSKY PROPERTIES EWP'S

CONSULTANT

MINNO WASKO ARCHITECTS AND PLANNERS
80 LAMBERT LANE, SUITE 105, LAMBERTVILLE, NEW JERSEY 08530 minnowasko.com

CONSULTANT

MPFP
M. PAUL FRIEDBERG & PARTNERS / MPFP LLC
41 East 11th Street
New York, New York 10003
tele. 212. 477. 6366
fax. 212. 477. 6548

ORIENTATION / KEY PLAN

PAULUS, SOKOLOWSKI AND SARTOR ENGINEERING, P.C.
67B MOUNTAIN BLVD EXT.
P.O. BOX 4039
WARREN, NEW JERSEY 07059
PHONE: (732) 560-9700

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JOSEPH J. FLEMING, P.E.
PROFESSIONAL ENGINEER
N.Y. LIC. NO. 66591

SIGNATURE DATE

CLIENT

RXR GLEN ISLE PARTNERS LLC

PROJECT

GARVIES POINT WATERFRONT REDEVELOPMENT PHASE I

CITY OF GLEN COVE, NASSAU COUNTY, NEW YORK

SHEET TITLE

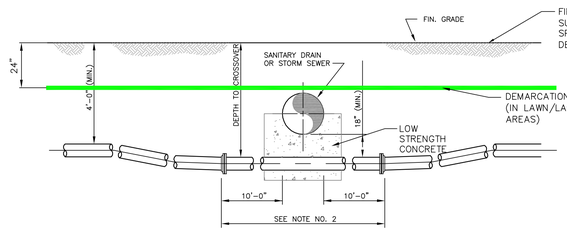
SITE DETAILS

JOB NO.:	03610-002
DATE:	9/27/2012
DRAWN:	GY
CHECK:	PAR
SCALE:	AS SHOWN

BINDING ORDER:
SHEET OF
SHEET NO.

C-19

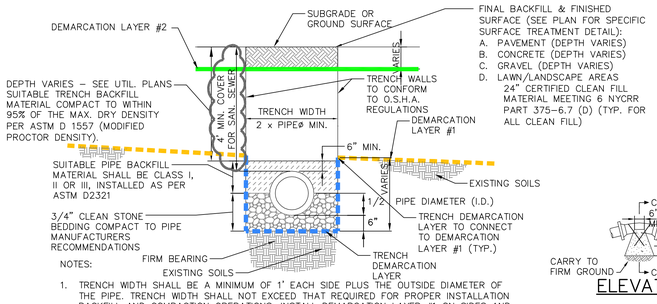
M:\GLEN\03610002\Drawings\Final Plans for NYSDEC\03610-002.dwg LAST EDIT: 03/07/2017 - 10:01:40 AM LOGIN: PaulSokolowski XREFS: 03610002-C-BASE.dwg



TYPICAL PIPE CROSSING DETAIL
NOT TO SCALE

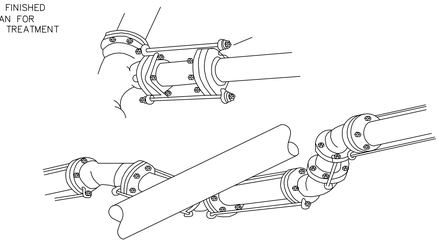
TYPICAL AND SPECIAL PIPE CROSSING NOTES

1. WATER MAINS CROSSING SANITARY OR STORM SEWERS SHALL BE LAID TO PROVIDE A MINIMUM VERTICAL DISTANCE OF 18 INCHES BETWEEN THE OUTSIDE OF THE SEWER OR STORM DRAIN AND THE OUTSIDE OF THE WATER MAIN. THIS SHALL BE THE CASE WHERE THE WATER MAIN IS EITHER ABOVE OR BELOW THE SEWER. AT CROSSINGS, ONE FULL LENGTH OF WATER PIPE SHALL BE LOCATED SO BOTH JOINTS WILL BE AS FAR FROM THE SEWER AS POSSIBLE.
2. THE WATER MAIN SHALL BE LAID TO PROVIDE A MINIMUM HORIZONTAL DISTANCE OF TEN (10) FEET BETWEEN THE OUTSIDE OF THE SEWER LINE AND WATER MAIN PIPE JOINT AS PER NYS SPECIFICATIONS.
3. WHEN THE SEWER IS AN EXISTING SANITARY MAIN, THE SANITARY SEWER LINE SHALL BE ENCASED IN 6" OF CONCRETE 10 FEET BEFORE AND AFTER THE POINT OF CROSSING.
4. ALL JOINTS SHALL BE RESTRAINED. USE AQUAGRIP FITTINGS MANUFACTURED BY MUELLER CO. OR APPROVED EQUAL FOR EACH JOINT.
5. AT PIPE CROSSING, BACKFILL WITH SAND TO 1'-0" ABOVE HIGHEST PIPE.
6. UNLESS OTHERWISE SHOWN ON THE CONTRACT DRAWINGS OR SPECIFIED, WATER MAINS SHALL BE INSTALLED TO SUCH DEPTH TO GIVE A MINIMUM OF 4'-6" OF COVER ON THE WATER MAIN.
7. ALL CLEARANCE DISTANCES SHALL BE MEASURED EDGE TO EDGE
8. REFER TO WATER TRENCH DETAIL, PVC CONDUIT TRENCH DETAIL AND TYPICAL PIPE BEDDING DETAIL FOR SPECIFIC TRENCH BACKFILL DETAILS

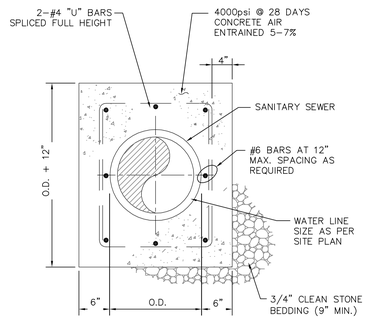


NOTES:
1. TRENCH WIDTH SHALL BE A MINIMUM OF 1' EACH SIDE PLUS THE OUTSIDE DIAMETER OF THE PIPE. TRENCH WIDTH SHALL NOT EXCEED THAT REQUIRED FOR PROPER INSTALLATION BACKFILL AND COMPACTION OPERATIONS. INSTALL DEMARCATION LAYER #1 ON SIDES AND BOTTOMS OF ALL UTILITY TRENCHES WHERE TRENCHES EXTEND INTO EXISTING SOILS BELOW (EXISTING) DEMARCATION LAYER #1.
2. ALL SUITABLE BACKFILL AND SAND BEDDING SHALL BE AS PER SPECIFICATIONS AND APPROVED BY THE RESIDENT ENGINEER PRIOR TO INSTALLATION.
3. SUITABLE BACKFILL MATERIAL SHALL CONSIST OF "REUSE ONSITE" MATERIAL OR "IMPORT" MATERIAL PER ENVIRONMENTAL SPECIFICATIONS, DRAWING EN-3 (SECTIONS 10.0 & 12.0), PREPARED BY P.W. GROSSER CONSULTING, INC.
4. IN LIEU OF ¾" CLEAN STONE FOR PIPE BEDDING, SAND MAY BE UTILIZED FOR PVC AND HDPE PIPE BEDDING.

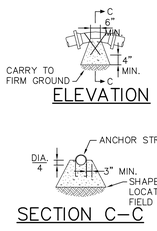
TYPICAL PIPE BEDDING DETAIL FOR STORM AND ON-SITE SANITARY SEWERS
NOT TO SCALE



TYPICAL JOINT RESTRAINT FOR FITTINGS
NOT TO SCALE



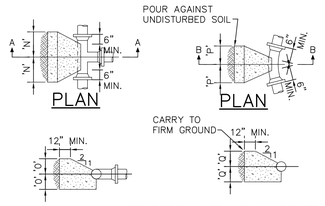
CONCRETE ENCASEMENT DETAIL
NOT TO SCALE



ELEVATION

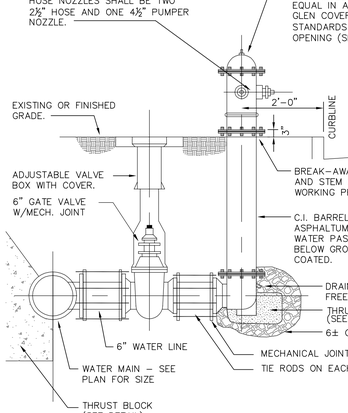


SECTION C-C
VERTICAL DOWNWARD BENDS



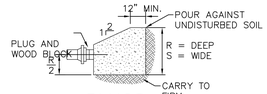
PLAN
SECTION A-A TEES

PLAN
SECTION B-B HORIZ. & VERT. UPWARD BENDS



NOTES:
1. HYDRANT & GATE VALVE TO CONFORM TO LATEST AWWA SPECS AND BE UL OR FM APPROVED.
2. HYDRANTS SHALL BE SAFETY FLANGE, "O" RING SEAL, 4¾" INTERNAL VALVE OPENING, DRAIN TYPE, WITH TWO (2) 2½" HOSE NOZZLES AND ONE (1) 4½" STEAMER CONNECTIONS. THREADS SHALL BE NATIONAL STANDARD FOR THE 2½" HOSE NOZZLE CONNECTIONS AND NEW YORK CORPORATION FOR THE 4½" PUMPER CONNECTION.
3. COLORS SHALL BE RED BARREL WITH REFLECTING WHITE BONNET AND CAPS. ALL NEW HYDRANTS SHALL BE BAGGED UNTIL AFTER ACTIVATION.
4. ALL HYDRANTS SHALL HAVE A MINIMUM 5-FOOT DEPTH OF BURY, 6-INCH INLET WITH MECHANICAL JOINT END. HYDRANT SHALL BE SUPPLIED WITH MECHANICAL JOIN RETAINER GLAND.
5. ALL HYDRANT VALVES SHALL BE ANCHORED TO VALVE WITH STEEL TIE ROADS IN ALL CASES. FURNISH AND INSTALL 3 CUBIC FEET OF WELL-GRADED, WASHED GRAVEL FROM THE BOTTOM OF HYDRANT TO 1 FOOT ABOVE THE BOTTOM FLANGE.

TYPICAL FIRE HYDRANT AND AUXILIARY GATE VALVE DETAIL
NOT TO SCALE

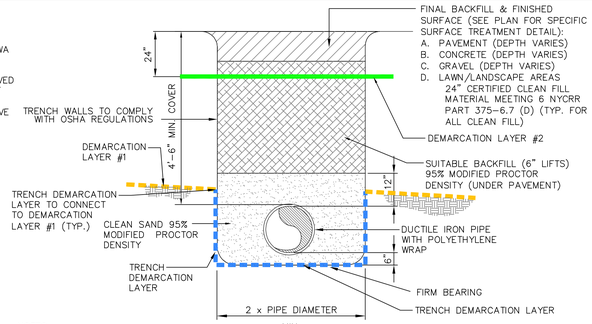


PLUGS

THRUST BLOCKS DESIGNED FOR 250 LB. PER SQ. IN. TEST PRESSURE AND 2000 LB. PER SQ. FT. SOIL PRESSURE.
• MIN. CONC. ANCHORAGE WITHOUT BACKFILL AND NO GROUND WATER CONDITION.

MECHANICAL JOINT BOLT AND NUTS ON PLUG SHALL BE ACCESSIBLE AFTER THRUST BLOCK IS POURED.

ANCHOR SCHEDULE FOR VERTICAL DOWNWARD BENDS	
SIZE	SIZE
4"ø	#3 BAR
6"ø	#4 BAR
8"ø	#5 BAR
10"ø	#7 BAR
12"ø	#9 BAR
14"ø	3"x1/2"-FLAT
24"ø	5"x1/2"-FLAT



NOTES:
1. TRENCH WIDTH SHALL BE A MINIMUM OF 1' EACH SIDE PLUS THE OUTSIDE DIAMETER OF THE PIPE. TRENCH WIDTH SHALL NOT EXCEED THAT REQUIRED FOR PROPER INSTALLATION BACKFILL AND COMPACTION OPERATIONS. INSTALL DEMARCATION LAYER #1 ON SIDES AND BOTTOMS OF ALL UTILITY TRENCHES WHERE TRENCHES EXTEND INTO EXISTING SOILS BELOW (EXISTING) DEMARCATION LAYER #1.
2. ALL SUITABLE BACKFILL AND SAND BEDDING SHALL BE AS PER SPECIFICATIONS AND APPROVED BY THE RESIDENT ENGINEER PRIOR TO INSTALLATION.
3. SUITABLE BACKFILL MATERIAL SHALL CONSIST OF "REUSE ONSITE" MATERIAL OR "IMPORT" MATERIAL PER ENVIRONMENTAL SPECIFICATIONS, DRAWING EN-3 (SECTIONS 10.0 & 12.0), PREPARED BY P.W. GROSSER CONSULTING, INC
4. BACKFILL MATERIAL SHALL BE APPROVED BY THE NYSDEC AND USEPA PRIOR TO PLACEMENT.

WATERLINE TRENCH DETAIL
NOT TO SCALE

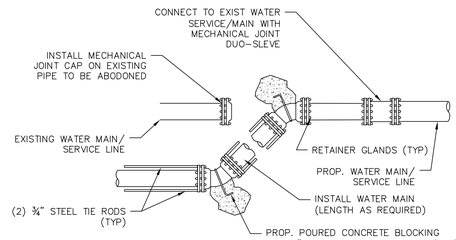
WATER DISTRIBUTION NOTES

1. ALL WATER MAINS SHALL BE INSTALLED IN ACCORDANCE WITH THE RULES AND REGULATIONS OF AWWA, NYSDOH AND THE CITY OF GLEN COVE WATER DEPARTMENT.
2. ALL WATER DISTRIBUTION SYSTEM CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE AWWA AND NYSDOH CURRENT STANDARDS
3. ALL THRUST BLOCKS, REQUIRED FOR PIPE LINES 4-INCH DIAMETER AND LARGER, SHALL BE CALCULATED IN THE FIELD BASED ON DETAILS INCLUDED IN THIS SUBMISSION AND SHALL BE FOUNDED ON VIRGIN SOIL.
4. ALL VALVE BOXES FOR HYDRANT ASSEMBLY SHALL BE CENTERED ON VALVE AND SET IN PAVEMENT WHERE POSSIBLE. ALL VALVE BOXES MUST BE SET TO FINISHED PAVEMENT/GRADE SURFACE ELEVATION.
5. WATER MAINS SHALL BE CEMENT LINED DUCTILE IRON PIPE, CLASS 52.
6. WATER MAIN CROSSING OVER SANITARY SEWER SHALL BE INSTALLED TO PROVIDE A VERTICAL SEPARATION OF 18 INCHES BETWEEN THE BOTTOM OF THE WATER MAIN AND TOP OF THE SEWER.
7. ALL MATERIALS, DISINFECTING AND INSTALLATION SHALL CONFORM TO THE "RECOMMENDED STANDARDS FOR WATER WORKS" (10 STATES STANDARDS)
8. MINIMUM DEPTH OF COVER SHALL BE 4'-6". WHERE MINIMUM DEPTH CANNOT BE MET, WATER MAINS SHALL BE PROPERLY INSULATED.
9. CONTRACTOR SHALL COORDINATE FIRE HYDRANT LOCATIONS WITH THE FIRE DEPARTMENT PRIOR TO INSTALLATION. A PLAN OF SAME SHALL BE SUBMITTED TO THE DESIGN ENGINEER.

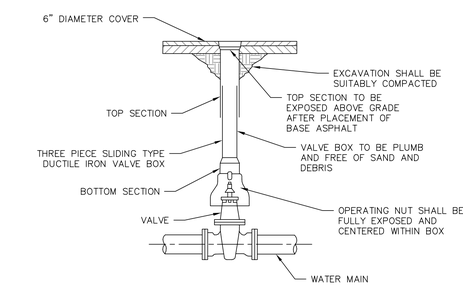
THRUST BLOCKS FOR TEES, HORIZONTAL & VERTICAL BENDS AND PLUGS

	DESC.	DIMENSION	4"ø	6"ø	8"ø	10"ø	12"ø	14"ø	24"ø
HORIZ. & VERT. UPWARD	TEES	N	0'-9"	1'-1"	1'-5"	1'-9"	2'-1"	2'-5"	4'-1"
		O	0'-9"	1'-1"	1'-5"	1'-9"	2'-1"	2'-5"	4'-1"
	90° BENDS	P	0'-11"	1'-4"	1'-9"	2'-1"	2'-6"	2'-10"	4'-10"
		Q	0'-11"	1'-4"	1'-9"	2'-1"	2'-6"	2'-10"	4'-10"
	45° BENDS	P	0'-8"	1'-0"	1'-3"	1'-7"	1'-10"	2'-1"	3'-7"
		Q	0'-8"	1'-0"	1'-3"	1'-7"	1'-10"	2'-1"	3'-7"
	22 1/2° BENDS	P	0'-6"	0'-8"	0'-11"	1'-1"	1'-4"	1'-6"	2'-7"
		Q	0'-6"	0'-8"	0'-11"	1'-1"	1'-4"	1'-6"	2'-7"
	11 1/4° BENDS	P	0'-4"	0'-6"	0'-8"	0'-10"	1'-0"	1'-1"	1'-10"
		Q	0'-4"	0'-6"	0'-8"	0'-10"	1'-0"	1'-1"	1'-10"
VERT. DOWNWARD	45° BENDS	MIN. CONC. * ANCHORAGE	0.9 C.Y.	1.8 C.Y.	3.1 C.Y.	4.6 C.Y.	6.5 C.Y.	8.7 C.Y.	24.7 C.Y.
	22 1/2° BENDS	MIN. CONC. * ANCHORAGE	0.5 C.Y.	0.9 C.Y.	1.6 C.Y.	2.4 C.Y.	3.3 C.Y.	4.4 C.Y.	12.6 C.Y.
	11 1/4° BENDS	MIN. CONC. * ANCHORAGE	0.3 C.Y.	0.5 C.Y.	0.8 C.Y.	1.2 C.Y.	1.7 C.Y.	2.2 C.Y.	6.4 C.Y.
	PLUGS	R	1'-6"	2'-2"	2'-10"	3'-6"	4'-2"	4'-10"	8'-2"
		S	1'-6"	2'-2"	2'-10"	3'-6"	4'-2"	4'-10"	8'-2"

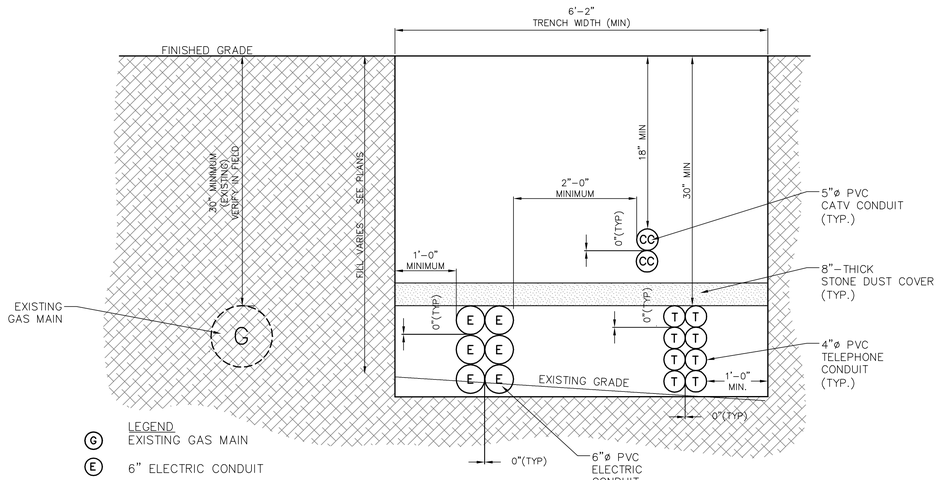
THRUST BLOCK DETAILS
NOT TO SCALE 250 P.S.I.



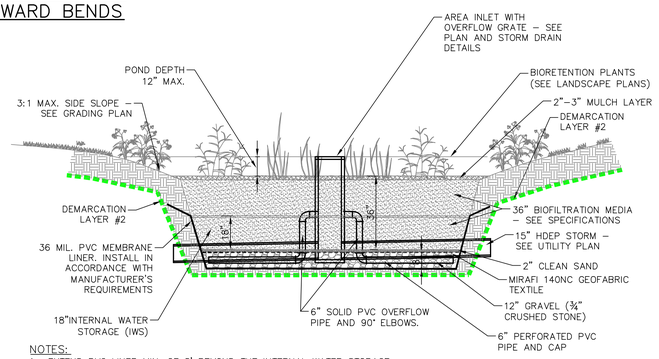
WATER MAIN/ SERVICE CONNECTION
NOT TO SCALE



TYPICAL VALVE BOX INSTALLATION
NOT TO SCALE



TYPICAL SECTION - COMMON UTILITY TRENCH
(DICKSON STREET)
N.T.S.



NOTES:
1. EXTEND PVC LINER MIN. OF 5' BEYOND THE INTERNAL WATER STORAGE.
2. PVC MEMBRANE UNDER MUST BE INSPECTED BY A LICENSED SOILS ENGINEER. INSPECTION REPORTS AND FINAL CERTIFICATIONS MUST BE FORWARDED TO THE BOROUGH ENGINEER.
3. BIOFILTRATION MEDIA MIX:
   - 85% TO 88% BY VOLUME SAND (USDA SOIL TEXTURAL CLASSIFICATION);
   - 8% TO 12% FINES BY VOLUME (SILT AND CLAY, WITH A MAXIMUM CLAY CONTENT OF 5% RECOMMENDED); AND
   - 3% TO 5% ORGANIC MATTER BY VOLUME.

CONSTRUCTION SEQUENCE:
1. INSTALL APPROPRIATE TEMPORARY EROSION CONTROL DEVICES TO PREVENT SEDIMENT FROM LEAVING OR ENTERING THE PRACTICE DURING CONSTRUCTION.
2. ALL DOWN-GRADIENT PERIMETER SEDIMENT CONTROL BMP'S MUST BE IN PLACE BEFORE ANY UP GRADIENT LAND DISTURBING ACTIVITY BEGINS.
3. PERFORM CONTINUOUS INSPECTIONS OF EROSION CONTROL PRACTICES, ESPECIALLY AFTER EACH RAINFALL EVENT.
4. INSTALL ALL UTILITIES (WATER, SANITARY SEWER, ELECTRIC, NATURAL GAS, PHONE, FIBER OPTIC, ETC) PRIOR TO SETTING FINAL GRADE OF BIORETENTION DEVICE.
5. ROUGH GRADE THE SITE. IF BIORETENTION AREAS ARE BEING USED AS TEMPORARY SEDIMENT BASINS DURING CONSTRUCTION, LEAVE A MINIMUM OF 1 FEET OF COVER OVER THE PRACTICE TO PROTECT THE UNDERLYING SOILS FROM CLOGGING.
6. COMPLETE, STABILIZE, AND VEGETATE ALL OTHER SITE IMPROVEMENTS.
7. CONSTRUCT AND VEGETATE BIORETENTION DEVICE FOLLOWING STABILIZATION OF CONTRIBUTING DRAINAGE AREA. ENSURE THAT CRITICAL ELEVATIONS, SUCH AS UNDERDRAIN INVERT, TOP OF MEDIA, TOP OF MULCH, AND INVERT OF OVERFLOW STRUCTURE (IF PRESENT) ARE CORRECT.
8. REMOVE TEMPORARY EROSION CONTROL DEVICES AFTER THE CONTRIBUTING DRAINAGE AREA IS ADEQUATELY VEGETATED.

BIOFILTRATION SYSTEM DETAIL
NOT TO SCALE

DEMARCATION LEGEND

- DEMARCATION LAYER #1
- TRENCH DEMARCATION
- DEMARCATION LAYER #2

NOTE: DEMARCATION LAYER #2 WILL MARK THE TRANSITION FROM FILL MATERIAL AND/OR NATIVE SOILS TO CLEAN COVER MATERIAL. AT A MINIMUM, DEMARCATION LAYER #2 WILL BE INSTALLED IN OPEN AREAS OUTSIDE THE BUILDING FOOTPRINTS INCLUDING BENEATH THE MINIMUM TWO-FOOT CLEAN COVER AREAS, HARDSCAPES, OR IMPERVIOUS COVER MATERIAL. DEMARCATION LAYER #2 MAY ALSO BE INSTALLED BENEATH PORTIONS OF THE FOOTPRINT OF THE BUILDINGS.

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REV./ ISSUE	DATE	DESCRIPTION
1	5/23/14	REV. PER CITY COMMENTS
2	8/14/14	REV. PER CITY COMMENTS
3	1/22/15	PROGRESS SET
4	4/10/15	PROGRESS SET
5	7/30/15	ISSUED FOR BUILDING PERMIT
6	2/19/16	ISSUED FOR PRICING
~~7~~	~~3/31/16~~	~~ISSUED FOR BID SET~~
8	8/08/16	ISSUED FOR BID
9	12/22/16	REV. PER CITY COMMENTS
10	12/23/16	ADDENDUM No. 1
11	1/06/17	PARCEL B (BLDG H) EWP
12	2/17/17	REV. PER NYSDEC COMMENTS
13	3/01/17	REV. PER NYSDEC COMMENTS
14	3/08/17	PARCEL A, DOXEY AND GLADSKY PROPERTIES EWP'S

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ARCHITECTS AND PLANNERS
80 LAMBERT LANE, SUITE 105, LAMBERTVILLE, NEW JERSEY 08530 MINNOWASKO.COM

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WARREN, NEW JERSEY 07059
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JOSEPH J. FLEMING, P.E.
PROFESSIONAL ENGINEER
N.Y. LIC. NO. 66591

SIGNATURE DATE

CLIENT

RXR GLEN ISLE PARTNERS LLC

PROJECT

GARVIES POINT WATERFRONT REDEVELOPMENT PHASE I

CITY OF GLEN COVE, NASSAU COUNTY, NEW YORK

SHEET TITLE

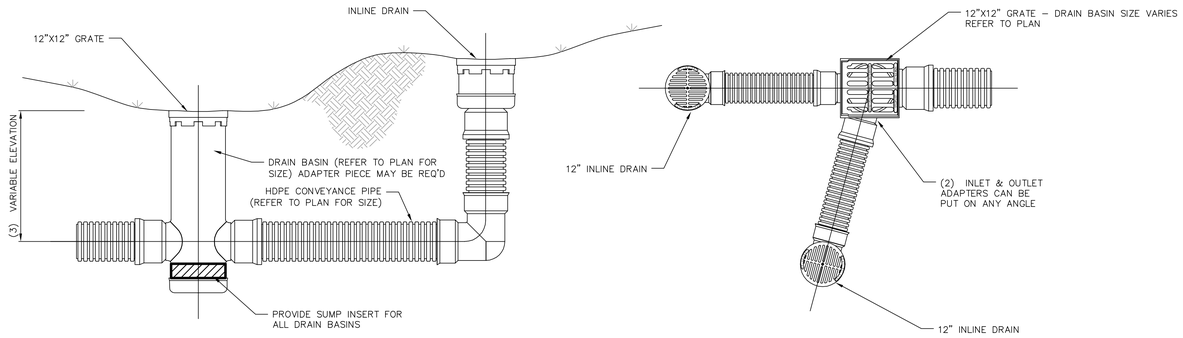
UTILITY DETAILS

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SCALE: AS SHOWN

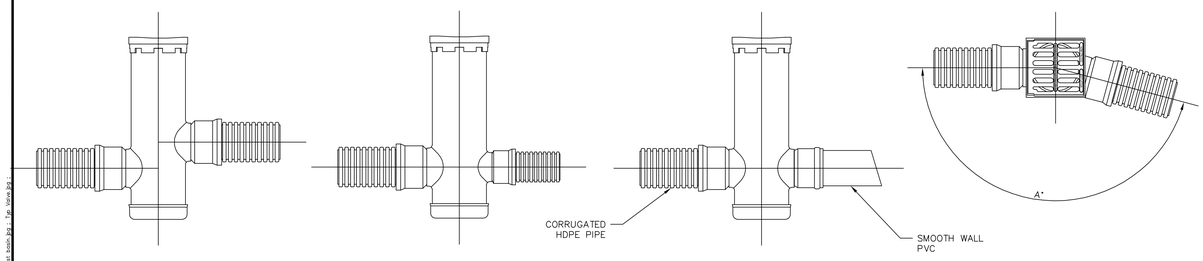
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SHEET OF
SHEET NO.

C-20

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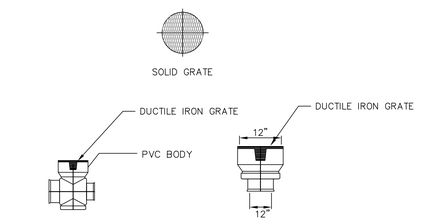


1: TO CHANGE ELEVATION 2: TO CHANGE PIPE DIAMETER 3: TO CHANGE PIPE TYPE 4: TO CHANGE DIRECTION



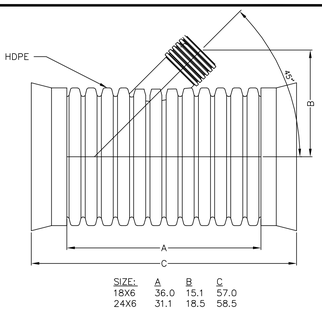
NYLOPLAST DRAINAGE SYSTEM DETAILS (OR APPROVED EQUAL)

NOT TO SCALE



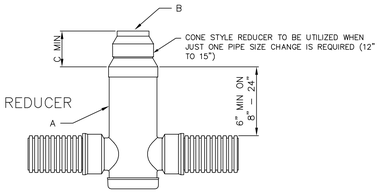
12" NYOPLAST INLINE DRAIN (OR APPROVED EQUAL)

NOTE: PROVIDE SOLID 12" GRATE AT ALL BASIN LOCATIONS LABELED "MH"



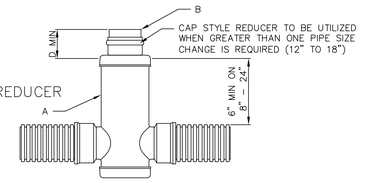
SIZE:	A	B	C
18X6	36.0	15.1	57.0
24X6	31.1	18.5	58.5

FITTING



A	B	C	D
10"	8"	6.00	9.00
12"	8"	12.00	9.00
12"	10"	6.00	10.00
15"	8"	18.50	9.00
15"	10"	12.50	10.00
15"	12"	6.50	
18"	8"	25.50	9.00
18"	10"	19.50	10.00
18"	12"	13.50	11.50
18"	15"	7.00	
24"	8"	36.50	9.00
24"	10"	30.50	10.00
24"	12"	24.50	11.00
24"	15"	18.00	12.00
24"	18"	11.00	
30"	8"	46.50	9.00
30"	10"	40.50	10.00
30"	12"	34.50	11.50
30"	15"	28.00	12.00
30"	18"	21.00	14.50
30"	24"	13.50	

DIMENSIONS SHOWN ARE FOR REFERENCE ONLY – ACTUAL DIMENSIONS MAY VARY

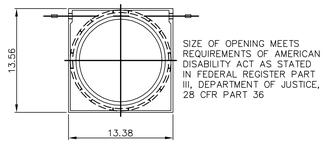


NYLOPLAST DRAIN BASIN REDUCERS (OR APPROVED EQUAL)

NOT TO SCALE

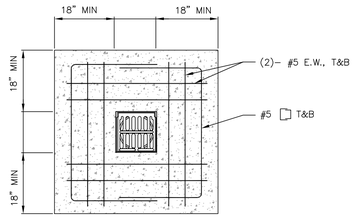
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NYLOPLAST 12"X12" PEDESTRIAN GRATE

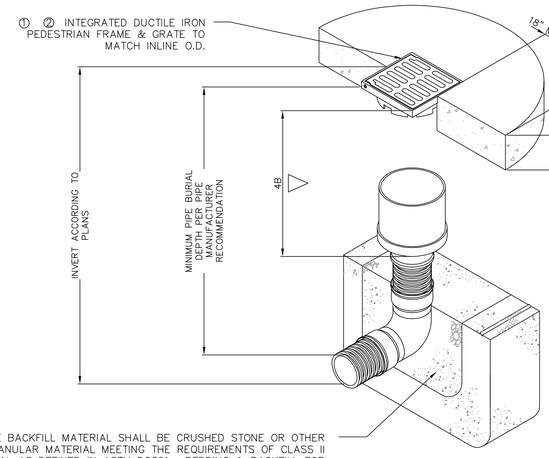
NOT TO SCALE



NOTE: CONCRETE COLLAR TO BE USED IN HARDSCAPE AREAS COMPOSED OF CONCRETE PAVERS AND/OR FLEXIBLE PAVEMENT

CONCRETE COLLAR PLAN VIEW

NOT TO SCALE



A	B
4"	10.50"
6"	11.50"
8"	11.50"
10"	11.25"
12"	6.00"

③ VARIOUS TYPES OF INLET & OUTLET ADAPTERS AVAILABLE: 4" – 12" FOR CORRUGATED HDPE (ADS N-12, ADS SINGLE WALL, HANCOR DUAL WALL), SDR 35, SCH 40 DWV, CORRUGATED & RIBBED PVC

4A

③ WATERTIGHT JOINT (CORRUGATED HDPE SHOWN)

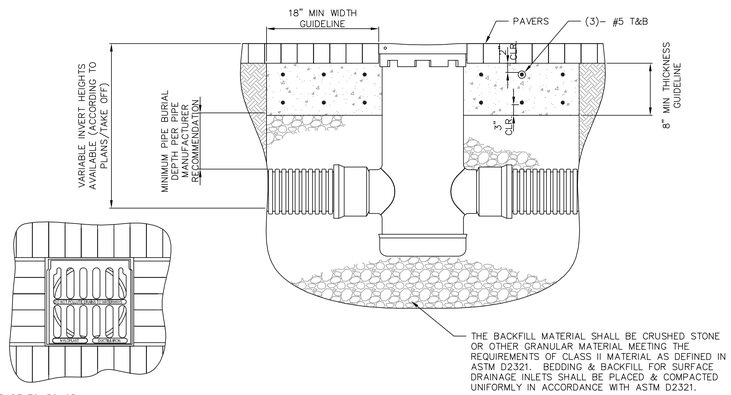


THE BACKFILL MATERIAL SHALL BE CRUSHED STONE OR OTHER GRANULAR MATERIAL MEETING THE REQUIREMENTS OF CLASS II MATERIAL AS DEFINED IN ASTM D2321. BEDDING & BACKFILL FOR SURFACE DRAINAGE INLETS SHALL BE PLACED & COMPACTED UNIFORMLY IN ACCORDANCE WITH ASTM D2321.

① – GRATES/SOLID COVERS SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05 WITH THE EXCEPTION OF THE BRONZE GRATE.
② – FRAMES SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05
③ – DRAINAGE CONNECTION STUB JOINT TIGHTNESS SHALL CONFORM TO ASTM D3212 FOR CORRUGATED HDPE (ADS & HANCOR DUAL WALL) & SDR 35 PVC

NYLOPLAST 12" INLINE DRAIN (OR APPROVED EQUAL)

NOT TO SCALE



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NYLOPLAST (OR APPROVED EQUAL) GRATE PAVER INSTALLATION

NOT TO SCALE

NYLOPLAST DRAIN SIZING CHART

8 IN - 30 IN MINIMUM ANGLE BETWEEN ADAPTERS

THIS CHART DOES NOT APPLY WHEN USING A SNOUT OR ADD-A-BRANCH

ADAPTER SIZE	8" BASIN	10" BASIN	12" BASIN	15" BASIN	18" BASIN	24" BASIN	30" BASIN
4" - 4"	70°	55°	50°	42°	35°	25°	24°
4" - 6"	**75°**	**70°**	**55°**	**47°**	**40°**	**29°**	**25°**
4" - 8"	100°	80°	65°	55°	45°	35°	28°
4" - 10"	-	**95°**	**75°**	**62°**	**52°**	**40°**	**32°**
4" - 12"	-	-	85°	70°	55°	45°	40°
4" - 15"	-	-	-	**80°**	**65°**	**51°**	**44°**
4" - 18"	-	-	-	-	76°	60°	50°
4" - 24"	-	-	-	-	-	**75°**	**62°**
4" - 30"	-	-	-	-	-	-	75°
6" - 6"	**90°**	**75°**	**65°**	**55°**	**44°**	**33°**	**30°**
6" - 8"	115°	85°	75°	63°	51°	39°	34°
6" - 10"	-	**105°**	**85°**	**70°**	**55°**	**43°**	**38°**
6" - 12"	-	-	95°	75°	63°	48°	45°
6" - 15"	-	-	-	**86°**	**72°**	**56°**	**48°**
6" - 18"	-	-	-	-	84°	63°	55°
6" - 24"	-	-	-	-	-	**77°**	**66°**
6" - 30"	-	-	-	-	-	-	75°
8" - 8"	**165°**	**90°**	**80°**	**70°**	**55°**	**44°**	**35°**
8" - 10"	-	115°	88°	76°	63°	48°	45°
8" - 12"	-	-	**102°**	**83°**	**70°**	**52°**	**48°**
8" - 15"	-	-	-	95°	78°	60°	55°
8" - 18"	-	-	-	-	**90°**	**70°**	**60°**
8" - 24"	-	-	-	-	-	82°	70°
8" - 30"	-	-	-	-	-	-	**80°**
10" - 10"	-	160°	90°	82°	70°	53°	48°
10" - 12"	-	-	**115°**	**88°**	**75°**	**58°**	**50°**
10" - 15"	-	-	-	103°	85°	65°	58°
10" - 18"	-	-	-	-	**97°**	**72°**	**65°**
10" - 24"	-	-	-	-	-	88°	75°
10" - 30"	-	-	-	-	-	-	**85°**
12" - 12"	-	-	150°	90°	82°	64°	56°
12" - 15"	-	-	-	**112°**	**87°**	**69°**	**60°**
12" - 18"	-	-	-	-	102°	78°	68°
12" - 24"	-	-	-	-	-	**92°**	**80°**
12" - 30"	-	-	-	-	-	-	90°
15" - 15"	-	-	-	**150°**	**90°**	**77°**	**69°**
15" - 18"	-	-	-	-	110°	84°	75°
15" - 24"	-	-	-	-	-	**98°**	**85°**
15" - 30"	-	-	-	-	-	-	96°
18" - 18"	-	-	-	-	**150°**	**90°**	**78°**
18" - 24"	-	-	-	-	-	108°	88°
18" - 30"	-	-	-	-	-	-	**100°**
24" - 24"	-	-	-	-	-	150°	90°
24" - 30"	-	-	-	-	-	-	**115°**
30" - 30"	-	-	-	-	-	-	150°

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JOSEPH J. FLEMING, P.E.
PROFESSIONAL ENGINEER
N.Y. LIC. NO. 66591

SIGNATURE DATE

CLIENT

RXR GLEN ISLE PARTNERS LLC

PROJECT

GARVIES POINT WATERFRONT REDEVELOPMENT PHASE I

CITY OF GLEN COVE, NASSAU COUNTY, NEW YORK

SHEET TITLE

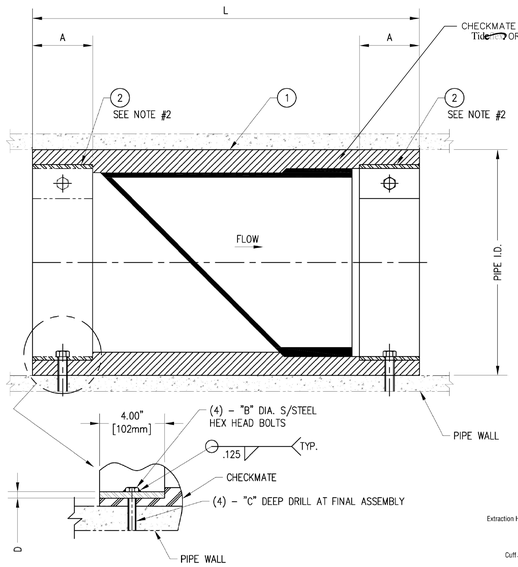
UTILITY DETAILS

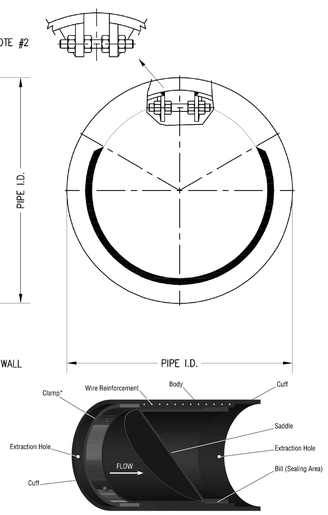
JOB NO.: 03610-002
DATE: 9/27/2012
DRAWN: GY
CHECK: PAR
SCALE: AS SHOWN

BINDING ORDER:
SHEET OF
SHEET NO.

C-21

PLOT NAME: J:\03610\005\Dwgs\Plot Files\LVDS-24-1701.ctb | LAST EDIT: 03/07/2017 - 10:54:51 AM | USER: jmcdaniel | XREFS: 03610002-C-BASE.dwg | 03610002-C-UTIL.dwg | 03610002-C-EP03.dwg | MAKE: 70 Gen Cath Basin (48) 24 | Checkered Yield 24 | Curb Casting 24 | Grate 24 | Manhole Angle Detail 24 | Precast Base 24 | Typ Curve 24 | Watercraft 24



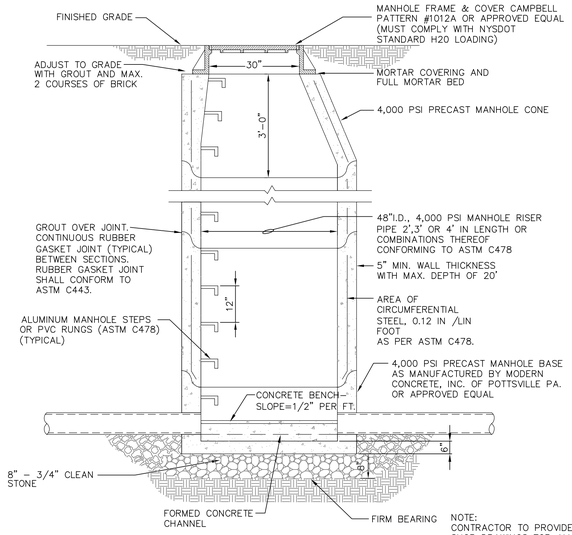


*Clamps are installed in the upstream or downstream cuff, depending upon the application. The illustration above is shown clamped upstream.

PIPE I.D.	L	A	B	C	D
15"	25.75"	4.00"	0.38"	0.44"	0.25"
18"	31.00"	4.00"	0.50"	0.63"	0.38"
24"	47.50"	8.00"	0.50"	0.63"	0.38"
30"	54.87"	8.00"	0.50"	0.63"	0.50"
36"	62.25"	8.00"	0.75"	1.00"	0.50"

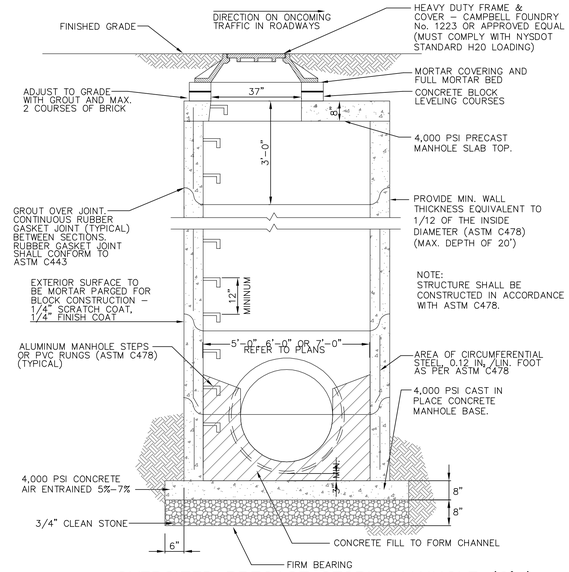
NOTES:
1. SEE CHECKMATE DIMENSION TABLE.
2. CLAMP INSTALLED IN UPSTREAM OR DOWNSTREAM CUFF DEPENDING ON INSTALLATION ORIENTATION.
3. MAXIMUM ALLOWABLE BACK PRESSURE – 20.0 FEET.
4. IT IS RECOMMENDED TO BOLT OR PIN CHECKMATE TO PIPE AS SHOWN, 4 PLACES 90° APART.

CHECK VALVE DETAIL
NOT TO SCALE

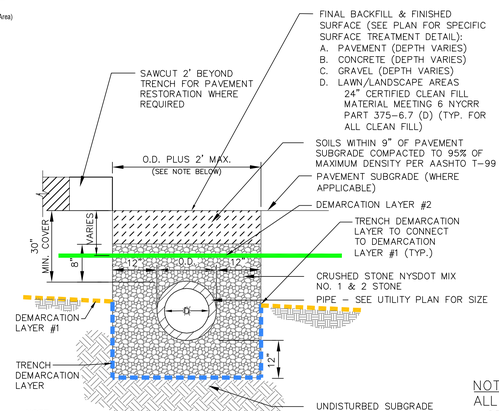


STORM SEWER MANHOLE
NOT TO SCALE

NOTE:
CONTRACTOR TO PROVIDE SIGNED AND SEALED SHOP DRAWINGS FOR ALL PRECAST STRUCTURES THAT INCLUDE LARGE/MULTIPLE STORM SEWER CONNECTIONS. STRUCTURE TO BE SIZED TO PROVIDE MIN. OF 6" WALL SURFACE AND/OR AS REQUIRED TO SECURE A STRUCTURALLY SOUND PRODUCT.



OVERSIZED PRECAST STORM MANHOLE (6'ø)
NOT TO SCALE



NOTE:
IF DEPTH OF TRENCH EQUALS OR EXCEEDS 5'–0", THE CONTRACTOR MUST PROVIDE SHEETING AND BRACING. AS AN ALTERNATIVE, THE TRENCH WALLS MUST BE CUT BACK TO A 1:1 SLOPE, OR THE NATURAL ANGLE OF REPOSE FOR THE SOIL, WHICHEVER IS MORE SHALLOW

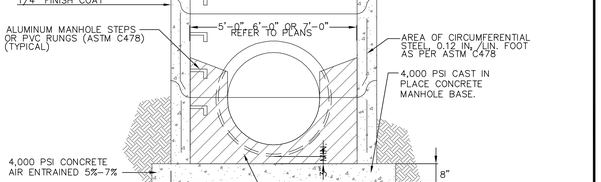
NOTE:
IF ROCK OR UNSTABLE MATERIAL IS ENCOUNTERED, EXCAVATE TO OBTAIN A STABLE BOTTOM

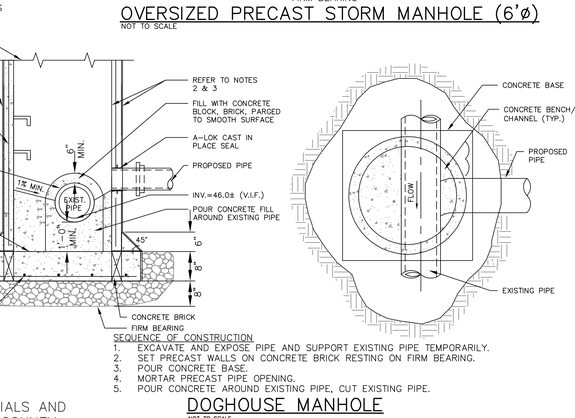
NOTES:
1. TRENCH WIDTH SHALL BE A MINIMUM OF 1' EACH SIDE PLUS THE OUTSIDE DIAMETER OF THE PIPE. TRENCH WIDTH SHALL NOT EXCEED THAT REQUIRED FOR PROPER INSTALLATION BACKFILL AND COMPACTION OPERATIONS. INSTALL DEMARCATION LAYER #1 ON SIDES AND BOTTOMS OF ALL UTILITY TRENCHES WHERE TRENCHES EXTEND INTO EXISTING SOILS BELOW (EXISTING) DEMARCATION LAYER #1.
2. ALL SUITABLE BACKFILL AND SAND BEDDING SHALL BE AS PER SPECIFICATIONS AND APPROVED BY THE RESIDENT ENGINEER PRIOR TO INSTALLATION.
3. WHERE DEPTH TO TOP OF CONDUIT IS GREATER THAN 30", FILL MATERIAL BETWEEN BOTTOM OF 24" CLEAN CAP AND TOP OF CRUSHED STONE LAYER SHALL BE SUITABLE BACKFILL MATERIAL AND MAY CONSIST OF "REUSE ONSITE" MATERIAL OR "IMPORT" MATERIAL PER ENVIRONMENTAL SPECIFICATIONS, DRAWING EN–3 (SECTIONS 10.0 & 12.0), PREPARED BY P.W. GROSSER CONSULTING, INC.
4. IN LIEU OF ¾" CLEAN STONE FOR PIPE BEDDING, SAND MAY BE UTILIZED FOR PVC AND HDPE PIPE BEDDING.

PVC CONDUIT TRENCH DETAIL
NOT TO SCALE

NOTE:
ALL SANITARY SEWERS, MANHOLES, MATERIALS AND INSTALLATION TO CONFORM WITH NASSAU COUNTY DEPARTMENT OF PUBLIC WORKS (NCDPW) STANDARD SPECIFICATIONS AND DETAILS FOR THE CONSTRUCTION OF SANITARY SEWERS, LATEST EDITION

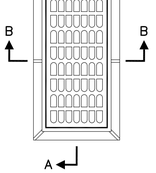
PLAN W/OUT TOP SLAB



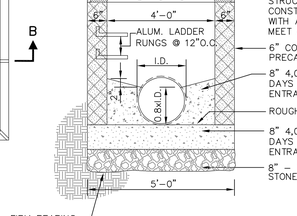


SEQUENCE OF CONSTRUCTION
1. EXCAVATE AND EXPOSE PIPE AND SUPPORT EXISTING PIPE TEMPORARILY.
2. SET PRECAST WALLS ON CONCRETE BRICK RESTING ON FIRM BEARING.
3. POUR CONCRETE BASE.
4. MORTAR PRECAST PIPE OPENING.
5. POUR CONCRETE AROUND EXISTING PIPE, CUT EXISTING PIPE.

DOGHOUSE MANHOLE
NOT TO SCALE

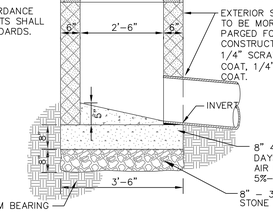


PLAN



NOTE:
STRUCTURE SHALL BE CONSTRUCTED IN ACCORDANCE WITH ASTM C913. JOINTS SHALL MEET ASTM C443 STANDARDS.

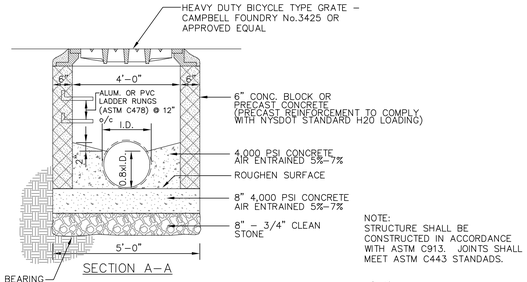
SECTION A–A



SECTION B–B

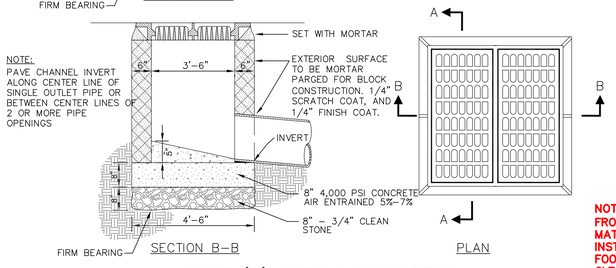
NOTE:
PAVE CHANNEL INVERT ALONG ℄ OF SINGLE OUTLET PIPE OR BETWEEN ℄'S OF 2 OR MORE PIPE OPENINGS

AREA INLET DETAIL (TYPE A INLET)
NOT TO SCALE



SECTION A–A

NOTE:
STRUCTURE SHALL BE CONSTRUCTED IN ACCORDANCE WITH ASTM C913. JOINTS SHALL MEET ASTM C443 STANDARDS.

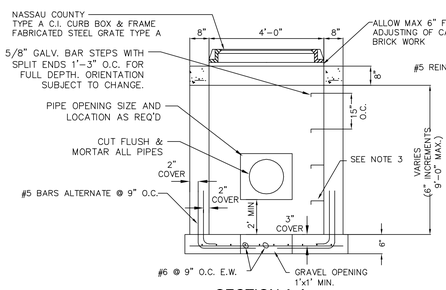


SECTION B–B

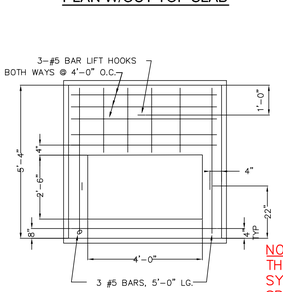
PLAN

NOTE:
PAVE CHANNEL INVERT ALONG CENTER LINE OF SINGLE OUTLET PIPE OR BETWEEN CENTER LINES OF 2 OR MORE PIPE OPENINGS

TYPE 'E' AREA INLET DETAIL
NOT TO SCALE



SECTION A-A



PLAN

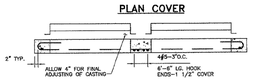
NOTES:
1. USE AFCO PRECAST N.C.D.P.W. TYPE B OR APPROVED EQUAL
2. CONCRETE TO TEST 4,000 P.S.I. @ 28 DAYS PER ACI 318–71
3. REBAR = Fs = 60,000 P.S.I. YIELD AS PER ASTM A–615
4. STEPS SHALL BE PS–2–B OR PS–2–PF POLYPROPYLENE PLASTIC INSERTS & STEPS AS MANUFACTURED BY M.A. INDUSTRIES OR APPROVED EQUAL
5. NO STEPS ARE REQ'D FOR WALL HEIGHTS OF 3'–0" OR LESS

CATCH BASIN DETAIL (TYPE B INLET)
NOT TO SCALE

NOTE: DEMARCATION LAYER #2 WILL MARK THE TRANSITION FROM FILL MATERIAL AND/OR NATIVE SOILS TO CLEAN COVER MATERIAL. AT A MINIMUM, DEMARCATION LAYER #2 WILL BE INSTALLED IN OPEN AREAS OUTSIDE THE BUILDING FOOTPRINTS INCLUDING BENEATH THE MINIMUM TWO–FOOT CLEAN COVER AREAS, HARDSCAPES, OR IMPERVIOUS COVER MATERIAL. DEMARCATION LAYER #2 MAY ALSO BE INSTALLED BENEATH PORTIONS OF THE FOOTPRINT OF THE BUILDINGS.

NOTE:
THE CONTRACTOR WILL INSTALL A COVER SYSTEM PER ENVIRONMENTAL SPECIFICATIONS, DRAWING EN–03 (SECTION 13.0), PREPARED BY P.W. GROSSER CONSULTING, INC. UNLESS NOTED OTHERWISE ON DETAIL.

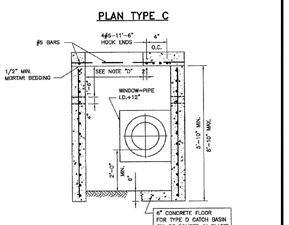
NOTE:
AS SHOWN ON THE SANITARY AND STORM PROFILES, THE TRENCH DEMARCATION LAYER WHERE UTILIZED SHALL ENCOMPASS UTILITY STRUCTURES



PLAN COVER

SECTION D–D

NOTES:
1. REBARS: Fs = 40,000psi A.S.T.M. A–615.
2. W.W.M.: 6"x6"–4/4 Ts = 50,000psi. A.S.T.M. A–185 PROVIDE 1 ½" COVER AT ENDS OF VERTICAL WIRES, 1" INSIDE BENDS AT CORNERS.
3. CONCRETE: CLASS "A" AS PER NASSAU CO. SPEC.
4. UTILIZE 4 LIFT HOLES FOR HANDLING.
5. WINDOW TO BE CAST IN STRUCTURE AS REQUIRED. KNOCK–OUT PANELS WILL NOT BE PERMITTED.



PLAN TYPE C

SECTION C–C

TYPE 'D' INLET DETAIL (DOUBLE CURB)
NOT TO SCALE

DEMARCATION LEGEND
- DEMARCATION LAYER #1
- TRENCH DEMARCATION
- DEMARCATION LAYER #2

REV. / ISSUE	DATE	DESCRIPTION
1	5/23/14	REV. PER CITY COMMENTS
2	8/14/14	REV. PER CITY COMMENTS
3	1/22/15	PROGRESS SET
4	4/10/15	PROGRESS SET
5	7/30/15	ISSUED FOR BUILDING PERMIT
6	2/19/16	ISSUED FOR PRICING
~~7~~	~~3/31/16~~	~~ISSUED FOR BID SET~~
8	8/08/16	ISSUED FOR BID
9	12/22/16	REV. PER CITY COMMENTS
10	12/23/16	ADDENDUM No. 1
11	1/06/17	PARCEL B (BLDG H) EWP
12	2/17/17	REV. PER NYSDEC COMMENTS
13	3/01/17	REV. PER NYSDEC COMMENTS
14	3/08/17	PARCEL A, DOXEY AND GLADSKY PROPERTIES EWP'S

CONSULTANT

MINNO WASCO
ARCHITECTS AND PLANNERS
80 LAMBERT LANE, SUITE 105, LAMBERTVILLE, NEW JERSEY 08530 MINNOWASKO.COM

CONSULTANT

MPFP
M. PAUL FRIEDBERG & PARTNERS / MPFP LLC
41 East 11th Street
New York, New York 10003
tele. 212. 477. 6366
fax. 212. 477. 6548

ORIENTATION / KEY PLAN

PAULUS, SOKOLOWSKI AND SARTOR ENGINEERING, P.C.
67B MOUNTAIN BLVD EXT.
P.O. BOX 4039
WARREN, NEW JERSEY 07059
PHONE: (732) 560-9700

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ALL DIMENSIONS SHALL BE AS NOTED IN WORDS OR NUMBERS, ON THE CONTRACT DRAWINGS. DO NOT SCALE THE DRAWINGS TO DETERMINE DIMENSIONS.

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JOSEPH J. FLEMING, P.E.
PROFESSIONAL ENGINEER
N.Y. LIC. NO. 66591

SIGNATURE DATE

CLIENT

RXR GLEN ISLE PARTNERS LLC

PROJECT

GARVIES POINT WATERFRONT REDEVELOPMENT PHASE I

CITY OF GLEN COVE, NASSAU COUNTY, NEW YORK

SHEET TITLE

UTILITY DETAILS

JOB NO.: 03610-002
DATE: 9/27/2012
DRAWN: GY
CHECK: PAR
SCALE: AS SHOWN

BINDING ORDER:
SHEET OF
SHEET NO.

C-22

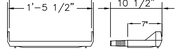
FILE NAME: P:\03610\002\CAD\Civil Plans (N.)\C22-24-UTILITY.dwg LAST EDIT: 03/27/2017 - 10:54:27 AM LOGIN: jmcdaniel WXREFS: C:\03610002_C-SEAL.WD1 X:\03610002_C-1700.wd~ C:\03610002_C-8500.wd~ WXLAY: 70 Xref Circle Base (A&S).p3 - Crosswalk Marking.p3 - Curb Sawing Box.p3 - Manhole Angle Drop.p3 - Precast Inlets.p3 - Type 'D'.p3

STORMTRAP INSTALLATION SPECIFICATION

1. STORMTRAP MODULES SHALL BE MANUFACTURED ACCORDING TO SHOP DRAWINGS APPROVED BY THE INSTALLING CONTRACTOR AND ENGINEER. THE SHOP DRAWINGS SHALL INDICATE SIZE AND LOCATION OF ROOF OPENINGS AND INLET/ OUTLET PIPE OPENINGS.
2. STORMTRAP SHALL BE INSTALLED IN ACCORDANCE WITH ASTM C891-09, STANDARD PRACTICE FOR INSTALLATION OF UNDERGROUND PRE-CAST CONCRETE UTILITY STRUCTURES. THE FOLLOWING ADDITIONS AND/OR EXCEPTIONS SHALL APPLY:
   - A. SPECIFICATIONS ON THE ENGINEER'S DRAWINGS SHALL TAKE PRECEDENCE.
   - B. STORMTRAP MODULES SHALL BE PLACED ON LEVEL FOUNDATION WITH A 1'-0" OVERHANG ON ALL SIDES THAT SHALL BE POURED IN PLACE BY INSTALLING CONTRACTOR.
   - C. THE STORMTRAP MODULES SHALL BE PLACED SUCH THAT THE MAXIMUM SPACE BETWEEN ADJACENT MODULES DOES NOT EXCEED 3/4". IF THE SPACE EXCEEDS 3/4", THE MODULES SHALL BE RESET WITH APPROPRIATE ADJUSTMENT MADE TO LINE AND GRADE TO BRING THE SPACE INTO SPECIFICATION.
   - D. THE PERIMETER HORIZONTAL JOINT OF THE STORMTRAP MODULES SHALL BE SEALED TO THE FOUNDATION WITH PREFORMED MASTIC JOINT SEALER ACCORDING TO ASTM C891-09, 8.8 AND 8.12. SEE DETAIL "A".
   - E. ALL EXTERIOR JOINTS BETWEEN ADJACENT STORMTRAP MODULES SHALL BE SEALED WITH PRE-FORMED, COLD-APPLIED, SELF-ADHERING ELASTOMERIC RESIN BONDED TO A WOVEN HIGHLY PUNCTURE RESISTANT POLYMER WRAP CONFORMING TO ASTM C891-09 AND SHALL BE 0'-8" INTEGRATED PRIMER SEALANT AS APPROVED BY STORMTRAP. THE ADHESIVE EXTERIOR JOINT WRAP SHALL BE INSTALLED ACCORDING TO THE FOLLOWING INSTALLATION INSTRUCTIONS:
     1. USE A BRUSH OR WET CLOTH TO THOROUGHLY CLEAN THE OUTSIDE SURFACE AT THE POINT WHERE THE JOINT WRAP IS TO BE APPLIED.
     2. A RELEASE PAPER PROTECTS THE ADHESIVE SIDE OF THE JOINT WRAP. PLACE THE ADHESIVE TAPE (BUTYL SIDE DOWN) AROUND THE STRUCTURE, REMOVING THE RELEASE PAPER AS YOU GO. PRESS THE JOINT WRAP FIRMLY AGAINST THE STORMTRAP MODULE SURFACE WHEN APPLYING.
   - F. THE FILL PLACED AROUND THE STORMTRAP UNITS MUST BE DEPOSITED ON BOTH SIDES AT THE SAME TIME AND TO APPROXIMATELY THE SAME ELEVATION, AT NO TIME SHALL THE FILL BEHIND ONE SIDE WALL BE MORE THAN 2'-0" HIGHER THAN THE FILL ON THE OPPOSITE SIDE. BACKFILL SHALL BE COMPACTED TO 95% STANDARD PROCTOR DENSITY OR OTHERWISE SPECIFIED BY ENGINEER. CARE SHALL BE TAKEN TO PREVENT ANY WEDGING ACTION AGAINST THE STRUCTURE, AND ALL SLOPES BOUNDING OR WITHIN THE AREA TO BE BACKFILLED MUST BE STEPPED OR SERRATED TO PREVENT WEDGE ACTION. (REFERENCE ARTICLE 502.10 I.D.O.T. S.S.R.B.C.) CARE SHALL ALSO BE TAKEN TO NOT TO DISRUPT THE JOINT WRAP FROM THE JOINT AND/OR DAMAGE THE WATER PROOFING LINER DURING THE BACK FILL PROCESS. BACKFILL MATERIAL SHALL BE CLEAN, CRUSHED, ANGULAR No.5 (AASHTO M43) AGGREGATE OR APPROVED EQUAL.
   - G. THE CONTRACTOR IS RESPONSIBLE TO ENSURE THE SELECTED WATER TIGHT SOLUTION PERFORMS AS SPECIFIED BY THE MANUFACTURER.
   - H. THE STANDARD STORMTRAP SYSTEM DESIGN IS NOT STRUCTURALLY EVALUATED FOR WATER TIGHT APPLICATIONS. CONTACT STORMTRAP FOR ADDITIONAL STRUCTURAL EVALUATION.

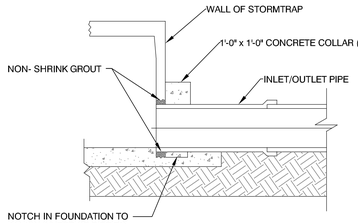
RECOMMENDED ACCESS OPENING SPECIFICATION

1. TYPICAL ACCESS OPENINGS FOR THE STORMTRAP SYSTEM ARE 2'-0" IN DIAMETER. ACCESS OPENINGS LARGER THAN 2'-0" IN DIAMETER NEED TO BE APPROVED BY STORMTRAP. ALL OPENINGS MUST RETAIN AT LEAST 1'-0" OF CLEARANCE IN ALL DIRECTIONS FROM THE EDGE OF THE STORMTRAP UNITS.
2. PLASTIC COATED STEEL STEPS PRODUCED BY M.A. INDUSTRIES PART #PS3-PFC (SEE DETAIL) ARE PROVIDED INSIDE ANY UNIT WHERE DEEMED NECESSARY. THE HIGHEST STEP IN THE UNIT IS TO BE PLACED A DISTANCE OF 1'-0" FROM THE INSIDE EDGE OF THE STORMTRAP UNITS. ALL ENSUING STEPS SHALL BE PLACED WITH A MAXIMUM DISTANCE OF 1'-4" BETWEEN THEM. STEPS MAY BE MOVED OR ALTERED TO AVOID OPENINGS OR OTHER IRREGULARITIES IN THE UNIT.
3. STORMTRAP LIFTING INSERTS MAY BE RELOCATED TO COINCIDE WITH THE ACCESS OPENING OR THE CENTER OF GRAVITY OF THE UNIT AS NEEDED.
4. STORMTRAP ACCESS OPENINGS MAY BE RELOCATED TO AVOID INTERFERENCE WITH INLET AND/OR OUTLET PIPE OPENINGS SO PLACEMENT OF STEPS IS ATTAINABLE.
5. ACCESS OPENINGS TO BE LOCATED ASH SHOWN.
6. USE PRECAST ADJUSTING RINGS AS NEEDED TO MEET GRADE. STORMTRAP RECOMMENDS FOR COVER OVER 2' TO USE PRECAST BARREL OR CONE SECTIONS (BY CONTRACTOR).

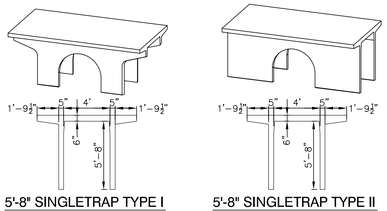


MEETS:
OPSS 1351.08.02
BNQ
ASTM C-478-95a
ASTM D-4101-95b
AASHTO M-199
ASTM A-615

STAIR DETAIL

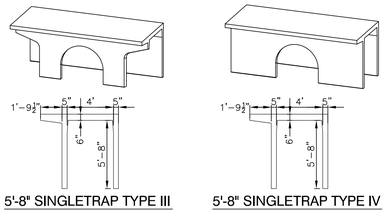


FOUNDATION
PIPE CONNECTION



5'-8" SINGLETRAP TYPE I

5'-8" SINGLETRAP TYPE II

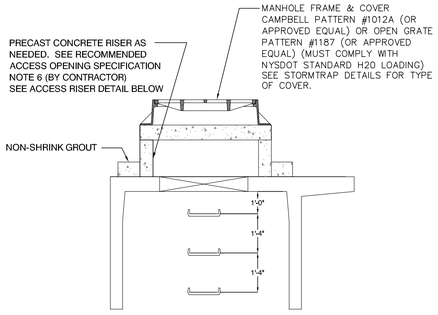


5'-8" SINGLETRAP TYPE III

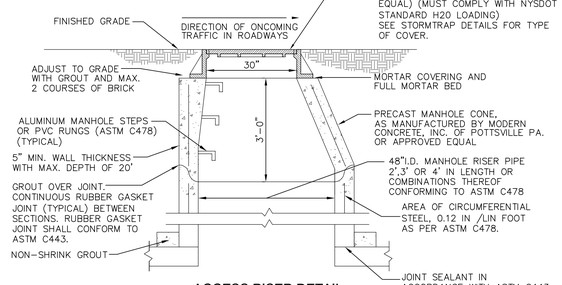
5'-8" SINGLETRAP TYPE IV

STORMTRAP SPECIFICATION

1. TOTAL COVER: MIN. 1.08' MAX. 10.00' CONSULT STORMTRAP FOR ADDITIONAL COVER OPTIONS.
2. CONCRETE CHAMBER DESIGNED FOR AASHTO HS-20 HIGHWAY LOADING. MIN. SOIL PRESSURE 3000 PSF.
3. ALL DIMENSIONS AND SOIL CONDITIONS, INCLUDING BUT NOT LIMITED TO GROUNDWATER AND SOIL BEARING CAPACITY ARE TO BE VERIFIED IN THE FIELD BY OTHERS PRIOR TO STORMTRAP INSTALLATION.
4. FOR STRUCTURAL CALCULATIONS THE GROUND WATER TABLE IS ASSUMED TO BE BELOW THE SYSTEM INVERT. IF WATER TABLE IS DIFFERENT THAN ASSUMED, CONTACT STORMTRAP.
5. FOR STRUCTURAL CALCULATIONS THE SOIL DENSITY IS ASSUMED TO BE 120 PCF.
6. FOR FLOATATION CALCULATIONS THE GROUND WATER TABLE IS ASSUMED TO BE BELOW THE SYSTEMS INVERT. IF WATER TABLE IS DIFFERENT THAN ASSUMED, CONTACT STORMTRAP.



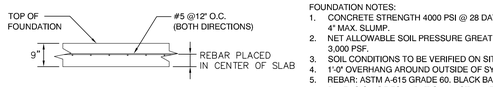
RISER / STAIR DETAIL



ACCESS RISER DETAIL

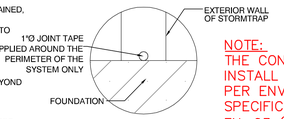
RECOMMENDED PIPE OPENING SPECIFICATION

1. PIPE OPENINGS SHALL MAINTAIN A MINIMUM 1'-0" OF CLEARANCE FROM VERTICAL EDGE OF THE STORMTRAP UNIT.
2. MAXIMUM OPENING SIZE TO BE DETERMINED BY UNIT HEIGHT. PREFERRED OPENING SIZE 36"Ø OR LESS. ANY OPENING NEEDED THAT DOES NOT FIT THIS CRITERIA SHALL BE BROUGHT TO THE ATTENTION OF STORMTRAP FOR REVIEW.
3. CONNECTING PIPES SHALL BE INSTALLED WITH A 1'-0" CONCRETE COLLAR, AND AN AGGREGATE CRADLE FOR AT LEAST ONE PIPE LENGTH, AS SHOWN. A STRUCTURAL GRADE CONCRETE OR GROUT WITH A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 3000 PSI SHALL BE USED.
4. THE ANNULAR SPACE BETWEEN THE PIPE AND THE HOLE SHALL BE FILLED WITH NON-SHRINK GROUT.



DETAIL "B"
STORMTRAP FOUNDATION - IRRIGATION CHAMBER #1

FOUNDATION NOTES:
1. CONCRETE STRENGTH 4000 PSI @ 28 DAYS, 5%-8% AIR ENTRAINED, 4" MAX. SLUMP.
2. NET ALLOWABLE SOIL PRESSURE GREATER THAN OR EQUAL TO 3,000 PSF.
3. SOIL CONDITIONS TO BE VERIFIED ON SITE BY OTHERS.
4. 1'-0" OVERHANG AROUND OUTSIDE OF SYSTEM.
5. REBAR: ASTM A-615 GRADE 60. BLACK BAR.
6. DIMENSION OF FOUNDATION MUST HAVE 1'-0" OVERHANG BEYOND EXTERNAL FACE OF UNITS.
7. DIMENSION OF STORMTRAP SYSTEM ALLOW FOR A 3/4" GAP BETWEEN EACH UNIT.
8. ALL DIMENSIONS TO BE VERIFIED IN THE FIELD BY CONTRACTOR.
9. SEE INSTALLATION SPECIFICATIONS.
10. THE CONTROL JOINT CAN BE 16'-0" TO 24'-0" MAX APART.



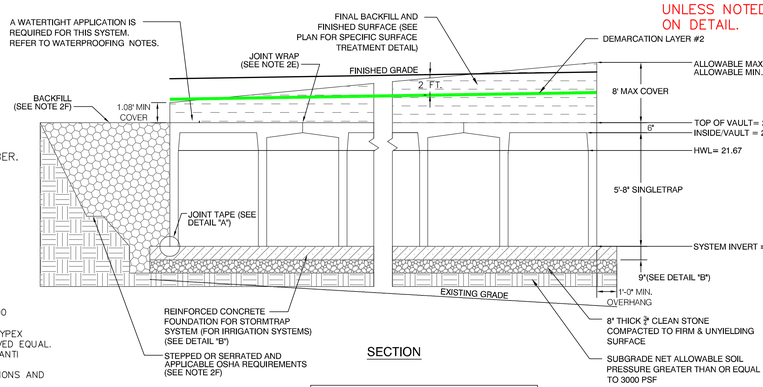
DETAIL "A"
JOINT TAPE INSTALLATION

NOTE:
THE CONTRACTOR WILL INSTALL A COVER SYSTEM PER ENVIRONMENTAL SPECIFICATIONS, DRAWING EN-03 (SECTION 13.0), PREPARED BY P.W. GROSSER CONSULTING, INC. UNLESS NOTED OTHERWISE ON DETAIL.

RECOMMENDED PIPE INSTALLATION INSTRUCTIONS

1. CLEAN AND LIGHTLY LUBRICATE ALL OF PIPE TO BE INSERTED INTO STORMTRAP.
2. IF PIPE IS CUT, CARE SHOULD BE TAKEN TO ALLOW NO SHARP EDGES. BEVEL AND LUBRICATE LEAD END OF PIPE.
3. ALIGN CENTER OF PIPE TO CORRECT ELEVATION AND INSERT INTO OPENING.

NOTES:
1. CHAMBER DESIGN CONTRACTOR TO DETERMINE DEPTH OF GROUNDWATER AT PROPOSED LOCATION OF IRRIGATION CHAMBER #3 AFTER SITE IS CLEARED TO CONFIRM THAT GROUNDWATER IS BELOW THE INVERT OF THE PROPOSED CHAMBER. IF GROUNDWATER IS DETERMINED TO BE ABOVE THE INVERT ELEVATION OF THE PROPOSED IRRIGATION CHAMBER, CONTACT ENGINEER APPOINTED BY THE CONSTRUCTION MANAGER. FINAL DESIGN OF CHAMBER MAY VARY BASED UPON EXISTING GROUNDWATER ELEVATION.
2. IRRIGATION PUMPS TO BE INSTALLED WITHIN IRRIGATION CHAMBERS. SEE LANDSCAPE AND ELECTRICAL PLANS FOR DETAILS.

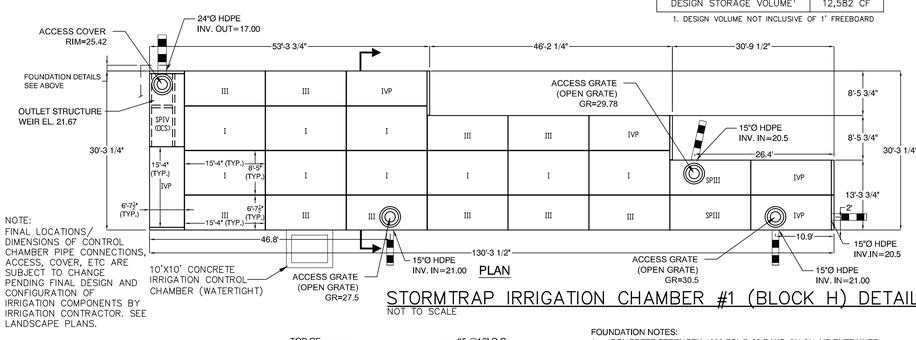


SECTION

STORMTRAP WATERPROOFING NOTES:
1. FOUNDATION SLAB SHALL BE WATERPROOFED USING XYPEX C-500 CONCRETE ADMIXTURE OR APPROVED EQUAL.
2. PRECAST 'SINGLETRAP' UNITS SHALL BE WATERPROOFED USING XYPEX CONCENTRATE, MEGAMIX 1 AND XYCRYLIC ADMIXTURE OR APPROVED EQUAL.
3. STORMTRAP SYSTEM JOINTS SHALL BE WATERPROOFED USING AVANTI AV-248-LV AND AV-249-LV OR APPROVED EQUAL.
4. CONTRACTOR SHALL ADHERE TO MANUFACTURERS RECOMMENDATIONS AND PROCEDURES FOR ALL WATERPROOFING PRODUCTS

IRRIGATION CHAMBER #1 VOLUME	
WATER STORAGE VOLUME	15,424 CF
DESIGN STORAGE VOLUME[1]	12,582 CF

1. DESIGN VOLUME NOT INCLUSIVE OF 1' FREEBOARD



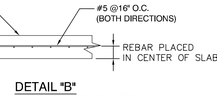
PLAN

NOTE:
FINAL LOCATIONS/ DIMENSIONS OF CONTROL CHAMBER PIPE CONNECTIONS, ACCESS, COVER, ETC ARE SUBJECT TO CHANGE PENDING FINAL DESIGN AND CONFIGURATION OF IRRIGATION COMPONENTS BY IRRIGATION CONTRACTOR. SEE LANDSCAPE PLANS.

MATERIAL QUANTITIES				
QTY.	UNIT TYPE	DESCRIPTION	WEIGHT	VOLUME (CF)
9	I	5'-8" SINGLETRAP	15900	689.84
0	II	5'-8" SINGLETRAP	18762	-
12	III	5'-8" SINGLETRAP	16254	518.1
5	IV	5'-8" SINGLETRAP	17685	508.43
0	VII	5'-8" SINGLETRAP	16601	-
1	SPIV	5'-8" SINGLETRAP	VARIES	460.03
6	PANEL	6" THICK WALL PANELS	3066#	-
5	JOINTWRAP	150' PER ROLL		
25	JOINTTAPE	14.5' PER ROLL		

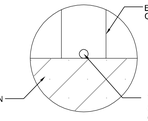
NOTES:
1. VOLUME NOTED IS TO INSIDE TOP OF UNIT.
2. SP - INDICATES A UNIT WITH MODIFICATIONS.

STORMTRAP IRRIGATION CHAMBER #1 (BLOCK H) DETAIL (OR APPROVED EQUAL)
NOT TO SCALE

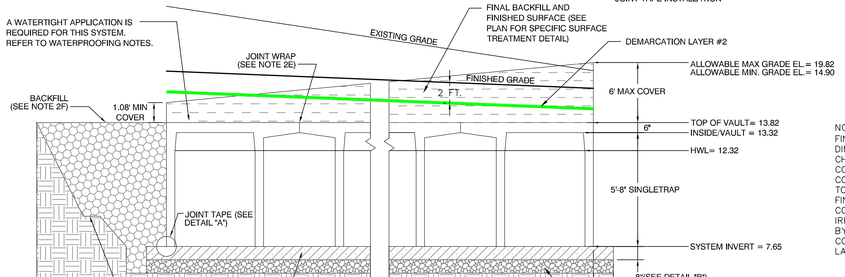


DETAIL "B"
STORMTRAP FOUNDATION - IRRIGATION CHAMBER #2

FOUNDATION NOTES:
1. CONCRETE STRENGTH 4000 PSI @ 28 DAYS, 5%-8% AIR ENTRAINED, 4" MAX. SLUMP.
2. NET ALLOWABLE SOIL PRESSURE GREATER THAN OR EQUAL TO 3000 PSF.
3. SOIL CONDITIONS TO BE VERIFIED ON SITE BY OTHERS.
4. 1'-0" OVERHANG AROUND OUTSIDE OF SYSTEM.
5. REBAR: ASTM A-615 GRADE 60. BLACK BAR.
6. DIMENSION OF FOUNDATION MUST HAVE 1'-0" OVERHANG BEYOND EXTERNAL FACE OF UNITS.
7. DIMENSION OF STORMTRAP SYSTEM ALLOW FOR A 3/4" GAP BETWEEN EACH UNIT.
8. ALL DIMENSIONS TO BE VERIFIED IN THE FIELD BY CONTRACTOR.
9. SEE INSTALLATION SPECIFICATIONS.
10. THE CONTROL JOINT CAN BE 16'-0" TO 24'-0" MAX APART.



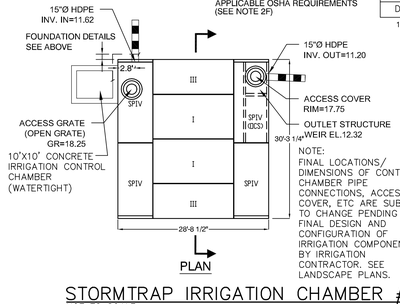
DETAIL "A"
JOINT TAPE INSTALLATION



SECTION

IRRIGATION CHAMBER #2 VOLUME	
WATER STORAGE VOLUME	4,250 CF
DESIGN STORAGE VOLUME[1]	3,463 CF

1. DESIGN VOLUME NOT INCLUSIVE OF 1' FREEBOARD



PLAN

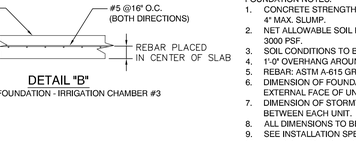
NOTE:
FINAL LOCATIONS/ DIMENSIONS OF CONTROL CHAMBER PIPE CONNECTIONS, ACCESS, COVER, ETC ARE SUBJECT TO CHANGE PENDING FINAL DESIGN AND CONFIGURATION OF IRRIGATION COMPONENTS BY IRRIGATION CONTRACTOR. SEE LANDSCAPE PLANS.

MATERIAL QUANTITIES				
QTY.	UNIT TYPE	DESCRIPTION	WEIGHT	VOLUME (CF)
2	I	5'-8" SINGLETRAP	15900	689.84
0	II	5'-8" SINGLETRAP	18762	-
2	III	5'-8" SINGLETRAP	16254	518.1
2	IV	5'-8" SINGLETRAP	17685	508.43
0	VII	5'-8" SINGLETRAP	16601	-
2	SPIV	5'-8" SINGLETRAP	VARIES	460.03
4	PANEL	6" THICK WALL PANELS	3066#	-
2	JOINTWRAP	150' PER ROLL		
9	JOINTTAPE	14.5' PER ROLL		

NOTES:
1. VOLUME NOTED IS TO INSIDE TOP OF UNIT.
2. SP - INDICATES A UNIT WITH MODIFICATIONS.

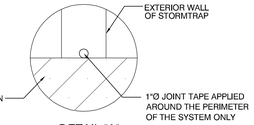
NOTE: DEMARCATION LAYER #2 WILL MARK THE TRANSITION FROM FILL MATERIAL AND/OR NATIVE SOILS TO CLEAN COVER MATERIAL. AT A MINIMUM, DEMARCATION LAYER #2 WILL BE INSTALLED IN OPEN AREAS OUTSIDE THE BUILDING FOOTPRINTS INCLUDING BENEATH THE MINIMUM TWO-FOOT CLEAN COVER AREAS, HARDSCAPES, OR IMPERVIOUS COVER MATERIAL. DEMARCATION LAYER #2 MAY ALSO BE INSTALLED BENEATH PORTIONS OF THE FOOTPRINT OF THE BUILDINGS.

STORMTRAP IRRIGATION CHAMBER #2 (BLOCK I) DETAIL (OR APPROVED EQUAL)
NOT TO SCALE

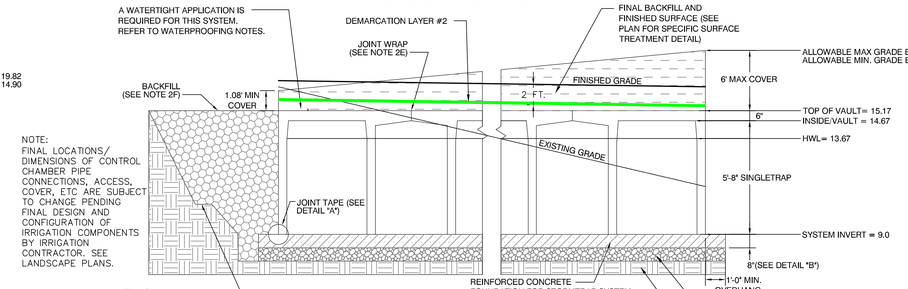


DETAIL "B"
STORMTRAP FOUNDATION - IRRIGATION CHAMBER #3

FOUNDATION NOTES:
1. CONCRETE STRENGTH 4000 PSI @ 28 DAYS, 5%-8% AIR ENTRAINED, 4" MAX. SLUMP.
2. NET ALLOWABLE SOIL PRESSURE GREATER THAN OR EQUAL TO 3000 PSF.
3. SOIL CONDITIONS TO BE VERIFIED ON SITE BY OTHERS.
4. 1'-0" OVERHANG AROUND OUTSIDE OF SYSTEM.
5. REBAR: ASTM A-615 GRADE 60. BLACK BAR.
6. DIMENSION OF FOUNDATION MUST HAVE 1'-0" OVERHANG BEYOND EXTERNAL FACE OF UNITS.
7. DIMENSION OF STORMTRAP SYSTEM ALLOW FOR A 3/4" GAP BETWEEN EACH UNIT.
8. ALL DIMENSIONS TO BE VERIFIED IN THE FIELD BY CONTRACTOR.
9. SEE INSTALLATION SPECIFICATIONS.
10. THE CONTROL JOINT CAN BE 16'-0" TO 24'-0" MAX APART.



DETAIL "A"
JOINT TAPE INSTALLATION

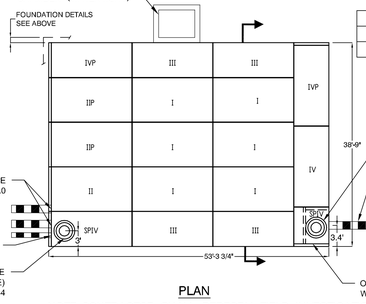


NOTE:
FINAL LOCATIONS/ DIMENSIONS OF CONTROL CHAMBER PIPE CONNECTIONS, ACCESS, COVER, ETC ARE SUBJECT TO CHANGE PENDING FINAL DESIGN AND CONFIGURATION OF IRRIGATION COMPONENTS BY IRRIGATION CONTRACTOR. SEE LANDSCAPE PLANS.

SECTION

IRRIGATION CHAMBER #3 VOLUME	
WATER STORAGE VOLUME	10,327 CF
DESIGN STORAGE VOLUME[1]	8,505 CF

1. DESIGN VOLUME NOT INCLUSIVE OF 1' FREEBOARD



PLAN

MATERIAL QUANTITIES				
QTY.	UNIT TYPE	DESCRIPTION	WEIGHT	VOLUME (CF)
6	I	5'-8" SINGLETRAP	15900	689.84
3	II	5'-8" SINGLETRAP	18762	670.56
4	III	5'-8" SINGLETRAP	16254	518.1
4	IV	5'-8" SINGLETRAP	17685	508.43
0	VII	5'-8" SINGLETRAP	16601	-
1	SPIV	5'-8" SINGLETRAP	VARIES	230.76
7	PANEL	6" THICK WALL PANELS	3066#	-
4	JOINTWRAP	150' PER ROLL		
14	JOINTTAPE	14.5' PER ROLL		

NOTES:
1. VOLUME NOTED IS TO INSIDE TOP OF UNIT.
2. SP - INDICATES A UNIT WITH MODIFICATIONS.

NOTE: CONTRACTOR SHALL PERFORM FIELD INVESTIGATION TO DETERMINE GROUNDWATER ELEVATION WITHIN SYSTEM FOOTPRINT AND, IF NECESSARY, APPLY ADDITIONAL MEASURES TO ADDRESS BUOYANCY IN COORDINATION WITH STORMTRAP.

STORMTRAP IRRIGATION CHAMBER #3 (BLOCK I) DETAIL (OR APPROVED EQUAL)
NOT TO SCALE

REV./ ISSUE	DATE	DESCRIPTION
1	5/23/14	REV. PER CITY COMMENTS
2	8/14/14	REV. PER CITY COMMENTS
3	1/22/15	PROGRESS SET
4	4/10/15	PROGRESS SET
5	7/30/15	ISSUED FOR BUILDING PERMIT
6	2/19/16	ISSUED FOR PRICING
~~7~~	~~3/31/16~~	~~ISSUED FOR BID SET~~
8	8/08/16	ISSUED FOR BID
9	1/06/17	PARCEL B (BLDG H) EWP
10	2/17/17	REV. PER NYSDEC COMMENTS
11	3/01/17	REV. PER NYSDEC COMMENTS
12	3/08/17	PARCEL A, DOXEY AND GLADSKY PROPERTIES EWP'S

CONSULTANT

MINNO WASKO
ARCHITECTS AND PLANNERS
80 LAMBERT LANE, SUITE 105, LAMBERTVILLE, NEW JERSEY 08530 MINNOWASKO.COM

CONSULTANT

MPFP
M. PAUL FRIEDBERG & PARTNERS / MPFP LLC
41 East 11th Street
New York, New York 10003
tele. 212. 477. 6366
fax. 212. 477. 6548

ORIENTATION / KEY PLAN

PAULUS, SOKOLOWSKI AND SARTOR ENGINEERING, P.C.
67B MOUNTAIN BLVD EXT.
P.O. BOX 4039
WARREN, NEW JERSEY 07059
PHONE: (732) 560-9700

ALL DIMENSIONS MUST BE VERIFIED BY THE CONTRACTOR. NOTIFY PAULUS, SOKOLOWSKI AND SARTOR OF ANY CONFLICTS, ERRORS, AMBIGUITIES OR DISCREPANCIES IN THE CONTRACT DRAWINGS OR SPECIFICATIONS BEFORE PROCEEDING WITH CONSTRUCTION.

ALL DIMENSIONS SHALL BE AS NOTED IN WORDS OR NUMBERS ON THE CONTRACT DRAWINGS. DO NOT SCALE THE DRAWINGS TO OBTAIN ANY DIMENSIONS.

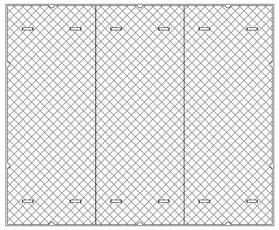
THESE CONTRACT DRAWINGS CONTAIN DATA INTENDED SPECIFICALLY FOR THE NOTED PROJECT. THEY ARE NOT SUITABLE IN WHOLE OR IN PART FOR USE ON EXTENSIONS OF THIS PROJECT OR FOR REUSE ON ANY OTHER PROJECT.

THE COPYING AND/OR MODIFICATION OF THIS DOCUMENT OR ANY PORTION THEREOF WITHOUT THE WRITTEN PERMISSION OF PAULUS, SOKOLOWSKI AND SARTOR IS PROHIBITED.

UNLESS THESE DRAWINGS ARE SPECIFICALLY DESIGNATED AS "CONSTRUCTION ISSUE", THESE DRAWINGS SHALL NOT BE USED FOR CONSTRUCTION OR IMPROVEMENTS DEPICTED HEREIN. CONTRACTORS SHALL NOTIFY THE DESIGN ENGINEER



FRAME AND COVER
(DIAMETER VARIES)
N.T.S.



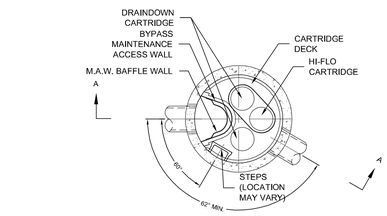
HATCH
(84" x 102" WITH SLAB)
N.T.S.

GENERAL NOTES:
1. CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
2. FOR SITE SPECIFIC DRAWINGS WITH DETAILED STRUCTURE DIMENSIONS AND WEIGHT, PLEASE CONTACT YOUR CONTECH ENGINEERED SOLUTIONS REPRESENTATIVE, www.ContechES.com
3. JELLYFISH WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING. CONTRACTOR TO CONFIRM STRUCTURE MEETS REQUIREMENTS OF PROJECT.
4. STRUCTURE SHALL MEET AASHTO HS-20 OR PER APPROVING JURISDICTION REQUIREMENTS, WHICHEVER IS MORE STRINGENT, ASSUMING EARTH COVER OF 0' - 3', AND GROUNDWATER ELEVATION AT, OR BELOW, THE OUTLET PIPE INVERT ELEVATION. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION. CASTINGS SHALL MEET AASHTO M306 LOAD RATING AND BE CAST WITH THE CONTECH LOGO.
5. STRUCTURE SHALL BE PRECAST CONCRETE CONFORMING TO ASTM C-478 AND AASHTO LOAD FACTOR DESIGN METHOD.
6. INLET HGL NOT TO EXCEED 6" BELOW THE TOP OF THE M.A.W. DURING THE PEAK DESIGN STORM, OR 10-YEAR STORM (WHICHEVER IS GREATER).
7. INLET PIPE INVERT ELEVATION VARIES FROM 0" TO 6" MAXIMUM ABOVE THE OUTLET PIPE INVERT.
8. OUTLET PIPE INVERT IS EQUAL TO THE CARTRIDGE DECK ELEVATION.
9. THE OUTLET PIPE DIAMETER FOR NEW INSTALLATIONS IS TO BE ONE PIPE SIZE LARGER THAN THE INLET PIPE AT EQUAL OR GREATER SLOPE.
10. THE DIFFERENCE IN THE INLET AND OUTLET PIPE ELEVATIONS FOR RETROFIT INSTALLATIONS TO EXISTING STORM DRAIN PIPES SHALL BE EQUAL TO THE SLOPE OVER THE DIAMETER OF THE MANHOLE; NOT THE EXCEED 6" IN VERTICAL DIFFERENTIAL BETWEEN INLET AND OUTLET PIPES.
11. NO PRODUCT SUBSTITUTIONS SHALL BE ACCEPTED UNLESS SUBMITTED 10 DAYS PRIOR TO PROJECT BID DATE, OR AS DIRECTED BY THE ENGINEER OF RECORD.

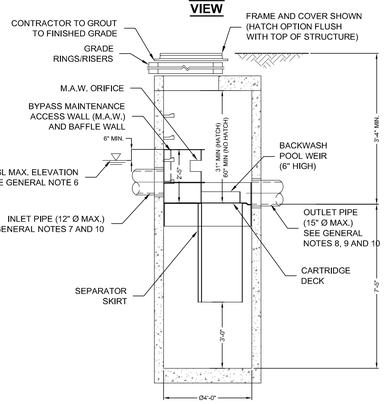
INSTALLATION NOTES
A. ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
B. CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE STRUCTURE (LIFTING CLUTCHES PROVIDED)
C. CONTRACTOR WILL INSTALL AND LEVEL THE STRUCTURE, SEALING THE JOINTS, LINE ENTRY AND EXIT POINTS (NON-SHRINK GROUT WITH APPROVED WATERSTOP OR FLEXIBLE BOOT)
D. CONTRACTOR TO TAKE APPROPRIATE MEASURES TO PROTECT CARTRIDGES FROM CONSTRUCTION-RELATED EROSION RUNOFF.
E. CARTRIDGE INSTALLATION, BY CONTECH, SHALL OCCUR ONLY AFTER SITE HAS BEEN STABILIZED AND THE JELLYFISH UNIT IS CLEAN AND FREE OF DEBRIS. CONTACT CONTECH TO COORDINATE CARTRIDGE INSTALLATION WITH SITE STABILIZATION AT (866) 740-3318.

Structure ID	Model No.	Rim Elev.	Inv. In	Inv. Out	WQ Flow	Bypass Flow	Cartridge Depth	Hi-Flo Cartridges	Drain Down Cartridges
WQ 390	22'x20'	11.45	4.55	4.34	14.42	29.91	54"	74	14
WQ 445	JF10	12.70	8.11	7.25	3.12	4.97	54"	16	3
WQ 459	JF12	12.50	6.87	6.53	4.63	4.22	54"	24	4
WQ 482	JF4	12.60	9.00	9.00	0.45	0.39	54"	2	1
WQ 518	JF10	10.40	4.10	3.64	3.12	3.42	54"	16	3

JELLYFISH SCHEDULE AND NOTES

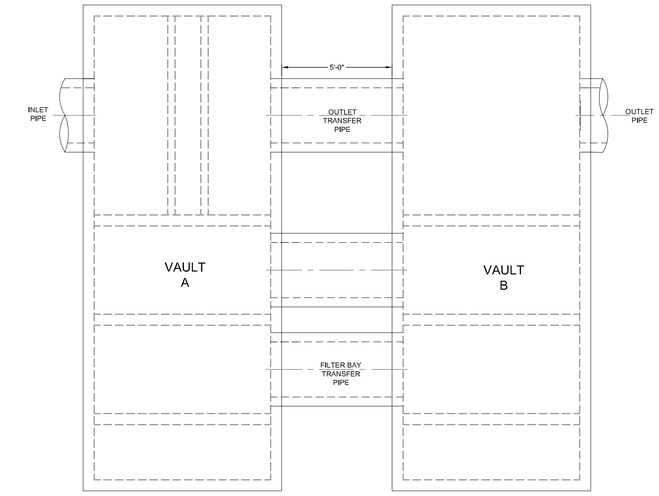


PLAN VIEW



SECTION A-A

JELLYFISH MODEL JF4



JELLYFISH VAULT - WQ 390 SYSTEM LAYOUT

MATERIAL LIST - PROVIDED BY CONTECH

COUNT	DESCRIPTION	INSTALLED BY
36	54" HI-FLO CARTRIDGE (70mm ORIFICE)	CONTECH
6	54" DRAINDOWN CARTRIDGE (35mm ORIFICE)	CONTECH
2	4X8 JELLYFISH DECK	CONTECH
1	2.5X8 JELLYFISH DECK	CONTECH
1	TRANSFER HOLE COVERS	CONTECH
1	JOINT SEALANT	CONTRACTOR
3	Ø24" x 4" EJIW #41600306, OR EQUIVALENT FRAME AND COVER	CONTRACTOR
16	STEPS, P10CTS LANE LADDER, OR EQUIVALENT	CONTECH

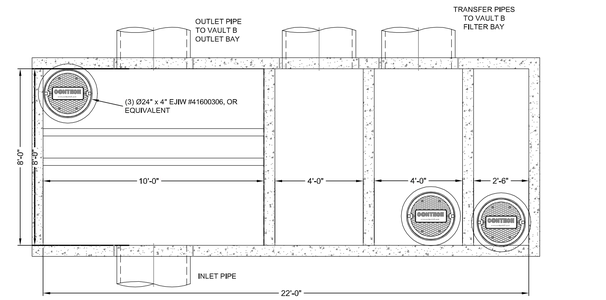
JELLYFISH WQ 390A MATERIAL LIST

MATERIAL LIST - PROVIDED BY CONTECH

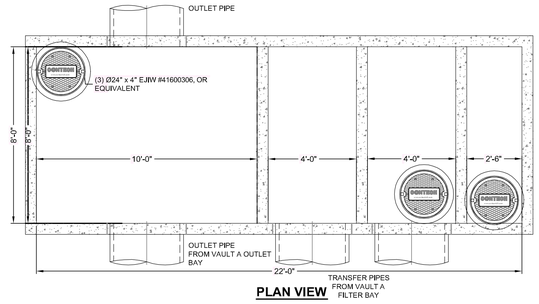
COUNT	DESCRIPTION	INSTALLED BY
36	54" HI-FLO CARTRIDGE (70mm ORIFICE)	CONTECH
6	54" DRAINDOWN CARTRIDGE (35mm ORIFICE)	CONTECH
2	4X8 JELLYFISH DECK	CONTECH
1	2.5X8 JELLYFISH DECK	CONTECH
1	TRANSFER HOLE COVERS	CONTECH
1	JOINT SEALANT	CONTRACTOR
3	Ø24" x 4" EJIW #41600306, OR EQUIVALENT FRAME AND COVER	CONTRACTOR
16	STEPS, P10CTS LANE LADDER, OR EQUIVALENT	CONTECH

JELLYFISH WQ 390B MATERIAL LIST

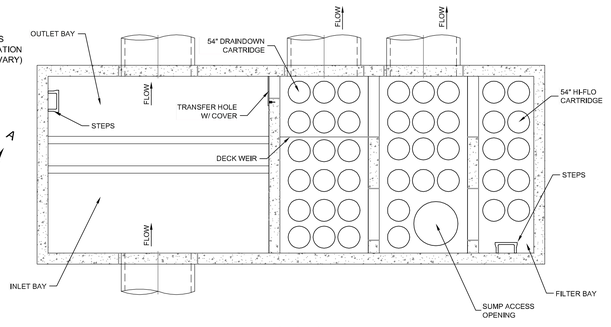
NOTE:
THE CONTRACTOR WILL INSTALL A COVER SYSTEM PER ENVIRONMENTAL SPECIFICATIONS, DRAWING EN-03 (SECTION 13.0), PREPARED BY P.W. GROSSER CONSULTING, INC. UNLESS NOTED OTHERWISE ON DETAIL.



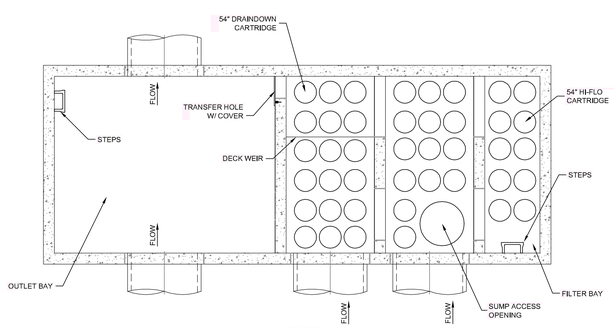
PLAN VIEW



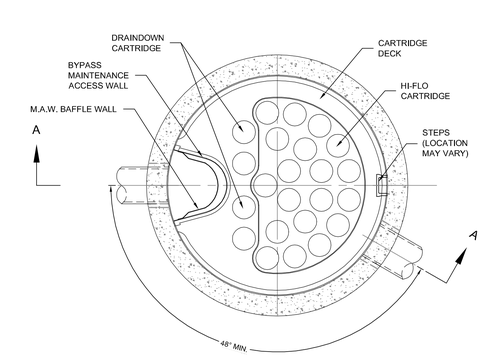
PLAN VIEW



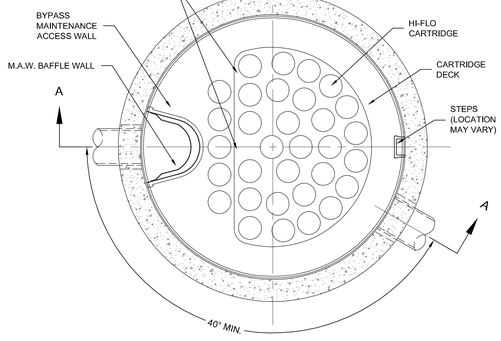
SECTION A-A



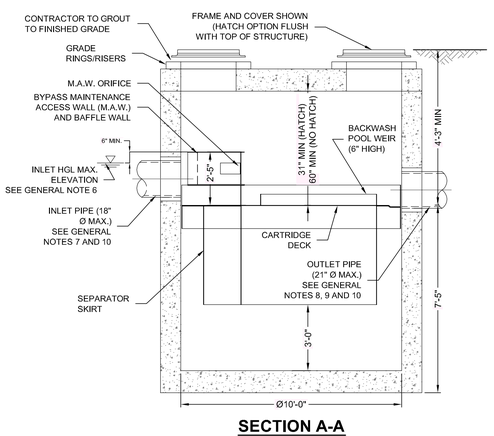
SECTION A-A



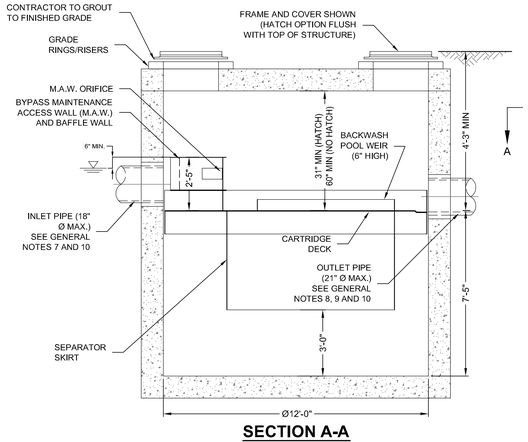
PLAN VIEW



PLAN VIEW



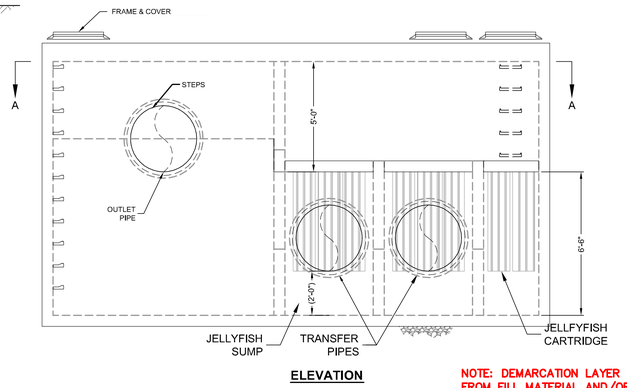
SECTION A-A



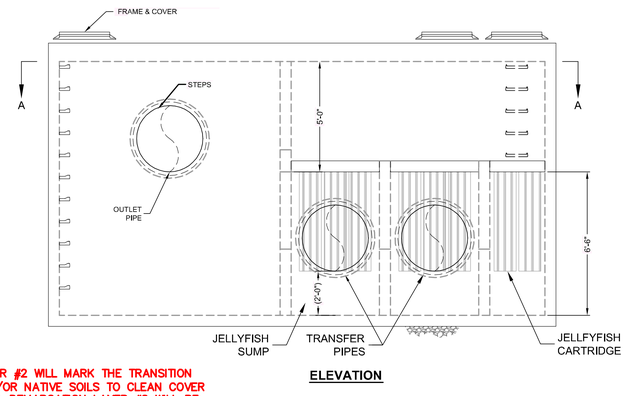
SECTION A-A

JELLYFISH MODEL JF10

JELLYFISH MODEL JF12



ELEVATION



ELEVATION

JELLYFISH VAULT - WQ 390A

NOTE: DEMARCATION LAYER #2 WILL MARK THE TRANSITION FROM FILL MATERIAL AND/OR NATIVE SOILS TO CLEAN COVER MATERIAL. AT A MINIMUM, DEMARCATION LAYER #2 WILL BE INSTALLED IN OPEN AREAS OUTSIDE THE BUILDING FOOTPRINTS INCLUDING BENEATH THE MINIMUM TWO-FOOT CLEAN COVER AREAS, HARDSCAPES, OR IMPERVIOUS COVER MATERIAL. DEMARCATION LAYER #2 MAY ALSO BE INSTALLED BENEATH PORTIONS OF THE FOOTPRINT OF THE BUILDINGS.

JELLYFISH VAULT - WQ 390B

REV. / ISSUE	DATE	DESCRIPTION
1	5/23/14	REV. PER CITY COMMENTS
2	8/14/14	REV. PER CITY COMMENTS
3	1/22/15	PROGRESS SET
4	4/10/15	PROGRESS SET
5	7/30/15	ISSUED FOR BUILDING PERMIT
6	2/19/16	ISSUED FOR PRICING
~~7~~	~~3/31/16~~	~~ISSUED FOR BID SET~~
8	8/08/16	ISSUED FOR BID
9	12/22/16	REV. PER CITY COMMENTS
10	12/23/16	ADDENDUM No. 1
11	1/06/17	PARCEL B (BLDG H) EWP
12	2/17/17	REV. PER NYSDEC COMMENTS
13	3/01/17	REV. PER NYSDEC COMMENTS
14	3/08/17	PARCEL A, DOXEY AND GLADSKY PROPERTIES EWP'S

CONSULTANT

MINNO WASKO
ARCHITECTS AND PLANNERS
80 LAMBERT LANE, SUITE 105, LAMBERTVILLE, NEW JERSEY 08530 MINNOWASKO.COM

CONSULTANT

MPFP
M. PAUL FRIEDBERG & PARTNERS / MPFP LLC
41 East 11th Street
New York, New York 10003
tele. 212. 477. 6366
fax. 212. 477. 6548

ORIENTATION / KEY PLAN

PAULUS, SOKOLOWSKI AND SARTOR ENGINEERING, P.C.
67B MOUNTAIN BLVD EXT.
P.O. BOX 4039
WARREN, NEW JERSEY 07059
PHONE: (732) 560-9700

ALL DIMENSIONS MUST BE VERIFIED BY THE CONTRACTOR. NOTIFY PAULUS, SOKOLOWSKI AND SARTOR OF ANY CONFLICTS, ERRORS, AMBIGUITIES OR DISCREPANCIES IN THE CONTRACT DRAWINGS OR SPECIFICATIONS BEFORE PROCEEDING WITH CONSTRUCTION.

ALL DIMENSIONS SHALL BE AS NOTED IN WORDS OR NUMBERS, ON THE CONTRACT DRAWINGS. DO NOT SCALE THE DRAWINGS TO DETERMINE DIMENSIONS.

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JOSEPH J. FLEMING, P.E.
PROFESSIONAL ENGINEER
N.Y. LIC. NO. 66591

SIGNATURE DATE

CLIENT

RXR GLEN ISLE PARTNERS LLC

PROJECT

GARVIES POINT WATERFRONT REDEVELOPMENT PHASE I

CITY OF GLEN COVE, NASSAU COUNTY, NEW YORK

SHEET TITLE

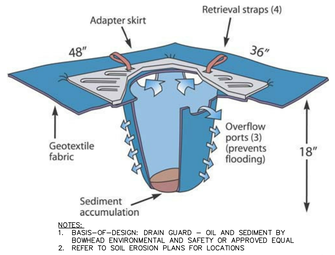
UTILITY DETAILS (JELLYFISH UNITS)

JOB NO.: 03610-002
DATE: 9/27/2012
DRAWN: GY
CHECK: PAR
SCALE: NOT TO SCALE

BINDING ORDER:
SHEET OF
SHEET NO.

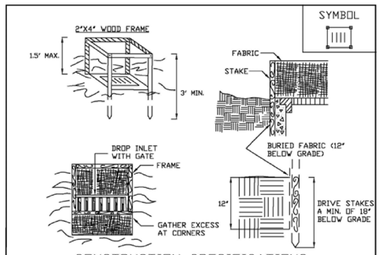
C-24

PLOT NAME: R:\2036\CAD\LDT\Design\Plot Plans\PH 1\C05-34-1.DWG Plotted: 03/07/2013 - 10:55:31 AM USER: jmuller@pwgrosser.com XREFS: C:\2036\CAD\LDT\Design\Plot Plans\PH 1\C05-34-1.DWG Layout: JF10 - Precast Inlet JF4 - Precast Inlet JF10 - Precast Inlet JF12 - Precast Inlet JF4 - Cast Iron Inlet JF10 - Cast Iron Inlet JF12 - Cast Iron Inlet



NOTES:
1. BASIS-OF-DESIGN: DRAIN GUARD – OIL AND SEDIMENT BY BOWHEAD ENVIRONMENTAL AND SAFETY OR APPROVED EQUAL
2. REFER TO SOIL EROSION PLANS FOR LOCATIONS

DRAINAGE FILTER INSERT (ALTERNATE)
NOT TO SCALE



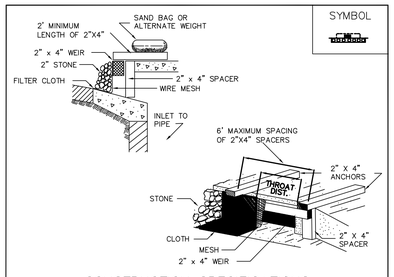
CONSTRUCTION SPECIFICATIONS

1. FABRIC SHALL HAVE AN EOS OF 40-85, BURLAP MAY BE USED FOR SHORT TERM APPLICATIONS.
2. CUT FABRIC FROM A CONTINUOUS ROLL TO ELIMINATE JOINTS. IF JOINTS ARE NEEDED THEY WILL BE OVERLAPPED TO THE NEXT STAKE.
3. STAKE MATERIALS WILL BE STANDARD 2" x 4" WOOD OR EQUIVALENT. METAL WITH A MINIMUM LENGTH OF 3 FEET.
4. SPACE STAKES EVENLY AROUND INLET 3 FEET APART AND DRIVE A MINIMUM 18 INCHES DEEP. SPANS GREATER THAN 3 FEET MAY BE BRIDGED WITH THE USE OF WIRE MESH BEHIND THE FILTER FABRIC FOR SUPPORT.
5. FABRIC SHALL BE EMBEDDED 1 FOOT MINIMUM BELOW GROUND AND BACKFILLED. IT SHALL BE SECURELY FASTENED TO THE STAKES AND FRAME.
6. A 2" x 4" WOOD FRAME SHALL BE COMPLETED AROUND THE CREST OF THE FABRIC FOR OVER FLOW STABILITY.

MAXIMUM DRAINAGE AREA 1 ACRE

ADAPTED FROM DETAILS PROVIDED BY: USDA – NRCS, NEW YORK STATE DEPARTMENT OF TRANSPORTATION, NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION, NEW YORK STATE SOIL & WATER CONSERVATION COMMITTEE	FABRIC DROP INLET PROTECTION

FABRIC DROP INLET PROTECTION
NOT TO SCALE



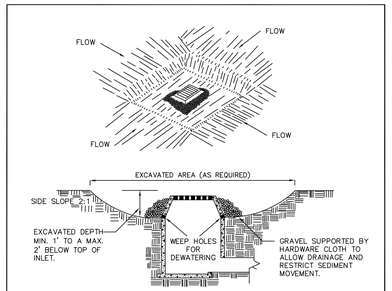
CONSTRUCTION SPECIFICATIONS

1. FILTER FABRIC SHALL HAVE AN AOS OF 40-85.
2. WOODEN FRAME SHALL BE CONSTRUCTED OF 2" x 4" CONSTRUCTION GRADE LUMBER.
3. WIRE MESH ACROSS THROAT SHALL BE A CONTINUOUS PIECE 30 INCH MINIMUM WIDTH WITH A LENGTH 4 FEET LONGER THAN THE THROAT. IT SHALL BE SHAPED AND SECURELY NAILED TO A 2" x 4" WEIR.
4. THE WEIR SHALL BE SECURELY NAILED TO 2" x 4" SPACERS 9 INCHES LONG SPACED NO MORE THAN 6 FEET APART.
5. THE ASSEMBLY SHALL BE PLACED AGAINST THE INLET AND SECURED BY 2" x 4" ANCHORS 2 FEET LONG EXTENDING ACROSS THE TOP OF THE INLET AND HELD IN PLACE BY SANDBAGS OR ALTERNATE WEIGHTS.

MAXIMUM DRAINAGE AREA 1 ACRE

ADAPTED FROM DETAILS PROVIDED BY: USDA – NRCS, NEW YORK STATE DEPARTMENT OF TRANSPORTATION, NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION, NEW YORK STATE SOIL & WATER CONSERVATION COMMITTEE	CURB DROP INLET PROTECTION

CURB DROP INLET PROTECTION
NOT TO SCALE



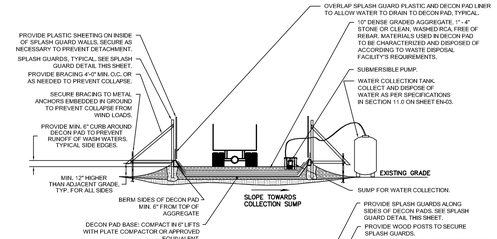
CONSTRUCTION SPECIFICATIONS

1. CLEAR THE AREA OF ALL DEBRIS THAT WILL HINDER EXCAVATION.
2. GRADE APPROACH TO THE INLET UNIFORMLY AROUND THE BASIN.
3. WEEP HOLES SHALL BE PROTECTED BY GRAVEL.
4. UPON STABILIZATION OF CONTRIBUTING DRAINAGE AREA, SEAL WEEP HOLES, FILL BASIN WITH STABLE SOIL TO FINAL GRADE, COMPACT IT PROPERLY AND STABILIZE WITH PERMANENT SEEDING.

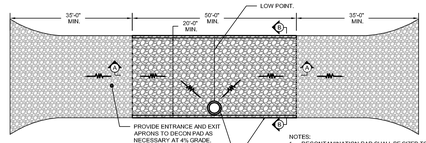
MAXIMUM DRAINAGE AREA 1 ACRE

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION NEW YORK STATE SOIL & WATER CONSERVATION COMMITTEE	EXCAVATED DROP INLET PROTECTION

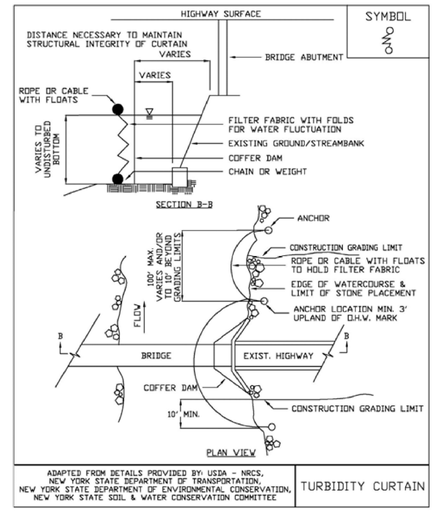
EXCAVATED DROP INLET PROTECTION
NOT TO SCALE



TRUCK DECON PAD DETAIL
NOT TO SCALE

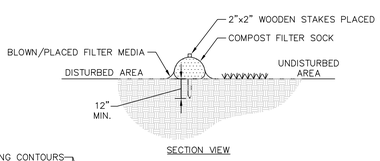


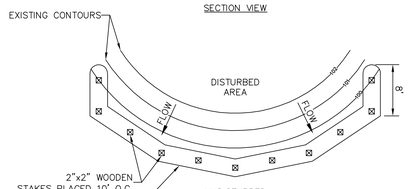
NOTES:
1. DECONTAMINATION PAD SHALL BE SIZED TO ACCOMODATE THE FULL LENGTH AND WIDTH OF VEHICLES REQUIRING DECONTAMINATION.
2. CONSTRUCTION ENTRANCE TO BE REINFORCED WITH ADDITIONAL AGGREGATE AS NEEDED TO PREVENT MATERIAL FROM BEING TRACKED OFF-SITE.
3. CHANGES TO DECON PAD/SPLASH GUARDS REQUIRE APPROVAL OF NYSPE & DEP.



ADAPTED FROM DETAILS PROVIDED BY: USDA – NRCS, NEW YORK STATE DEPARTMENT OF TRANSPORTATION, NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION, NEW YORK STATE SOIL & WATER CONSERVATION COMMITTEE	TURBIDITY CURTAIN

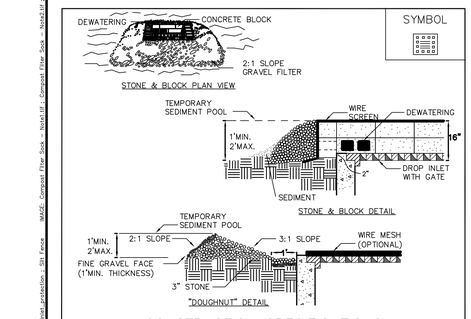
TURBIDITY CURTAIN DETAIL
NOT TO SCALE





1. SOCK FABRIC SHALL MEET NYS STORMWATER DESIGN MANUAL STANDARDS OF TABLE 5.1. COMPOST SHALL MEET THE STANDARDS LISTED ON OF TABLE 5.2.
2. COMPOST FILTER SOCK SHALL BE PLACED AT EXISTING LEVEL GRADE. BOTH ENDS OF THE SOCK SHALL BE EXTENDED AT LEAST 8 FEET UP SLOPE AT 45 DEGREES TO THE MAIN SOCK ALIGNMENT (FIGURE 5.2). MAXIMUM SLOPE LENGTH ABOVE ANY SOCK SHALL NOT EXCEED THAT SHOWN ON FIGURE X.X. STAKES MAY BE INSTALLED IMMEDIATELY DOWNSLOPE OF THE SOCK IF SO SPECIFIED BY THE MANUFACTURER.
3. TRAFFIC SHALL NOT BE PERMITTED TO CROSS FILTER SOCKS.
4. ACCUMULATED SEDIMENT SHALL BE REMOVED WHEN IT REACHES HALF THE ABOVEGROUND HEIGHT OF THE SOCK AND DISPOSED IN THE MANNER DESCRIBED ELSEWHERE IN THE PLAN.
5. SOCKS SHALL BE INSPECTED WEEKLY AND AFTER EACH RUNOFF EVENT. DAMAGED SOCKS SHALL BE REPAIRED ACCORDING TO MANUFACTURER'S SPECIFICATIONS OR REPLACED WITHIN 24 HOURS OF INSPECTION.
6. BIODEGRADABLE FILTER SOCKS SHALL BE REPLACED AFTER 6 MONTHS; PHOTODEGRADABLE SOCKS AFTER 1 YEAR. POLYPROPYLENE SOCKS SHALL BE REPLACED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.
7. UPON STABILIZATION OF THE AREA TRIBUTART TO THE SOCKS, STAKES SHALL BE REMOVED. THE SOCK MAY BE LEFT IN PLACE AND VEGETATED OR REMOVED. IN THE LATTER CASE, THE MESH SHALL BE CUT OPEN AND THE MULCH SPREAD AS A SOIL SUPPLEMENT.

COMPOST FILTER SOCK
(IF AND WHERE DIRECTED)
NOT TO SCALE



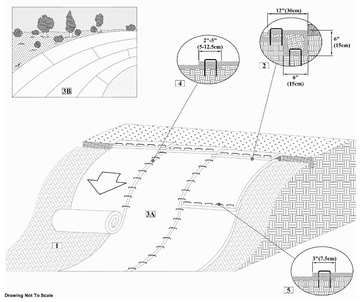
CONSTRUCTION SPECIFICATIONS

1. LAY ONE BLOCK ON EACH SIDE OF THE STRUCTURE ON ITS SIDE FOR DEWATERING. FOUNDATION SHALL BE 2 INCHES MINIMUM BELOW REST OF INLET AND BLOCKS SHALL BE PLACED AGAINST INLET FOR SUPPORT.
2. HARDWARE CLOTH OR 1/2" WIRE MESH SHALL BE PLACED OVER BLOCK OPENINGS TO SUPPORT STONE.
3. USE CLEAN STONE OR GRAVEL 1/2-3/4 INCH IN DIAMETER PLACED 2 INCHES BELOW TOP OF THE BLOCK ON A 2:1 SLOPE OR FLATTER.
4. FOR STONE STRUCTURES ONLY, A 1 FOOT THICK LAYER OF THE FILTER STONE WILL BE PLACED AGAINST THE 3 INCH STONE AS SHOWN ON THE DRAWINGS.

MAXIMUM DRAINAGE AREA 1 ACRE

ADAPTED FROM DETAILS PROVIDED BY: USDA – NRCS, NEW YORK STATE DEPARTMENT OF TRANSPORTATION, NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION, NEW YORK STATE SOIL & WATER CONSERVATION COMMITTEE	STONE & BLOCK DROP INLET PROTECTION

STONE AND BLOCK DROP INLET PROTECTION
NOT TO SCALE



EROSION CONTROL MATTING
(IF AND WHERE DIRECTED)
NOT TO SCALE

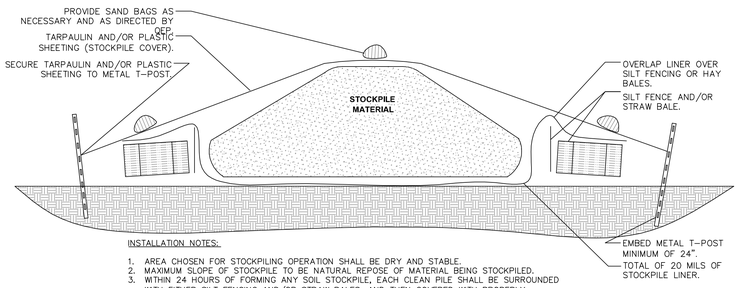
INSTALLATION PROCEDURES

1. PREPARE SOIL BEFORE INSTALLING ROLLED EROSION CONTROL PRODUCTS (RECP), INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED.
2. BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE RECPs IN A 6" DEEP x 6" WIDE TRENCH WITH APPROX. 12" OF RECPs EXTENDED BEYOND THE UP-SLOPE PORTION OF THE TRENCH. ANCHOR THE RECPs WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO THE COMPACTED SOIL AND FOLD THE REMAINING 12" PORTION OF RECPs BACK OVER THE SEED AND COMPACTED SOIL. SECURE RECPs OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROX. 12" APART ACROSS THE WIDTH OF THE RECPs.
3. ROLL THE RECPs (A) DOWN OR (B) HORIZONTALLY ACROSS THE SLOPE. RECP WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL RECPs MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLE PATTERN GUIDE.
4. THE EDGES OF PARALLEL RECPs MUST BE STAPLED WITH APPROXIMATELY 2"-5" OVERLAP DEPENDING ON THE RECPs TYPE.
5. CONSECUTIVE RECPs SPLICED DOWN THE SLOPE MUST BE END OVER END (SHINGLE STYLE) WITH AN APPROXIMATE 3" OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROX. 12" APART ACROSS ENTIRE RECPs WIDTH.

NOTE:
1. S150 EROSION CONTROL BLANKET MANUFACTURED BY NORTH AMERICAN GREEN OR APPROVED EQUAL
2. REFER TO MANUFACTURER INSTALLATION GUIDE

MATTING SPECIFICATIONS

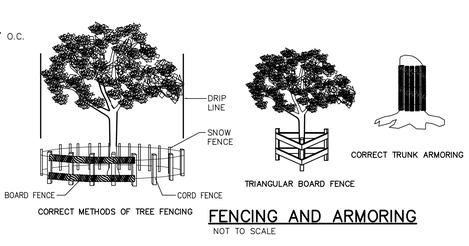
MATERIAL CONTENT		
MATRIX	100% STRAW FIBER	0.5 LB/YD²
NETTINGS	TOP AND BOTTOM NETS, LIGTHWEIGHT PHOTODEGRADABLE	1.5 LB/1000 SF APPROX. WEIGHT
THREAD	DEGRADABLE	



INSTALLATION NOTES:

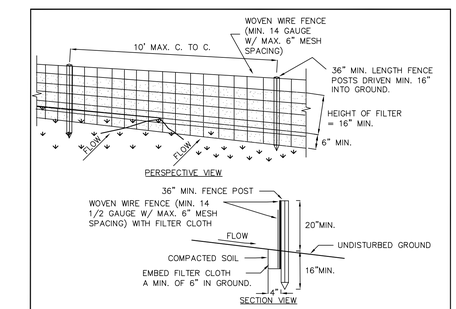
1. AREA CHOSEN FOR STOCKPILING OPERATION SHALL BE DRY AND STABLE.
2. MAXIMUM SLOPE OF STOCKPILE TO BE NATURAL REPOSE OF MATERIAL BEING STOCKPILED.
3. WITHIN 24 HOURS OF FORMING ANY SOIL STOCKPILE, EACH CLEAN PILE SHALL BE SURROUNDED WITH EITHER SILT FENCING AND/OR STRAW BALES, AND THEN COVERED WITH PROPERLY ANCHORED PLASTIC SHEETING AND/OR TARPAULIN. A MINIMUM OF TWENTY (20) MIL TOTAL LINER THICKNESS SHALL BE PLACED BENEATH THE STOCKPILE.
4. SEE DETAILS FOR INSTALLATION OF SILT FENCE AND STRAW BALES ON EN-05.
5. ALTERNATES REQUIRE APPROVAL BY NYSPE.

CONTAMINATED STOCKPILE DETAIL
NOT TO SCALE



CORRECT METHODS OF TREE FENCING

FENCING AND ARMORING
NOT TO SCALE

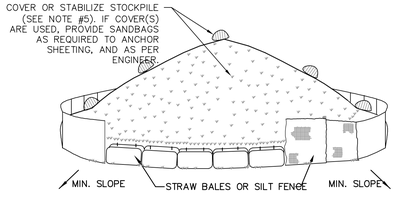


CONSTRUCTION SPECIFICATIONS

1. WOVEN WIRE FENCE TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES OR STAPLES. POSTS SHALL BE STEEL EITHER "T" OR "U" TYPE OR HARDWOOD.
2. FILTER CLOTH TO BE TO BE FASTENED SECURELY TO WOVEN WIRE FENCE WITH TIES SPACED EVERY 24" AT TOP AND MID SECTION. FENCE SHALL BE WOVEN WIRE, 6" MAXIMUM MESH OPENING.
3. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVER-LAPPED BY SIX INCHES AND FOLDED. FILTER CLOTH SHALL BE EITHER FILTER X, MIRAFI 100X, STABILINKA T140N, OR APPROVED EQUIVALENT.
4. PREFABRICATED UNITS SHALL BE GEOFAB, ENVIROFENCE, OR APPROVED EQUIVALENT.
5. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE, OR AT A MINIMUM OF ONCE PER WEEK.

ADAPTED FROM DETAILS PROVIDED BY: USDA – NRCS, NEW YORK STATE DEPARTMENT OF TRANSPORTATION, NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION, NEW YORK STATE SOIL & WATER CONSERVATION COMMITTEE	SILT FENCE

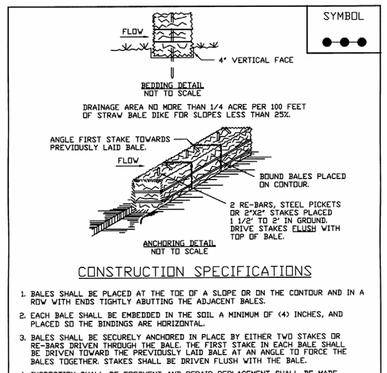
SILT FENCE DETAIL
NOT TO SCALE



INSTALLATION NOTES:

1. AREA CHOSEN FOR STOCKPILING OPERATION SHALL BE DRY AND STABLE.
2. MAXIMUM SLOPE OF STOCKPILE TO BE NATURAL REPOSE OF MATERIAL BEING STOCKPILED.
3. PROVIDE A MINIMUM OF TWENTY (20) MIL TOTAL LINER THICKNESS BENEATH ALL STOCKPILES.
4. WITHIN 24 HOURS OF FORMING ANY SOIL STOCKPILE, EACH CLEAN PILE SHALL BE SURROUNDED WITH EITHER SILT FENCING AND/OR STRAW BALES.
5. STOCKPILES SHALL BE COVERED OR STABILIZED IF THEY ARE TO BE INACTIVE FOR A PERIOD OF 30 DAYS OR LONGER. ACCEPTABLE COVERS INCLUDE PROPERLY ANCHORED PLASTIC SHEETING AND/OR TARPAULIN.
6. SEE DETAIL FOR INSTALLATION OF SILT FENCE AND STRAW BALES, SHEET EN-05.
7. ALTERNATES REQUIRE APPROVAL BY NYSPE.

CLEAN SOIL STOCKPILING
SCALE: NOT TO SCALE

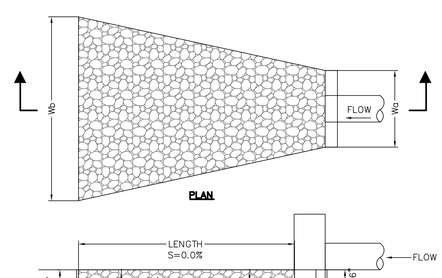


CONSTRUCTION SPECIFICATIONS

1. BALES SHALL BE PLACED AT THE TOE OF A SLOPE OR ON THE CONTOUR AND IN A ROW WITH ENDS TIGHTLY ABUTTING THE ADJACENT BALES.
2. EACH BALE SHALL BE EMBEDDED IN THE SOIL A MINIMUM OF (4) INCHES, AND PLACED SO THE BINDINGS ARE HORIZONTAL.
3. BALES SHALL BE SECURELY ANCHORED IN PLACE BY EITHER TWO STAKES OR RE-BARS DRIVEN THROUGH THE BALE. THE FIRST STAKE IN EACH BALE SHALL BE DRIVEN TOWARD THE PREVIOUSLY LAID BALE AT AN ANGLE TO FORCE THE BALES TOGETHER. STAKES SHALL BE DRIVEN FLUSH WITH THE BALE.
4. INSPECTION SHALL BE FREQUENT AND REPAIR REPLACEMENT SHALL BE MADE PROMTLY AS NEEDED.
5. BALES SHALL BE REMOVED WHEN THEY HAVE SERVED THEIR USEFULLNESS SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.

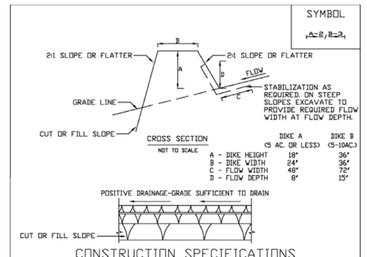
ADAPTED FROM DETAILS PROVIDED BY: USDA – NRCS, NEW YORK STATE DEPARTMENT OF TRANSPORTATION, NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION, NEW YORK STATE SOIL & WATER CONSERVATION COMMITTEE	STRAW BALE DIKE

STRAW BALE DIKE DETAIL
(IF AND WHERE DIRECTED)
NOT TO SCALE



OUTFALL	Do	L	Wa	Wb	D_{50}	H
OF 519	18"	10'	4.5'	11.5'	5"	12"
OF 395	36"	18'	9.0'	21'	8"	18"

RIPRAP APRON DETAIL
NOT TO SCALE



CONSTRUCTION SPECIFICATIONS

1. ALL DIKES SHALL BE COMPACTED BY EARTH-MOVING EQUIPMENT.
2. ALL DIKES SHALL HAVE POSITIVE DRAINAGE TO AN OUTLET.
3. TOP WIDTH MAY BE WIDER AND SIDE SLOPES BE FLATTER IF DESIRED TO FACILITATE CROSSING BY CONSTRUCTION TRAFFIC.
4. FIELD LOCATION SHOULD BE ADJUSTED AS NEEDED TO UTILIZE A STABILIZED SAFE OUTLET.
5. EARTH DIKES SHALL HAVE AN OUTLET THAT FUNCTIONS WITH A MINIMUM OF EROSION. RUNOFF SHALL BE CONVEYED TO A SEDIMENT TRAPPING DEVICE SUCH AS A SEDIMENT TRAP OR SEDIMENT BASIN WHERE EITHER THE DIKE CHANNEL OR THE DRAINAGE AREA ABOVE THE DIKE ARE NOT ADEQUATELY STABILIZED.
6. FILL STABILIZATION SHALL BE: (A) IN ACCORDANCE WITH STANDARD SPECIFICATIONS FOR SEED AND STRAW MULCH IF NOT IN SEEDING SEASON, (B) FLOW CHANNEL STABILIZATION PER THE STANDARD CHART BASED ON CHANNEL GRADE.

ADAPTED FROM DETAILS PROVIDED BY: USDA – NRCS, NEW YORK STATE DEPARTMENT OF TRANSPORTATION, NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION, NEW YORK STATE SOIL & WATER CONSERVATION COMMITTEE	EARTH DIKE

EARTH DIKE DETAIL
(IF AND WHERE DIRECTED)
NOT TO SCALE

NOTE:
ALL TEMPORARY SOIL EROSION AND SEDIMENT CONTROL DEVICES SHALL BE CONSTRUCTED IN ACCORDANCE WITH "NEW YORK STATE STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL", LATEST EDITION.

REV. / ISSUE	DATE	DESCRIPTION
1	5/23/14	REV. PER CITY COMMENTS
2	8/14/14	REV. PER CITY COMMENTS
3	1/22/15	PROGRESS SET
4	4/10/15	PROGRESS SET
5	7/30/15	ISSUED FOR BUILDING PERMIT
6	2/19/16	ISSUED FOR PRICING
~~7~~	~~3/31/16~~	~~ISSUED FOR BID SET~~
8	8/08/16	ISSUED FOR BID
9	12/22/16	REV. PER CITY COMMENTS
10	12/23/16	ADDENDUM No. 1
11	1/06/17	PARCEL B (BLDG H) EMP
12	01/26/17	SWPPP REVISIONS
13	2/17/17	REV. PER NYSDEC COMMENTS
14	2/24/17	SWPPP REVISIONS
15	3/08/17	PARCEL A, DOXEY AND CLADSKY PROPERTIES EWP'S

CONSULTANT

MINNO WASKO ARCHITECTS AND PLANNERS
80 LAMBERT LANE, SUITE 105, LAMBERTVILLE, NEW JERSEY 08530 minnowasko.com

CONSULTANT

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New York, New York 10003
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ORIENTATION / KEY PLAN

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67B MOUNTAIN BLVD EXT.
P.O. BOX 4039
WARREN, NEW JERSEY 07059
PHONE: (732) 560-9700

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ALL DIMENSIONS SHALL BE AS NOTED IN WORDS OR NUMBERS ON THE CONTRACT DRAWINGS. DO NOT SCALE THE DRAWINGS TO DETERMINE DIMENSIONS.

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JOSEPH J. FLEMING, P.E.
PROFESSIONAL ENGINEER
N.Y. LIC. NO. 66591

SIGNATURE DATE

CLIENT

RXR GLEN ISLE PARTNERS LLC

PROJECT

GARVIES POINT WATERFRONT REDEVELOPMENT PHASE I

CITY OF GLEN COVE, NASSAU COUNTY, NEW YORK

SHEET TITLE

SOIL EROSION AND SEDIMENT CONTROL DETAILS

JOB NO.: 03610-002
DATE: 9/27/2012
DRAWN: GY
CHECK: PAR
SCALE: AS SHOWN

BINDING ORDER:
SHEET OF
SHEET NO.

C-25

File Name: J:\03610\000\Cadd\Dwg\Plot Sheet Plts\C25-26-0217.dwg LAST EDIT: 03/07/2017 - 10:06:42

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STANDARD AND SPECIFICATIONS FOR STRAW BALE DIKE



Definition & Scope

A **temporary** barrier of straw, or similar material, used to intercept sediment laden runoff from small drainage areas of disturbed soil to reduce runoff velocity and effect deposition of the transported sediment load. Straw bale dikes have an estimated design life of three (3) months.

Condition Where Practice Applies

The straw bale dike is used where:

1. No other practice is feasible.
2. There is no concentration of water in a channel or other drainageway above the barrier.
3. Erosion would occur in the form of sheet erosion.

quarter of an acre per 100 feet of dike and the length of slope above the dike shall be less than 100 feet.

Design Criteria

The above table is adequate, in general, for a one-inch rainfall event. Larger storms could cause failure of this practice. Use of this practice in sensitive areas for longer than one month should be specifically designed to store expected runoff. All bales shall be placed on the contour with cut edge of bale adjoining to the ground. See Figure 5.34 on page 5.64 for details.

4. Length of slope above the straw bale dike does not exceed the following limits with the bale placed 10 feet from the toe of the slope:

Constructed Slope	Percent Slope	Slope Length (ft.)
2:1	50	25
3:1	33	50
4:1	25	75

Where slope gradient changes through the drainage area, steepness refers to the steepest slope section contributing to the straw bale dike.

The practice may also be used for a single family lot if the slope is less than 15 percent. The contributing drainage area in this instance shall be less than one

STANDARD AND SPECIFICATIONS FOR TOPSOILING



Definition & Scope

Spreading a specified quality and quantity of topsoil materials on graded or regraded subsoil areas to provide acceptable plant cover growing conditions, thereby reducing erosion; to reduce irrigation water needs; and to reduce the need for nitrogen fertilizer application.

Conditions Where Practice Applies

Topsoil is applied to subsoils that are droughty (low available moisture for plants), stony, slowly permeable, salty or extremely acid. It is also used to backfill around shrub and tree transplants. This standard does not apply to wetland soils.

Design Criteria

1. Preserve existing topsoil in place where possible, thereby reducing the need for added topsoil.
2. Conserve by stockpiling topsoil and friable fine textured subsoils that may be stripped from the excavated site and applied after final grading where vegetation will be established. Topsoil stockpiles must be stabilized. Stockpile surfaces can be stabilized by vegetation, geotextile or plastic covers. This can be aided by orientating the stockpile lengthwise into prevailing winds.
3. Refer to USDA Natural Resource Conservation Service soil surveys or soil interpretation record sheets for further soil texture information for selecting appropriate design topsoil depths.

Site Preparation

1. As needed, install erosion and sediment control practices such as diversions, channels, sediment traps, and stabilizing measures, or maintain if already installed.
2. Complete rough grading and final grade, allowing for depth of topsoil to be added.
3. Scarify all compact, slowly permeable, medium and fine textured subsoil areas. Scarify at approximately right angles to the slope direction in soil areas that are steeper than 5 percent. Areas that have been overly compacted shall be decompacted in accordance with the Soil Restoration Standard.
4. Remove refuse, woody plant parts, stones over 3 inches in diameter, and other litter.

Topsoil Materials

1. Topsoil shall have at least 6 percent by weight of fine textured subsoils organic material, and no greater than 20 percent. Muck soil shall not be considered topsoil.
2. Topsoil shall have not less than 20 percent fine textured material (passing the NO. 200 sieve) and not more than 15 percent clay.
3. Topsoil treated with soil sterilants or herbicides shall be so identified to the purchaser.
4. Topsoil shall be relatively free of stones over 1 1/2 inches in diameter, trash, noxious weeds such as nut sedge and quackgrass, and will have less than 10 percent gravel.
5. Topsoil containing soluble salts greater than 500 parts per million shall not be used.
6. Topsoil may be manufactured as a mixture of a mineral component and organic material such as compost.

Table 4.7 - Topsoil Application Depth

Site Conditions	Intended Use	Minimum Topsoil Depth
1. Deep sand or loamy sand	Mowed lawn	6 in.
	Tall legumes, unmowed	2 in.
	Tall grass, unmowed	1 in.
2. Deep sandy loam	Mowed lawn	5 in.
	Tall legumes, unmowed	2 in.
	Tall grass, unmowed	none
3. Six inches or more: silt loam, clay loam, loam, or silt loam	Mowed lawn	4 in.
	Tall legumes, unmowed	1 in.
	Tall grass, unmowed	1 in.

Application and Grading

1. Topsoil shall be distributed to a uniform depth over the area. It shall not be placed when it is partly frozen, muddy, or on frozen slopes or over ice, snow, or standing water puddles.
2. Topsoil placed and graded on slopes steeper than 5 percent shall be promptly fertilized, seeded, mulched, and stabilized by "tracking" with suitable equipment.
3. Apply topsoil in the amounts shown in Table 4.7 below:

STANDARD AND SPECIFICATIONS FOR MULCHING



Definition and Scope

Applying coarse plant residue or chips, or other suitable materials, to cover the soil surface to provide initial erosion control while a seeding or shrub planting is establishing. Mulch will conserve moisture and modify the surface soil temperature and reduce fluctuation of both. Mulch will prevent soil surface crusting and aid in weed control. Mulch can also be used alone for temporary stabilization in non-growing months. Use of stone as a mulch could be more permanent and should not be limited to non-growing months.

Conditions Where Practice Applies

On soils subject to erosion and on new seedings and shrub plantings. Mulch is useful on soils with low infiltration rates by retarding runoff.

Criteria

Site preparation prior to mulching requires the installation of necessary erosion control or water management practices and drainage systems.

Slope, grade and smooth the site to fit needs of selected mulch products.

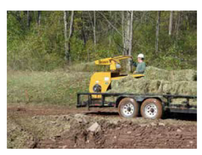
Remove all undesirable stones and other debris to meet the needs of the anticipated land use and maintenance required.

Apply mulch after soil amendments and planting is accomplished or simultaneously if hydroseeding is used.

Select appropriate mulch material and application rate or material needs. Hay mulch shall not be used in wetlands or in areas of permanent seeding. Clean straw mulch is preferred alternative in wetland application. Determine local availability.

Select appropriate mulch anchoring material.

NOTE: The best combination for grass/legume establishment is straw (cereal grain) mulch applied at 2 ton/acre (90 lbs./1000sq.ft.) and anchored with wood fiber mulch (hydromulch) at 500 – 750 lbs./acre (11 – 17 lbs./1000 sq. ft.). The wood fiber mulch must be applied through a hydroseeder immediately after mulching.



MULCH ANCHORING GUIDE

Anchoring Method or Material	Kind of Mulch to be Anchored	How to Apply
1. Peg and Twine	Hay or straw	After mulching, divide areas into blocks approximately 1 sq. yd. in size. Drive 4-6 pegs per block to within 2" to 3" of soil surface. Secure mulch to surface by stretching twine between pegs in criss-cross pattern on each block. Secure twine around each peg with 2 or more tight turns. Drive pegs flush with soil. Driving stakes into ground tightens the twine.
2. Mulch netting	Hay or straw	Staple the light-weight paper, jute, wood fiber, or plastic nettings to soil surface according to manufacturer's recommendations. Should be biodegradable. Most products are not suitable for foot traffic.
3. Wood cellulose fiber	Hay or straw	Apply with hydroseeder immediately after mulching. Use 500 lbs. wood fiber per acre. Some products contain an adhesive material ("tackifier"), possibly advantageous.
4. Mulch anchoring tool	Hay or straw	Apply mulch and pull a mulch anchoring tool (blunt, straight discs) over mulch as near to the contour as possible. Mulch material should be "tucked" into soil surface about 3".
5. Tackifier	Hay or straw	Mix and apply polymeric and gum tackifiers according to manufacturer's instructions. Avoid application during rain. A 24-hour curing period and a soil temperature higher than 45° Fahrenheit are required.

STANDARD AND SPECIFICATIONS FOR PROTECTING VEGETATION DURING CONSTRUCTION



Definition & Scope

The protection of trees, shrubs, ground cover and other vegetation from damage by construction equipment. In order to preserve existing vegetation determined to be important for soil erosion control, water quality protection, shade, screening, buffers, wildlife habitat, wetland protection, and other values.

Conditions Where Practices Applies

On planned construction sites where valued vegetation exists and needs to be preserved.

Design Criteria

1. Planning Considerations

A. Inventory:

1) Property boundaries, topography, vegetation and soils information should be gathered. Identify potentially high erosion areas, areas with tree windthrow potential, etc. A vegetative cover type map should be made on a copy of a topographic map which shows other natural and manmade features. Vegetation that is desirable to preserve because of its value for screening, shade, critical erosion control, endangered species, aesthetics, etc., should be identified and marked on the map.

2) Based upon this data, general statements should be prepared about the present condition, potential problem areas, and unique features of the property.

B. Planning:

1) After engineering plans (plot maps) are prepared, another field review should take place and recommendations made for the vegetation to be saved. Minor adjustments in location of roads, dwellings, and utilities may be needed. Construction on steep slopes, erodible soils, wetlands, and streams should be avoided. Clearing limits should be delineated (See "Determine Limits of Clearing and Grading" on page 2.2).

2) Areas to be seeded and planted should be identified. Remaining vegetation should blend with their surroundings and/or provide special function such as a filter strip, buffer zone, or screen.

3) Trees and shrubs of special seasonal interest, such as flowering dogwood, red maple, striped maple, serviceberry, or shadbush, and valuable potential shade trees should be identified and marked for special protective treatment as appropriate.

4) Trees to be cut should be marked on the plans. If timber can be removed for salable products, a forester should be consulted for marketing advice.

5) Trees that may become a hazard to people, personal property, or utilities should be removed. These include trees that are weak-wooded, disease-prone, subject to windthrow, or those that have severely damaged root systems.

6) The vigor of remaining trees may be improved by a selective thinning. A forester should be consulted for implementing this practice.

2. Measures to Protect Vegetation

A. Limit soil placement over existing tree and shrub roots to a maximum of 3 inches. Soils with loamy texture and good structure should be used.

B. Use retaining walls and terraces to protect roots of trees and shrubs when grades are lowered. Lowered grades should start no closer than the dripline of the tree. For narrow-canopied trees and shrubs, the stem diameter in inches is converted to feet and doubled, such that a 10 inch tree should be protected to 20 feet.

C. Trenching across tree root systems should be the same minimum distance from the trunk, as in "B". Tunnels under root systems for underground utilities should start 18 inches or deeper below the normal ground surface. Tree roots which must be severed should be cut clean. Backfill material that will be in contact with the roots should be topsoil or a prepared planting soil mixture.

D. Construct sturdy fences, or barriers, of wood, steel, or other protective material around valuable vegetation for protection from construction equipment. Place barriers far enough away from trees, but not less than the specifications in "B", so that tall equipment such as backhoes and dump trucks do not contact tree branches.

E. Construction limits should be identified and clearly marked to exclude equipment.

F. Avoid spills of oil/gas and other contaminants.

G. Obstructive and broken branches should be pruned properly. The branch collar on all branches whether living or dead should not be damaged. The 3 or 4 cut method should be used on all branches larger than two inches at the cut. First cut about one-third the way through the underside of the limb (about 6-12 inches from the tree trunk). Then (approximately an inch further out) make a second cut through the limb from the upper side. When the branch is removed, there is no splintering of the main tree trunk. Remove the stub. If the branch is larger than 5-6 inches in diameter, use the four cut system. Cuts 1 and 2 remain the same and cut 3 should be from the underside of the limb, on the outside of the branch collar. Cut 4 should be from the top and in alignment with the 3rd cut. Cut 3 should be 1/4 to 1/3 the way through the limb. This will prevent the bark from peeling down the trunk. Do not paint the cut surface.

H. Penalties for damage to valuable trees, shrubs, and herbaceous plants should be clearly spelled out in the contract.

PROTECTING TREES IN HEAVY USE AREAS

The compaction of soil over the roots of trees and shrubs by the trampling of recreationists, vehicular traffic, etc., reduces oxygen, water, and nutrient uptake by feeder roots. This weakens and may eventually kill the plants. Table 2.6 rates the "Susceptibility of Tree Species to Compaction."

Where heavy compaction is anticipated, apply and maintain a 3 to 4 inch layer of undecayed wood chips or 2 inches of No. 2 washed, crushed gravel. In addition, use of a wooden or plastic mat may be used to lessen compaction, if applicable.

STANDARD AND SPECIFICATIONS FOR GEOTEXTILE FILTER BAG (IF AND WHERE DIRECTED)



Definition & Scope

A **temporary** portable device through which sediment laden water is pumped to trap and retain sediment prior to its discharge to drainageways or off-site.

Condition Where Practice Applies

On sites where space is limited such as urban construction or linear projects (e.g. roads and utility work) where rights-of-way are limited and larger de-silting practices are impractical.

Design Criteria

1. Location - The portable filter bag should be located to minimize interference with construction activities and pedestrian traffic. It should also be placed in a location that is vegetated, relatively level, and provides for ease of access by heavy equipment, cleanout, disposal of trapped sediment, and proper release of filtered water.

   The filter bag shall also be placed at least 50 feet from all wetlands, streams or other surface waters.

2. Size - Geotextile filter bag shall be sized in accordance with the manufacturers recommendations based on the pump discharge rate.

Materials and Installation

1. The geotextile material will have the following attributes:

Minimum Grab Tensile Strength	200 lbs.
Minimum Grab Tensile Elongation	50 %
Minimum Trapezoid Tear Strength	80 lbs.
Mullen Burst Strength	380 psi
Minimum Puncture Strength	130 lbs
Apparent Opening Size	40 - 80 US sieve
Minimum UV Resistance	70%
Minimum Flow Thru Rate	70 gpm/sq ft

2. The bag shall be sewn with a double needle machine using high strength thread, double stitched "Joe" type capable of minimum roll strength of 100 lbs/inch (ASTM D4884).
3. The geotextile filter bag shall have an opening large enough to accommodate a 4 inch diameter discharge hose with an attached strap to tie off the bag to the hose to prevent back flow.
4. The geotextile shall be placed on a gravel bed 2 inches thick, a straw mat 4 inches thick, or a vegetated filter strip to allow water to flow out of the bag in all directions.

Maintenance

1. The geotextile filter bag is considered full when remaining bag flow area has been reduced by 75%. At this point, it should be replaced with a new bag.
2. Disposal may be accomplished by removing the bag to an appropriate designated upland area, cut open, remove the geotextile for disposal, and spread sediment contents and seeded and mulched according to the vegetative plan.

GUIDE TO MULCH, MATERIALS, RATES AND USES

Mulch Material	Quality Standards	per 1000 Sq. Ft.	per Acre	Depth of Application	Remarks
Wood chips or shavings	Air-dried. Free of objectionable coarse material	500-900 lbs.	10-20 tons	2-7"	Used primarily around shrub and tree plantings and recreation trails to inhibit weed competition. Resistant to wind blowing. Decomposes slowly.
Wood fiber cellulose (partly digested wood fibers)	Made from natural wood usually with green dye and dispersing agent	50 lbs.	2,000 lbs.	—	Apply with hydromulcher. No tie down required. Less erosion control provided than 2 tons of hay or straw.
Gravel, Crushed Stone or Slag	Washed, Size 2B or 3A—1 1/2"	9 cu. yds.	405 cu. yds.	3"	Excellent mulch for short slopes and around plants and ornamentals. Use 2B where subject to traffic. (Approximately 2,000 lbs./cu. yd.). Frequently used over filter fabric for better weed control.
Hay or Straw	Air-dried; free of undesirable seeds & coarse materials	90-100 lbs. 2-3 bales	2 tons (100-120 bales)	cover about 90% surface	Use small grain straw where mulch is maintained for more than three months. Subject to wind blowing unless anchored. Most commonly used mulching material. Provides the best micro-environment for germinating seeds.
Jute twisted yarn	Undyed, unbleached plain weave. Warp 78 ends/yd., Weft 41 ends/yd. 60-90 lbs./roll	48" x 50 yds. or 48" x 75 yds.	—	—	Use without additional mulch. Tie down as per manufacturers specifications. Good for center line of concentrated water flow.
Excelsior wood fiber mats	Interlocking web of excelsior fibers with photodegradable plastic netting	4' x 112.5' or 8' x 112.5'.	—	—	Use without additional mulch. Excellent for seeding establishment. Anchor as per manufacturers specifications. Approximately 72 lbs./roll for excelsior with plastic on both sides. Use two sided plastic for centerline of waterways.
Straw or coconut fiber, or combination	Photodegradable plastic net on one or two sides	Most are 6.5 ft. x 3.5 ft.	81 rolls	—	Designed to tolerate higher velocity water flow, centerlines of waterways, 60 sq. yds. per roll.

STANDARD AND SPECIFICATIONS FOR CONCRETE TRUCK WASHOUT



Definition & Scope

A temporary excavated or above ground lined constructed pit where concrete truck mixers and equipment can be washed after their loads have been discharged, to prevent highly alkaline runoff from entering storm drainage systems or leaching into soil.

Conditions Where Practice Applies

Washout facilities shall be provided for every project where concrete will be poured or otherwise formed on the site. This facility will receive highly alkaline wash water from the cleaning of chutes, mixers, hoppers, vibrators, placing equipment, trowels, and screeds. Under no circumstances will wash water from these operations be allowed to infiltrate into the soil or enter surface waters.

Design Criteria

Capacity: The washout facility should be sized to contain solids, wash water, and rainfall and sized to allow for the evaporation of the wash water and rainfall. Wash water shall be estimated at 7 gallons per chute and 50 gallons per hopper of the concrete pump truck and/or discharging drum. The minimum size shall be 8 feet by 8 feet at the bottom and 2 feet deep. If excavated, the side slopes shall be 2 horizontal to 1 vertical.

Location: Locate the facility a minimum of 100 feet from drainage swales, storm drain inlets, wetlands, streams and other surface waters. Prevent surface water from entering the structure except for the access road. Provide appropriate access with a gravel access road sloped down to the structure. Signs shall be placed to direct drivers to the facility after their load is discharged.

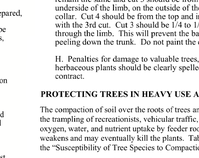
Liner: All washout facilities will be lined to prevent leaching of liquids into the ground. The liner shall be plastic sheeting with a minimum thickness of 10 mils with no holes or tears, and anchored beyond the top of the pit with an earthen berm, sand bags, stone, or other structural appurtenance except at the access point.

If pre-fabricated washouts are used they must ensure the capture and containment of the concrete wash and be sized based on the expected frequency of concrete pours. They shall be sited as noted in the location criteria.

Maintenance

- All concrete washout facilities shall be inspected daily. Damaged or leaking facilities shall be deactivated and repaired or replaced immediately. Excess rainwater that has accumulated over hardened concrete should be pumped to a stabilized area, such as a grass filter strip.
- Accumulated hardened material shall be removed when 75% of the storage capacity of the structure is filled. Any excess wash water shall be pumped into a containment vessel and properly disposed of off site.
- Dispose of the hardened material off-site in a construction/demolition landfill. On-site disposal may be allowed if this has been approved and accepted as part of the projects SWPPP. In that case, the material should be recycled as specified, or buried and covered with a minimum of 2 feet of clean compacted earthfill that is permanently stabilized to prevent erosion.
- The plastic liner shall be replaced with each cleaning of the washout facility.
- Inspect the project site frequently to ensure that no concrete discharges are taking place in non-designated areas.

STANDARD AND SPECIFICATIONS FOR DUST CONTROL



Definition & Scope

The control of dust resulting from land-disturbing activities, to prevent surface and air movement of dust from disturbed soil surfaces that may cause off-site damage, health hazards, and traffic safety problems.

Conditions Where Practice Applies

On construction roads, access points, and other disturbed areas subject to surface dust movement and dust blowing where off-site damage may occur if dust is not controlled.

Design Criteria

Construction operations should be scheduled to minimize the amount of area disturbed at one time. Buffer areas of vegetation should be left where practical. Temporary or permanent stabilization measures shall be installed. No specific design criteria is given; see construction specifications below for common methods of dust control.

Water quality must be considered when materials are selected for dust control. Where there is a potential for the material to wash off to a stream, ingredient information must be provided to the NYSDEC.

No polymer application shall take place without written approval from the NYSDEC.

Construction Specifications

A. **Non-driving Areas** – These areas use products and materials applied or placed on soil surfaces to prevent airborne migration of soil particles.

Vegetative Cover – For disturbed areas not subject to traffic, vegetation provides the most practical method of dust control (see Section 3).

Mulch (including gravel mulch) – Mulch offers a fast effective means of controlling dust. This can also include rolled erosion control blankets.

Spray adhesives – These are products generally composed of polymers in a liquid or solid form that are mixed with water to form an emulsion that is sprayed on the soil surface with typical hydroseeding equipment. The mixing ratios and application rates will be in accordance with the manufacturer's recommendations for the specific soils on the site. In no case should the application of these adhesives be made on wet soils or if there is a probability of precipitation within 48 hours of its proposed use. Material Safety Data Sheets will be provided to all applicators working with the material.

Barriers – Woven geo-textiles can be placed on the driving surface to effectively reduce dust throw and particle migration on haul roads. Stone can also be used for construction roads for effective dust control.

Windbreak – A silt fence or similar barrier can control air currents at intervals equal to ten times the barrier height. Preserve existing wind barrier vegetation as much as practical.

Maintenance

Maintain dust control measures through dry weather periods until all disturbed areas are stabilized.

STANDARD AND SPECIFICATIONS FOR SILT FENCE



Definition & Scope

A **temporary** barrier of geotextile fabric installed on the contours across a slope used to intercept sediment laden runoff from small drainage areas of disturbed soil by temporarily ponding the sediment laden runoff allowing settling to occur. The maximum period of use is limited by the ultraviolet stability of the fabric (approximately one year).

Conditions Where Practice Applies

A silt fence may be used subject to the following conditions:

1. Maximum allowable slope length and fence length will not exceed the limits shown in the Design Criteria for the specific type of silt fence used ; and
2. Maximum ponding depth of 1.5 feet behind the fence; and
3. Erosion would occur in the form of sheet erosion; and
4. There is no concentration of water flowing to the barrier and
5. Soil conditions allow for proper keying of fabric, or other anchorage, to prevent blowouts.

Design Criteria

1. Design computations are not required for installations of 1 month or less. Longer installation periods should be designed for expected runoff.
2. All silt fences shall be placed as close to the disturbed area as possible, but at least 10 feet from the toe of a slope steeper than 3H:1V, to allow for maintenance and roll down. The area beyond the fence must be undisturbed or stabilized.
3. The type of silt fence specified for each location on the plan shall not exceed the maximum slope length and maximum fence length requirements shown in the following table:

		Slope Length/Fence Length (ft.)		
Slope	Steepness	Standard	Reinforced	Super
<2%	< 50:1	300/1500	N/A	N/A
2-10%	50:1 to 10:1	125/1000	250/2000	300/2500
10-20%	10:1 to 5:1	100/750	150/1000	200/1000
20-33%	5:1 to 3:1	60/500	80/750	100/1000
33-50%	3:1 to 2:1	40/250	70/350	100/500
>50%	> 2:1	20/125	30/175	50/250

Standard Silt Fence (SF) is fabric rolls stapled to wooden stakes driven 16 inches in the ground.
Reinforced Silt Fence (RSF) is fabric placed against welded wire fabric with anchored steel posts driven 16 inches in the ground.
Super Silt Fence (SSF) is fabric placed against chain link fence as support backing with posts driven 3 feet in the ground.

4. Silt fence shall be removed as soon as the disturbed area has achieved final stabilization.

The silt fence shall be installed in accordance with the appropriate details. Where ends of filter cloth come together, they shall be overlapped, folded and stapled to prevent sediment bypass. Butt joints are not acceptable. A detail of the silt fence shall be shown on the plan. See Figure 5.30 on page 5.56 for Reinforced Silt Fence as an example of details to be provided.

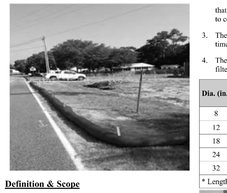
Criteria for Silt Fence Materials

1. Silt Fence Fabric: The fabric shall meet the following specifications unless otherwise approved by the appropriate erosion and sediment control plan approval authority. Such approval shall not constitute statewide acceptance.

Fabric Properties	Minimum Acceptable Value	Test Method
Grab Tensile Strength (lbs)	110	ASTM D 4632
Elongation at Failure (%)	20	ASTM D 4632
Mullen Burst Strength (PSI)	300	ASTM D 3786
Puncture Strength (lbs)	60	ASTM D 4833
Minimum Trapezoidal Tear Strength (lbs)	50	ASTM D 4533
Flow Through Rate (gal/min/sf)	25	ASTM D 4491
Equivalent Opening Size	40-80	US Std Sieve ASTM D 4751
Minimum UV Residual (%)	70	ASTM D 4355

2. Fence Posts (for fabricated units): The length shall be a minimum of 36 inches long. Wood posts will be of sound quality hardwood with a minimum cross section-al area of 3.5 square inches. Steel posts will be standard T and U section weighing not less than 1.00 pound per linear foot. Posts for super silt fence shall be standard chain link fence posts.
3. Wire Fence for reinforced silt fence: Wire fencing shall be a minimum 14 gage with a maximum 6 in. mesh opening, or as approved.
4. Prefabricated silt fence is acceptable as long as all material specifications are met.

STANDARD AND SPECIFICATIONS FOR COMPOST FILTER SOCK (IF AND WHERE DIRECTED)



Definition & Scope

A **temporary** sediment control practice composed of a degradable geotextile mesh tube filled with compost filter media to filter sediment and other pollutants associated with construction activity to prevent their migration offsite.

Condition Where Practice Applies

Compost filter socks can be used in many construction site applications where erosion will occur in the form of sheet erosion and there is no concentration of water flowing to the sock. In areas with steep slopes and/or rocky terrain, soil conditions must be such that good continuous contact between the sock and the soil is maintained throughout its length. For use on impervious surfaces such as road pavement or parking areas, proper anchorage must be provided to prevent shifting of the sock or separation of the contact between the sock and the pavement. Compost filter socks are utilized both at the site perimeter as well as within the construction areas. These socks may be filled after placement by blowing compost into the tube pneumatically, or filled at a staging location and moved into its designed location.

Design Criteria

1. Compost filter socks will be placed on the contour with both terminal ends of the sock extended 8 feet upslope at a 45 degree angle to prevent bypass flow.
2. Diameters designed for use shall be 12" – 32" except that 8" diameter socks may be used for residential lots to control areas less than 0.25 acres.
3. The flat dimension of the sock shall be at least 1.5 times the nominal diameter.
4. The **Maximum Slope Length** (in feet) above a compost filter sock shall not exceed the following limits:

Dia. (in.)	Slope %						
	2	5	10	20	25	33	50
8	225*	200	100	50	20	—	—
12	250	225	125	65	50	40	25
18	275	250	150	70	55	45	30
24	350	275	200	130	100	60	35
32	450	325	275	150	120	75	50

* Length in feet



5. The compost infill shall be well decomposed (matured at least 3 months), weed-free, organic matter. It shall be aerobically composted, possess no objectionable odors, and contain less than 1%, by dry weight, of man-made foreign matter. The physical parameters of the compost shall meet the standards listed in Table 5.2 - Compost Standards Table. **Note: All biosolids compost produced in New York State (or approved for importation) must meet NYS DEC's 6 NYCRR Part 360 (Solid Waste Management Facilities) requirements. The Part 360 requirements are equal to or more stringent than 40 CFR Part 503 which ensure safe standards for pathogen reduction and heavy metals content. When using compost filter socks adjacent to surface water, the compost should have a low nutrient value.**
6. The compost filter sock fabric material shall meet the
7. Compost filter socks shall be anchored in earth with 2" x 2" wooden stakes driven 12" into the soil on 10 foot centers on the centerline of the sock. On uneven terrain, effective ground contact can be enhanced by the placement of a fillet of filter media on the disturbed area side of the compost sock.
8. All specific construction details and material specifications shall appear on the erosion and sediment control construction drawings when compost filter socks are included in the plan.

Maintenance

1. Traffic shall not be permitted to cross filter socks.
2. Accumulated sediment shall be removed when it reaches half the above ground height of the sock and disposed of in accordance with the plan.
3. Socks shall be inspected weekly and after each runoff event. Damaged socks shall be repaired in the manner required by the manufacturer or replaced within 24 hours of inspection notification.
4. Biodegradable filter socks shall be replaced after 6 months; photodegradable filter socks after 1 year. Polypropylene socks shall be replaced according to the manufacturer's recommendations.
5. Upon stabilization of the area contributory to the sock, stakes shall be removed. The sock may be left in place and vegetated or removed in accordance with the stabilization plan. For removal the mesh can be cut and the compost spread as an additional mulch to act as a soil supplement.

Table 5.1 - Compost Sock Fabric Minimum Specifications Table

Material Type	3 mil HDPE	5 mil HDPE	5 mil HDPE	Multi-Filament Polypropylene (MFPP)	Heavy Duty Multi-Filament Polypropylene (HDMFPP)
Material Characteristics	Photodegradable	Photodegradable	Biodegradable	Photodegradable	Photodegradable
Sock Diameters	12" 18"	12" 18" 24" 32"	12" 18" 24" 32"	12" 18" 24" 32"	12" 18" 24" 32"
Mesh Opening	3/8"	3/8"	3/8"	3/8"	1/8"
Tensile Strength		26 psi	26 psi	44 psi	202 psi
Ultraviolet Stability % Original Strength (ASTM G-155)	23% at 1000 hr.	23% at 1000 hr.		100% at 1000 hr.	100% at 1000 hr.
Minimum Functional Longevity	6 months	9 months	6 months	1 year	2 years

Table 5.2 - Compost Standards Table

Organic matter content	25% - 100% (dry weight)
Organic portion	Fibrous and elongated
pH	6.0 – 8.0
Moisture content	30% - 60%
Particle size	100% passing a 1" screen and 10 - 50% passing a 3/8" screen
Soluble salt concentration	5.0 dS/m (mmhos/cm) maximum

STANDARD AND SPECIFICATIONS FOR TURBIDITY CURTAIN



Definition & Scope

A **temporary** flexible, impenetrable barrier used to trap sediment in water bodies. This curtain is weighted at the bottom to achieve closure while supported at the top through a flotation system and used to prevent the migration of silt from a work site in a water environment into the larger body of water. Top bar float has to support weight of curtain material. Bottom anchor has to be flexible so that it will lie along the contour of the water body bottom.

Condition Where Practice Applies

A turbidity curtain is generally used when construction activity occurs within a waterbody or along its shoreline and is of short duration, generally less than one month. Curtains are used in calm water surfaces and not in areas of flowing water. **Turbidity curtains are not to be used across flowing watercourses.**

Design Criteria

The turbidity curtain shall be located beyond the lateral limits of the construction site and firmly anchored in place. The alignment should be set as close to the work area as possible but not so close as to be disturbed by applicable construction equipment. The height of the curtain shall be 20 percent greater than the depth of the water to allow for water level fluctuations. The area that the turbidity curtain protects shall not contain large culverts or drainage areas that if flows occur behind the curtain would cause a breach or lost contact at the bottom surface.

If water depths at the design alignment are minimal, the toe can be anchored in place by staking.

Construction Specifications

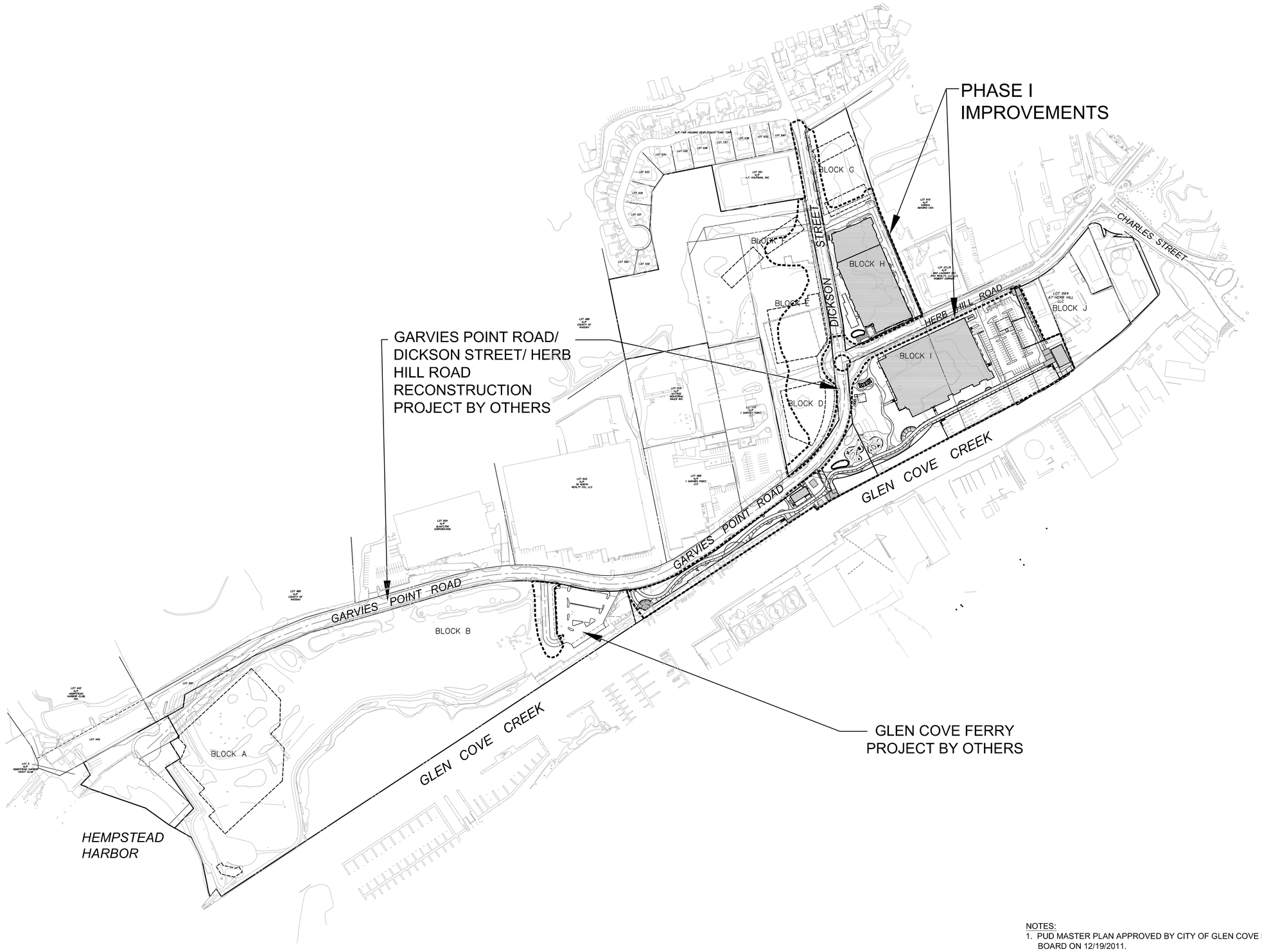
The area of proposed installation of the curtain shall be inspected for obstacles and impediments that could damage the curtain or impair its effectiveness to retain sediment. All materials shall be removed so they cannot enter the waterbody. Shallow installations can be made by securing the curtain by staking rather than using a flotation system. Supplemental anchors of the turbidity curtain toe shall be used, as needed, depending on water surface disturbances such as boats and wave action by winds.

Maintenance

The turbidity curtain shall be inspected daily and repaired or replaced immediately. It is not normally necessary to remove sediment deposited behind the curtain; but, when necessary, removal is usually done by hand prior to removal of the barrier. All removed silt is stabilized away from the waterbody. The barrier shall be removed by carefully pulling it toward the construction site to minimize the release of attached sediment. Any floating construction or natural debris shall be immediately removed to prevent damage to the curtain. If the curtain is oriented in a manner that faces the prevailing winds, frequent checks of the anchorage shall be made.

NEW YORK STATE GENERAL NOTES FOR SOIL EROSION AND SEDIMENT CONTROL

1. All sediment and erosion control practices are to be installed prior to any major soil disturbance or in their proper sequence and maintained until permanent protection is established.
2. Any disturbed areas that will be left exposed more than 14 days and not subject to construction traffic will immediately receive a temporary seeding unless construction activities will resume within 21 days from when activities ceased. Between October 15 and February 15 the disturbed areas will be mulched with unrotted straw or salt hay at a rate of 75 to 100 lbs per 1000 square feet or an equivalent measure according to the State standards. See Stabilization Materials below.
3. Permanent vegetation to be seeded or sodded on all exposed areas within 10 days after final grading. Mulch to be used at a rate of 75 to 100 lbs per 1000 square feet for protection until seeding is established. See seeding mixture below.
4. All work to be done in accordance with the New York State Standards and Specifications for Urban Erosion and Sediment Control.
5. Prior to any site grading, drainage facilities shall be installed to allow the majority of storm flow to be transported to the proposed outlet without eroding the site.
6. Immediately after initial site disturbance a crushed stone vehicle wheel cleaning blanket will be installed wherever a construction access road intersects any paved roadway. This stabilized construction entry will be of sufficient size to reduce off-site tracking of sediment by construction traffic and will be maintained in good order until all roadways are stabilized. Minimum dimensions shall be 50' long x 10' wide (or entrance width) x 6" thick., underlain with filter fabric, and shall be composed of crushed stone 2 in diameter.
7. A subbase course shall be constructed immediately following site grading and installation of improvements in order to stabilize streets, roads, driveways and parking areas.
8. All inlets shall be temporarily protected by filters placed immediately after their construction. Filters shall remain in place until the site is permanently stabilized.
9. Immediately following initial disturbance or rough grading all critical areas subject to erosion ie: steep slopes greater than 3h:1v, embankments, swales and channels will receive a temporary seeding in combination with straw mulch or a suitable equivalent. See Stabilization Materials below.
10. Existing trees shall be preserved wherever possible.
11. All disturbed areas shall be limed and fertilized prior to either temporary or permanent seeding.
12. Stabilization Materials:
    - Temporary Seeding:
      a. Seedbed preparation: Scarify If compacted, remove debris & stones (rocks, stumps etc)
      b, Lime: Lime to pH 6.5
      c. Fertilization: 20 lbs per 1000 square feet (5–10–10)
      d. Seed: Date and rate of application according to New York State Standards and Specifications for Erosion and Sediment Control. Annual Rye Grass at 0.7 lbs per 1000 square feet. Use certified 'Aroostock' winter rye @ 2.5 lbs/1000 sf if seeding in Oct/Nov. Mulch should be applied after seeding for added protection.
    - Permanent Seeding:
      a. Soil: Any soil having a pH of 4 or less or containing iron sulfides shall be covered with a minimum of 12 inches of soil having a pH of 6.5 or more prior to seedbed preparation.
      b. Seed bed preparation: Loosen soil to a depth of 4–6 inches.
      c. Lime: Lime to pH 6.5
      d. Fertilizer: 850 lbs per Acre 5–10–10 incorporated 4 inches into soil.
      e. Seed: Seed mixture to be 65%%% Kentucky bluegrass blend @ 85–114 lbs/ac, 20% perennial rye grass @ 26–35 lbs/ac and 15% fine fescue @19–26 lbs/ac.
      f. Shade Areas: For well to somewhat poorly drained soils seed mixture to be 65% fine fescue @ 114–143 lbs/ac, 15% perennial ryegrass @ 26–33 lbs/ac., and 20% Kentucky bluegrass blend @ 35–44 lbs/ac.
      For somewhat poor to poorly drained soils, seed mixture too be 70% rough bluegrass @ 60–91 lbs/ac. and 30% blend of shade tolerant Kentucky bluegrass @ 25–39 l



NOTES:

1. PUD MASTER PLAN APPROVED BY CITY OF GLEN COVE PLANNING BOARD ON 12/19/2011.
2. THIS PLAN HAS BEEN PROVIDED FOR INFORMATIONAL PURPOSES AND DOES NOT REFLECT PROPOSED DESIGN OF PHASE I IMPROVEMENTS AS INCLUDED IN THE PHASE I SITE PLAN SET. IT IS INTENDED FOR OVERALL UNDERSTANDING OF THE PUD MASTER PLAN. SEE INDIVIDUAL SITE PLANS FOR EACH PHASE FOR THE MOST CURRENT DESIGN.
3. PHASE I SITE PLAN INCLUDES TEMPORARY GRADING AND DRAINAGE IMPROVEMENTS ON ADJACENT BLOCKS (B, D, E, F & G) - SEE PHASE I SITE PLANS.

REV. / ISSUE	DATE	DESCRIPTION
1	5/23/14	REV. PER CITY COMMENTS
2	8/14/14	REV. PER CITY COMMENTS
3	1/22/15	PROGRESS SET
4	4/10/15	PROGRESS SET
5	7/30/15	ISSUED FOR BUILDING PERMIT
6	2/19/16	ISSUED FOR PRICING
~~7~~	~~3/31/16~~	~~ISSUED FOR BID SET~~
8	8/08/16	ISSUED FOR BID
9	12/22/16	REV. PER CITY COMMENTS
10	12/23/16	ADDENDUM No. 1
11	1/06/17	PARCEL B (BLDG H) EWP
12	2/24/17	SWPPP REVISIONS
13	3/08/17	PARCEL A, DOXEY AND GLADSKY PROPERTIES, EWP'S

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ORIENTATION / KEY PLAN

NORTH

GRAPHIC SCALE
150 0 75 150 300
(IN FEET)
1 inch = 150 ft.

PAULUS, SOKOLOWSKI AND SARTOR ENGINEERING, P.C.
67B MOUNTAIN BLVD EXT.
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PHONE: (732) 560-0700

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JOSEPH J. FLEMING, P.E.
PROFESSIONAL ENGINEER
N.Y. LIC. NO. 66591

SIGNATURE DATE

CLIENT

RXR GLEN ISLE PARTNERS LLC

PROJECT

GARVIES POINT WATERFRONT REDEVELOPMENT PHASE I

CITY OF GLEN COVE, NASSAU COUNTY, NEW YORK

SHEET TITLE

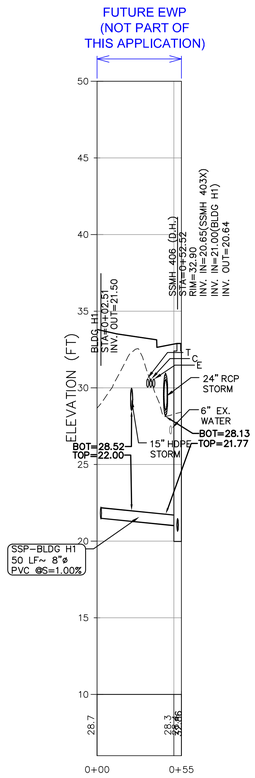
PUD MASTER PLAN

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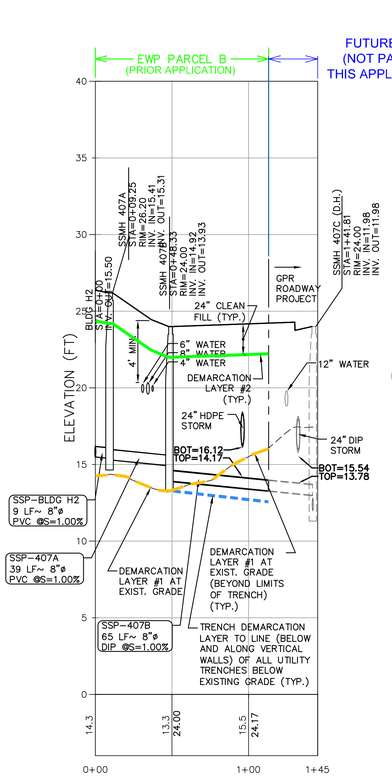
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SHEET OF
SHEET NO.

C-27

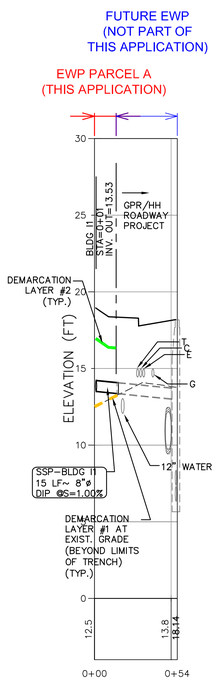
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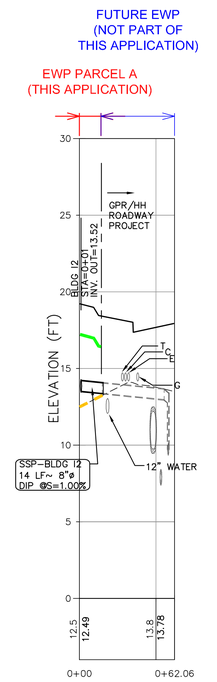
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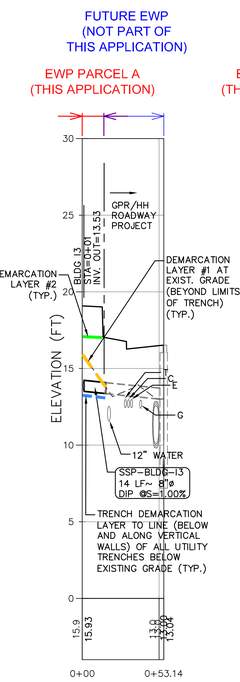
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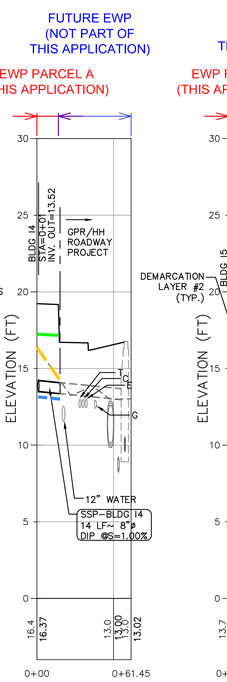
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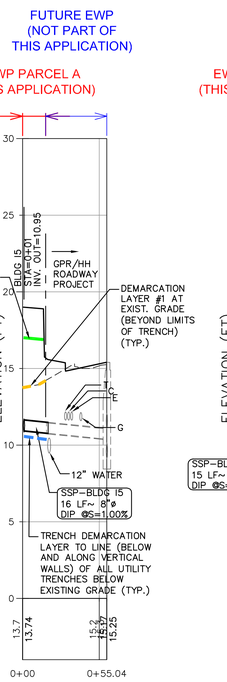
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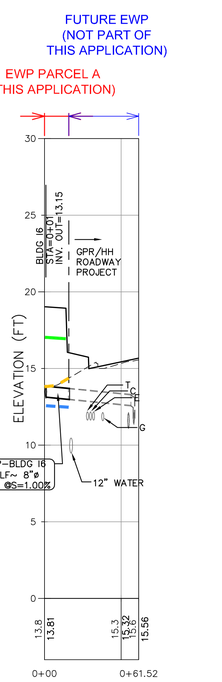
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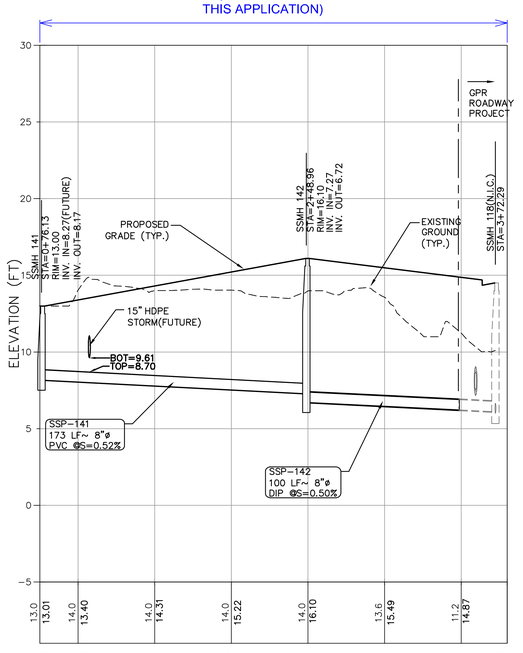
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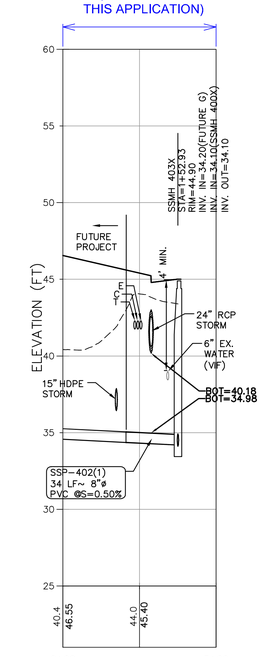
BLDG I5



BLDG I6



SSMH 141 TO SSMH 118
(ROAD D IMPROVEMENTS)



BLDG G1 TO SSMH 403X

DEMARCATION LEGEND

- DEMARCATION LAYER #1
- TRENCH DEMARCATION LAYER
- DEMARCATION LAYER #2

REV. / ISSUE	DATE	DESCRIPTION
1	6/3/14	REV. PER CITY COMMENTS
2	8/14/14	REV. PER CITY COMMENTS
3	1/22/15	PROGRESS SET
4	4/10/15	PROGRESS SET
5	7/30/15	ISSUED FOR BUILDING PERMIT
6	2/19/16	ISSUED FOR PRICING
~~7~~	~~3/31/16~~	~~ISSUED FOR BID SET~~
8	8/08/16	ISSUED FOR BID
9	12/22/16	REV. PER CITY COMMENTS
10	12/23/16	ADDENDUM No. 1
11	1/06/17	PARCEL B (BLDG H) EWP
12	3/08/17	PARCEL A, DOXEY AND GLADSKY PROPERTIES EWP'S

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fax. 212. 477. 6548

ORIENTATION / KEY PLAN

HORIZONTAL GRAPHIC SCALE
40 0 20 40 80
(IN FEET)
1 inch = 40 ft.

VERTICAL GRAPHIC SCALE
4 0 2 4 8
(IN FEET)
1 inch = 4 ft.

PAULUS, SOKOLOWSKI AND SARTOR ENGINEERING, P.C.
67B MOUNTAIN BLVD EXT.
P.O. BOX 4039
WARREN, NEW JERSEY 07059
PHONE: (732) 560-9700

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JOSEPH J. FLEMING, P.E.
PROFESSIONAL ENGINEER
N.Y. LIC. NO. 66591

SIGNATURE DATE

CLIENT

RXR GLEN ISLE PARTNERS LLC

PROJECT

GARVIES POINT WATERFRONT REDEVELOPMENT PHASE I

CITY OF GLEN COVE, NASSAU COUNTY, NEW YORK

SHEET TITLE

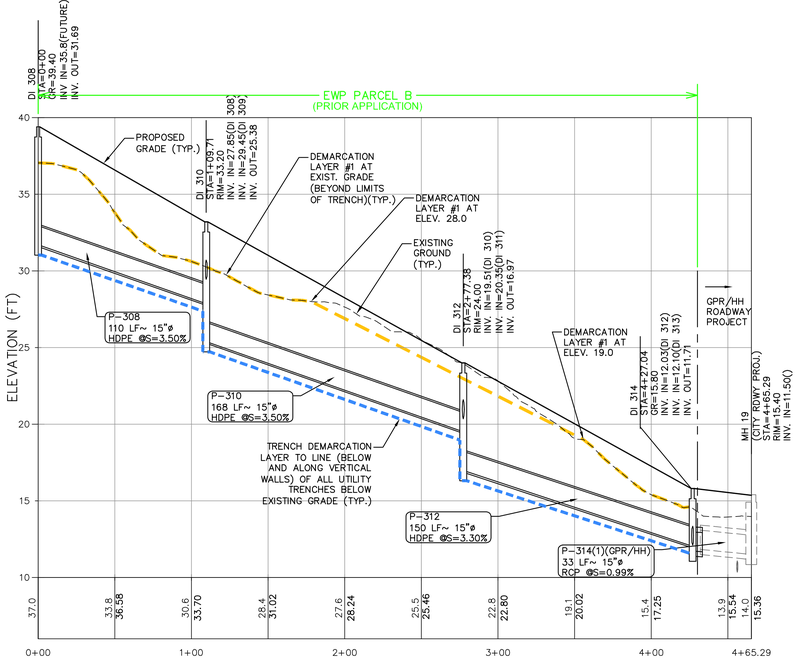
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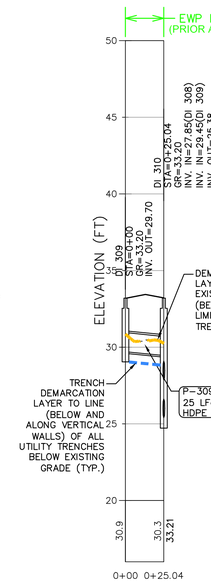
JOB NO.: 03610-0002
DATE: 06/03/2014
DRAWN: GY
CHECK: PAR
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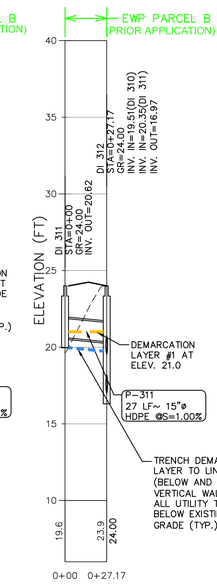
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SHEET OF
SHEET NO.

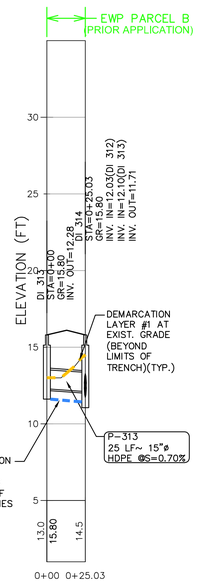
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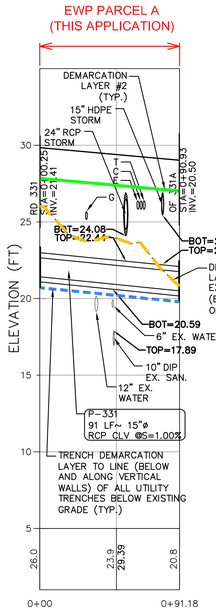
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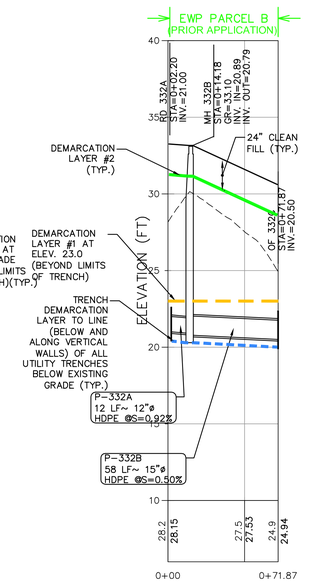


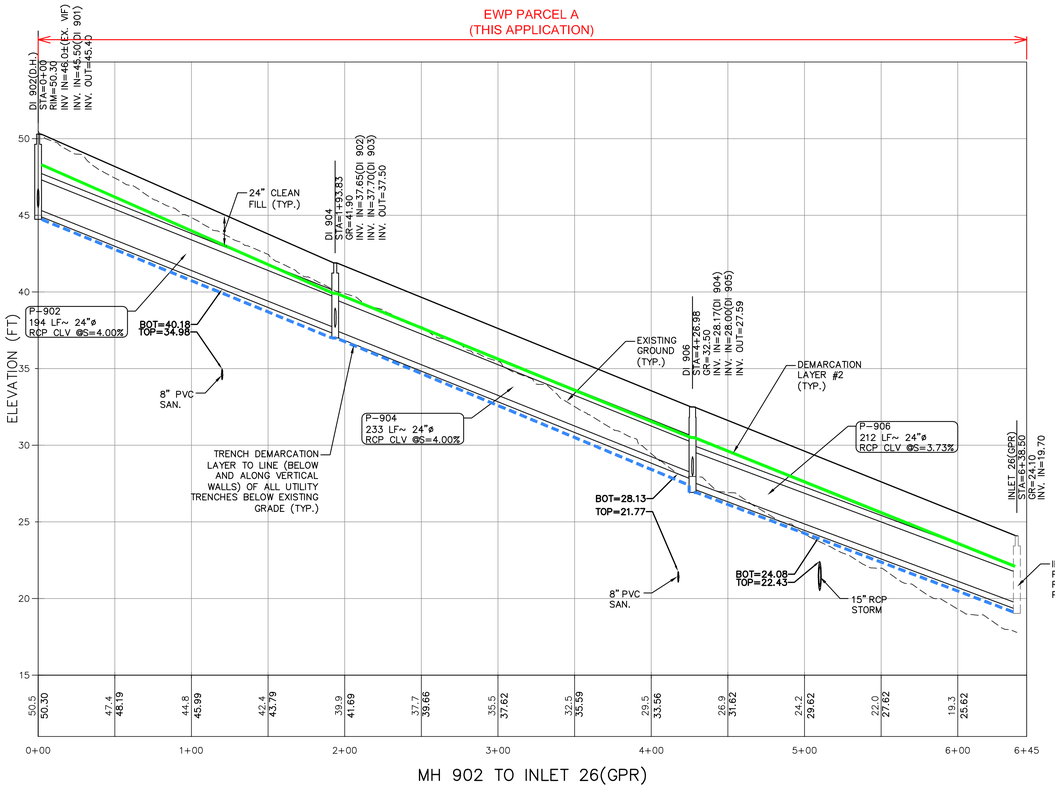


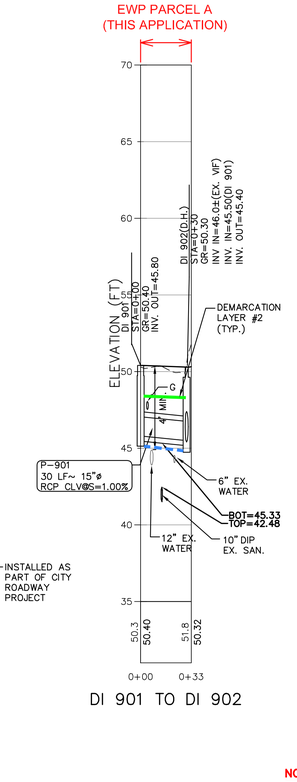


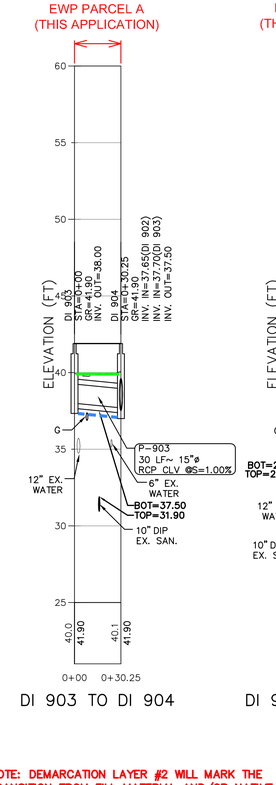


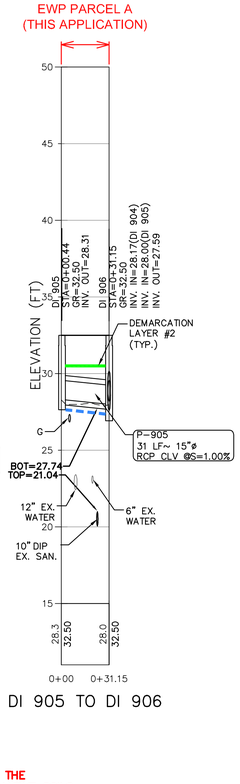


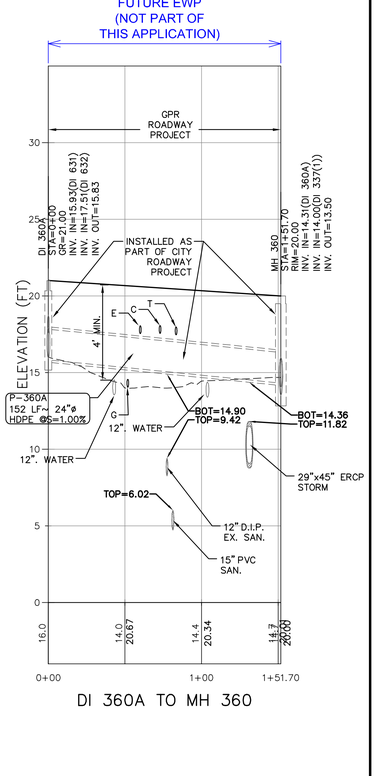












NOTE: DEMARCATION LAYER #2 WILL MARK THE TRANSITION FROM FILL MATERIAL AND/OR NATIVE SOILS TO CLEAN COVER MATERIAL. AT A MINIMUM, DEMARCATION LAYER #2 WILL BE INSTALLED IN OPEN AREAS OUTSIDE THE FOOTPRINT OF BUILDINGS, HARDSCAPES, OR IMPERVIOUS COVER MATERIAL. DEMARCATION LAYER #2 MAY ALSO BE INSTALLED BENEATH THE FOOTPRINT OF BUILDINGS HARDSCAPES, AND IMPERVIOUS COVER MATERIAL.

DEMARCATION LEGEND

- DEMARCATION LAYER #1
- TRENCH DEMARCATION LAYER
- DEMARCATION LAYER #2

REV. / ISSUE	DATE	DESCRIPTION
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9	12/22/16	REV. PER CITY COMMENTS
10	12/23/16	ADDENDUM No. 1
11	1/06/17	PARCEL B (BLDG H) EWP
12	2/17/17	REV. PER NYSDEC COMMENTS
13	3/08/17	PARCEL A, DOKEY AND GLADSKY PROPERTIES EWP'S

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ORIENTATION / KEY PLAN

HORIZONTAL GRAPHIC SCALE
40 0 20 40 80
(IN FEET)
1 inch = 40 ft.

VERTICAL GRAPHIC SCALE
4 0 2 4 8
(IN FEET)
1 inch = 4 ft.

PAULUS, SOKOLOWSKI AND SARTOR ENGINEERING, P.C.
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JOSEPH J. FLEMING, P.E.
PROFESSIONAL ENGINEER
N.Y. LIC. NO. 66591

SIGNATURE DATE

CLIENT

RXR GLEN ISLE PARTNERS LLC

PROJECT

GARVIES POINT WATERFRONT REDEVELOPMENT PHASE I

CITY OF GLEN COVE, NASSAU COUNTY, NEW YORK

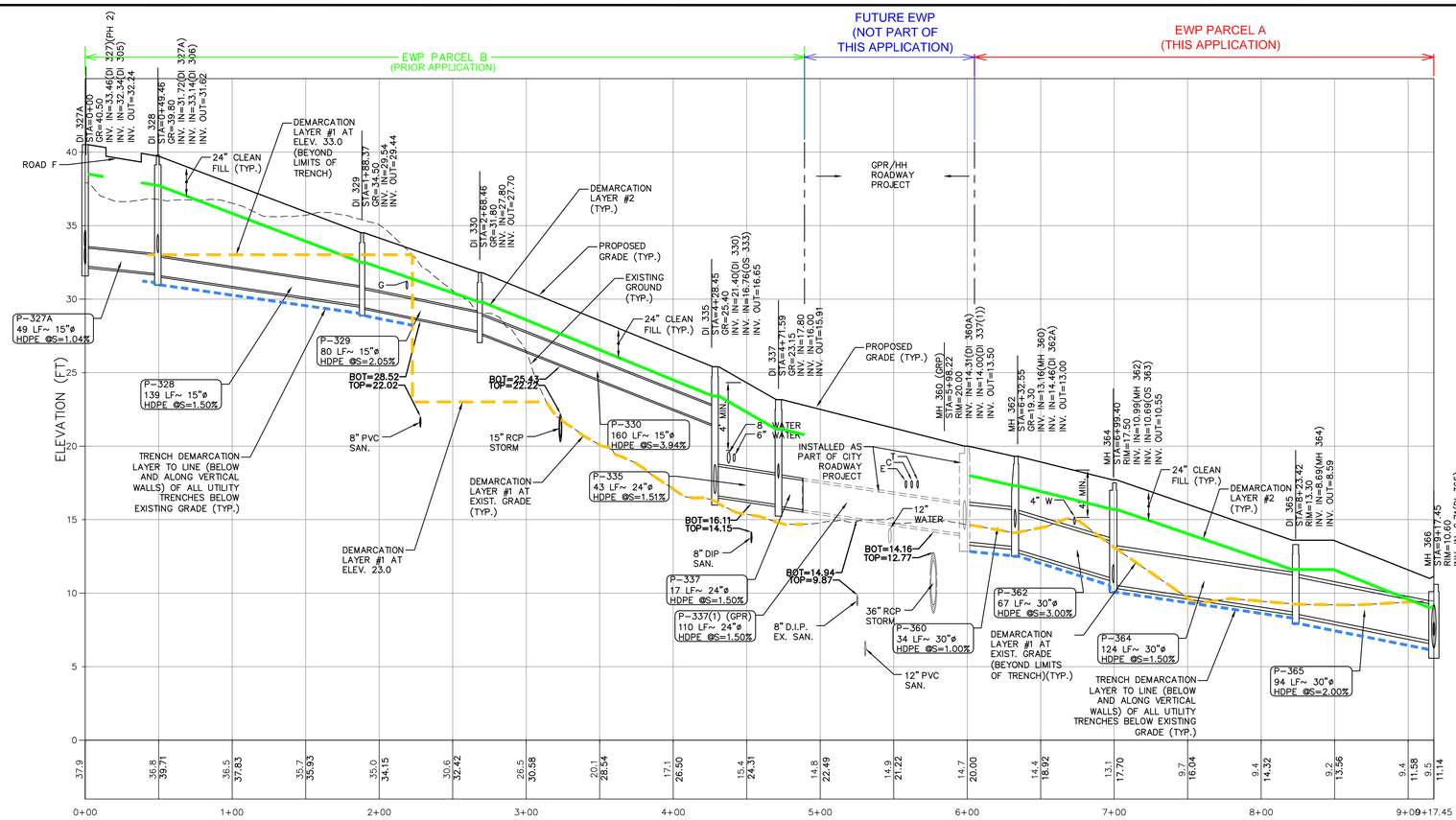
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STORM SEWER PROFILES

JOB NO.: 03610-0002
DATE: 06/03/2014
DRAWN: GY
CHECK: PAR
SCALE: 1"=40'H, 1"=4'V

BINDING ORDER:
SHEET OF
SHEET NO.

C-29



REV. / ISSUE	DATE	DESCRIPTION
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2	8/14/14	REV. PER CITY COMMENTS
3	1/22/15	PROGRESS SET
4	4/10/15	PROGRESS SET
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11	1/06/17	PARCEL B (BLDG H) EWP
12	3/08/17	PARCEL A, DOXEY AND GLADSKY PROPERTIES EWP'S

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ORIENTATION / KEY PLAN

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40 0 20 40 80
(IN FEET)
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VERTICAL GRAPHIC SCALE
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PROFESSIONAL ENGINEER
N.Y. LIC. NO. 66591

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CITY OF GLEN COVE, NASSAU COUNTY, NEW YORK

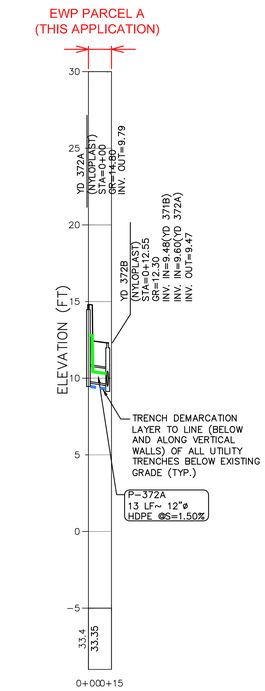
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STORM SEWER PROFILES

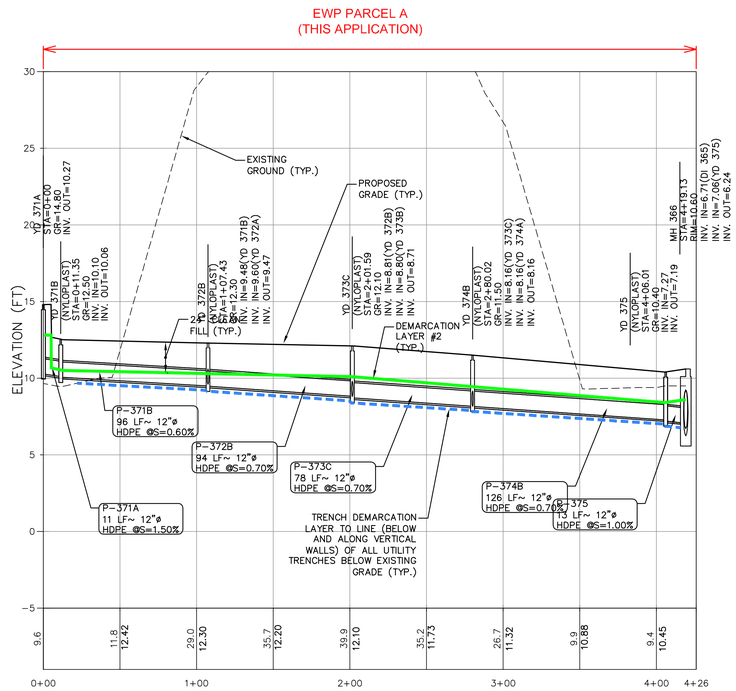
JOB NO.: 03610-0002
DATE: 06/03/2014
DRAWN: GY
CHECK: PAR
SCALE: 1"=40'H, 1"=4'V

BINDING ORDER:
SHEET OF
SHEET NO.

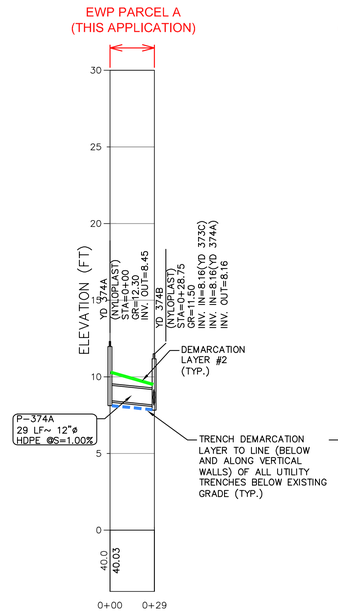
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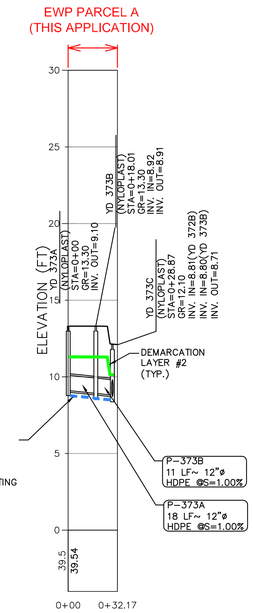
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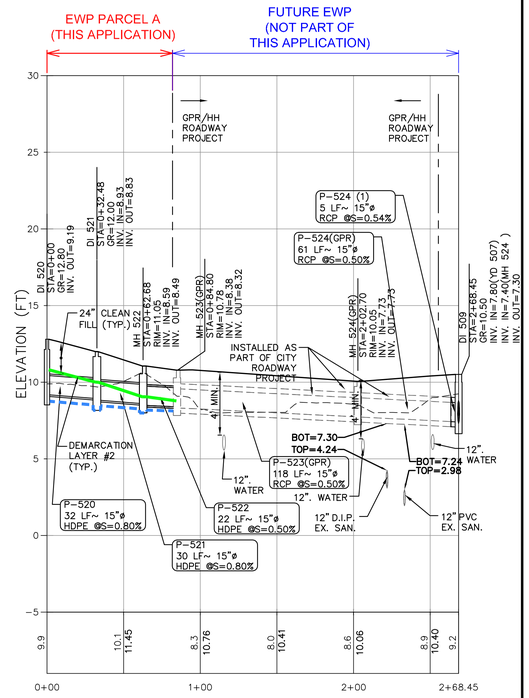
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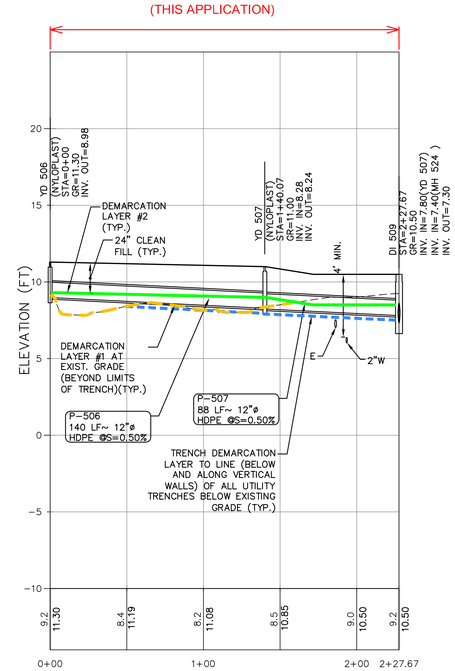
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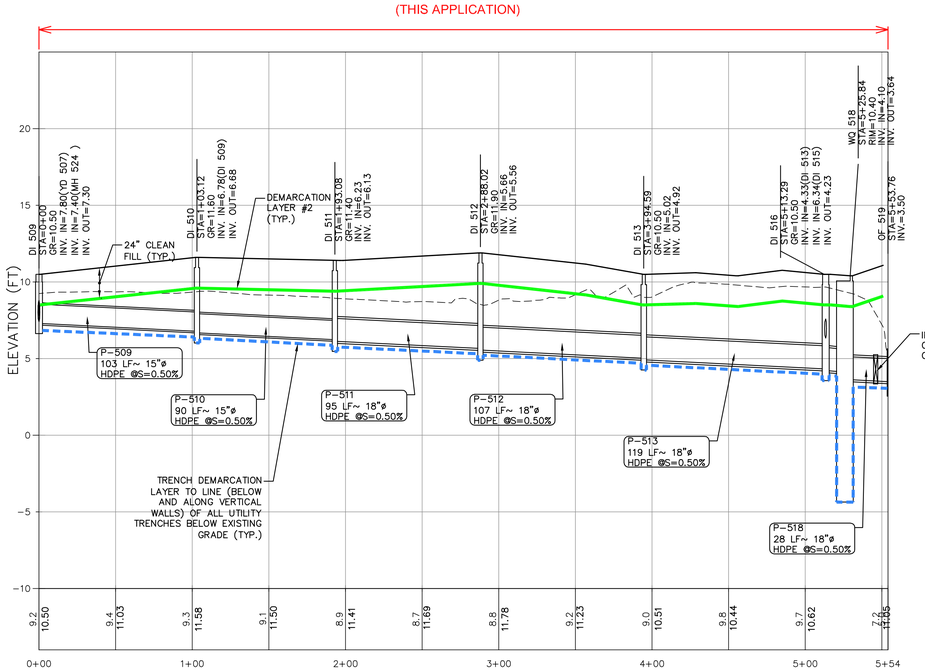
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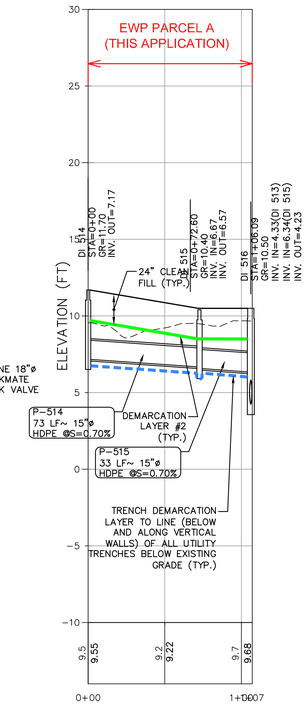
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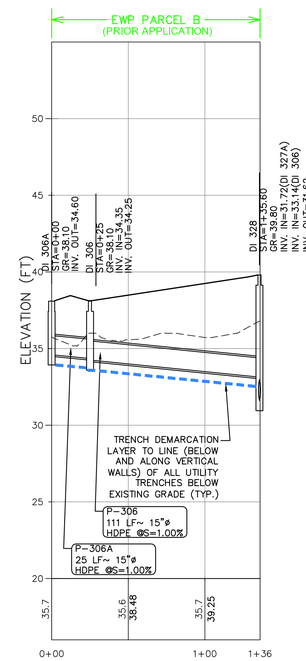
YD 506 TO DI 509



DI 509 TO OF 519



DI 514 TO DI 516



DI 306A TO DI 328

DEMARCATION LEGEND

- DEMARCATION LAYER #1
- TRENCH DEMARCATION LAYER
- DEMARCATION LAYER #2

REV. / ISSUE	DATE	DESCRIPTION
1	6/3/14	REV. PER CITY COMMENTS
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ORIENTATION / KEY PLAN

HORIZONTAL GRAPHIC SCALE
40 0 20 40 80
(IN FEET)
1 inch = 40 ft.

VERTICAL GRAPHIC SCALE
4 0 2 4 8
(IN FEET)
1 inch = 4 ft.

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JOSEPH J. FLEMING, P.E.
PROFESSIONAL ENGINEER
N.Y. LIC. NO. 66591

SIGNATURE DATE

CLIENT

RXR GLEN ISLE PARTNERS LLC

PROJECT

GARVIES POINT WATERFRONT REDEVELOPMENT PHASE I

CITY OF GLEN COVE, NASSAU COUNTY, NEW YORK

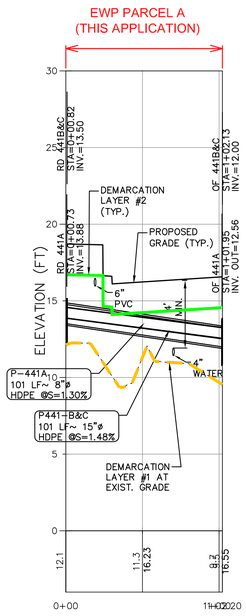
SHEET TITLE

STORM SEWER PROFILES

JOB NO.: 03610-0002
DATE: 06/03/2014
DRAWN: GY
CHECK: PAR
SCALE: 1"=40'H, 1"=4'V

BINDING ORDER:
SHEET OF
SHEET NO.

C-31



DEMARCATION LEGEND

- DEMARCATION LAYER #1
- TRENCH DEMARCATION LAYER
- DEMARCATION LAYER #2

REV. / ISSUE	DATE	DESCRIPTION
1	6/3/14	REV. PER CITY COMMENTS
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3	1/22/15	PROGRESS SET
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~~7~~	~~3/31/16~~	~~ISSUED FOR BID SET~~
8	8/08/16	ISSUED FOR BID
9	12/22/16	REV. PER CITY COMMENTS
10	12/23/16	ADDENDUM No. 1
11	1/06/17	PARCEL B (BLDG H) EWP
12	3/08/17	PARCEL A, DOXEY AND GLADSKY PROPERTIES EWP'S

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fax. 212. 477. 6548

ORIENTATION / KEY PLAN

HORIZONTAL GRAPHIC SCALE
40 0 20 40 80
(IN FEET)
1 inch = 40 ft.

VERTICAL GRAPHIC SCALE
4 0 2 4 8
(IN FEET)
1 inch = 4 ft.

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JOSEPH J. FLEMING, P.E.
PROFESSIONAL ENGINEER
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SIGNATURE DATE

CLIENT

RXR GLEN ISLE PARTNERS LLC

PROJECT

GARVIES POINT WATERFRONT REDEVELOPMENT PHASE I

CITY OF GLEN COVE, NASSAU COUNTY, NEW YORK

SHEET TITLE

STORM SEWER PROFILES

JOB NO.: 03610-0002
DATE: 06/03/2014
DRAWN: GY
CHECK: PAR
SCALE: 1"=40'H, 1"=4'V

BINDING ORDER:
SHEET OF
SHEET NO.

C-32

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67B Mountain Boulevard Extension
P.O. Box 4039
Warren, NJ 07059
732.560.9700

PARCEL A EARTHWORK CALCULATIONS

DATE:	3/7/2017
REVISION DATE:	
PROJECT NO.:	03610-0002
PROJECT NAME:	**Garvies Point Waterfront Redevelopment - Phase I Building I, Marina Building 1 & Anglers Club Construction**
PROJECT TOWN:	City of Glen Cove, Nassau County, New York
PREPARED BY:	BSL/GY

Global Earthwork	**Cut**	**Fill**
Gladsky		
General	6,332 CY	2,151 CY
Doxey		
General	691 CY	-
Low Sill	2,983 CY	-
Parcel A		
General	-	68,000 CY*
Low Sill	2,877 CY	-
Transient Marina	24,761 CY	-
Earthwork Volumes	**37,644 CY**	**70,151 CY**

*Parcel A volume does not include dredge spoils

Trenching Volumes	**Volume 1**	**Volume 2**
RD 331 to OF 331A	34 CY	38 CY
DI 902 to DI 904	70 CY	0 CY
DI 904 to DI 906	79 CY	0 CY
DI 906 to Inlet 26 (GPR)	78 CY	0 CY
DI 901 to DI 902	11 CY	0 CY
DI 903 to DI 904	9 CY	0 CY
DI 905 to DI 906	10 CY	0 CY
MH 360 (GPR) to MH 362	6 CY	11 CY
MH 362 to MH 364	22 CY	16 CY
MH 364 to DI 365	15 CY	47 CY
DI 365 to MH 366	23 CY	14 CY
YD 368A to YD 368B	13 CY	0 CY
YD 368B to DI 368D	2 CY	0 CY
OS 333 to DI 335	0 CY	14 CY
OS 363 to MH 364	16 CY	14 CY
DI 362A to MH 362	0 CY	10 CY
DI 368C to DI 368D	16 CY	0 CY
DI 368D to MH 367	7 CY	0 CY
YD 367A to YD 367B	24 CY	0 CY
YD 367B to MH 367	6 CY	0 CY
MH 366 to MH 367	42 CY	0 CY
MH 367 to WQ 390	90 CY	0 CY
WQ 390 to MH 394	15 CY	0 CY
MH 394 to OF 395	61 CY	0 CY
YD 372A to YD 372B	2 CY	0 CY
YD 371A to YD 371B	0 CY	3 CY
YD 371B to YD 372B	11 CY	0 CY
YD 372B to YD 373C	14 CY	0 CY
YD 373C to YD 374B	14 CY	0 CY
YD 374B to YD 375	21 CY	0 CY
YD 375 to MH 366	3 CY	0 CY
YD 374A to YD 374B	6 CY	0 CY
YD 373A to YD 373B	5 CY	0 CY
YD 373B to YD 373C	3 CY	0 CY
DI 520 to DI 521	6 CY	0 CY
DI 521 to MH 522	4 CY	0 CY
MH 522 to MH 523 (GPR)	2 CY	0 CY
YD 506 to YD 507	14 CY	1 CY
YD 507 to DI 509	8 CY	1 CY
DI 509 to DI 510	28 CY	0 CY
DI 510 to DI 511	34 CY	0 CY
DI 511 to DI 512	44 CY	0 CY
DI 512 to DI 513	51 CY	0 CY
DI 513 to DI 516	56 CY	0 CY
DI 516 to WQ 518	12 CY	0 CY
WQ 518 to OF 519	21 CY	0 CY
DI 514 to DI 515	21 CY	0 CY
DI 515 to DI 516	9 CY	0 CY
RD 441A to OF 441A	0 CY	45 CY
DI 448 to MH 449	0 CY	11 CY
OS 443 to MH 444	3 CY	6 CY
MH 444 to WQ 445	21 CY	35 CY
WQ 445 to MH 460	18 CY	3 CY
DI 447 to MH 449	0 CY	9 CY
DI 451 to MH 452	1 CY	6 CY
DI 450 to MH 452	3 CY	4 CY
MH 449 to MH 452	10 CY	21 CY
MH 452 to MH 457	12 CY	6 CY
DI 470 to DI 471	5 CY	0 CY
DI 471 to MH 472	10 CY	2 CY
MH 472 to MH 480	17 CY	3 CY
DI 453 to DI 455	24 CY	3 CY
DI 455 to DI 456	5 CY	13 CY
DI 456 to MH 457	8 CY	7 CY
MH 457 to DI 458	23 CY	0 CY
DI 458 to WQ 459	11 CY	0 CY
WQ 459 to MH 460	12 CY	0 CY
MH 460 to MH 480	14 CY	0 CY
MH 480 to MH 483	39 CY	8 CY
MH 483 to OF 484	7 CY	7 CY
YD 481 to WQ 482	3 CY	2 CY
WQ 482 to MH 483	0 CY	3 CY
YD 456A to YD 456B	0 CY	15 CY
YD 456B to DI 456	1 CY	7 CY
YD 458A to DI 458	2 CY	2 CY
Irrigation Chamber #2	268 CY	-
Irrigation Chamber #3	442 CY	184 CY
Total	**1,996 CY**	**570 CY**

Clean Fill Cap	
Gladsky	1,970 CY
Doxey	1,494 CY
Parcel A	10,879 CY
Total	**14,343 CY**

Total Earthwork	**Cut**	**Fill**
Earthwork Average Volumes	37,644 CY	70,151 CY
Trenching Volume Adjustment	1,996 CY	1,996 CY
Total Earthwork Values	**39,640 CY**	**72,147 CY**

NOTES:
1. ALL EARTHWORK OPERATIONS MUST COMPLY WITH THE PROVISIONS CONTAINED IN THE SITE SPECIFIC EXCAVATION WORK PLANS (EWP'S) AND DREDGING AND EXCAVATION WORK PLAN (DEWP).
2. REFER TO SITE CROSS SECTIONS AND ENGINEERING CONTROLS DETAILS (C-34) FOR SPECIFIC REQUIREMENTS REGARDING PLACEMENT OF CLEAN FILL AND DEMARCATION LAYER.

REV. / ISSUE	DATE	DESCRIPTION
1	8/14/14	REV. PER CITY COMMENTS
2	1/22/15	PROGRESS SET
3	4/10/15	PROGRESS SET
4	7/30/15	ISSUED FOR BUILDING PERMIT
5	2/19/16	ISSUED FOR PRICING
6	3/31/16	ISSUED FOR BID SET
7	8/08/16	ISSUED FOR BID
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9	1/06/17	PARCEL B (BLDG H) EWP
10	3/08/17	PARCEL A, DOXEY AND GLADSKY PROPERTIES EWP'S

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ORIENTATION / KEY PLAN

NORTH

GRAPHIC SCALE
120 0 60 120 240
(IN FEET)
1 inch = 60 ft.

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N.Y. LIC. NO. 66591

SIGNATURE DATE

CLIENT

RXR GLEN ISLE PARTNERS LLC

PROJECT

GARVIES POINT WATERFRONT REDEVELOPMENT PHASE I

CITY OF GLEN COVE, NASSAU COUNTY, NEW YORK

SHEET TITLE

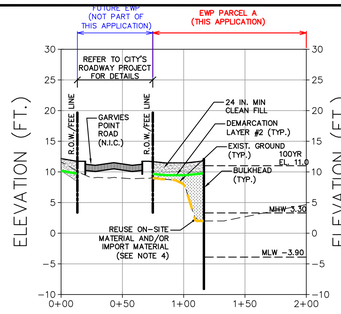
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DATE:	8/14/2014
DRAWN:	GY
CHECK:	PAR
SCALE:	1"=60'

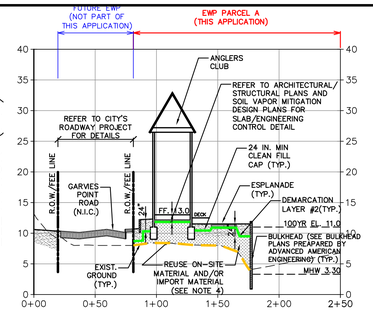
BINDING ORDER:
SHEET OF
SHEET NO.

C-33

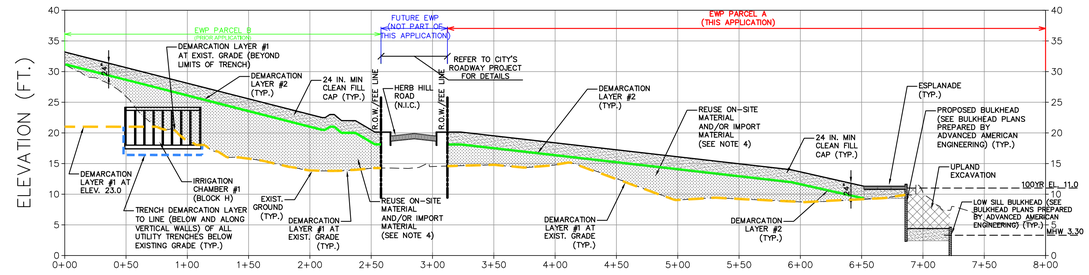
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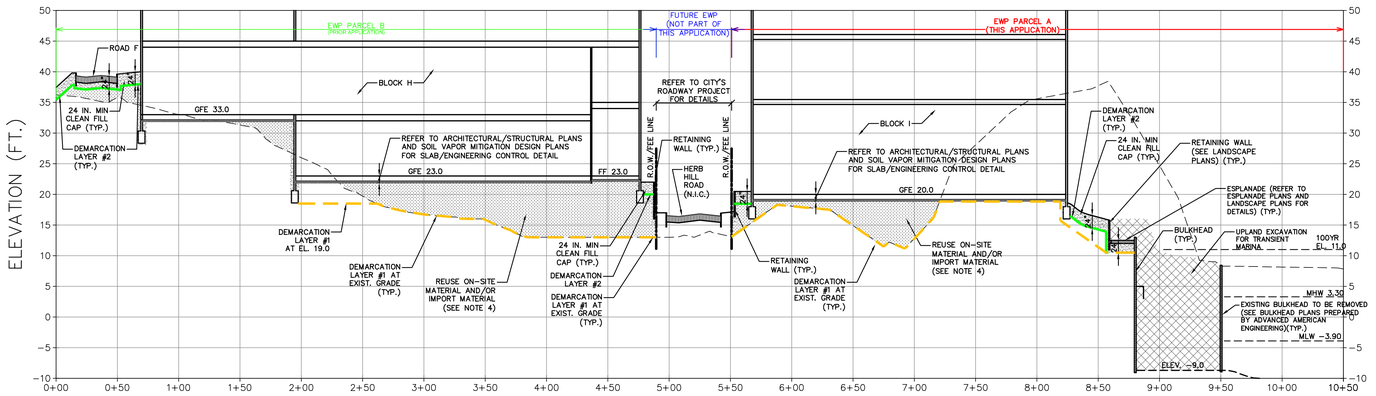
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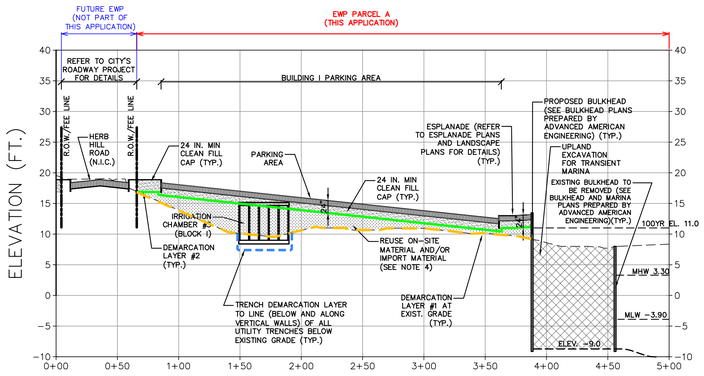
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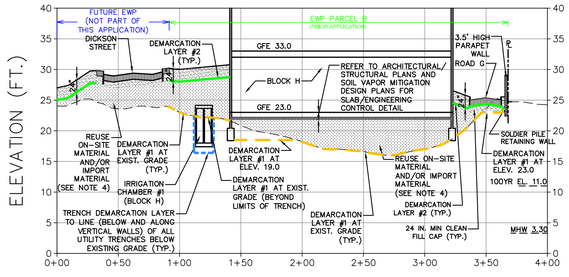
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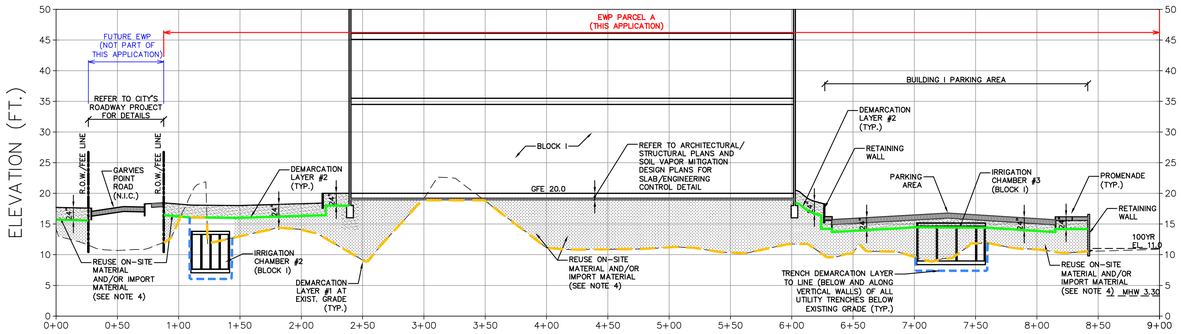
SECTION 4–4



SECTION 5–5



SECTION 6–6



SECTION 7–7

NOTES:

1. ALL EARTHWORK OPERATIONS MUST COMPLY WITH THE PROVISIONS CONTAINED IN THE SITE SPECIFIC EXCAVATION WORK PLANS (EWP'S) AND DREDGING AND EXCAVATION WORK PLAN (DEWP).
2. DEMARCATION LAYER SHALL CONSIST OF ORANGE SNOW FENCING MATERIAL, WHITE GEOTEXTILE, OR EQUIVALENT MATERIAL AS APPROVED BY THE QEP.
3. REFER TO SITE DETAILS AND LANDSCAPE PLANTING DETAILS FOR PLACEMENT OF ENGINEERING CONTROLS FOR THE VARIOUS SITE IMPROVEMENTS.
4. REUSE ON–SITE MATERIAL AND/OR IMPORT MATERIAL TO BE IN ACCORDANCE WITH ENVIRONMENTAL SPECIFICATIONS, DRAWING EN–3 (SECTIONS 10.0) & 12.0), PREPARED BY P.W. GROSSER CONSULTING, INC.

DEMARCATION LEGEND

- DEMARCATION LAYER #1
- TRENCH DEMARCATION
- DEMARCATION LAYER #2

REV./ ISSUE	DATE	DESCRIPTION
1	8/14/14	REV. PER CITY COMMENTS
2	1/22/15	PROGRESS SET
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4	7/30/15	ISSUED FOR BUILDING PERMIT
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9	12/23/16	ADDENDUM No. 1
10	1/06/17	PARCEL B (BLDG H) EWP
11	2/17/17	REV. PER NYSDEC COMMENTS
12	3/08/17	PARCEL A, DOXEY AND GLADSKY PROPERTIES EWP'S

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ORIENTATION / KEY PLAN

HORIZONTAL SCALE

50 0 25 50 100

(IN FEET)
1 inch = 50 ft.

VERTICAL SCALE

10 0 5 10 20

(IN FEET)
1 inch = 10 ft.

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PROFESSIONAL ENGINEER
N.Y. LIC. NO. 66591

SIGNATURE DATE

CLIENT

RXR GLEN ISLE PARTNERS LLC

PROJECT

GARVIES POINT WATERFRONT REDEVELOPMENT PHASE I

CITY OF GLEN COVE, NASSAU COUNTY, NEW YORK

SHEET TITLE

SITE CROSS SECTIONS AND ENGINEERING CONTROLS DETAILS

JOB NO.: 03610-0002
DATE: 8/14/2014
DRAWN: GY
CHECK: PAR
SCALE: 1"=50' H, 1"=10' V

BINDING ORDER:
SHEET OF
SHEET NO.

C-34

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APPENDIX E

COMMUNITY AIR MONITORING PLAN

P.W. GROSSER CONSULTING, INC.
PROJECT No. RGI1701

COMMUNITY AIR MONITORING PLAN

GARVIES POINT WATERFRONT REVITALIZATION PROJECT
GELN COVE, NEW YORK

SUBMITTED:
JULY 2017

PREPARED FOR:
New York State Department of Environmental Conservation
Division of Environmental Remediation
Remedial Bureau A, Section C
625 Broadway
Albany, New York 12233

ON BEHALF OF:
RXR-Glen Isle Partners, LLC
625 RXR Plaza
Uniondale, New York 11556

PREPARED BY:
P.W. Grosser Consulting Engineer & Hydrogeologist, P.C.
630 Johnson Avenue, Suite 7
Bohemia, New York 11716

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1.0 INTRODUCTION 1
1.1 Regulatory Requirements 1
2.0 AIR MONITORING 2
2.1 Real-Time Monitoring 2
2.1.1 Work Area 2
2.1.2 Community Air Monitoring Requirements 2
3.0 VAPOR EMISSION RESPONSE PLAN 5
4.0 MAJOR VAPOR EMISSION RESPONSE PLAN 6
5.0 VAPOR SUPPRESSION TECHNIQUES 7
6.0 DUST SUPPRESSION TECHNIQUES 8
7.0 DATA QUALITY ASSURANCE 9
7.1 Calibration 9
7.2 Operations 9
7.3 Data Review 9
8.0 RECORDS AND REPORTING 10

1.0 INTRODUCTION

This Community Air Monitoring Plan (CAMP) provides measures for protection for on-site workers and the downwind community (i.e., off-site receptors including residences, businesses, and on-site workers not directly involved) from potential airborne contaminant releases resulting from construction at the Gladsky Marine Site, Glen Cove, New York.

The action levels specified herein require increased monitoring, corrective actions to abate emissions, and/or work shutdown. Additionally, the CAMP helps to confirm that the construction work did not spread contamination off-site through the air.

The primary concerns for this site are metals and dust particulates.

1.1 Regulatory Requirements

This CAMP was established in accordance with the following requirements:

- 29 Code of Federal Regulations (CFR) 1910.120(h): This regulation specifies that air shall be monitored to identify and quantify levels of airborne hazardous substances and health hazards, and to determine the appropriate level of protection for workers.
- New York State Department of Health's (NYSDOH) Generic Community Air Monitoring Plan: This guidance specifies that a community air-monitoring program shall be implemented to protect the surrounding community and to confirm that the work does not spread contamination off-site through the air.
- New York State Department of Environmental Conservation (NYSDEC) Technical and Guidance Memorandum (TAGM) #4031 - Fugitive Dust Suppression and Particulate Monitoring Program at Inactive Hazardous Waste Sites: This guidance provides a basis for developing and implementing a fugitive dust suppression and particulate monitoring program as an element of a hazardous waste site's health and safety program.

2.0 AIR MONITORING

The following sections contain information describing the types, frequency and location of real-time monitoring.

2.1 Real-Time Monitoring

This section addresses the real-time monitoring that will be conducted within the work area, and along the site perimeter, during intrusive activities such as excavation, manipulation of soil piles, soil sampling, etc.

2.1.1 *Work Area*

The following instruments will be used for work area monitoring:

- Photoionization Detector (PID)
- Dust Monitor

Table 1-1 presents a breakdown of each main activity and provides the instrumentation, frequency and location of the real-time monitoring for the site. Table 1-2 lists the Real-Time Air Monitoring Action Levels to be used in all work areas.

2.1.2 *Community Air Monitoring Requirements*

To establish ambient air background concentrations, air will be monitored at several locations around the site perimeter before excavation activities begin. These points will be monitored periodically in series during the site work.

Fugitive respirable dust will be monitored using a Thermo Electron Corporation Model pDR-1000AN/1200 aerosol monitor or equivalent. Air will be monitored for volatile organic compounds (VOCs) with a portable Photovac MicroTip PID, or equivalent. Table 1-1 presents a breakdown of each main activity and provides the instrumentation, frequency and location of the real-time monitoring for the site. Table 1-2 lists the Real-Time Air Monitoring Action Levels to be used in all work areas. Air monitoring data is documented in a site log book by the designated site safety officer. PWGC's site safety officer or delegate must ensure that air monitoring instruments are calibrated and maintained in accordance with manufacturer's specifications. Instruments will be zeroed daily and checked for accuracy. A daily log will be kept. If additional monitoring is required, the protocols will be developed and appended to this plan.

Table 1-1
Frequency and Location of Air Monitoring

ACTIVITY	AIR MONITORING INSTRUMENT	FREQUENCY AND LOCATION
Sampling & Excavation	PID, Dust Monitor	Continuous in Breathing Zone (BZ) during intrusive activities or if odors become apparent, screening in the BZ every 30 minutes during non-intrusive activities Every 60 minutes at the perimeter during intrusive activities

Table 1-2
Real-Time Air Monitoring Action Levels

AIR MONITORING INSTRUMENT	MONITORING LOCATION	ACTION LEVEL	SITE ACTION	REASON
PID	Breathing Zone	0-25 ppm, non-transient	None	Exposure below established exposure limits
PID	Breathing Zone	25-100 ppm, non-transient	Don APR	Based on potential exposure to VOCs
PID	Breathing Zone	>100 ppm, non-transient	Don ASR or SCBA, Institute vapor/odor suppression measures, Notify HSM.	Increased exposure to site contaminants, potential for vapor release to public areas.
PID	Work Area Perimeter	< 5 ppm	None	Exposure below established exposure limits.
PID	Work Area Perimeter	> 5 ppm	Stop work and implement vapor release response plan until readings return to acceptable levels, Notify HSM.	Increased exposure to site contaminants, potential for vapor release to public areas
Aerosol Monitor	Work Area Perimeter	>100 but < 150 $\mu g/m^3$ for 15 minutes	Institute dust suppression measures, Notify HSM.	Work to continue if particulate concentrations remain below 150 $\mu g/m^3$

AIR MONITORING INSTRUMENT	MONITORING LOCATION	ACTION LEVEL	SITE ACTION	REASON
Aerosol Monitor	Work Area Perimeter	>150 µg/m^3	Don ASR or SCBA, Institute dust suppression measures, Notify HSM.	Stop work and implement dust suppression techniques until readings return to acceptable levels, Notify HSM.

3.0 VAPOR EMISSION RESPONSE PLAN

This section is excerpted from the NYSDOH guidance for Community Air Monitoring Plan - Ground Intrusive Activities.

If the ambient air concentration of organic vapors exceeds 5 parts per million (ppm) above background at the perimeter of the work area, activities will be halted and monitoring continued. Vapor suppression measures can also be taken at this time. If the organic vapor level decreases below 5 ppm above background, work activities can resume. If the organic vapor levels are greater than 5 ppm over background but less than 25 ppm over background at the perimeter of the work area, activities can resume provided:

- the organic vapor level 200 feet downwind of the work area or half the distance to the nearest residential or commercial structure, whichever is less, is below 5 ppm over background.

If the organic vapor level is above 25 ppm at the perimeter of the work area, activities must be shut down. When work shutdown occurs, downwind air monitoring as directed by the Site Health & Safety Officer (SHSO) will be implemented to ensure that vapor emission does not impact the nearest residential or commercial structure at levels exceeding those specified in the Major Vapor Emission Response Plan Section.

4.0 MAJOR VAPOR EMISSION RESPONSE PLAN

If organic levels greater than 5 ppm over background are identified 200 feet downwind from the work area or half the distance to the nearest residential or commercial property, whichever is less, work activities must be halted.

If, following the cessation of the work activities, or as the result of an emergency, organic levels persist above 5 ppm above background 200 feet downwind or half the distance to the nearest residential or commercial property from the work area, then the air quality must be monitored within 20 feet of the perimeter of the nearest residential or commercial structure (20 Foot Zone).

If efforts to abate the emission source (see Section 5.0) are unsuccessful and if organic vapor levels are approaching 5 ppm above background for more than 30 minutes in the 20 Foot Zone, then the Major Vapor Emission Response Plan shall automatically be placed into effect.

However, the Major Vapor Emission Response Plan shall be immediately placed in effect if organic vapor levels are greater than 10 ppm above background.

Upon activation, the following activities will be undertaken:

1. Emergency Response Contacts as listed in the Health & Safety Plan will go into effect.
2. The local police authorities will immediately be contacted by the Health & Safety Officer and advised of the situation.
3. Frequent air monitoring will be conducted at 30-minute intervals within the 20 Foot Zone. If two successive readings below action levels are measured, air monitoring may be halted or modified by the Health & Safety Officer.

5.0 VAPOR SUPPRESSION TECHNIQUES

Vapor suppression techniques must be employed when action levels warrant the use of these techniques.

The techniques to be implemented for control of VOCs from stockpiled soil or from the open excavation will include one or more of the following:

- cover with plastic
- cover with “clean soil”
- vapor suppressant foam
- limit working hours to favorable wind and temperature conditions

6.0 DUST SUPPRESSION TECHNIQUES

Reasonable dust-suppression techniques must be employed during work that may generate dust, such as excavation, grading, and placement of clean fill. The following techniques were shown to be effective for controlling the generation and migration of dust during remedial activities:

- Wetting equipment and excavation faces;
- Spraying water on buckets during excavation and dumping;
- Hauling materials in properly covered containers; and,
- Restricting vehicle speeds to 10 mph.

Using atomizing sprays will prevent overly wet conditions, conserve water, and offer an effective means of suppressing fugitive dust. It is imperative that utilizing water for suppressing dust will not create surface runoff.

7.0 DATA QUALITY ASSURANCE

7.1 Calibration

Instrument calibration shall be documented in the designated field logbook. Instruments shall be calibrated before each shift. Calibration checks may be used during the day to confirm instrument accuracy. Duplicate readings may be taken to confirm individual instrument response.

7.2 Operations

Instruments shall be operated in accordance with the manufacturer's specifications. Manufacturers' literature, including an operations manual for each piece of monitoring equipment will be maintained on-site by the FOL/HSO for reference.

7.3 Data Review

The Field Team Leader FOL/SHSO will interpret all monitoring data based on Table 1-2 and his/her professional judgment. The FOL/HSO shall review the data with the HSM to evaluate the potential for worker exposure, upgrades/downgrades in level of protection, comparison to direct reading instrumentation and changes in the integrated monitoring strategy.

Monitoring and sampling data, along with all sample documentation will be periodically reviewed by the HSM.

8.0 RECORDS AND REPORTING

Readings will be recorded and available for review by personnel from the NYSDEC. Should any of the action levels be exceeded, the NYSDEC Division of Air Resources must be notified in writing within five (5) working days.

The notification shall include a description of the control measures implemented to prevent further exceedances.

APPENDIX F

QUALITY ASSURANCE PROJECT PLAN

7.0 QUALITY ASSURANCE

Environmental sample analysis conducted at the Site, either as part of the redevelopment work or post-redevelopment, will be performed in accordance with the NYSDEC Analytical Services Protocol (ASP), latest revision. All data will be reported in accordance with the NYSDEC Division of Environmental Remediation EQuIS data reporting requirements. Prior to commencement of the redevelopment of the Site, the Owner's Contractor shall be required to prepare a site-specific Quality Assurance/Quality Control (QA/QC) Plan pertaining to sampling and analysis of media that will be either removed from the Site or brought there to be used on-site during Site redevelopment. This section will provide the basis for the sampling and analysis required to be performed during the Site redevelopment by the Owner's Contractor, as well as the sampling and analysis required for continued long-term operations, maintenance and monitoring for the Site to be performed by the Owner.

7.1 Data Quality Requirements and Assessments

Data quality requirements and assessments are provided in the NYSDEC ASP, which includes the detection limit for each analyte and sample matrix. Note that the quantification limits, estimated accuracy, accuracy protocol, estimated precision and precision protocol are determined by the laboratory and will be in conformance with the requirements of the NYSDEC ASP (latest revision) and/or USEPA SOW for organics and inorganics (latest revision), where applicable.

In addition to meeting the requirements provided in the NYSDEC ASP, the data must also be useful in evaluating the quality of media sampled. Data obtained during the sampling will be compared to SCGs. The SCGs to be used include:

Matrix	SCG
Soil	NYSDEC Part 375 Restricted Residential-Use Soil Cleanup Objectives

The methods of analysis will be in accordance with the NYSDEC ASP. Specific analytical procedures and laboratory QA/QC descriptions are not included in this SMP, but will be available upon request from the laboratory selected to perform the analysis. The laboratory will be New York Department of Health (NYSDOH) Environmental Laboratory Approved Program (ELAP) certified for organic and inorganic analyses.

7.1.1 Data Representativeness

Samples may be collected from various media, either during Site redevelopment or during long-term operations, maintenance and monitoring being performed at the Site. Collection of representative data is necessary to ensure the data obtained is usable. Examples of methods for collection of representative samples are as follows:

- Soil – Samples will be obtained from the excavation floors, excavation sidewalls, stockpiles, etc. Samples will be collected using a dedicated polyethylene scoop;
- Equipment Calibration – Field equipment will be calibrated daily before use according to the manufacturer's procedures; and,
- Equipment Decontamination – Non sterile sampling equipment will be decontaminated prior to use at each location according to the NYSDEC approved procedures described in Section 7.3.

The site-specific QA/QC Plan prepared by the Owner's Contractor prior to redevelopment will include a more detailed description of data representativeness.

7.1.2 Data Comparability

All data will be presented in the units designated by the methods specified by a NYSDOH ELAP certified laboratory and the NYSDEC ASP. In addition, sample locations, collection procedures and analytical methods from earlier studies will be evaluated for comparability with current procedures/methods.

7.1.3 Data Completeness

The acceptability of 100% of the data is desired as a goal for the project. The acceptability of less than 100% complete data, meeting all QA/QC protocols/standards, will be evaluated on a case-by-case basis.

7.2 Detailed Sampling Procedures

Environmental samples may be collected from different locations as part of the redevelopment of the Site and continued long-term operations, maintenance and monitoring. It is anticipated that soil samples may be collected and may consist of samples collected from soil stockpiles, excavation floors and sidewalls. Sampling procedures and equipment are described in this section.

Disposable sampling equipment will be utilized for this project to the extent practicable. There will be several steps taken after the transfer of the sample into the sample container that are necessary to properly complete collection activities. Once the sample is transferred into the appropriate container, the container will be capped and, if necessary, the outside of the container will be wiped with a clean paper towel to remove excess sampling material. The container will not be submerged in water in an effort to clean it. Rather, if necessary, a clean paper towel moistened with distilled/deionized water will be used.

The sample container will then be properly labeled. Information such as sample number, location, collection time and sample description will be recorded in the field logbook. Associated forms (e.g., Chain of Custody forms) will then be completed and will stay with the sample. The samples will be packaged in a manner that will allow the appropriate storage temperature (4˚C) to be maintained during shipment to the laboratory.

7.2.1 Sample Identification

Each sample container will have a label of durable material affixed to it, which specifies the following sample information:

- Sample location;
- Sample type;
- Sample identification number (including well designation);
- Name(s) of sampler(s);
- Date and time of sample collection;
- Container number for that sample, if more than one container is used (e.g., #1 of 4); and,
- Laboratory analyte.

All samples collected during the work will be labeled with a sample identification code. The code will identify the sample type, sample location and QA/QC requirements

7.2.2 Sample Preservation, Handling and Shipment

All analytical samples will be placed in the appropriate sample containers as specified in the NYSDEC ASP. The holding time criteria identified for the individual methods of the ASP will be followed.

Prior to packaging any sample for shipment, the sample containers will be checked for proper identification and compared to the field logbook for accuracy. The samples will then be wrapped with a cushioning material. Sample containers will be placed in a cooler with ice immediately after sample collection and maintained at 4°C throughout the duration of the sampling event and subsequent shipment to and storage at the analytical laboratory until analysis.

All necessary documentation required to accompany the sample during shipment will be placed in a sealed plastic bag and taped to the underside of the cooler lid. The cooler will then be sealed with packaging tape and custody seals will be placed in such a manner that any opening of the cooler prior to arrival at the laboratory can be detected.

All samples will be shipped for laboratory receipt within 48 hours of sample collection in accordance with NYSDEC requirements. The laboratory will be notified prior to the shipment of the samples.

7.2.3 Soil

1. Be certain that the sample location is noted in the field log book;
2. If a dedicated sampling device is not used, be certain that the sampling equipment has been decontaminated utilizing the procedures outlined in Section 7.3;
3. Remove laboratory pre-cleaned sample container from sample cooler, label container with an indelible marker, and fill out Sample Information Record and Chain of Custody Form;
4. At the sample location, clear surface debris (e.g., vegetation, rocks, twigs, etc.). Collect an adequate amount of soil using a decontaminated or disposable scoop and/or sterile wooden tongue depressor. Transfer the sample directly into the sample container;
5. Return the sample container to the cooler; and,
6. If reusable, decontaminate the sampling equipment according to the procedures described in Section 7.3.

7.3 Decontamination Procedures

All field sampling equipment should be sterile and dedicated to a particular sampling point. In instances where this is not possible, a field cleaning (decontamination) procedure will be used in order to reduce the chances of cross-contamination between sample locations. A decontamination station will be established for all field activities.

7.3.1 Field Decontamination Procedures

All non-disposable equipment will be decontaminated at appropriate intervals (e.g., prior to initial use, prior to moving to a new sampling location and prior to leaving the Site). Different decontamination procedures are used for various types of equipment that perform the field activities as discussed below. When using field decontamination, it is advisable to start sampling in the area of the Site with the lowest contaminant probability and proceed through to the areas of highest suspected contamination.

7.3.2 Decontamination Procedures for Sampling Equipment

Teflon, PVC, polyethylene, polystyrene and stainless steel sampling equipment decontamination procedures will be the following:

- Wash thoroughly with non-residual nonionic anionic detergent (such as Alconox) and clean potable tap water using a brush to remove particulate matter or surface film;
- Rinse thoroughly with tap water;
- Rinse thoroughly with distilled water;
- Rinse in a well ventilated area with methanol (pesticide grade) and air dry;
- Rinse thoroughly with distilled water and air dry; and,
- Wrap completely in clean aluminum foil with dull side against the equipment. For small sampling items, such as scoops, decontamination will take place over a drum specifically used for this purpose.

The first step, a soap and water wash, is to remove all visible particulate matter and residual oils and grease. This is followed by a tap water rinse and a distilled/deionized water rinse to remove the detergent. Next, a high purity solvent rinse is designated for trace organics removal. Methanol has been chosen because it is not an analyte of concern in the Target Compound List (TCL). The solvent must be allowed to evaporate and then a final distilled/deionized water rinse is performed. This rinse removes any residual traces of the solvent. The aluminum wrap protects the equipment and keeps it clean until it is used at another sampling location.

7.4 Laboratory Sample Custody Procedures

A NYSDOH ELAP laboratory meeting the requirements for sample custody procedures, including cleaning and handling sample containers and analytical equipment will be used. The laboratory's standard operating procedures will be available upon request.

7.5 Field Management Documentation

Proper management and documentation of field activities is essential for necessary work to be conducted in an efficient and high quality manner. Field management procedures include following proper Chain of Custody procedures to track a sample from collection through analysis, noting when and how samples are to be composited (if required), preparing a Location Sketch, completing Sample Information Record Forms, Chain of Custody Forms, maintaining a daily Field Log Book, preparing Daily Field Activity Reports, completing Field Change Forms and filling out a Daily Air Monitoring Form. Proper completion of these forms and the field log book are necessary to support the consequent actions that may result from the sample analysis. This documentation will support that the samples were gathered and handled properly.

7.5.1 Location Sketch

Each sampling point shall have its own location sketch with permanent references, to the maximum extent practicable.

7.5.2 Sample Information Record

At each sampling location, the Sample Information Record Form is filled out and maintained including, but not limited to, the following information:

- Site name;
- Sample crew;

- Sample location;
- Field sample identification number;
- Date;
- Time of sample collection;
- Weather conditions;
- Temperature;
- Sample matrix;
- Method of sample collection and any factor that may affect its quality adversely;
- Field test results;
- Constituents sampled; and,
- Remarks (Sample Compositing Information).

7.5.3 Chain of Custody

The Chain of Custody (COC) is initiated at the laboratory with bottle preparation and shipment to the Site. The COC remains with the sample at all times and bears the name of the person assuming responsibility for the samples. This person is tasked with ensuring secure and appropriate handling of the bottles and samples. When the form is complete, it should indicate that there were no lapses in sample accountability.

A sample is considered to be in an individual's custody if any of the following conditions are met:

- It is in the individual's physical possession; or,
- It is in the individual's view after being in his or her physical possession; or,
- It is secured by the individual so that no one can tamper with it; or,
- The individual puts it in a designated and identified secure area.

In general, Chain of Custody Forms are provided by the laboratory contracted to perform the analytical services. At a minimum, the following information shall be provided on these forms:

- Project name and address;
- Project number;
- Sample identification number;
- Date;
- Time;
- Sample location;
- Sample type;
- Analysis requested;
- Number of containers and volume taken;
- Remarks;
- Type of waste;
- Sampler(s) name(s) and signature(s); and,
- Spaces for relinquished by/received by signature and date/time.

Chain of Custody Forms provided by the laboratory will be utilized.

The Chain of Custody Form is filled out and signed by the person performing the sampling. The original of the form travels with the sample and is signed and dated each time the sample is relinquished to another party, until it reaches the laboratory or analysis is completed. The field sampler keeps one copy and a copy is retained for the project file. The sample container must also be labeled with an indelible marker with a minimum of the following information:

- Project name/site;

- Sample number;
- Analysis to be performed;
- Date of collection; and,
- Compositing information.

A copy of the completed form is returned by the laboratory with the analytical results.

7.5.4 Split Samples

Whenever samples are being split with another party, a Receipt for Samples Form must be completed and signed. A copy of the COC Form will accompany this form.

7.5.5 Field Log Book

Field log books must be bound and should have consecutively numbered water resistant pages. All pertinent information regarding the Site and sampling procedures must be documented. Notations should be made in log book fashion, noting the time and date of all entries. Information recorded in this notebook should include, but not be limited to, the following:

The first page of the log contains the following information:

- Project name and address;
- Name, address and phone number of field contact;
- Owner and address, if different from above; and,
- Suspected contamination, including concentrations.

Daily entries are made for the following information:

- Purpose of sampling;

- Location of sampling point;
- Number(s) and volume(s) of sample(s) taken;
- Description of sampling point and sampling methodology;
- Date and time of collection, arrival and departure;
- Collector's sample identification number(s);
- Sample distribution and method of storage and transportation;
- References, such as sketches of the sampling Site or photographs of sample collection;
- Field observations, including results of field analyses (e.g., pH, temperature, specific conductance), water levels, drilling logs, and organic vapor and dust readings; and,
- Signature of personnel responsible for completing log entries.

7.5.6 Daily Field Activity Report

At the end of each day of field work, the Field Operations Manager, or designee, completes this form noting personnel on-site and summarizing the work performed that day, equipment, materials and supplies used, results of field analyses, problems and resolutions. This form is then signed and is subject to review.

7.5.7 Field Changes and Corrective Actions

Whenever there is a required or recommended investigation/sampling change or correction, a Field Change Form must be completed.

7.6 Calibration Procedures and Preventative Maintenance

The following information regarding equipment will be maintained for the project:

1. Equipment calibration and operating procedures that will include provisions for documentation of frequency, conditions, standards and records reflecting the calibration procedures, methods of usage and repair history of the measurement system;

2. Calibration of field equipment will be done daily at the sampling Site so that any background contamination can be taken into consideration and the instrument calibrated accordingly; and,

3. Critical spare parts, necessary tools and manuals will be on hand to facilitate equipment maintenance and repair.

Calibration procedures and preventive maintenance, in accordance with the NYSDEC ASP, for laboratory equipment is contained in the laboratory's standard operating procedures and is available upon request.

7.7 Performance of Field Audits

During field activities, the QA/QC officer may accompany sampling personnel into the field to verify that the Site sampling program is being properly implemented and to detect and define problems so that corrective action can be taken. All findings will be documented and provided to the Field Operations Manager.

7.8 Control and Disposal of Contaminated Material

In general, soiled personal protective equipment (PPE) and disposable sampling equipment (i.e., bailers, tongue depressors, scoops) will be considered solid waste and contained and disposed off-site. If hazardous waste contamination of PPE or disposable equipment is suspected, due to elevated measurements of screening instruments, visual observations, odors or other means, PPE and equipment will be drummed and secured on-site until a hazardous waste determination can be made. Once a determination has been made, an approved disposal method will be employed.

7.9 Documentation, Data Reduction and Reporting

A NYSDOH ELAP laboratory meeting requirements for documentation, data reduction and reporting will be used. All data will be cataloged according to sampling locations and sample identification nomenclature.

NYSDEC "Sample Identification and Analytical Requirement Summary" and "Sample Preparation and Analysis Summary" forms (for VOA Analysis, B/N-A Analysis, Pesticides/PCB Analysis and Inorganic Analysis) will be completed and included with each data package. The sample tracking forms are required and supplied by the NYSDEC ASP.

7.10 Data Validation

Data validation will be performed in order to define and document analytical data quality in accordance with NYSDEC requirements that investigation data must be of known and acceptable quality. The analytical and validation processes will be conducted in conformance with the NYSDEC ASP (latest revision) and/or USEPA SOWs (latest revision).

Because the NYSDEC ASP is based on the USEPA CLP, the USEPA Functional Guidelines for Evaluating Organics Analyses for the Contract Laboratory Program (CLP) will assist in formulating standard operating procedures (SOPs) for the data validation process. The data validation process aims to make sure that all analytical requirements specific to the QA/QC plan are followed. Procedures will address validation of Routine Analytical Services (RAS) results based on the NYSDEC ASP Target Compound List and Target Analyte List for standard sample matrices.

The data validation process will provide an informed assessment of the laboratory's performance based upon contractual requirements and applicable analytical criteria. The report generated as a result of the data validation process will provide a base upon which the usefulness of the data can be evaluated by the end user of the analytical results. The overall level of effort and specific data validation procedure to be used will be equivalent to a "100% validation" of all data in any given data package.

"Qualified" analytical results for any one field sample will be established and presented based on the results of specific QC samples and procedures associated with its sample analysis group or batch. Precision Accuracy criteria (i.e., QC acceptance limits) will be used in determining the need for qualifying data. Where test data have been reduced by the laboratory, the method of reduction will be discussed in the report. Reduction of laboratory measurements and laboratory

reporting of analytical parameters will be verified in accordance with the procedures specified in the NYSDEC and USEPA program documents for each analytical method (i.e., recreate laboratory calculations and data reporting in accordance with the method specific procedure).

The standard operating guideline manuals for any specific analytical methodology required will specify documentation needs and technical criteria and will be taken into consideration in the validation process. Copies of the complete data package and the data validation report, including laboratory result data report sheets, with any qualifiers deemed appropriate by the data reviewer, and supplementary field QC sample result summary statement, will be provided.

The following is a description of the two-phased approach to data validation which will be used for this investigation. The first phase is called checklisting and the second phase is the analytical quality review, with the former being a subset of the latter.

- Checklisting – The data package will be checked for correct submission of the contract required deliverables, correct transcription from the raw data to the required deliverable summary forms and proper calculation of a number of parameters.
- Analytical Data Review – The data package will be closely examined to recreate the analytical process and verify that proper and acceptable analytical techniques have been performed. Additionally, overall data quality and laboratory performance will be evaluated by applying the appropriate data quality criteria to the data to reflect conformance with the specified, accepted QA/QC standards and contractual requirements.

At the completion of the data validation, a Data Usability Summary Report (DUSR) will be prepared.

7.11 Performance and System Audits

A NYSDOH ELAP laboratory which has satisfactorily completed performance audits and performance evaluation samples shall be used.

7.12 Corrective Action

A NYSDOH ELAP laboratory shall meet the requirements for corrective action protocols, including sample "cleanup" to attempt to eliminate/mitigate "matrix interference."

The NYSDEC ASP protocols include both mandatory and optional sample cleanup and extraction methods. GPC cleanup is required for soil samples by the NYSDEC ASP for semivolatile and pesticide/PCB analyses in order to meet contract required detection limits. Florisil column cleanup is required for the pesticide/PCB fraction of both soil and water samples. There are several optional cleanup and extraction methods noted in the NYSDEC ASP protocol. These include: Silica gel column cleanup, acid-base partition, steam distillation and sulfuric acid cleanup for PCB analysis.

It should be noted, that if these optional cleanup and extraction methods are requested by NYSDEC, holding time requirements should not be exceeded due to negligence of the laboratory.

7.13 Trip Blanks (Travel Blanks)

The primary purpose of this type of blank is to detect additional sources of contamination that might potentially influence contaminant values reported in actual samples both quantitatively and qualitatively. The following have been identified as potential sources of contamination:

- Laboratory reagent water;
- Sample containers;
- Cross contamination in shipment;
- Ambient air or contact with analytical instrumentation during preparation and analysis at the laboratory; and,
- Laboratory reagents used in analytical procedures.

A trip blank consists of a set of 40 ml sample vials filled at the laboratory with laboratory demonstrated analyte free water. Trip blanks should be handled, transported and analyzed in the same manner as the samples acquired that day, except that the sample containers themselves are not opened in the field. Rather, they just travel with the sample cooler. Trip blanks must accompany samples at a rate of one per shipment. The temperature of the trip blanks must be maintained at 4°C while on-site and during shipment. Trip blanks must return to the laboratory with the same set of bottles they accompanied in the field.

The purpose of a trip blank is to control sample container preparation and blank water quality as well as sample handling. Thus, the trip blank travels to the Site with the empty sample container, and back from the Site with the collected samples, in an effort to simulate sample handling conditions. Contaminated trip blanks may indicate inadequate bottle cleaning or blank water of questionable quality. Trip blanks are implemented only when collecting water samples, and analyzed for VOCs only.

7.14 Matrix Spikes/Matrix Spike Duplicates and Spiked Blanks

Matrix spike samples and blanks are quality control procedures, consistent with NYSDEC ASP specifications, used by the laboratory as part of its internal Quality Assurance/Quality Control program. The matrix and matrix spike duplicates are aliquots of a designated sample (water or soil) which are spiked with known quantities of specified compounds. They are used to evaluate the matrix effect of the sample upon the analytical methodology as well as to determine the precision of the analytical method used. A matrix spike blank is an aliquot of analyte-free water, prepared in the laboratory, and spiked with the same solution used to spike the MS and MSD. The MSB is subjected to the same analytical procedure as the MS/MSD and used to indicate the appropriateness of the spiking solution by calculating the spike compound recoveries. The procedure and frequency regarding the MS, MSD and MSB are defined in the NYSDEC ASP.

7.15 Method Blanks

A method blank is an aliquot of laboratory water or soil which is spiked with the same internal and surrogate compounds as the samples. Its purpose is to define and determine the level of laboratory background contamination. Frequency, procedure and maximum laboratory containment concentration limits are specified in the NYSDEC ASP as follows:

The laboratory shall prepare and analyze one laboratory reagent blank (method blank) for each group of samples of a similar matrix (for water or soil samples), extracted by a similar method (separatory funnel, continuous liquid extraction or sonication) and a similar concentration level (for volatile and semivolatile soil samples only) for the following, whichever is most frequent:

- Each case of field samples received; or,
- Each 20 samples in a case, including matrix spikes and reanalyses; or,
- Each 7 calendar day period during which field samples in a case were received (said period beginning with the receipt of the first sample in that sample delivery group); or,
- Whenever samples are extracted.

Volatile analysis requires one method blank for each 12-hour time period when volatile target compounds are analyzed.

Semivolatile and pesticide method blanks shall be carried through the entire analytical process from extraction to final GC/MS or GC/EC analysis, including all protocol performance/ delivery requirements.

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APPENDIX G
DEWATERING PLAN

PWGC
Strategic Environmental Engineering Solutions

TEMPORARY CONSTRUCTION DEWATERING PLAN FOR GLADSKY MARINE SITE CONSTRUCTION

GARVIES POINT WATERFRONT REVITALIZATION PROJECT
GLEN COVE, NEW YORK

SUBMITTED:
AUGUST 2017

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New York State Department of Environmental Conservation
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PWGC
Strategic Environmental Engineering Solutions

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TABLES

Table 1 – NCDPW Specific Pollutant Limitations for Discharge to Sanitary Sewers

FIGURES

Figure 1 – Gladsky Marine Site Temporary Construction Dewatering Plan

APPENDICES

Appendix A – Geotechnical Report

Appendix B – Nassau County Sewer Ordinance (Ordinance No. 266-1985)

Appendix C – Temporary Treatment System Technical Submittal

Appendix D – Nassau County Discharge Permit

CERTIFICATION STATEMENT

I, Paul W. Grosser, PhD, PE, PG certify that I am currently a New York State registered professional engineer (PE) and that this Dewatering Plan was prepared in accordance with applicable statutes and regulations and in substantial conformance with the Nassau County Sewer Ordinance (Ordinance No. 266-1985) dated June 1985 as provided by Nassau County Department of Public Works (NCDPW), DER-10 Technical Guidance for Site Investigation and Remediation, and Stormwater Pollution and Prevention Plan (SWPPP) Erosion and Sediment Controls.

_____ P.E.

8/14/17 DATE



1.0 INTRODUCTION

P.W. Grosser Consulting Engineer & Hydrogeologist, P.C. has prepared this Temporary Construction Dewatering Plan for the Gladsky Marine Site (NYSDEC Site Number: E130152) for site construction activities on behalf of RXR Glen Isle Partners, LLC. This dewatering plan outlines the proposed measures for managing groundwater, perched groundwater, surface runoff, and direct precipitation that may impact Gladsky Marine Site construction activities and that have the potential to be comingled with contaminants at the Garvies Point Waterfront Revitalization Project (GPWRP).

Construction dewatering for the Gladsky Marine Site associated with operations that may occur during a wide range of proposed activities including demolition of pavement or structures; grading (including cut and fill slopes); channel excavation; channel paving; trenching and underground drainage; installation of underground drainage facilities; drainage inlet modification; utility trenching; utility installation; structure excavation; structure construction; miscellaneous concrete work; retaining wall construction; planting and irrigation; and, treatment best management practice (BMP) construction and maintenance, shall be addressed by this plan.

Long-term site dewatering is not part of the scope of this plan. An application for long-term dewatering for the Gladsky Marine Site will be submitted separately if long-term dewatering is deemed necessary.

The scope of this plan is to permit proposed dewatering activities utilizing dewatering sump points only.

1.1 EXISTING SITE CONDITIONS

The Gladsky Marine Site is located in the County of Nassau, New York and is identifired as Section 21, Block A, Lot 12 on the Nassau County Tax Map. The site occupies approximately 0.85 acres and is bounded by Garvies Point Road to the north, Glen Cove Creek to the south, Nassau County Department of Public Works (NCDPW) sewage pump station property to the east and the Anglers Club property to the west. Existing site grade elevations are relatively flat and range approximately from elevation eight (NAVD 88) to elevation ten (NAVD 88).

Per the geotechnical report prepared for the “Glen Isle Water Redevelopment – Proposed Anglers Club and Pump Station, City of Glen Cove, Nassau County, New York RXR Glens Isle Partners, LLC” by Melick-Tully and Associates, P.C. dated May 20, 2014, groundwater was encountered at four feet (NAVD 88) below grade at the Gladsky Marine Site. Refer to **Appendix A** for the geotechnical report.

2.0 SCOPE

This temporary construction dewatering plan has been prepared in support of the permit application to the NCDPW for operation of a temporary construction dewatering system using sump pits to direct water away from site construction activities. Details of this plan are shown on **Figure 1 – Gladsky Marine Site Temporary Construction Dewatering Plan.**

Water encountered during construction activities will be managed per the Garvies Point Waterfront Redevelopment Phase I Temporary Water Discharge Approval for Discharge to the Sanitary Sewer System from Nassau County Department of Public Works and according to the NCDPW Sewer Ordinance No. 266-1985 dated June 1985, located in **Appendix D** & **Appendix B respectively**. Water encountered during construction will be treated via a temporary treatment system to meet NCDPW discharge criteria prior to discharging to the NCDPW sanitary sewer as described in Section 5.0 – Proposed Discharge Locations and as shown on **Figure 1**. Discharge to the NCDPW sewer system is contingent upon approval from NYSDEC and USEPA.

The Gladsky Marine Site is included within the Phase I construction area of the GPWRP. Proposed improvements include the construction of a single-story structure, construction of a bike path, esplanade, and a park. Construction activities are anticipated to disturb the composite cap system currently installed at the site. The composite cap system is a permanent Engineering Control (EC) for the site and disturbance of the EC will require compliance with the Site Management Plan (SMP). In accordance with the SMP, excavation activities that extend beneath the composite cap are to be performed under a NYSDEC-approved Excavation Work Plan (EWP) which defines site requirements and protocols to be followed.

3.0 NCDPW DISCHARGE CRITERIA

Effluent discharges to the Nassau County Sanitary Sewer System shall not exceed standards set by the NCDPW. Specific pollutant limitations for discharge to sanitary sewers have been summarized in **Table 1 – Nassau County Department of Public Works (NCDPW) Specific Pollutant Limitations for Discharge to Sanitary Sewers**.

4.0 PROPOSED FLOW RATE

Pumps will operate as needed to pump water out of the construction excavations, if encountered. Water will be treated as necessary and discharged to the sewer at a maximum rate of 50 gallons per minute (GPM) between the hours of 2:00 AM and 6:30 AM, per the NCDPW Discharge Permit.

The discharge of treated water from the Gladsky Site shall be coordinated with the discharge of water from other approved construction sites. The discharge of water shall only occur from one construction site at a time.

5.0 PROPOSED DISCHARGE LOCATION (POD)

Water will be pumped from the construction excavation by means of a gas-powered trash pump or electric submersible pump, pumped through the proposed treatment system, and discharged to the NCDPW sewer system at the wet well located on the pump station property just north of the pump station building, as shown on **Figure 1**.

6.0 PROPOSED WATER TREATMENT SYSTEM

The proposed water treatment system has been designed to treat a maximum of 50 GPM of water generated from temporary construction dewatering operations. Water will be treated by the equipment as needed to maintain water quality requirements defined in the **Section 7.0 – Effluent Monitoring** and **Table 1 - NCDPW Specific Pollutant Limitations For Discharge To Sanitary Sewers** of this report. Specifications, details, start-up and shut-down procedures, and operation and maintenance of the water treatment system and specifications are found in **Appendix C – Temporary Treatment System**.

The proposed treatment system will be provided by Groundwater Treatment & Technology, LLC and consists at a minimum of the following major components:

- One (1) 40-cubic yard settling tank
- Two (2) 3 HP, 480 V, 3 phase electric motor transfer pumps, maximum 50 GPM at approximately 95' TDH
- Two (2) multi-bag filters (5-micron bags), parallel operation
- Two (2) 1,000-lb liquid phase granular activated carbon adsorbers, series operation
- One (1) effluent flowmeter and totalizer, flow range of 3 to 160 GPM
- One (1) trailer
- One (1) 18,000 gallon frac tank (8.0' wide x 40' long x 8.5' high)

Details of the above listed equipment are in **Appendix C**.

Water from the sump pits will be pumped into the influent settling tank. The settling tank is an open top, gravity flow tank and designed to facilitate the settling of solids. Solids and/or sludge that have settled to the bottom of settling tank will be periodically removed to prevent accumulated material from reducing the settling time and efficiency of the unit. Material from the bottom of the tank will be disposed of in accordance with site and local regulations.

The water will then be pumped to the bag filter skid via a duplex electric transfer pump setup (1 primary, 1 backup)

capable of producing 50 GPM at approximately 95' TDH. The pumps will be equipped with a 3 HP, 480 V, 3 phase electric motor. The control system will consist of two (2) pump motor starters and five (5) float controls – pump 1 on, pump 1 off, pump 2 on, pump 2 off and a high-level alarm. If the high-level alarm float is activated, a strobe light will activate to alert the operator. The bag filter skid will consist of two (2) multi-bag filter housings plumbed in parallel. The inlet and outlet of the bag filter skid will be equipped with manifolds complete with isolation valves. Each of the filter housings will contain four (4) bag filters designed to remove suspended particles prior to the inlet of the carbon adsorbers. The inlet and outlet of each of the bag filter housings will also be equipped with pressure gauges to monitor the differential pressure across the filter housing. The bag filters will be changed once the differential pressure across the housing reaches 15 to 25 psi. The bag filter housings will be plumbed in parallel such that the bags in one (1) filter housing can be changed while the remaining filter housing continues to process water at the design water flow rate of 50 GPM.

From the bag filter skid, water will continue to flow under pressure to the two (2) carbon adsorbers plumbed in series. The carbon adsorbers will each contain 1,000-lbs. of reactivated or virgin, granular liquid phase carbon media designed to remove low levels of SVOCs and VOCs such as petroleum hydrocarbons prior to discharge. Because continuous operation of the system is not necessary, spent carbon will be removed and replaced with 1,000-lbs of reactivated or virgin carbon media from the lead unit and the lag unit will be reconfigured to be the lead unit each time the system is shut down or if breakthrough of the SVOCs or VOCs occur. The spent carbon will be sampled to determine RCRA waste characteristics and will be disposed of or sent out for regeneration, per site and local regulations.

The inlet and outlet of each carbon adsorber will be equipped with a pressure gauge to monitor the differential pressure across the carbon media. The differential pressure across each carbon adsorber will be recorded in a log book daily. If the differential pressure across a particular carbon adsorber rises to a level where water flow is restricted (as measured by the effluent flowmeter), that carbon adsorber will be taken off-line temporarily to backwash the media. Backwash water will be obtained from a clean water source such as a hydrant or a water truck. A pressure switch will be installed in the piping prior to the inlet of the lead carbon adsorber.

A 2-inch diameter mechanical flow meter with a totalizer will be provided after the effluent of the carbon adsorber to indicate the flow rate and to record the total gallons of water treated. The flow meter has an acceptable flow range of 3 to 160 GPM.

Water will be discharged to and stored as necessary in the 18,000 gallon frac tank. Water will be discharged from the carbon vessel or from the treated frac tank to the sanitary sewer according to Section 4.0 Proposed Flow Rate.

Water will be metered from the point of discharge and flow readings will be recorded daily in a log book.

Water will either be batch treated, stored, and discharged at a later time or directly discharged after treatment as determined by the contractor. When the treatment system is functional, an operating technician will be staffed. If the treatment system is planned to operate overnight, an overnight shift from 11pm to 7am will be staffed by the technician.

When backwash for the carbon filters is necessary, treated water collected from the frac tank, or fresh hydrant water, will be pumped through the effluent end of the carbon filter unit to the settling tank, bypassing the bag filters. The backwash water will be collected in the settling tank until backwash is complete. Following backwashing, the backwash water will be treated and discharged to the sanitary sewer.

With the exception of the settling tank and potential frac tanks, the major components of the treatment system will be installed in an enclosed trailer. The trailer is equipped with heating, lights and ventilation. The individual components of the system will be interconnected using PVC piping and suction hose. Pressure gauges and sample taps will be located throughout the system to monitor system performance. Butterfly valves will be provided on the inlet and outlet of each of the major units to isolate them for maintenance. Additional frac tanks may be located upstream of the treatment unit as determined by the contractor.

Spent bag filters will be characterized in accordance with waste disposal facility requirements and disposed accordingly. Filters that will be shipped off-site shall have the planned disposal facility approved in advance by the USEPA and NYSDEC. Transport of materials will be performed by licensed haulers in accordance with appropriate locate, State, and Federal regulations, including 6 NYCRR Part 364. Haulers will be appropriately licenses and trucks properly placarded.

6.1 SUBMITTALS

Shop drawings of dewatering details and plans for start-up and performance testing of the treatment system have been furnished by Groundwater Treatment & Technology, LLC and are included in **Appendix C**.

During the start-up and testing, the Contractor shall make and submit daily log reports. A copy of the log shall be submitted to the Engineer. Upon completion, the reports shall be submitted in booklet form showing field tests to adjust each component and field tests performed to prove compliance with the specified performance criteria. Daily entries shall include process control procedures, equipment maintenance logs, general observations, and monitoring activities. These monitoring activities shall include schedule process control monitoring, and performance-verification testing. Groundwater Treatment & Technology, LLC will provide a certification of proper installation before start-up testing.

6.2 DEWATERING SYSTEM START-UP

Treatment system startup is detailed in the manufacturer's Operation and Maintenance Manual **Appendix C – Temporary Treatment System Technical Submittal.**

Prior to discharging water from the Glasky Marine Site to the Nassau County Sewer, water will be collected for a minimum of four hours after being treated by the proposed system and containerized in a frac tank. Samples will be collected from the proposed discharge prior to and after treatment. Samples will be analyzed per the Nassau County Discharge Permit located in **Appendix D**. If it is determined that the treated water meets NCDPW discharge criteria, it will be discharged to the NCDPW sanitary sewer. If containerized water does not meet the NCDPW discharge criteria, Section 7.1 Contingency Plan will be followed.

7.0 EFFLUENT MONITORING

Following system start-up as detailed in Section 6.2, once discharge is approved and commences, water may be discharged during the hours of 2:00 AM and 6:30 AM at a maximum flow of 50 gallons per minute (GPM) per the Discharge Permit.

Effluent samples will be collected at least once per month and be analyzed for pH, VOCs, total metals, and TSS per the Discharge permit. Samples will be collected from the outlet sample tap located on the effluent of the carbon treatment unit. Samples will be transferred to laboratory supplied glassware, packed in a cooler with ice and shipped under proper chain-of-custody procedures to a New York State Department of Health (NYSDOH) environmental laboratory approval program (ELAP) certified laboratory for analysis in accordance with NYSDEC Analytical Services Protocol (ASP) Category B Data Deliverable packages and Electronic Data Deliverables (EDDs, in EQuIS format) will be furnished by the laboratory. Laboratory analytical reports will be provided to the USEPA, NYSDEC, NCDPW, and project managers within 72 hours of receipt.

Discharges will be metered and the contractor shall prepare a log which documents discharge times, volumes, maintenance, general observations, and testing. The log shall be submitted to the Engineer for review.

7.1 CONTINGENCY PLAN

In the event water samples do not meet discharge criteria, additional treatment, to be determined if necessary, will be performed until levels are within discharge standards. Water will be re-circulated through the treatment system, containerized, and re-sampled to verify it meets discharge criteria prior to discharge. If further treatment cannot reduce concentrations to acceptable levels no discharge to the sanitary sewer will occur and alternative treatment and/or offsite disposal will be evaluated.

If sampling results indicated that the treated discharge fails for total suspended solids, additional bag filters will be provided to the treatment system. The bag filters will be provided with an incrementally smaller mesh size as needed to meet discharge criteria for total suspended solids.

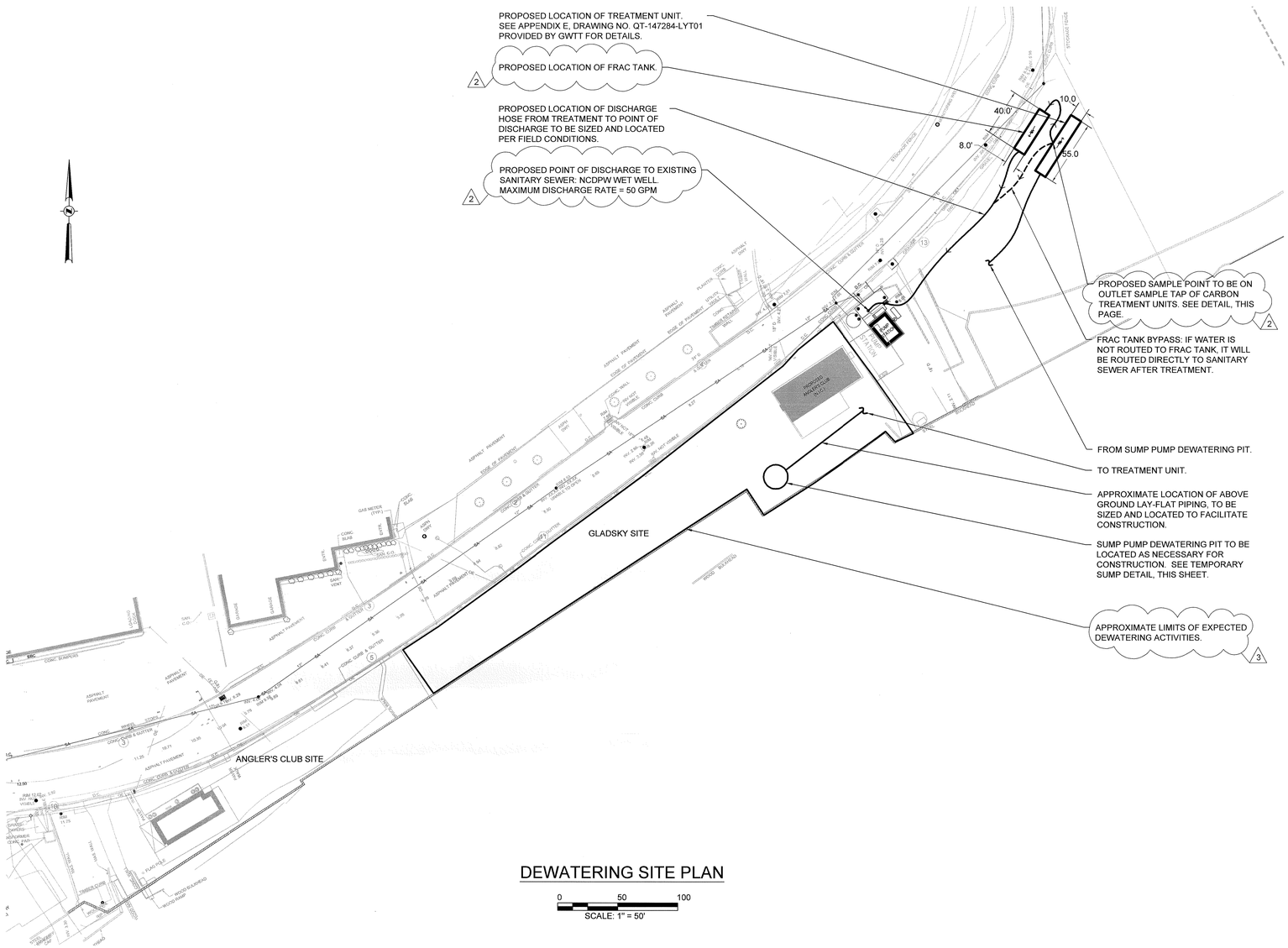
If the storage capacity of the proposed treatment system is not enough to handle the requirements of dewatering activities, additional storage capacity will be added to the system by installing additional frac tanks in-line with the treatment system as needed.

TABLE 1 - NASSAU COUNTY DEPARTMENT OF PUBLIC WORKS (NCDPW) SPECIFIC POLLUTANT LIMITATIONS FOR DISCHARGE TO SANITARY SEWERS

TABLE 1
NASSAU COUNTY DEPARTMENT OF PUBLIC WORKS (NCDPW)
SPECIFIC POLLUTANT LIMITATIONS FOR DISCHARGE
TO SANITARY SEWERS

ANALYTE:	NCDPW SEWER DISCHARGE CRITERIA (mg/l)
Cadmium	0.2
Chromium, Hex	0.1
Chromium, Total	2.0
Copper	2.0
Iron	4.0
Lead	0.1
Mercury	0.1
Nickel	2.0
Zinc	5.0
Arsenic	0.1
Available, Chlorine	0.5
Cyanide, Total	1.0
Selenium	0.1
Sulfide	3.0
Barium	2.0
Manganese	2.0
Ammonia Nitrogen	20.0
Gold	0.1
Silver	0.1
Florides	10.0
Antimony	0.18
Total VOCs	1.0
Total SVOCs	1.0
General Chemistry (mg/L)	
Total Dissolved Solids	1000
Total Suspended Solids	100
Field pH	5.5 < pH < 9.5

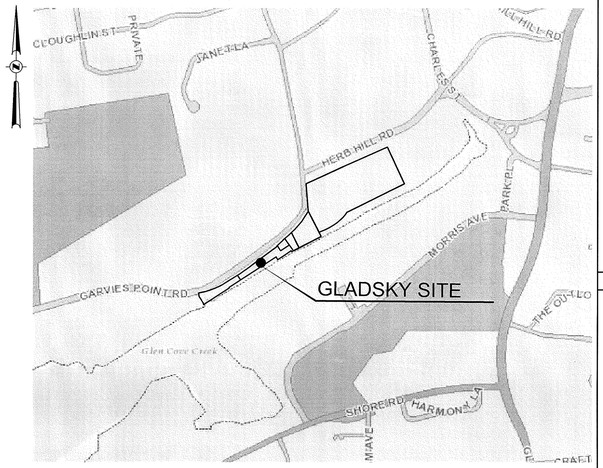
FIGURE 1 – GLADSKY MARINE SITE TEMPORARY CONSTRUCTION DEWATERING PLAN



DEWATERING SITE PLAN

0 50 100

SCALE: 1" = 50'



VICINITY MAP

NOT TO SCALE

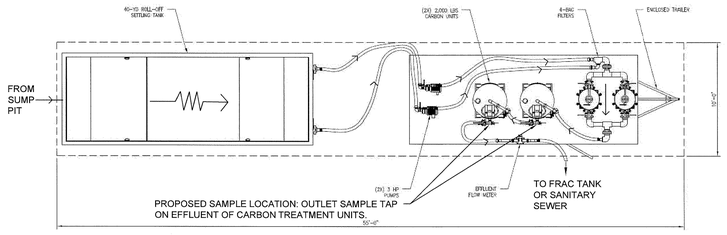
SOURCE: NASSAU COUNTY LAND RECORDS

General Notes

1. REFERENCE PLAN: "GARVIES POINT WATERFRONT REDEVELOPMENT PHASE 1 - PUBLIC INFRASTRUCTURE IMPROVEMENTS, CITY OF GLEN COVE, NASSAU COUNTY, NEW YORK", PREPARED BY PAULUS, SOKOLOWSKI, & SARTOR ENGINEERING, PC, DATED 9/27/2012, LAST REVISED 04/20/2017.
2. FOR ADJACENT PROPOSED ROADWAY DESIGN AND IMPROVEMENTS, REFER TO "RECONSTRUCTION OF HERB HILL ROAD AND GARVIES POINT ROAD LOCATED IN THE CITY OF GLEN COVE, NASSAU COUNTY, NEW YORK, F.A. PROJECT CONTRACT D032012", SEPTEMBER 11, 2015, LAST REVISED 12/13/2016.
3. EXISTING UTILITIES AS PER DIGITAL FILES PREPARED BY SYDNEY B. BOWNE & SON, LLP, RECEIVED NOVEMBER 2008.

Legend

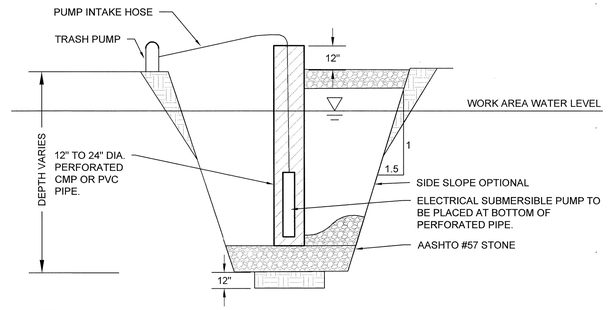
- EXISTING NCDPW SEWER MANHOLE
- SA — EXISTING NCDPW SEWER
- EXISTING CURBLINE



NOTES:
1. ARROWS INDICATE NORMAL TREATMENT FLOW DIRECTION.

PROPOSED SAMPLE POINT LOCATION

NOT TO SCALE



NOTES:
1. CONTRACTOR SHALL PROVIDE GAS POWERED TRASH PUMP OR ELECTRICAL SUBMERSIBLE PUMP TO FACILITATE DEWATERING OPERATION.
2. DEWATERING WILL BE PERFORMED BY THE CONTRACTOR AS NECESSARY IN LOCATIONS AT THE GLADSKY SITE AND WHERE REQUIRED PER FIELD CONDITIONS.

TEMPORARY SUMP DETAIL

NOT TO SCALE

PWGC
Strategic Environmental and Engineering Solutions
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CONSULTANTS

Number	Revision Description	Revision Date
7		
6		
5		
4		
3	REVISIONS PER NYS DEC COMMENTS	08/14/2017
2	REVISIONS PER NYS DEC COMMENTS	07/14/2017
1	NYS DEC & US EPA REGULATORY APPROVAL	07/10/2017

Designed By: DE
Drawn By: SMR
Approved By: PKB
Date Submitted:
Date Created: 06/27/17
Scale: AS SHOWN

Client:
RXR GLEN ISLE PARTNERS, LLC
625 RXR PLAZA
UNIONDALE, NEW YORK

Project:
GARVIES POINT WATERFRONT REVITALIZATION

Project Address:
GLADSKY MARINE SITE
GLEN COVE
NASSAU COUNTY, NEW YORK

County Tax Map Number:
Contract Number:
Regulatory Reference Number:

Title of Drawing:
GLADSKY MARINE SITE TEMPORARY CONSTRUCTION DEWATERING PLAN

STATE OF NEW YORK — PAUL W. GROSSER — LICENSED PROFESSIONAL ENGINEER — NO. 069041

Drawing Number:
FIGURE - 1

Sheet 1 of 1

PWGC Project Number:
RGI1701

Unauthorized alteration or addition to this drawing and related documents is a violation of Section 7209 of the New York State Education Law

PWGC FILE NAME: C:\Users\cooke\Google Drive\RGI1701\CAD\Temporary Construction Dewatering\2017-06-14 - Prior NYSDEC Comments\2017-06-14 - Temp. Construction Dewatering Plan - Gladsky Site.dwg (GEMATRIX(PKB) PLOT DATE/TIME: Aug 24, 2017 2:40pm by aaaron

APPENDIX A – GEOTECHNICAL REPORT

REPORT
PRELIMINARY SOILS AND FOUNDATION INVESTIGATION

GLEN ISLE WATER REDEVELOPMENT- PROPOSED ANGLERS CLUB AND PUMP STATION
CITY OF GLEN COVE, NASSAU COUNTY, NEW YORK
RXR GLEN ISLE PARTNERS, LLC

May 20, 2014

Prepared By:
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Tel: 732-356-3400 Fax: 732-356-9054

MTA Project No.: 9103-001*1D

MELICK-TULLY
AND ASSOCIATES, P.C.
GEOTECHNICAL ENGINEERS AND
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May 20, 2014

RXR Realty
625 RXR Plaza
Uniondale, New York 11556

Attention: Mr. Thomas Graham

Report
Preliminary Soils and Foundation Investigation
Proposed Anglers Club and Pump Station
Glen Isle Waterfront Redevelopment- Phase II
RXR Glen Isle Partners, LLC

Introduction

This report presents the results of a soils and foundation investigation completed by Melick-Tully and Associates, P.C. (MTA) for a portion of Phase II of the Glen Isle Waterfront Redevelopment project to be constructed in the City of Glen Cove, Nassau County, New York. This report focuses on the construction of the Anglers Club and pump station located north of the Glen Cove Creek, and southwest of the intersection formed by Herb Hill Road and Dickson Street. The approximate location of the site is shown on the Site Location Map, Plate 1. This report was prepared in general accordance with our proposal addendum dated February 4, 2014.

Proposed Construction

We have not been provided with much information regarding the construction of the Anglers Club; however, plans provided to us indicate the club will have outside dimensions of

approximately 70 by 30 feet and we have assumed the building will be constructed as a slab-on-grade. A pump station is proposed to be constructed northeast of the proposed club.

Structural information has not been made available to us; however, it is expected the building would impose light foundation loads and light floor slab live loads.

Purpose and Scope of Work

The purpose of our services was to:

1) explore the subsurface soil and groundwater conditions as close as possible to the proposed Anglers Club and pump station;

2) estimate the relevant geotechnical engineering properties of the encountered materials;

3) evaluate the site foundation requirements considering the anticipated structural loads and encountered subsurface conditions, and recommend an appropriate type of foundation for support of the proposed structure; and

4) discuss appropriate earthwork considerations consistent with the proposed construction and encountered subsurface conditions.

Borings could not be completed within the footprint of the proposed structures due to access constraints; however, two borings completed for the bulkhead (B4 and B5) are near the general vicinity of the proposed buildings. The borings were advanced using rotary drilling equipment mounted on an all-terrain vehicle, and extended to depths of approximately 42 feet below grade. Geoprobes were completed adjacent to the boring locations and the upper 20 feet of soil samples were screened for potential contaminants by P.W. Grosser Consulting.

All field work for the test borings was performed under the direct technical observation of a geotechnical engineer from MTA. Our representative maintained continuous logs of the borings as the work proceeded, and supervised the soil sampling operations to develop the desired subsurface information. Soil samples suitable for identification purposes were extracted

from the borings at closely-spaced intervals in general accordance with the procedures of the Standard Penetration Test (SPT).

The approximate locations of the borings are shown on the Plot Plan, Plate 2. Detailed descriptions of the subsurface conditions encountered in the borings are presented on the Logs of Borings, Plates 3A and 3B. The soil samples obtained from the explorations were classified in general accordance with the Unified Soil Classification System shown on Plate 4.

All soil samples were brought to our office where they were further examined in our soil mechanics laboratory. Grain-size analyses were previously completed on select samples from the borings and were submitted as part of our Bulkhead Report dated May 2, 2014.

The results of our subsurface exploration and laboratory testing programs have provided the basis for our engineering analyses and recommendations. The following discussions of our findings and recommendations are subject to the limitations attached as an Appendix to this report.

Site Conditions

Surface Features: The site is located north of Glen Cove Creek and South of Garvies Point Road. An existing pump station is located near the general vicinity of the proposed pump station. There is a chain-link fence running parallel to Garvies Point Road and along the western side of the existing pump station.

Topographic information provided to us indicates the site is relatively flat and is currently near Elevation +8 to 9 feet.

Subsurface Conditions: The borings encountered three to six inches of topsoil at the ground surface. The topsoil was underlain by fill consisting of loose to medium dense silty sands

and stiff clayey silt. The fill extended to depths of approximately 6 to 16 feet below grade. Boring 4 encountered a layer of peat beneath the fill which was two feet in thickness and extended from 16 to 18 feet below grade. The fill and/or peat were further underlain by natural sands containing varying amounts of gravel. The sands were estimated to be medium dense to dense in relative density and extended to the maximum depths explored. A layer of silty clay was present within the sand layer in Boring 4 at about 40 feet below grade.

Groundwater was encountered in the borings at depths of approximately one to four feet below grade, corresponding to Elevation +5 to +8 feet.

Findings and Recommendations

1) We have not been provided with detailed information pertaining to the construction of the Anglers Club or pump station, and have not been provided with the finished floor elevations. In addition, the borings that were completed were not within the footprint of the structures, and therefore, the subsurface conditions may vary somewhat. Therefore, the remainder of this report will provide general information. MTA could prepare a more formal report after additional details are provided, if desired.

2) Although borings were not completed in the footprint of the buildings, Borings 4 and 5 completed for the bulkhead are located nearby. Boring 5 was completed approximately 40 feet west of the proposed Anglers Club building; however, Boring 4 was completed approximately 230 feet east of the pump station. The borings encountered fill over natural sandy and clayey soils. Boring 5 encountered about six feet of fill and Boring 4 encountered a two foot thick layer of organic peat beneath the fill soils, which extended from approximately 16 to 18 feet below grade. Prior to construction, additional explorations should be completed in the footprint of the buildings to confirm the subsurface conditions.

3) The proposed exterior grades indicate that approximately two to three feet of fill is required. Fill should consist of sand and gravel soils that are limited in size to four inches or less and should be spread in layers on the order of twelve inches in thickness. The fill should be compacted to at least 95 percent of its maximum dry density as determined by ASTM D-1557 test procedure.

4) Assuming the subsurface conditions are similar to that of Boring 5, and it is possible to excavate and replace the existing fill, the buildings could be supported by conventional shallow foundations established atop the natural undisturbed sands or controlled compacted fill installed atop the natural sands. The existing fill should be removed from within and ten feet beyond the limits of the proposed buildings and the resultant excavations backfilled with controlled compacted fill or clean crushed stone. Any controlled compacted fill installed should be placed in layers on the order of twelve inches or less in loose thickness and should be compacted to at least 95 percent of its maximum dry determined by ASTM D-1557 test procedure. Foundations established on the natural sand soils or controlled compacted fill placed atop the natural soils could be designed to impose a net allowable bearing pressure of up to 4,000 pounds per square foot.

5) Groundwater was encountered in the borings at depths of approximately one to four feet below grade. Dewatering should be provided as necessary to maintain the excavations in dry conditions at all times during construction. Pump stations typically contain below-grade wet wells/pits, which could require significant dewatering.

6) Boring 4, which was completed approximately 230 feet east of the proposed pump station encountered approximately 16 feet of fill underlain by two feet of organic peat. The fill and peat would not be suitable for direct support of the proposed buildings. If the test pits indicate that the buildings are underlain by deeper fill and organic soils, we believe that a deep foundation which bypasses these unsuitable layers and derives its support from the underlying medium dense sands would be the most economical foundation solution. Assuming the loads are relatively light, we expect that treated timber piles or helical piles would be the most appropriate foundation solution. Either pile type should extend into the natural medium dense to dense sands. It is likely that timber piles on the order of 50 feet could achieve allowable capacities on the order of 20 to 25 tons, while helical piles could achieve allowable capacities of approximately 15 tons.

7) The proposed exterior grades surrounding the buildings are shown to be near Elevation +11 to +12 feet, which is approximately two to three feet above existing grades. An organic peat layer was encountered in Boring 4, but was not encountered in Boring 5. As previously recommended, additional explorations should be completed near the vicinity of the proposed structures to determine if organic soils are present. If an organic layer is present, settlements from the weight of the fill will occur which could impact the improvements adjacent to the structure.

Please contact us if you have any questions regarding this report.

The following Plates and Appendix are attached and complete this report.

Plate 1 - Site Location Map
Plate 2 - Plot Plan
Plates 3A and 3B- Logs of Borings
Plate 4 - Unified Soil Classification System
Appendix- Limitations

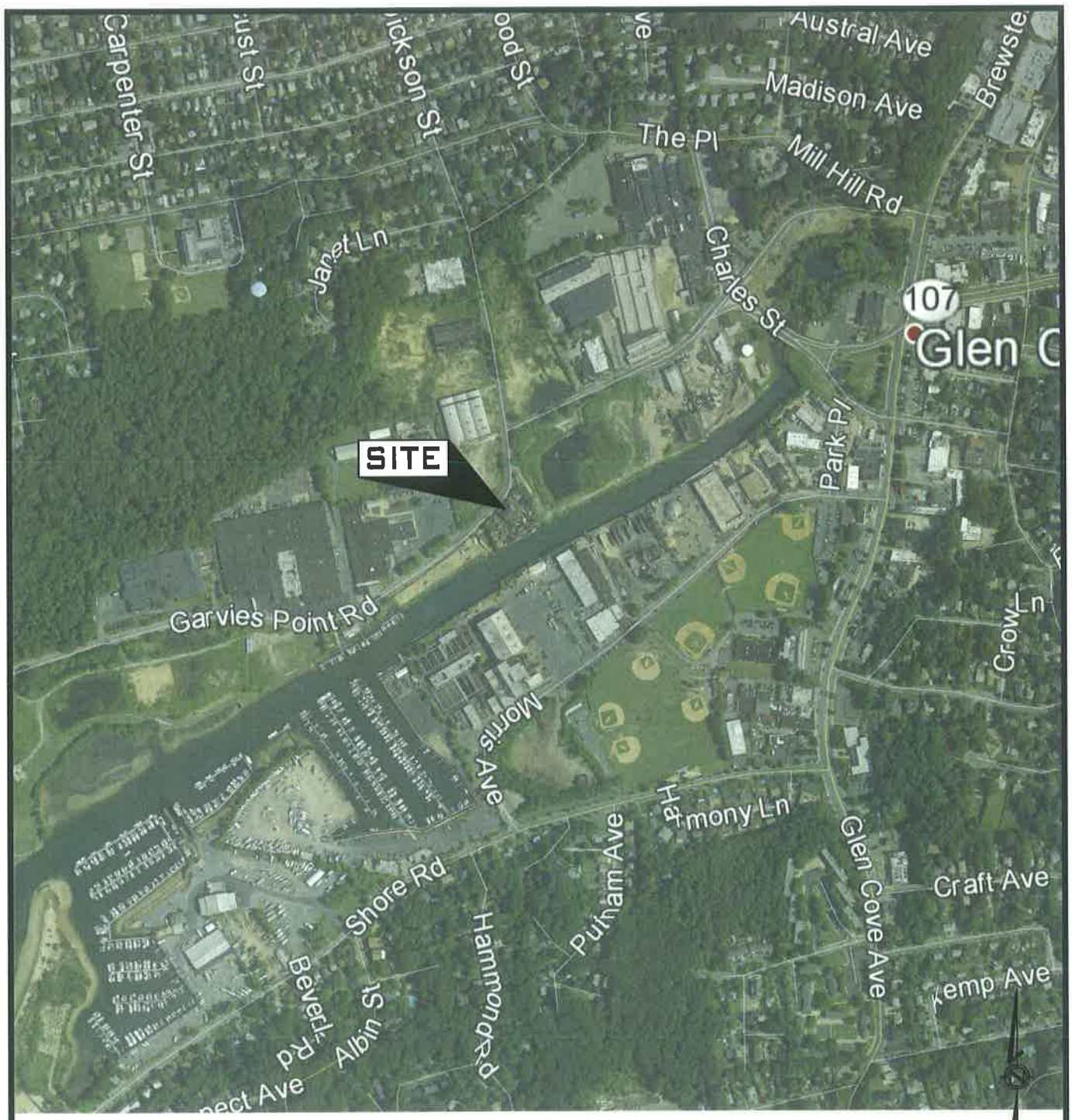
Very truly yours,

MELICK-TULLY and ASSOCIATES, P.C.

Kimberly A. Tully, E.I.T.

Todd E. Horowitz, P.E.
Vice President

KAT/TEH/kat
9103-001*1D
(3 copies submitted)



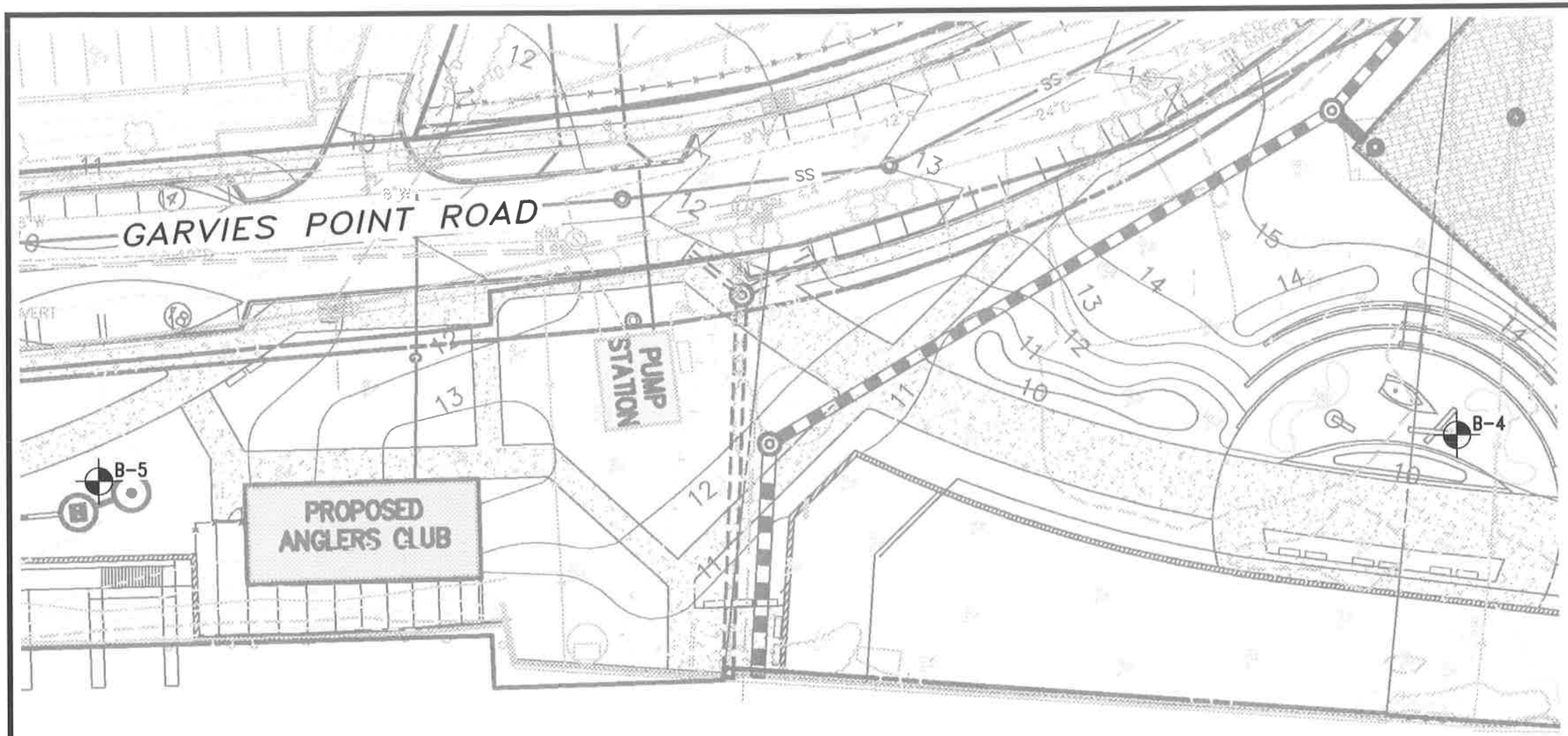
Aerial Photo courtesy of Google Earth Pro

MELICK–TULLY AND ASSOCIATES, P.C.
Geotechnical Engineers
& Environmental Consultants
117 Canal Road
South Bound Brook, New Jersey 08880
(732) 356-3400

SITE LOCATION MAP

GLEN ISLE WAREHOUSE REDEVELOPMENT
PROPOSED ANGLERS CLUB
GLEN COVE, NEW YORK
GLEN ISLE PARTNERS, LLC.

JOB NO.	FILE NO.	DR. BY	CHK. BY	DATE	SCALE	PLATE
9103-001*1D	25929	VJD	KAT	5-15-14	1"=2,000'	1



GLEN COVE CREEK

KEY:

B-4 NUMBER AND APPROXIMATE LOCATION OF BORINGS COMPLETED FOR THIS STUDY

NOTES:

1. This drawing is part of Melick-Tully and Associates, P.C. Report No. 9103-001*1D and should be read together with the report for complete evaluation.

2. General layout was obtained from a drawing prepared by PS&S, LLC, entitled "Site Block Locations", dated 1/15/14, scale 1"= 50'.

PLOT PLAN

GLEN ISLE WAREHOUSE REDEVELOPMENT
PROPOSED ANGLERS CLUB
GLEN COVE, NEW YORK
GLEN ISLE PARTNERS, LLC.

MELICK-TULLY AND ASSOCIATES, P.C.
Geotechnical Engineers
& Environmental Consultants
117 Canal Road
South Bound Brook, New Jersey 08880
(732) 356-3400

JOB NO.	FILE NO.			
9103-001*1D	25929			
DR. BY	CHK. BY	DATE	SCALE	PLATE
VJD	KAT	5-8-14	1"=40'	2

LOG OF BORING

BORING NO. B-4

COMPLETION DATE: 4/3/14
JOB NUMBER: 9103-001*1D

SURFACE ELEVATION: +9 ft (±)

WATER LEVEL: 1'
READING DATE: 4/3/14

DEPTH (ft.)	SAMPLES	N-VALUE	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH (ft.)
	S1	20			3" Topsoil	
	S2	50/3"			FILL - Gray fine to coarse sand, little silt, little fine to coarse gravel (wet)(medium dense)	
5	S3	12			- grading to some fine to coarse gravel	5
	S4	23				
10	S5	5			- grading (loose)	10
15	S6	5	335.0	PT	Dark brown peat (wet)(medium)	15
20	S7	29	9.0	SM	Yellow-brown fine to coarse sand, little fine gravel, little silt (wet)(medium dense)	20
25	S8	17				25
30	S9	32			- grading (dense)	30
35						35

NOTES FOR COLUMNS:
1. SAMPLE AT AVERAGE SAMPLING DEPTH
2. INDICATES THE NUMBER OF BLOWS TO ADVANCE A 2" OD SAMPLER A DISTANCE OF 12 INCHES USING A 140 POUND WEIGHT FALLING 30 INCHES

SOIL DESCRIPTION MODIFIERS:
TRACE 0 - 10%
LITTLE 10 - 20%
SOME 20 - 35%
AND OVER 35%

Typist/Date: kat/nac 4/14

MELICK-TULLY AND ASSOCIATES, P.C.
Geotechnical Engineers and Environmental Consultants

LOG OF BORING

BORING NO. B-4

COMPLETION DATE: 4/3/14
JOB NUMBER: 9103-001*1D

SURFACE ELEVATION: +9 ft (±)

WATER LEVEL: 1'
READING DATE: 4/3/14

DEPTH (ft.)	SAMPLES	N-VALUE	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH (ft.)
	S10	32		SM	Yellow-brown fine to coarse sand, some fine to coarse gravel, little silt (wet)(medium dense)	
40	S11	10		CL	Brown and gray silty clay, little fine to coarse sand (wet)(stiff)	40
45	S12	19	19.8	SM	Brown fine to medium sand, some silt (wet)(medium dense)	45
50					Boring completed @ 47' Groundwater encountered @ 1'	50
55						55
60						60
65						65
70						70

NOTES FOR COLUMNS:
1. SAMPLE AT AVERAGE SAMPLING DEPTH
2. INDICATES THE NUMBER OF BLOWS TO ADVANCE A 2" OD SAMPLER A DISTANCE OF 12 INCHES USING A 140 POUND WEIGHT FALLING 30 INCHES

SOIL DESCRIPTION MODIFIERS:
TRACE 0 - 10%
LITTLE 10 - 20%
SOME 20 - 35%
AND OVER 35%

Typist/Date: kat/nac 4/14

Sheet: 2 of 2 PLATE: 3A

MELICK-TULLY AND ASSOCIATES, P.C.
Geotechnical Engineers and Environmental Consultants

LOG OF BORING

BORING NO. B-5

COMPLETION DATE: 4/8/14
JOB NUMBER: 9103-001*1D

SURFACE ELEVATION: +9 ft (±)

WATER LEVEL: 4'
READING DATE: 4/8/14

DEPTH (ft.)	SAMPLES	N-VALUE	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH (ft.)
	S1	13	8.7		6" Topsoil POSSIBLE FILL - Brown fine to medium sand, trace silt (wet)(medium dense)	
	S2	14				
5	S3	13	16.2		POSSIBLE FILL - Orange-brown clayey silt, some fine to medium sand (wet)(stiff)	5
	S4	16		SP	Brown fine to coarse sand, trace silt, trace fine gravel (wet)(medium dense)	
	S5	14			- grading to some fine gravel	
10	S6	3			- grading (loose)	10
	S7	7				
15	S8	34			- grading to fine to coarse gravel (dense)	15
	S9	24				
20	S10	22		SM	- grading (medium dense) Gray fine to medium sand, little silt (wet)(medium dense)	20
25	S11	29		SM	Orange-brown fine to medium sand, some silt (wet)(medium dense)	25
30	S12	29	17.3			30
35						35

NOTES FOR COLUMNS:
1. SAMPLE AT AVERAGE SAMPLING DEPTH
2. INDICATES THE NUMBER OF BLOWS TO ADVANCE A 2" OD SAMPLER A DISTANCE OF 12 INCHES USING A 140 POUND WEIGHT FALLING 30 INCHES

SOIL DESCRIPTION MODIFIERS:
TRACE 0 - 10%
LITTLE 10 - 20%
SOME 20 - 35%
AND OVER 35%

Typist/Date: kat/nac 4/14

MELICK-TULLY AND ASSOCIATES, P.C.
Geotechnical Engineers and Environmental Consultants

LOG OF BORING

BORING NO. B-5

COMPLETION DATE: 4/8/14
JOB NUMBER: 9103-001*1D

SURFACE ELEVATION: +9 ft (±)

WATER LEVEL: 4'
READING DATE: 4/8/14

DEPTH (ft.)	SAMPLES	N-VALUE	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH (ft.)
	S13	32		SP	Tan-brown fine to medium sand, trace silt (wet)(dense)	
40	S14	23		SM	Orange-brown fine to medium sand, little silt with silty clay lenses (wet)(medium dense)	40
45					Boring completed @ 42' Groundwater encountered @ 4'	45
50						50
55						55
60						60
65						65
70						70

NOTES FOR COLUMNS:
1. SAMPLE AT AVERAGE SAMPLING DEPTH
2. INDICATES THE NUMBER OF BLOWS TO ADVANCE A 2" OD SAMPLER A DISTANCE OF 12 INCHES USING A 140 POUND WEIGHT FALLING 30 INCHES

SOIL DESCRIPTION MODIFIERS:
TRACE 0 - 10%
LITTLE 10 - 20%
SOME 20 - 35%
AND OVER 35%

Typist/Date: kat/nac 4/14

Sheet: 2 of 2 PLATE: 3B

MELICK-TULLY AND ASSOCIATES, P.C.
Geotechnical Engineers and Environmental Consultants

MAJOR DIVISIONS			LETTER SYMBOL	TYPICAL DESCRIPTIONS
COARSE GRAINED SOILS More than 50% of material is LARGER than No. 200 Sieve	GRAVEL & GRAVELLY SOILS More than 50% of coarse fraction RETAINED on No. 4 Sieve	CLEAN GRAVELS (Little or no fines)	GW	Well-graded gravels, gravel-sand mixtures, little or no fines.
			GP	Poorly-graded gravels, gravel-sand mixtures, little or no fines
		GRAVELS WITH FINES (Appreciable amount of fines)	GM	Silty gravels, gravel-sand-silt mixtures.
			GC	Clayey gravels, gravel-sand-clay mixtures.
	SAND AND SANDY SOILS More than 50% of coarse fraction PASSING a No. 4 Sieve	CLEAN SAND (Little or no fines)	SW	Well-graded sands, gravelly sands, little or no fines.
			SP	Poorly-graded sands, gravelly sands, little or no fines.
		SANDS WITH FINES (Appreciable amount of fines)	SM	Silty sands, sand-silt mixtures
			SC	Clayey sands, sand-clay mixtures.
FINE GRAINED SOILS More than 50% of material is SMALLER than No. 200 Sieve.	SILTS AND CLAYS	Liquid limit LESS than 50	ML	Inorganic silts and very fine sands, rock flour, silty or clayey fine sands or clayey silts with slight plasticity.
			CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays.
			OL	Organic silts and organic silty clays of low plasticity.
	SILTS AND CLAYS	Liquid limit GREATER than 50	MH	Inorganic silts, micaceous or diatomaceous fine sand or silty soils.
			CH	Inorganic clays of high plasticity, fat clays.
			OH	Organic clays of medium to high plasticity, organic silts.
HIGHLY ORGANIC SOILS			PT	Peat, humus, swamp soils with high organic contents

NOTE: DUAL SYMBOLS ARE USED TO INDICATE BORDERLINE SOIL CLASSIFICATIONS.

GRADATION*		COMPACTNESS* sand and/or gravel		CONSISTENCY* clay and/or silt	
% Finer by Weight		Relative Density		Range of Shearing Strength in Pounds per Square Foot	
Trace	0% to 10%	Loose	0% to 40%	Very Soft	less than 250
Little	10% to 20%	Medium Dense	40% to 70%	Soft	250 to 500
Some	20% to 35%	Dense	70% to 90%	Medium	500 to 1000
And	35% to 50%	Very Dense	90% to 100%	Stiff	1000 to 2000
				Very Stiff	2000 to 4000
				Hard	Greater than 4000

**Values are from laboratory or field test data, where applicable. When no testing was performed, values are estimated.*

UNIFIED SOIL CLASSIFICATION SYSTEM

SOIL CLASSIFICATION CHART

APPENDIX

Limitations

APPENDIX

Limitations

A. Subsurface Information

Locations: The locations of the explorations were determined by GPS completed by others. Elevations of the explorations were approximately determined by interpolation between contours shown on topographic plans provided to us. The locations and elevations of the explorations should be considered accurate only to the degree implied by the method used.

Interface of Strata: The stratification lines shown on the individual logs of the subsurface explorations represent the approximate boundaries between soil types, and the transitions may be gradual.

Field Logs/Final Logs: A field log was prepared for each exploration by a member of our staff. The field log contains factual information and interpretation of the soil conditions between samples. Our recommendations are based on the final logs as shown in this report and the information contained therein, and not on the field logs. The final logs represent our interpretation of the contents of the field logs, and the results of the laboratory observations and/or tests of the field samples.

Water Levels: Water level readings have been made in the explorations at times and under conditions stated on the individual logs. These data have been reviewed and interpretations made in the text of this report. However, it must be noted that fluctuations in the level of the groundwater will occur due to variations in rainfall, tides, temperature, and other factors.

Pollution/Contamination: Unless specifically indicated to the contrary in this report, the scope of our services was limited only to investigation and evaluation of the geotechnical engineering aspects of the site conditions, and did not include any consideration of potential site pollution or contamination resulting from the presence of chemicals, metals, radioactive elements, etc. This report offers no facts or opinions related to potential pollution/contamination of the site.

Environmental Considerations: Unless specifically indicated to the contrary in this report, this report does not address environmental considerations which may affect the site development, e.g., wetlands determinations, flora and fauna, wildlife, etc. The conclusions and recommendations of this report are not intended to supersede any environmental conditions which should be reflected in the site planning.

B. Applicability of Report

This report has been prepared in accordance with generally accepted soils and foundation engineering practices for the exclusive use of RXR Glen Isle Partners, LLC for specific application to the design of the proposed Anglers Club and pump station. No other warranty, expressed or implied, is made.

A more detailed subsurface investigation should be performed at the site prior to proceeding with final design. This investigation should consider the final locations and design features of the proposed facilities and should serve to confirm and/or further define the subsurface conditions and recommendations discussed in this preliminary study.

APPENDIX B – NASSAU COUNTY SEWER ORDINANCE (ORDINANCE NO. 266-1985)



NASSAU COUNTY
Department of Public Works

NASSAU COUNTY SEWER ORDINANCE

Ordinance No. 266-1985

FRANCIS T. PURCELL
County Executive

LUDWIG C. HASL, P.E.
Commissioner of Public Works

June 1985

ORDINANCE NO. 266 - 1985

AN ORDINANCE REGULATING THE USE OF PUBLIC AND PRIVATE SEWERS, PRIVATE SEWAGE DISPOSAL, THE INSTALLATION AND CONNECTION OF BUILDING SEWERS, THE DISCHARGE OF WATERS AND WASTES INTO THE PUBLIC SEWER SYSTEM(S) OF THE COUNTY OF NASSAU, AND INTO THE COLLECTION SYSTEMS OF OTHER MUNICIPALITIES TRIBUTARY THERETO, AND PROVIDING PENALTIES FOR VIOLATIONS THEREOF AND REPEALING ORDINANCE NOS. 401 - 1977; 445 - 1979; 209 - 1979; 142 - 1981.

(Passed by Board of Supervisors on June 3, 1985. Votes for 102; votes against, none. Became an ordinance on June 3, 1985 with the approval of the County Executive.)

SECTION 1 - Short Title and Statement of Purpose.

This Ordinance (see Table of Contents annexed as Addendum A) shall be known and may be cited as the "Nassau County Sewer Ordinance." This Ordinance sets forth uniform requirements for direct and indirect contributors into the wastewater collection and treatment system for the County of Nassau and enables the County to comply with all applicable State and Federal laws required by the Clean Water Act of 1977 and the General Pretreatment Regulations (40 CFR, Part 403). This Ordinance provides for the regulation of direct and indirect contributors to the municipal wastewater system through the issuance of permits to certain domestic and non-domestic Users and through enforcement of general requirements for the other Users, authorizes monitoring and enforcement activities, requires User reporting, assumes that existing customers' capacity will not be preempted, and provides for the setting of fees for the equitable distribution of costs resulting from the program established herein. This Ordinance shall apply to the County of Nassau and to persons who are, by contract or agreement with the County, Users of the County Publicly Owned Treatment Works (POTW) as defined in Section 2.2.37. Except as otherwise provided herein, the Commissioner of Public Works of Nassau County shall administer, implement, and enforce the provisions of this Ordinance.

SECTION 2 - Abbreviations and Definitions

2.1 **Abbreviations:** The following abbreviations shall have the designated meanings:

- **ASTM -** American Society for Testing and Materials
- **BOD -** Biochemical Oxygen Demand
- **CFR -** Code of Federal Regulations
- **COD -** Chemical Oxygen Demand
- **EPA -** U.S. Environmental Protection Agency
- **mg/l -** Milligrams per Liter
- **POTW -** Publicly Owned Treatment Works
- **SIC** Standard Industrial Classification
- **SPDES -** State Pollutant Discharge Elimination System
- **SWDA -** Solid Waste Disposal Act, 42 U.S.C. 6901, et. seq.
- **USC** United States Code

- TDS - Total Dissolved Solids
- TSS - Total Suspended Solids
- WPCF - Water Pollution Control Federation

2.2 **Definitions:** Unless the context specifically indicates otherwise, the following terms and phrases, as used in this Ordinance, shall have the meanings hereinafter designated:

2.2.1 **"Act" or "the Act"** shall mean the Federal Water Pollution Control Act, also known as the Clean Water Act, as amended, 33 U.S.C. 1251, et. seq.

2.2.2 **"Administrator"** shall mean the regional administrator of the U.S. Environmental Protection Agency, Region II.

2.2.3 **"Approval Authority"** shall mean the United States Environmental Protection Agency, or the New York State Department of Environmental Conservation in the event it is delegated approval authority responsibility.

2.2.4 **"Authorized Representative of Industrial User"** shall mean either: (1) A principal executive officer of at least the level of vice-president, if the industrial user is a corporation; or (2) A general partner or proprietor if the industrial user is a partnership or proprietorship, respectively; or (3) A duly authorized representative of the individual designated above if such representative is responsible for the overall operation of the facilities from which the indirect discharge originates.

2.2.5 **"Biochemical Oxygen Demand" or "BOD"** shall mean the quantity of oxygen utilized in the biochemical oxidation of organic matter under standard laboratory procedure, five (5) days at 20 degrees Centrigrade (68 degrees Farenheit), expressed in milligrams per liter (mg/l) as determined by the procedures described in "Standard Methods".

2.2.6 **"Building Drain"** shall mean that part of the lowest horizontal piping of a drainage system which receives the discharge from soil, waste and other drainage pipes inside the walls of the building and conveys it to the house connection or building sewer which begins five (5) feet outside the inner face of the building wall.

2.2.7 **"Building Sewer"** shall mean a sewer conveying wastewater from the premises of a User to the POTW.

2.2.8 **"Categorical Standards"** shall mean EPA's National Categorical Pretreatment Standards.

2.2.9 **"Commissioner"** shall mean the Commissioner of the Department of Public Works fo the County of Nassau or his authorized deputy, agent or representative.

2.2.10 **"Composite"** shall mean a combination of individual (or continuously taken) samples obtained at regular intervals over the entire discharge day. The volume of each sample is proportional to the discharge flow rate. For a continuous discharge, a minimum of 24 individual grab samples (at hourly intervals) shall be collected and combined to constitute a 24 hour composite sample. For intermittent discharges of 4-8 hours duration, grab samples shall be taken at a maximum of 30 minute intervals. For intermittent discharges of less than four hour duration, grab samples shall be taken at a maximum of 15 minute intervals.

2.2.11 **"Cooling Water"** shall mean the water discharged from any system of condensation, air conditioning, cooling, refrigeration to which the only pollutant added is heat. It shall contain no polluting substances which would produce BOD, or TSS, in excess of ten parts per million by weight, or toxic substances as limited elsewhere herein.

2.2.12 **"County"** shall mean the County of Nassau.

2.2.13 **"Direct Discharge"** whall mean the discharge of treated or untreated wastewater directly to the waters of the State of New York.

2.2.14 **"Environmental Protection Agency" or "EPA"** shall mean the United States Environmental Protection Agency, or where appropriate the term may also be used as a designation for the Administrator or other duly authorized official of said agency.

2.2.15 **"Garbage"** shall mean solid wastes from the domestic and commercial preparation, cooking, and dispensing of food, and from the handling, storage, and sales of produce.

2.2.16 **"General Permit"** shall mean an authorization for the connection as well as the discharge of sewage from private dwellings into the County sewer system.

2.2.17 **"Grab Sample"** shall mean a sample which is taken from a waste stream on a one-time basis with no regard to the flow in the waste stream and without consideration of time.

2.2.18 **"Holding Tank Waste"** shall mean any waste from holding tanks such as vessels, chemical toilets, campers, trailers, septic tanks, and vacuum-pump tank trucks.

2.2.19 **"Indirect Discharge"** shall mean the discharge or the introduction of non-domestic pollutants from any source regulated under section 307(b) or (c) of the Act, (33 U.S.C. 1317), into the Publicly Owned Treatment Works (POTW) as defined in Section 2.2.36 (including holding tank waste discharged into the system).

2.2.20 **"Industrial User"** shall mean any nonresidential User identified in Division A, B, D, E or I of the Standard Industrial Classification Manual. It shall also include any User which discharges wastewater containing toxic or poisonous substances, or any substance(s) which cause(s) interference in the wastewater facilities.

2.2.21 **"Industrial Wastes"** shall mean any liquid, gaseous, solid or other waste substance or a combination thereof, resulting from any process of industry, manufacture, trade or business, or from the development or recovery of any natural resources, as distinct from sanitary wastewater.

2.2.22 **"Interference"** shall mean the inhibition or disruption of the POTW treatment processes or operations which is a cause of or significantly contributes to a violation of any requirement of the County's SPDES Permit including an increase in the magnitude or duration of a violation. The term includes prevention of sewage sludge use or disposal by the POTW in accordance with 405 of the Act, (33 U.S.C. 1345) or any criteria, guidelines or regulations developed pursuant to the Solid Waste Disposal Act (SWDA), the Clean Air Act, the Toxic Substances Control Act, the Resource Conservation and Recovery Act (RCRA) or more stringent State criteria (including those contained in any State sludge management plan prepared pursuant to Title IV of SWDA) applicable to the method of disposal or use employed by the POTW.

2.2.23 **"Milligrams per Liter (mg/1)"** shall be the units for expressing weight per unit volume and when multiplied by the factor 8.34, mg/1 is equivalent to pounds per million gallons of water. For a water solution, mg/1 is equivalent to parts per million (ppm) on a weight basis.

2.2.24 **"National Categorical Pretreatment Standard" or "Pretreatment Standard"** shall mean any regulation containing pollutant discharge limits promulgated by the EPA in accordance with section 307(b) and (c) of the Act (33 U.S.C. 1347) which applies to a specific category of Industrial Users.

2.2.25 **"Natural Outlet"** shall mean any outlet, including storm sewers, into a water-course, pond, ditch, lake, or other body of surface or groundwater.

2.2.26 **"New Source"** shall mean any building, structure, facility, or installation from which there is or may be a Discharge of pollutants, the construction of which commenced after the publication of proposed Pretreatment Standards under section 307(c) of the Act which will be applicable to such source if such Standards are thereafter promulgated in accordance with that section.

2.2.27 **"NYSDEC"** shall mean the New York State Department of Environmental Conservation or duly authorized official of said Department.

2.2.28 **"Objectionable Waste"** shall mean any waste as described in Section 4.3 of this Ordinance.

2.2.29 **"Person"** shall mean any individual, partnership, copartnership, firm, company, corporation, association, joint stock company, trust, estate, governmental entity or any other legal entity, or their legal representatives, agents or assigns.

2.2.30 **"pH"** shall mean the logarithm (base 10) of the reciprocal of the concentration of hydrogen ions expressed in grams per liter of solution.

2.2.31 **"Pollutant"** shall mean any chemical wastes, biological materials, radioactive materials, heat, solid material or dissolved material discharged into water.

2.2.32 **"Pollution"** shall mean the man-made or man-induced alteration of the chemical, physical, biological, and radiological integrity of water.

2.2.33 **"Pretreatment " or "Treatment"** shall mean the reduction of the amount of pollutants, the elimination of pollutants, or the alteration of the nature of pollutant properties in wastewater to a less harmful state prior to or in lieu of discharging or otherwise introducing such pollutants into a Publicly Owned Treatment Works (POTW) as defined in Section 2.2.37. The reduction or alteration can be obtained by physical, chemical or biological processes, or process changes by other means, except as prohibited by 40 CFR 403.6(d).

2.2.34 **"Pretreatment Reguirements"** shall mean any substantive or procedural requirements related to pretreatment, other than a National Pretreatment Standard imposed on an Industrial User.

2.2.35 **"Private Dwelling"** shall mean any building used solely for residential purposes and containing fewer than five apartments.

2.2.36 **"Private Sewer"** shall mean any sewer privately owned and used by one or more properties.

2.2.37 **"Publicly Owned Treatment Works (POTW)"** shall mean a treatment works as defined by section 212 of the Act, (33 U.S.C. 1292) which is owned in this instance by the County. This definition includes any sewers that convey wastewater to the POTW treatment plant, but does not include pipes, sewers or other conveyances not connected to a facility providing treatment. For the purpose of this Ordinance, "POTW" shall also include any sewers that convey wastewater to the POTW from persons who are, by contract or agreement with the County, Users of the County's POTW.

2.2.38 **"Public Sewer"** shall mean a sewer in which all owners of abutting properties have equal rights, and is controlled by a governmental agency.

2.2.39 **"POTW Treatment Plant"** shall mean that portion of the POTW designed to provide treatment to wastewater.

2.2.40 **"Sanitary Sewer"** shall mean a sewer that carries liquid and water-carried wastes from residences, commercial buildings, industrial plants, and institutions, together with minor quantities of ground, storm and surface water that are not admitted intentionally.

2.2.41 **"Sewage"** shall mean the usual water-carried wastes from toilets, water closets, urinals, bath tubs, shower baths, wash basins, laundry tubs, kitchen sinks and similar plumbing fixtures installed in a building and shall not include any other liquid or solid matter whatsoever.

2.2.42 **"Sewer"** shall mean a pipe or conduit for carrying sewage or wastewater.

2.2.43 **"Sewer System"** shall mean, collectively, all of the property involved in the operation of a sewer utility. It includes land, sewers and appurtenances, pumping station, treatment works, and general property.

2.2.44 **"Shall"** is mandatory; **"May"** is permissive.

2.2.45 **"Significant Industrial User" or "SIU"** shall mean any Industrial User of the County's wastewater disposal system who:

- is subject to promulgated Categorical Pretreatment Standards, or
- is found having substantial impact, either singly or in combination with other contributing industries, on the operation of the treatment works, or
- is a manufacturing industry using, on an annual basis, more than 10,000 pounds or 1,000 gallons of raw material containing priority pollutions/substances of concern and discharging a measurable amount of those pollutants to the sewer system from the process using these pollutants, or
- discharges more than five (5) percent of the waste flow or load carried by the sewage treatment plant receiving the waste.

2.2.46 **"Slug"** shall mean any discharge of water, sewage or industrial waste which in concentration of any given constituent or in quantity of flow exceeds for any period of duration longer than 15 minutes more than five (5) times the average twenty-four (24) hour concentration or flows during normal operation.

2.2.47 **"Special Permit"** shall mean an authorization for the connection as well as the discharge of wastewater from all Users other than private dwellings into the County sewer system.

2.2.48 **"Standard Industrial Classification (SIC)"** shall mean a classification pursuant to the Standard Industrial Classification Manual issued by the Executive Office of the President, Office of the President, Office of Management and Budget, 1972.

2.2.49 **"Standard Methods"** shall mean the examination and analytical procedures set forth in the latest edition, at the time of analysis, of **Standard Methods for the Examination of Water and Wastewater** as prepared, approved and published jointly by the American Public Health Association, the American Water Works Association, and the Water Pollution Control Federation.

2.2.50 "**State**" shall mean the State of New York.

2.2.51 "**State Pollutant Discharge Elimination System**" **or** "**SPDES Permit**" shall mean a permit issued pursuant to Section 402 of the Act (33 U.S.C. 1342).

2.2.52 "**Storm Water**" shall mean any flow occurring during or following any form of natural precipitation and resulting therefrom.

2.2.53 "**Suspended Solids**" shall mean the total suspended matter that floats on the surface of, or is suspended in water, wastewater, or other liquids, and which is removable by laboratory filtering.

2.2.54 "**Toxic Pollutant**" shall mean any pollutant or combination of pollutants listed as toxic in regulations promulgated by the Administrator of the Environmental Protection Agency under the provision of CWA 307(a).

2.2.55 "**User**" shall mean any person who contributes, causes or permits the contribution of wastewater into the County's POTW.

2.2.56 "**Wastewater**" shall mean the liquid and water-carried industrial or domestic wastes from dwellings, commercial buildings, industrial facilities, and institutions together with any groundwater, surface water, and storm water that may be present, whether treated or untreated, which is contributed into or permitted to enter the POTW.

2.2.57 "**Water Pollution Control Plant**" shall mean an arrangement of devices and structures for the control of waterborne pollution.

SECTION 3 - Use of Public Sewer

3.1 **Unsanitary Handling of Wastes Prohibited**
It shall be unlawful for any person to place, deposit, or permit to be deposited in any unsanitary manner on public or private property within the County of Nassau, or in any area under the jurisdiction of Nassau County, any human or animal excrement, garbage, or other objectionable waste.

3.2 **Private Discharge of Wastes Restricted**
It shall be unlawful to discharge to any natural outlet within the County, or in any area under the jurisdiction of the County, any sewage or other polluted waters, except where suitable treatment has been provided in accordance with subsequent provisions of this Ordinance.

3.3 **Connection to County Sewers Required**
Where there is a public sewer physically available to properties within the boundaries of the Nassau County Sewer Districts, it is mandatory that said properties be connected to said public sewer within two years after date of official notice to do so. All applications to construct, install, alter, replace, modify or change a building sewer, shall be made and submitted to the County in writing, upon the form provided for such purpose by the County, together with the permit fee in accordance with the provisions of this Ordinance. No private sewage disposal systems other than pretreatment systems for discharge to the County system as provided for herein, are now allowed, nor shall be allowed within the sewer districts.

SECTION 4 - Unlawful Connections and Discharges

4.1 **Necessity for a Permit**
No person, other than a municipality having such right by contract with the County, shall make or cause to be made any connection or attachment to any County sewer facility, nor shall any

person maintain, use, cause or permit any such connection or attachment to be maintained or used without having obtained a permit therefor from the Commissioner of Public Works. Proof of the existence of any such connection or attachment without a permit from the Commissioner of Public Works shall create a presumption that the connection or attachment was made or caused to be made by the owner of the premises served by such connection or attachment. No person shall discharge directly or indirectly into any such facility any industrial or objectionable waste without having obtained a permit therefor from the Commissioner of Public Works. As a condition for authorization for disposal of industrial waste, industries must provide information describing wastewater constituents and characteristics and type of activity involved as provided for herein. Proof of the contribution of any such wastes shall create a presumption that such waste was discharged by the owner of the premises on which such waste originated.

4.2 Discharge of Unpolluted Wastes to Sanitary Sewer Prohibited

No person shall discharge or cause to be discharged, either directly or indirectly, any stormwater, surface water, groundwater, roof runoff, subsurface drainage, uncontaminated cooling water, or unpolluted industrial process waters into any sanitary sewer. Proof of the contribution of any such wastes shall create a presumption that such waste was discharged by the owner of the premises on which such waste originated.

4.3 Objectionable Wastes

4.3.1 General

No User shall contribute or cause to be contributed, directly or indirectly except as provided for in Section 5, any pollutant or wastewater which is an objectionable waste. Generally, no person shall discharge or cause to be discharged substances, materials, waters, or wastes under such conditions that such wastes can harm either the sewers, sewage treatment process, or equipment, have an adverse effect on the receiving stream, or can otherwise endanger life, limb, public property or constitute a nuisance. In determining the acceptability of wastes, the Commissioner will give consideration to such factors as the quantities of subject wastes in relation to flows and velocities in the sewers, the sewage treatment process, capacity of the sewage treatment plant, and other pertinent factors.These general prohibitions apply to all such Users of a POTW whether or not the User is subject to National Categorical Pretreatment Standards or any other Federal, State, or local Pretreatment Standards or Requirements.

4.3.2 Fire or Explosion Hazard

Any liquids, solids, or gases which by reason of their nature or quantity are, or may be, sufficient either alone or by interaction with other substances to cause fire or explosion or be injurious in any other way to the POTW or to the operation of the POTW. At no time shall two successive readings on an explosion hazard meter, at the point of discharge into the system (or at any point in the system), be more than five percent (5%) nor any single reading over ten percent (10%) of the Lower Explosive Limit (LEL) of the meter. Prohibited materials include, but are not limited to, gasoline, fuel oil, kerosene, naphtha, benzene, toluene, xylene, ethers, alcohols, ketones, aldehydes, peroxides, chlorates, perchlorates, bromates, carbides, hydrides, sulfides and any other substances which the County, the State or EPA has notified the User is a fire hazard or a hazard to the system.

4.3.3 Toxic Pollutants

Any wastewater containing toxic pollutants in sufficient quantity, either singly or by interaction with other pollutants, to injure or interfere with any wastewater treatment process, constitute a hazard to humans or animals, create a toxic effect in the receiving waters of the POTW, or to exceed the limitation set forth in a Categorical Pretreatment Standard. A toxic pollutant shall include, but not be limited to, any pollutant identified pursuant to Section 307(a) of the Act.

4.3.4 **pH**

Any wastewater having a pH lower than 5.5 or higher than 9.5 or having any other corrosive property capable of causing damage or hazard to structures, equipment, and personnel of the POTW.

4.3.5 **Solids Which May Create Obstructions**

Solid or viscous substances which may cause obstruction to the flow in a sewer or other interference with the proper operation of the wastewater treatment facilities such as, but not limited to: grease as defined hereinafter, ground or unground garbage, animal carcass wastes, ashes, cinders, sand, lime, stone or marble dust, metal, glass, straw, shavings, grass clippings, rags, spent grains, spent hops, waste paper, bark, wood sawdust, plastics, gas, tar, asphalt residues, residues from refining or processing of fuel or lubricating oil, mud or glass grinding or polishing wastes. Grease shall include wax, grease or oils, whether emulsified or not, in excess of one hundred (100) mg/l or containing substances which may solidify or become viscous at temperatures between thirty-two (32) and one hundred fifty (150) degrees Farenheit (0 and 65 degrees C).

4.3.6 **Taste or Odor Causing Materials**

Any noxious, malodorous, or taste producing liquids, gases, or solids which either singly or by interaction with other wastes are sufficient to create a public nuisance or hazard to life or are sufficient to prevent entry into the sewers for their maintenance and repair.

4.3.7 **Materials Interfering with Water Reuse or Sludge Disposal**

Any Substance which may cause the POTW's effluent or any other product of the POTW such as residues, sludges or scums to be unsuitable for reclamation and reuse or to interfere with the reclamation process where the POTW is pursuing a reuse and reclamation program. In no case shall a substance discharged to the POTW cause the POTW to be in non-compliance with sludge use or disposal criteria, guidelines or regulations developed under Section 504 or the Act; any criteria, guidelines, or regulations effecting sludge use or disposal developed pursuant to the Solid Waste Disposal Act, the Clean Air Act, the Toxic Substances Control Act, the Resource Conservation and Recovery Act, or State criteria applicable to the sludge management method being used.

4.3.8 **POTW Permit Violation**

Any substance which will cause the POTW to violate its SPDES permit or the receiving water quality standards.

4.3.9 **Pathogens**

Any matter which contains viable pathogenic bacteria in quantities larger than normally encountered in raw domestic sewage or any matter which can reasonably be expected to contain such viable pathogenic bacteria in such quantities.

4.3.10 **Temperature**

Any liquid, solid, or vapor having a temperature higher than 150°F (65°C); however, such liquid, solid or vapor shall not cause the temperature of the influent to the sewage treatment plant to be greater than 104°F (40°C).

4.3.11 **Acid or Pickling Waste**

Any waters or wastes containing strong acid iron pickling wastes, or concentrated plating solutions whether neutralized or not.

4.3.12 **Specific Elemental Concentrations**

Any waters or wastes containing concentrations in excess of the following:

Specific Pollutant Limitations for Discharge to Sanitary Sewers

Parameter	Concentration Limit Milligrams per Liter
Cadmium	0.2
Chromium, Hex	0.1
Chromium, Total	2.0
Copper	2.0
Iron	4.0
Lead	0.1
Mercury	0.1
Nickel	2.0
Zinc	5.0
Arsenic	0.1
Available Chlorine	0.5
Cyanide, Total	1.0
Selenium	0.1
Sulfide	3.0
Barium	2.0
Manganese	2.0
Ammonia Nitrogen	20.0
Gold	0.1
Silver	0.1
Fluorides	10.0
Antimony	0.18

4.3.13 **Radioactive Wastes**

Any wastewater containing radioactive wastes or isotopes of such half-life or concentration as may exceed limits established by the Commissioner in compliance with applicable State or Federal regulations.

4.3.14 **Potential Precipitates**

Any waters or wastes containing solids in solution which will precipitate greater than 1000 ppm upon acidification (pH below 5.5); or alkalization (pH above 9.5) or oxidation or reduction.

4.3.15 **Viscosity**

Any waters or wastes having a viscosity exceeding 1.10 poises (absolute viscosity) upon discharge or after acidification (pH below 5.5), or alkalization (pH above 9.5).

4.3.16 **Color**

Excessive discoloration (such as, but not limited to, dye wastes and vegetable tanning solutions).

4.3.17 **Conventional Pollutants**

Unusual BOD, TDS, TSS, COD, or chlorine requirements in such quantities as to constitute an unacceptable load on the sewage treatment works as determined by the Commissioner.

4.3.18 **Extreme Variations**

Unusual volume of flow or concentration of wastes constituting "slugs" as defined herein.

SECTION 5 - Conditional Connections and Discharges

5.1 **General**

If any waters or wastes are discharged, or are proposed to be discharged into the public sewers which are Objectionable Wastes as defined in Section 4.3 or which, in the judgement of the Commissioner, may have a deleterious effect upon the sewage treatment works processes, equipment, or receiving waters, or which otherwise create a hazard to life or constitute a public nuisance, the Commissioner may:

- Reject the waste or
- Require pretreatment to an acceptable condition for discharge to the public sewers, as provided for in Section 6, and/or
- Require control over the quantities and rates of discharge, or
- Require payment to cover the added cost of handling and treating the wastes not covered by existing taxes or sewer charges under the provision of Section 5.7.

5.2 **Interceptors and Traps**

Grease, oil, hair and sand interceptors shall be provided when the Commissioner determines that they are necessary for the proper handling of liquid wastes containing grease in excessive amounts, or any flammable wastes, sand, or other harmful ingredients; except that such interceptors shall not be required for private dwellings. All the interceptors shall be located as to be readily and easily accessible for cleaning and inspection. No dishwasher discharge will be allowed to pass through any of the aforementioned interceptors. Where preliminary treatment including interceptors and traps or flow-equalizing facilities are provided for any waters or wastes, they shall be maintained continuously satisfactory and in effective operation by the owner at his expense. There shall be no bypass of the pretreatment facilities which would allow the entry of untreated or partially treated wastes to the public sewer system.

5.3 **Control Manholes**

When required by the Commissioner, the owner of any property serviced by a house connection carrying industrial wastes shall install a suitable control manhole, together with such necessary meters and other appurtenances, including but not limited to Parshall flumes, venturi meters and weirs, in the building sewer to facilitate observation, sampling and measurement of the wastes.

Such manhole, when required, shall be constructed in accordance with plans approved by the Commissioner. The manhole shall be installed by the owner at his expense, and shall be maintained by him so as to be safe and accessible at all times. When required by the Commissioner, dischargers shall install and maintain in proper order automatic flow proportional sampling equipment and/or automatic analysis and recording equipment. Sampling and flow measurement facilities shall be such as to provide safe access to authorized personnel. The industrial wastewater discharger shall identify the effluent sampling point used for each discharge pipe by providing a sketch or flow diagram, as appropriate, showing the location.

5.4 Measurement, Sampling and Testing - Standards and Procedures

All measurements, tests and analyses of the characteristics of waters and wastes to which reference is made in this Ordinance shall be determined in accordance with the latest edition of **Standard Methods for the Examination of Water and Wastewater** and shall be determined at the control manhole. In the event that no special manhole has been required, the control manhole shall be considered to be the nearest downstream manhole in the public sewer to the point at which the building sewer is connected. Sampling shall be carried out by the customarily accepted methods and to reflect the effect of constituents upon the sewage treatment works and to determine the existence of hazards to life, limb and property. Sampling shall be representative of the volume and quality of wastewater effluent discharged over the sampling and reporting period. (The particular analyses involved will determine whether a twenty-four (24) hour composite of all outfalls of a premise is appropriate or whether a grab sample or samples should be taken. Normally, but not always, BOD and suspended solids analyses are obtained from 24-hour composite of all outfalls whereas pH is determined from periodic grab samples).

All sampling, analyses and flow measurement procedures, equipment and results shall be subject at any time to inspection by the Commissioner.

Adequate care shall be maintained in obtaining, recording, and reporting the required data on wastewater effluent quality and quantity, so that the precision and accuracy of the data will be equal to or better than that achieved by the prescribed standard analytical procedures. The industrial wastewater discharger shall calibrate and perform maintenance procedures on all monitoring and analytical instrumentation at sufficiently frequent intervals to ensure accuracy of measurements.

Care shall be exercised when collecting a composite sample to assure that the proper preservative is present in the sample container during sample collection.

Depending on the analysis to be conducted, several different containers and preservation techniques may be required. Samples shall be analyzed as quickly as possible after collection. The industrial wastewater discharger shall ascertain that the methodology used is reliable for his specific wastes in his laboratory. Such discharger must be able to demonstrate to the Commissioner that he has a viable quality control program.

5.5 Measurement, Sampling and Testing - Frequency

Those industrial wastewater dischargers required to make periodic measurements of their wastewater flow and its constituents shall annually make the minimum number of such measurements required. Composite samples of the industrial wastewater shall be obtained for the required analyses. Dischargers required to sample on only a few days per year shall sample during the period of highest wastewater flow and wastewater constituent discharge. Samples should be taken during normal operating conditions.

5.6 Record Keeping

The industrial wastewater discharger shall maintain and record the results of all required analyses and measurements and shall record, for all samples, the date and time of sampling, the sample method used, the dates analyses were performed, who performed the sampling and analyses, and the results of such analyses. All records shall be retained for a minimum of 3 years, such a period

to be extended during the course of any unresolved litigation or when so requested by the Commissioner. The industrial wastewater discharger also shall retain all original stripchart recordings from any continuous monitoring instrumentation and any calibration and maintenance records for a minimum of 3 years such period to be extended during the course of any unresolved litigation or when so requested by the Commissioner The industrial wastewater discharger shall provide the above records and shall demonstrate the adequacy of the flow measuring and sampling methods upon request of the Commissioner.

5.7 Exceptions

No statement contained in this article shall be construed as preventing any special agreement or arrangement between the County and any industrial concern whereby an industrial waste of unusual strength or character may be accepted by the County for treatment, subject to payment therefor, by the industrial concern. No special agreements shall circumvent Federal Categorical Pretreatment Standards.

SECTION 6 - Pretreatment Requirements

6.1 Users Subject to Pretreatment Requirements

All Significant Industrial Users of the County POTW shall be subject to the Pretreatment Requirements of this Ordinance. In addition, any User subject to Federal Categorical Pretreatment Standards or which discharges Objectionable Wastes listed in Section 4.3 of this Ordinance shall be subject to Pretreatment Requirements.

6.2 General Requirements

Users shall provide necessary wastewater treatment as required to comply with this Ordinance and shall achieve compliance with all Federal Categorical Pretreatment Standards within the time limitations as specified by the Federal Pretreatment Regulations. Any facilities required to pretreat wastewater to a level acceptable to the County shall be provided, operated, and maintained at the User's expense. Detailed plans showing the pretreatment facilities and operating procedures shall be submitted to the County for review, and shall be acceptable to the County before construction of the facility.

All reports, plans and/or specifications that propose pretreatment facilities must be approvable, and signed and sealed by a professional engineer, licensed to practice in the State of New York. All such documents shall be subject to the review and approval of the Commissioner.

The review of such plans and operating procedures will in no way relieve the User from the responsibility of modifying the facility as necessary to produce an effluent acceptable to the County under the provisions of this Ordinance. Any subsequent changes in the pretreatment facilities or method of operating shall be reported to and be acceptable to the County prior to the User's initiation of the changes.

The County shall annually publish in the official daily newspaper(s) of the county a list of the Users which significantly violated any Pretreatment Requirements or Standards at least once during the 12 previous months. The notification shall also summarize any enforcement actions taken against the User(s) during the same 12 months.

All records relating to compliance with Pretreatment Standards shall be made available to officials of the EPA or Approval Authority upon request and who shall have the right to make copies of such records.

In addition to these requirements, all other appropriate conditions of this Ordinance shall apply, including those of Section 7, Applications for Permits.

6.3 **Federal Categorical Pretreatment Standards**

Upon the promulgation of the Federal Categorical Pretreatment Standards for a particular industrial subcategory, the Federal Standards, if more stringent than limitations imposed under this Ordinance for sources in that subcategory, shall immediately supersede the limitations imposed under this Ordinance. The Commissioner shall notify all affected Users of the applicable reporting requirements under 40 CFR 403.12.

6.4 **Modification of Federal Categorical Pretreatment Standards**

Where the County's POTW treatment plants achieve consistent removal of pollutants limited by Federal Categorical Pretreatment Standards, the County may apply to the EPA for modification of specific limits. "Consistent Removal" shall be as defined in 40 CFR Section 403.7. The County may then modify pollutant discharge limits in the Federal Categorical Pretreatment Standards if the requirements contained in 40 CFR 403.7 are fulfilled and approval is obtained.

6.5 **County's Right of Revision**

The County reserves the right to establish by ordinance more stringent limitations or requirements on discharges to the wastewater disposal system if deemed necessary by the Commissioner.

6.6 **Excessive Discharge**

No User shall ever increase the use of process water or, in any way, attempt to dilute a discharge as a partial or complete substitute for adequate treatment to achieve compliance with the limitations contained in the Federal Categorical Pretreatment Standards, or in any other pollutant-specific limitation developed by the County or State.

6.7 **Accidental Discharges and By-Passes - General**

There shall be no by-passes of pretreatment facilities of untreated or partially treated wastes. Each User shall provide appropriate protection facilities for prevention of accidental discharge of prohibited materials or other substances regulated by this Ordinance. Facilities to prevent accidental discharge of prohibited materials shall be provided and maintained at the Owner or User's own cost and expense. Detailed plans showing facilities and operating procedures to provide this protection shall be submitted to the County for review, and shall be approved by the County before construction of the facility. All existing Users shall complete such a plan within 180 days of the effective date of this Ordinance. No User who commences contribution to the POTW after the effective date of this Ordinance shall be permitted to introduce pollutants into the system until accidental discharge procedures have been approved by the County. Review and approval of such plans and operating procedures shall not relieve the Industrial User from the responsibility to modify the User's facility as necessary to meet the requirements of this Ordinance.

6.7.1 **Notification of Accidental Discharges**

In the case of an accidental discharge, it is the responsibility of the User to immediately telephone and notify the appropriate treatment plant of the incident. The notification shall include location of discharge, time of discharge, type of waste, concentration and volume, and corrective actions.

- Within five (5) days following an accidental discharge, the User shall submit to the commissioner a detailed written report describing the cause of the discharge and the measures to be taken by the User to prevent similar future occurrences. Such notification shall not relieve the User of any expense, loss, damage, or other liability which may be incurred as a result of

damage to the POTW, fish kills, or any other damage to person or property; nor shall such notification relieve the User of any fines, civil penalties, or other liability which may be imposed by this article or other applicable law.

- A notice shall be permanently posted on the User's bulletin board or other prominent place advising employees to notify the POTW in the event of a dangerous discharge. Employers shall insure that all employees who may cause or suffer such a dangerous discharge to occur are advised of the emergency notification procedure.

6.8 Reporting Requirements for Significant Industrial Users

6.8.1 Baseline Report

Within 180 days after promulgation of an applicable Federal Categorical Pretreatment Standard, a User subject to that standard shall submit to the Commissioner the information required by paragraphs 7.2.8 and 7.2.9 of the subsection Permit Application in Section 7.

6.8.2 Compliance Date Report

Within 90 days following the date for final compliance with applicable Pretreatment Standards or, in the case of a New Source, following commencement of the introduction of wastewater into the POTW, any User subject to Pretreatment Standards and Requirements shall submit to the Commissioner a report indicating the nature and concentration of all pollutants in the discharge from the regulated process which are limited by Pretreatment Standards and Requirements and the average and maximum daily flow for these process units in the User facility which are limited by such Pretreatment Standards or Requirements. The report shall state whether the applicable Pretreatment Standards or Requirements are being met on a consistent basis and, if not, what additional O & M and/or pretreatment is necessary to bring the User into compliance with the applicable Pretreatment Standards or Requirements. This statement shall be signed by an authorized representative of the Industrial User, and certified to by a qualified professional.

6.8.3 Periodic Compliance Reports

Any User subject to a Pretreatment Standard, after the compliance date of such Pretreatment Standard, or, in the case of a New Source, after commencement of the discharge into the POTW, shall submit to the commissioner during the months of June and December, unless required more frequently in the Pretreatment Standard or by the Commissioner, a report indicating the nature and concentration of pollutants in the effluent which are limited by such Pretreatment Standards. In addition, this report shall include a record of all daily flows which during the reporting period exceeded the average daily flow reported in this section. At the discretion of the Commissioner and in consideration of such factors as local high or low flow rates, holidays, budget cycles, etc., the Commissioner may agree to alter the months during which the above reports are to be submitted.

The Commissioner may impose mass limitations on Users. In such cases, the report required in this subsection shall indicate the mass of pollutants regulated by Pretreatment Standards in the effluent of the User. These reports shall contain the results of sampling and analysis of the discharge, including the flow, and the nature and concentration, or production and mass where required by the Commisisoner, of pollutants contained therein which are limited by the applicable Pretreatment Standards. The frequency of monitoring shall be prescribed in the applicable Pretreatment Standard or as prescribed by the Commissioner. All analysis shall be performed in accordance with procedures established by EPA pursuant to Section 304(g) of the Act and conatained in 40 CFR Part 136 and amendments thereto or with any other test procedures approved by the Administrator. Sampling shall be performed in accordance with the techniques approved by the Administrator. Where 40 CFR Part 136 does not include a sampling or analytical technique for the pollutant in question, sampling and analysis shall be performed in accordance with the

procedures set forth in the EPA publication, Sampling and Analysis Procedures for Screening of Industrial Effluents for Priority Pollutants, April, 1977, and amendments thereto, or with any other sampling and analytical procedures approved by the Administrator.

SECTION 7 - Applications for Permits

7.1 General

Applications for permits under these regulations shall be made on printed forms to be furnished by the Department of Public Works (See Attachment No. 1, Page AT1-1.) The permit application shall be supplemented by any plans, specifications, or other information considered pertinent in the judgment of the Commissioner, and as required for Pretreatment Facilities as provided for in Section 6. (See Attachments Nos. 2 and 3, Pages AT2-1 and AT3-1.) There shall be two classes of permits to be known as "Special" and "General". (See Attachment No. 4, Page AT4-1.) A General Permit shall be sufficient to authorize the connection or attachment, as well as the discharge of sewage from private dwellings into the County sewer system; all other connections, attachments, discharges or uses require Special Permits. Applications for General Permits shall be signed by the fee owner of the premises as shown by the last preceding tax roll or his attorney-in-fact specifically authorized by such fee owner to make such application. Applications for Special Permits may be made in the same manner or by a lessee of the premises. In each instance where a Special Permit is required, it shall be unlawful to contribute any sewage directly or indirectly into the County sewer system without such permit and the fact that the contributor has obtained a General Permit from the County, or a permit from any other municipality having jurisdiction over the immediate connection through which the discharge is made shall be no defense in a prosecution for violation of these regulations.

7.2 Special Permits

All discharges other than private dwellings are required to have a Special Permit. Significant Industrial Users (SIU's) must obtain a Special Permit with amendments as approved by the County (See Attachment No. 3, Page AT3-1). Existing SIU's required to obtain an amended Special Permit shall complete and file with the County, an application in the form prescribed by the County. Existing SIU's shall apply for an amended Special Permit within 30 days after the effective date of this Ordinance, and proposed new SIU's shall apply at least 60 days prior to connecting to or contributing to the POTW. In support of the application, the SIU shall submit, in units and terms appropriate for evaluation, the following information:

7.2.1 Name, address and location (if different from the address); and Nassau County Tax Assessor's Lot and Block Number;

7.2.2 SIC number according to the Standard Industrial Classification Manual, Bureau of the Budget, 1972, as amended;

7.2.3 Wastewater constituents and characteristics including, but not limited to, those mentioned in Section 4 of this Ordinance as determined by a reliable analytical laboratory; sampling and analysis shall be performed in accordance with procedures established by the EPA pursuant to Section 304(g) of the Act and contained in 40 CFR, Part 136, as amended;

7.2.4 Time and duration of contribution;

7.2.5 Average daily and 3 minute peak wastewater flow rates, including daily, monthly and seasonal variations, if any;

7.2.6 Site plans, floor plans, mechanical and plumbing plans and details to show all sewers, sewer connections, and appurtenances by the size, location and elevation;

7.2.7 Description of activities, facilities and plant process on the premises including all materials which are or could be discharged;

7.2.8 Where known, the nature and concentration of any pollutants in the discharge which are limited by any County, State or Federal Pretreatment Standards, and a Statement regarding whether or not the pretreatment standards are being met on a consistent basis and if not, whether additional Operation and Maintenance (O & M) and/or additional pretreatment is required for the User to meet applicable Pretreatment Standards;

7.2.9 If additional pretreatment and/or O & M will be required to meet the Pretreatment Standards, the shortest schedule by which the User will provide such additional pretreatment. The completion date in this schedule shall not be later than the compliance date established for the applicable Pretreatment Standard.

The following conditions shall apply to this schedule:

- The schedule shall contain increments of progress in the form of dates for the commencement and completion of major events leading to the construction and operation of additional pretreatment required for the User to meet the applicable Pretreatment Standards (e.g., hiring an engineer, completing preliminary plans, completing final plans, executing contract for major components, commencing construction, completing construction, etc.).

- No increment referred to in the above paragraph shall exceed 9 months, nor shall the total compliance period exceed 18 months.

- Not later than 14 days following each date in the schedule and the final date for compliance, the User shall submit a progress report to the Commissioner including, as a minimum, whether or not it complied with the increment of progress to be met on such date and, if not, the date on which it expects to comply with this increment of progress, the reason for delay, and the steps being taken by the User to return the construction to the schedule established. In no event shall more than 9 months elapse between such progress reports to the Commissioner.

7.2.10 Each product produced by type, amount, process or processes and rate of production;

7.2.11 Type and amount of raw materials processed (average and maximum per day);

7.2.12 Number and type of employees, and hours of operation of plant and proposed or actual hours of operation of pretreatment system;

7.2.13 Any other information as may be deemed by the County to be necessary to evaluate the permit application.

7.2.14 The County will evaluate the data furnished by the User and may require additional information. After evaluation and acceptance of the data furnished, the County may issue a Special Permit subject to terms and conditions provided herein.

- Every Special Permit, except as provided for in the paragraph below, is non-assignable and is void upon the occurrence of any of the following:

  - Violation by the permittee of any of the conditions prescribed in his permit.

  - Any change in either the permittee's business or his processes which changes the quality or quantity of the permittee's effluent.

- Violation by the permittee of any provision of this Ordinance.

- Where separate Special Permits are issued to a landlord and a lessee for the same premises, the landlord may assign his Special Permit to a subsequent purchaser providing that the lessee's permit is still in force on the date title passes.

7.3 **Permit Modifications**

Upon the promulgation of a National Categorical Pretreatment Standard, the Special Permit of Users subject to such standards shall be revised to require compliance with such standard within the time frame prescribed by such standard. Where a User, subject to a National Categorical Pretreatment Standard, has not previously submitted an application for a Special Permit as required by Section 7, the User shall apply for a Special Permit within 180 days after the promulgation of the applicable National Categorical Pretreatment Standard. In addition, the User with an existing Special Permit shall submit to the Commissioner within 180 days after the promulgation of an applicable Federal Categorical Pretreatment Standard the information required by paragraphs Section 7.2.8 and 7.2.9.

7.4 **Permit Conditions**

Special Permits shall be expressly subject to all provisions of this Ordinance and all other applicable regulations, user charges and fees established by the County. Permits may contain the following:

- The unit charge or schedule of user charges and fees for the wastewater to be discharged to a public sewer;

- Limits on the average and maximum wastewater constituents and characteristics;

- Limits on average and maximum rate and time of discharge or requirements for flow regulation and equalization;

- Requirements for installation and maintenance of inspection and sampling facilities;

- Specifications for monitoring programs which may include sampling locations, frequency of sampling, number, types and standards for tests and reporting schedule;

- Compliance schedules;

- Requirements for submission of technical reports or discharge reports (see Section 7);

- Requirements for maintaining and retaining plant records relating to wastewater discharge as specified by the County and affording County access thereto;

- Requirements for notification of the County of any new introduction of wastewater constituents or any substantial change in the volume or character of the wastewater constituents being introduced into the wastewater treatment system;

- Requirements for notification of the County of change in the process used by the permittee;

- Requirements for notification of excessive, accidental or slug discharges;

- Other conditions as deemed appropriate by the County to ensure compliance with this Ordinance and Federal and State laws, rules and regulations.

7.5 **Permit Duration**

Special Permits for Significant Industrial Users shall be issued for a specified time period, not to exceed three (3) years. A permit may be issued for a period less than three (3) years or may be stated to expire on a specific date.

7.6 **Permit Reissuance**

The User shall apply for permit reissuance a minimum of 180 days prior to the expiration of the User's existing permit in accordance with the provisions of Section 7.2. The terms and conditions of the permit may be subject to modification by the County during the term of the permit as limitations or requirements as identified in Section 4 are modified or other just cause exists. The User shall be informed of any proposed changes in his permit at least 30 days prior to the effective date of change. Any changes or new conditions in the permit shall include a reasonable time schedule for compliance.

7.7 **Permit Transfer**

Special Permits are issued to a specific User for a specific operation. A Special Permit shall not be reassigned or transferred or sold to a new owner, new User, different premises, or a new or changed operation without the approval of the County. Any succeeding owner or User shall also comply with the terms and conditions of the existing Special Permit.

SECTION 8 - CONFIDENTIAL INFORMATION

Information and data on a User obtained from reports, questionnaires, permit applications, permits and monitoring programs and from inspections shall be available to the public or other governmental agency upon written request without restriction unless the User specifically requests and is able to demonstrate to the satisfaction of the County that the release of such information would divulge information, processes or methods of production entitled to protection as trade secrets of the User.

When requested by the person furnishing a report, the portions of a report which might disclose trade secrets or secret processes shall not be made available for inspection by the public but shall be made available upon written request to governmental agencies for uses related to this Ordinance, the State Pollutant Discharge Elimination System (SPDES) Permit, and/or the Pretreatment Program; provided, however, that such portions of a report shall be available for use by the State or any State agency in judicial review or enforcement proceedings involving the person furnishing the report. Wastewater constituents and characteristics will not be recognized as confidential information.

SECTION 9 - Fees

9.1 **General Permit**

The fee for a General Permit shall be ($10.00) Ten Dollars payable on filing the application.

9.2 **Special Permit**

The fee for a Special Permit shall consist of the following charges:

- Twenty ($20.00) Dollars to a maximum of Two Hundred Dollars ($200.00) for an Industrial Waste Engineering.
- An inspection charge of 1% of the estimated cost of the construction of the external sewers

from the available Nassau County house connection to the point where the sewer enters the building. The estimated cost of construction is to be determined by the County of Nassau. No work will commence until County inspectors are on the job site.

- The fee for a Special Permit shall consist of the sum total of the charges described above and shall be payable before issuance of the permit.

9.3 **Dye Testing**

In each instance when a dye test is conducted to determine whether a building is equipped with a connection to the sewer system, and such test is not made for the sole use and benefit of the County, a fee of Thirty-Five ($35.00) Dollars shall be paid by:

- the person requesting such test, or
- the owner of the premises on which such test is made when the test is done to establish an illegal connection and positive results are obtained.

9.4 **Use of Fees**

The proceeds of the fees collected under this section shall be deposited by the County Comptroller to the credit of General Fund code No. 208.

9.5 **Pretreatment**

The County may adopt charges and fees as part of their Industrial Pretreatment Program which may include:

- fees for reimbursement of costs of setting up and operating the County's Pretreatment Program,
- fees for monitoring, inspections and surveillance procedures;
- fees for reviewing accidental discharge procedures and construction;
- fees for filing appeals;
- fees for consistent removal (by the POTW) of pollutants otherwise subject to Federal Pretreatment Standards;
- other fees as the County may deem necessary to carry out the requirements contained herein.

These fees relate solely to the matters covered by this Ordinance and are separate from all other fees chargeable by the County.

SECTION 10 - Posting of Permits

A permit for making a connection must be kept on the premises, available for exhibition at all times during the construction of the work and the failure to keep such permit so available shall be presumptive evidence that the work is being conducted in violation of these regulations.

SECTION 11 - Building Sewers and Connections

11.1 **Written Approval Required**

No unauthorized person shall uncover, make any connections with or opening into, use, alter, or disturb any public sewer or appurtenances thereof without first obtaining a written permit from the Commissioner. No connection shall be made until all special requirements are installed and operable. No work shall be commenced on the building sewer until the permit applied for has

been issued by the County, and in any event, such commencement shall be preceeded by three (3) days notice to the County of intent to commence.
The Owner shall obtain all necessary permits to open any highway for the connection to the sewer main, and shall be responsible for all damage to persons or property occassioned by such opening. Pavement replacement shall conform to the requirements of the authority having jurisdiction over said pavement.

11.2 **Cost Borne by Owner**

All costs and expense incident to the installation and connection of the building sewer shall be borne by the owner.

11.3 **Indemnification**

The owner shall indemnify and save the County harmless from any loss, damage or expense, claims or suits arising out of or in connection with the installation and connection of the building sewer.

11.4 **Separate Connections Required for Each Building**

A separate and independent building sewer shall be provided for every building; except where one building stands at the rear of another on same lot and no private sewer is available or can be constructed to the rear building through an adjoining alley, court, yard, or driveway, the building sewer from the front building may be extended to the rear building and the whole considered as one building sewer with separate permit for each building. In the case of one or more story multiple dwellings which are so designed or constructed that there is more than one unit on the same floor, there shall be a separate building drain and building sewer provided for each unit located on the ground or lowest main floor.

11.5 **Use of Old Building Sewers**

Old building sewers may be used in connection with new buildings only when they are found, on examination and test by the Commissioner, to meet all requirements of this Ordinance.

11.6 **Abandonment of Cesspools and Septic Tanks**

Cesspools or septic tanks shall be discontinued following connections to a public sewer. The owner shall have these pools promptly emptied, cleaned and back filled with earth, sand or other acceptable clean material.

11.7 **Design Requirements**

The size, slope, alignment, material or construction of a building sewer, and the methods to be used in excavating, placing of the pipe, jointing, testing, and backfilling the trench, shall all conform to the requirements of the building and plumbing codes, and all applicable rules and regulations of the County and Town or Village wherein the connection is made. In the absence of code provisions or in amplification thereof, the materials and procedures set forth in appropriate specifications of the A.S.T.M. and W.P.C.F. Manual of Practice No. 9 shall apply. All such connections shall be made gastight and watertight. Any deviation from the prescribed procedures and materials must be approved by the Commissioner before installation. Whenever possible, the building sewer shall be brought to the building at an elevation below the basement floor. In all buildings in which any building drain is too low to permit gravity flow to the public sewer, sanitary sewage carried by such building drain shall be lifted by an approved means and discharged into the building sewer. The cost thereof shall be borne by owner.

11.8 **Drain Connections Prohibited**

No person shall make connection of roof downspouts, exterior foundation drains, areaway drains, or other sources of surface runoff or groundwater to a building sewer or building drain which in turn is connected directly or indirectly to public sanitary sewer.

11.9 **Construction Safety and Restoration**

All excavations for building sewer installation shall be adequately guarded with barricades and lights so as to protect the public from hazard. Streets, sidewalks, parkways, and other public property disturbed in the course of the work shall be restored in a manner satisfactory to the County. In addition, all requirements in Attachment No. 5, Page AT5-1 must be adhered to.

11.10 **Connection to Storm Sewers Prohibited**

No person shall make connection of a sanitary sewer to a separate storm sewer.

SECTION 12 - Inspections and Sampling

The County shall inspect the facilities of any User to ascertain whether the purpose of this Ordinance is being met and all requirements are being complied with. Persons or occupants of premises where wastewater is created or discharged shall allow the County or its representative ready access at all reasonable times to all parts of the premises for the purposes of inspection, sampling, records examination or the performance of any of their duties. The County, the DEC and the Approval Authority, the EPA, shall have the right to set up on the User's property such devices as are necessary to conduct sampling, inspection, compliance monitoring and/or metering operations. Where a User has security measures in force which would require proper identification and clearance before entry into his premises, the User shall make necessary arrangements with his security guards so that upon presentation of suitable indentification, personnel from the County and the Approval Authority will be permitted to enter, without delay, for the purposes of performing their specific responsibilities.

SECTION 13 - Approval of Connections

13.1 **Inspection by the Department of Public Works**

All connections to County sewer facilities shall be subject to approval and inspection by the County. Before any connection shall be covered, it shall be the duty of the applicant to notify the Department of Public Works that the connection is ready for inspection and such connection shall not be covered until it has been inspected and approved by a County or Town representative.

13.2 **Inspection by Others**

The Commissioner of Public Works may, however, in his discretion accept and use in connection with the issuance of a General Permit the inspection and reports of the building inspectors or other inspection agents of another municipality with reference to inspection when furnished with official records of the results thereof. In such cases, notification required to be made to the Department of Public Works by this Ordinance or as conditions in permits shall be made instead to the building inspector or inspection agent of the appropriate municipality.

SECTION 14 - Additional Requirements

14.1 Other Permits

The issuance of a permit for the making of a connection shall not relieve the permittee or any person presuming to act under the authority of such permit, from obtaining any additional permits required by law, ordinance or regulation, for the opening of streets or roads, the construction of building or the like.

14.2 Filing of Permits

Any person required under Section 4 of this Ordinance to obtain a waste disposal permit, or any person presuming to act under the authority of such permit, other than the owner, lessee, or possessor of one or two family private dwelling, shall within three (3) business days after the installation of each connection into or each disconnection from a Nassau County Sewer facility, file or cause to be filed with the County Department of Public Works, a copy of such permit evidencing the lawful disposal of scavenger wastes.

14.3 Return of Permits on Expiration

Any person described in subdivision (2) of this section who possesses any expired permit of the type described in such subdivision, shall return such permit to the County Department of Public Works within ten (10) business days after the date such permit has expired.

14.4 Repair of Building Sewer

The maintenance, repair and operation of a building sewer to the point of connection to the public sewer shall be the owner's responsibility and shall conform to the rules and regulations of the County now in force or hereinafter adopted.
No person shall make or cause to be made any repair of a building sewer without having first notified the County in writing on printed forms furnished by the County. No fee is required on filing the application for the repair of a building sewer.

SECTION 15 - Abandonment or Demolition

In the event that a building that is connected to the Nassau County Sanitary Sewers is to be abandoned or demolished, or the Certificate of Occupancy is withdrawn, the connection to the sewer is to be disconnected at the property line. The County sewer is to be plugged in a manner with a watertight plug that is satisfactory to the County. The sewer is to be disconnected, plugged and inspected prior to the start of any other work on the site.

- Where a General Permit was originally issued for the sewer connection, a new General Permit to Disconnect must be obtained prior to the start of work for which a Ten ($10.00) Dollar fee must be paid at the time of application for the Permit.

- Where a Special Permit was originally issued for the sewer connection, a new Special Permit to Disconnect must be obtained prior to the start of work for which a Twenty ($20.00) dollar fee must be paid at the time of application for the Permit.

SECTION 16 - Protection From Damage

No person shall maliciously, willfully or through gross negligence break, damage, destroy, uncover, deface or tamper with any structure, appurtenance or equipment which is a part of the sewer system. Any person violating this provision shall be subject to immediate arrest under the section or sections of the Penal Law applicable thereto.

SECTION 17 - Violations and Penalties

17.1 General

The Commissioner may suspend the wastewater treatment service and/or a Special Permit when such suspension is necessary, in the opinion of the Commissioner, in order to stop an actual or threatened discharge which presents or may present an imminent or substantial endangerment to the health or welfare of persons, to the environment, causes interference to the POTW or causes the County to violate any condition of its SPDES Permit.

Any person notified of a suspension of the wastewater treatment service and/or the Special Permit shall immediately stop or eliminate the contribution. In the event of a failure of the person to comply voluntarily with the suspension order, the County shall take such steps as deemed necessary including immediate severance of the sewer connection, to prevent or minimize damage to the POTW system or endangerment to any individuals. The County shall reinstate the Special Permit and/or the wastewater treatment service upon proof of the elimination of the non-complying discharge. A detailed written statement submitted by the User describing the causes of the harmful contribution and the measures taken to prevent any future occurrence shall be submitted to the County within fifteen (15) days of the date of occurrence.

Any User who violates the following conditions of this Ordinance, or applicable State and Federal Regulations, is subject to having his permit revoked in accordance with the procedures of this Ordinance.

- Failure of a User to factually report the wastewater constituents and characteristics of his discharge; or
- Failure of the User to report significant changes in operations, or wastewater constituents and characteristics; or
- Refusal of reasonable access to the User's premises for the purpose of inspection or monitoring; or
- Violation of conditions of the permit.

17.2 False Statement or Breach of Contract

Any person who knowingly makes any false statements, representation or certification in any application, record, report, plan or other document filed or required to be maintained pursuant to this Ordinance, or Special Permit, or who falsifies, tampers with or knowingly renders inaccurate any monitoring device or method required under this Ordinance, shall, upon conviction, be punished by a fine of not more than One Thousand ($1,000.00) Dollars or by imprisonment for not more than six (6) months, or both.

17.3 Notification of Violation

Whenever the County finds that any User has violated or is violating this Ordinance, a General Permit, a Special Permit, or any prohibiiton, limitation of requirements contained herein, the County may serve upon such person a written notice, a plan for the satisfactory correction thereof shall be submitted to the County by the User.

17.4 Show Cause Hearing

The County may order any User who causes or allows an unauthorized discharge to enter the POTW to show cause before the Commissioner why the proposed enforcement action should not be taken. A notice shall be served on the User specifying the time and place of a hearing to be held by the Commissioner regarding the violation, the reasons why the action is to be taken, the

proposed enforcement action, and directing the User to show cause before the Commissioner why the proposed enforcement action should not be taken. The notice of the hearing shall be served personally or by registered or certified mail (return receipt requested) at least ten (10) days before the hearing. Service may be made on any agent or officer of a corporation.
The Commissioner may conduct the hearing and take the evidence, or may designate any officer or employee of the Department of Public Works to:

- Issue in the name of the Commissioner notices of hearings requesting the attendance and testimony of witnesses and the production of evidence relevant to any matter involved in such hearings.

- Take the evidence;

  Transmit a report of the evidence and hearing, including transcripts and other evidence, together with recommendations to the Commissioner for action thereon.

At any hearing held pursuant to this Ordinance, testimony taken must be under oath and recorded stenographically. The transcript, so recorded, will be made available to any member of the public or any party to the hearing upon payment of the usual charges thereof.
After the County has reviewed the evidence, it may issue an order to the User responsible for the discharge directing that, following a specified time period, the sewer service be discontinued unless adequate treatment facilities, devices or other related appurtenances that have been installed on existing treatment facilities, devices or other related appurtenances are properly operated. Further orders and directives as are necessary and appropriate may be issued.

17.5 **Legal Action**

If any person discharges sewage, industrial wastes or other wastes into the County's wastewater disposal system contrary to the provisions of this Ordinance, Federal or State Pretreatment Requirements or any order of the County, the County Attorney may commence an action for appropriate legal and/or equitable relief.

17.6 **Civil Penalties**

Any User who is found to have violated an Order of the County or who willfully or negligently failed to comply with any provision of this Ordinance except Section 15, and the orders, rules, regulations and permits issued hereunder, shall be subject to a fine of not more than One Thousand ($1,000.00) Dollars or imprisonment for not more than six (6) months or both such fine and imprisonment for each offense. Each day on which a violation shall occur or continue shall be deemed a separate and distinct offense. In addition to the penalties provided herein, the County may recover reasonable attorney's fees, court costs, court reporters' fees and other expenses of litigation by appropriate suit at law against the person found to have violated this Ordinance or the order, rules, regulations, and permits issued hereunder. A violation of this Ordinance may also result in the termination of disposal authorization at the discretion of the Commissioner.

17.7 **Severability**

If any provision, paragraph, work, section or article of this Ordinance is invalidated by any court of competent jurisdiction, the remaining provisions, paragraphs, words, and sections shall not be affected and shall continue in full force and effect.

17.8 **Conflict**

All other ordinances and parts of other ordinances inconsistent or conflicting with any part of this Ordinance are hereby repealed to the extent of such inconsistency or conflict.

SECTION 18 - Repealed

Ordinance Nos. 401 - 1977; 445 - 1979; 209 - 1979; 142 - 1981; are hereby repealed.

SECTION 19 - Effective Date

This Ordinance shall take effect immediately.

APPROVED: JUNE 3 1985

FRANCIS T. PURCELL

County Executive

ADDENDUM A

SANITARY SEWER REGULATIONS
DEPARTMENT OF PUBLIC WORKS
COUNTY OF NASSAU

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5 - Utility Regulations

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ATTACHMENT NO. 1
(SECTION 7.1)

COUNTY OF NASSAU, DEPARTMENT OF PUBLIC WORKS

Division of Sanitation and Water Supply, 1 West St., Mineola, N.Y. 11501

SEWER CONNECTION PERMIT APPLICATION

PLEASE DO NOT WRITE IN HEAVY OUTLINED AREA FOR OFFICE USE ONLY.

PERMIT NO.	PERMIT FEE

PLEASE PRINT OR TYPE ALL INFORMATION

STREET ADDRESS	POST OFFICE	ZIP CODE	AND 1% OF ESTIMATE CONSTRUCTION COSTS

NAME OF APPLICANT	PLEASE INDICATE WITH AN "X" ☐ OWNER ☐ LESSEE	TOTAL FEE

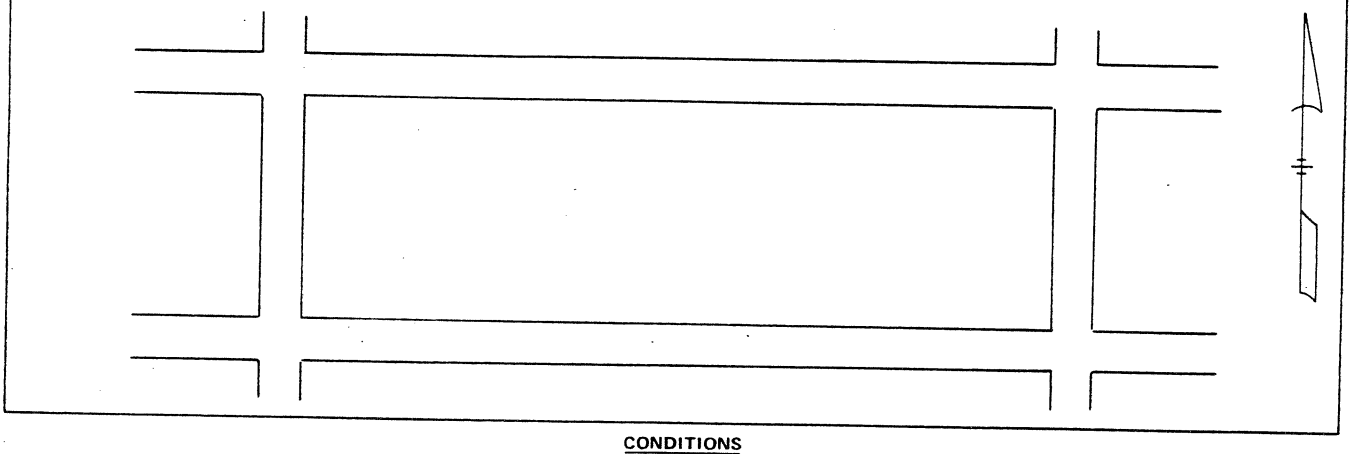
TYPE OF DWELLING OR BUSINESS	REASON FOR APPLICATION INDICATE WITH AN "X" ☐ CONNECT ☐ DISCONNECT	SECTION	BLOCK	LOT

THE CONTRACTOR INDICATED BELOW HAS BEEN DESIGNATED BY THE APPLICANT TO PERFORM THE NECESSARY WORK

NAME OF CONTRACTOR			
STREET ADDRESS	**POST OFFICE**	**ZIP CODE**	**TELEPHONE NO.**

DIAGRAM

1. SKETCH LOCATION OF BUILDING AND DISTANCE IN FEET FROM NEAREST INTERSECTION.
2. PRINT STREET NAMES AND BUILDING NUMBERS



CONDITIONS

1. This permit shall not relieve the permittee or installer from obtaining any additional permits required by law, ordinance or regulation of Nassau County or Town or Incorporated Village, therein.
2. No tunneling under structures within the highway or sidewalk areas will be permitted.
3. The permittee shall maintain the installation up to the County Sanitary Sewer Lateral or Trunk.
4. The installer shall not cover the installation before inspection is made by the proper County, Town or Incorporated Village
5. The permit must be kept on the premises, available for exhibition at all times during the construction of the work and it shall become void unless connection is made within sixty (60) days from the date of issuance. No refund will be made for permits issued and not used within the time limit given.
6. The permittee shall notify the Commissioner of Public Works immediately in the event of any accident, change of conditions or other occurrence that occasions discharge to the County Sewers. Failure to comply with this condition shall void this permit.
7. Cesspools, septic tanks or overflow pools are not allowed to be pumped, drained or discharged into the County Sanitary Sewer Lateral or Trunk.
8. The County makes no warranty of the location of the lateral spur house connection and the location of same shall be the sole responsibility of the permittee.
9. Special permits, "S" numbered series, are subject to an industrial waste survey. Additional conditions or requirements, which become part of the permit issued, will be determined by this survey. All special requirements must be installed before connecting to the sanitary sewer facility.

The applicant and the contractor employed to perform the work agree to abide by all the provisions of the Nassau County Sewer Ordinance, the above conditions, and any other conditions deemed necessary as a result of an Industrial Waste Survey.

PLEASE MAKE CHECKS PAYABLE TO NASSAU COUNTY TREASURER

NAME OF CORPORATION

AUTHORIZED CONTRACTOR'S SIGNATURE

SIGNATURE OF APPLICANT OR OFFICER

TITLE

TITLE

DATE

DATE

SWS-3029, 6/77

ATTACHMENT NO. 2
(SECTION 7.1)

NASSAU COUNTY DEPARTMENT OF PUBLIC WORKS
DIVISION OF SANITATION AND WATER SUPPLY

REQUIREMENT FOR SPECIAL SEWER PERMITS WITH A RUN OF MORE THAN 100 FEET

1. Application for Special Sewer Permit including:

   5 Site Plans
   1 set of Plumbing Plans (for new construction)

2. Pipe

   Asbestos cement (ACP) vitrified clay (VCP), ductile iron (DIP), or other approved material in accordance with current Nassau County Specifications.

   Minimum size and slope:

   6" ACP, class 2400 at 1/8" per foot pitch
   8" ACP, class 3300 at 0.40% grade

3. Less than 4 feet cover use:

   6" ductile iron pipe, class 50, 0.24 inch thickness
   8" ductile iron pipe, class 50, 0.27 inch thickness
   AWWA standard double cement lined to 1/8 inch thickness
   (AWWA C104), bituminous sealed and coated with coal tar pitch varnish.

4. Cleanouts (required with 6" pipe)

   6 inch diameter extra heavy cast iron pipe with brass plug and ferrule Spaced 75 feet apart (minimum in line and at all bends over 23°). Use Campbell cast iron frame and cover No. 1735 or equal, set in 3' x 3' x 8" thick concrete pad at finished grade or as directed by engineer.

5. Manholes (required with 8" pipe)

   Maximum spacing 300 feet and at all bends.

6. All cesspools and septic tanks shall be emptied and backfilled in accordance with Section 11.6 of the Sewer Ordinance.

7. No material shall be used by the Contractor until it has been inspected and approved by the Nassau County Department of Public Works Laboratory. Any material may be tested and none shall be used prior to official notice of acceptance by the Laboratory.

8. No permit will be issued until the submitted plans have been reviewed, any necessary revision made and approval granted by this department.

(EXAMPLE)

ATTACHMENT NO. 3

(SECTION 7.1 AND 7.2)

AMENDMENT TO SPECIAL PERMIT FOR SIGNIFICANT INDUSTRIAL USER

NASSAU COUNTY

Department of Public Works

Permit No._____

In accordance with all terms and conditions of the County Sanitary Sewer Regulations Ordinance No. 401, Section 7, Application for Permits, et. seq., and also with any applicable provisions of Federal or State law or regulation; Permission is

Hereby Granted To._____

_____

Classified by SIC No._____

For the contribution of_____

into the sewers tributary to_____

This permit is granted in accordance with the application filed on_____ ; 19 in the office of the_____( ) and in conformity with plans, specifications and other data submitted to the ( ) in support of the above application, all of which are filed with and considered as part of this permit, together with the following named conditions and requirements.

Effective this_____ day of _____ , 19____

To Expire _____ day of _____ , 19 _____

_____

Commissioner

(EXAMPLE)

ATTACHMENT NO. 3
(SECTION 7.1 and 7.2) continued

Permit No. _____

Parameters (mg/l)	Limitations on Wastewater Strength		Monitoring Requirements (E. SV. SC)
	Maximum Conc. (mg/l) - 24 hour Flow Proportional Composite Sample	Maximum Instantaneous Concentration (MG/l) (Grab Sample)	
Aluminum-dissolved (Al)			
Antimony (Sb)			
Arsenic (As)			
Barium (Ba)			
Boron (B)			
Cadmium (Cd)			
Chromium-total (Cr)			
Chromium-hexavalent (Cr+6)			
Cobalt (Co)			
Copper (Cu)			
Cyanide (CN)			
Fluoride (F)			
Iron (Fe)			
Lead (Pb)			
Manganese (Mn)			
Mercury (Hg)			
Nickel (Ni)			
Phenols			
Selenium (Se)			
Silver (Ag)			
Titanium-dissolved (Ti)			
Zinc (Zn)			
Total Kjeldahl Nicrogen (TKN)			
Oil & Grease (Petroleum &/or mineral)			
MBAS			
Total Dissolved Solids			
Temperature-maximum (degrees C)			
pH-maximum (pH units)			
pH-minimum (pH units)			
Biochemical Oxygen Demand			
Chemical Oxygen Demand			
Suspended Solids			
Flow - (MGD)			

E - Enforcement Monitoring
SV - Surveillance Monitoring
SC - Surcharge Monitoring

Permit No. _____

ADDENDUM I

Monitoring Schedule

Permit No. _____

ADDENDUM II

Compliance Schedule

Permit No. _____

ADDENDUM III

Surcharge Requirements (if any).

ATTACHMENT NO. 4
(SECTION 7.1)

ORIGINAL PERMITTEE

COUNTY OF NASSAU, DEPARTMENT OF PUBLIC WORKS
Division of Sanitation and Water Supply
1 West Street, Mineola, N. Y. 11501

SEWER CONNECTION PERMIT

This permit is issued to install a connection and discharge sewage into or disconnect from the Nassau County Sewer facility.

ADD 1% OF ESTIMATED CONSTRUCTION COSTS.

FEE	DATE	DISTRICT	PERMIT NO

TOTAL PAID

LEGAL REQUIREMENT: Before you dig, Call LILCO 661-6000 for location of any underground utilities.

STREET ADDRESS	POST OFFICE	ZIP CODE

CODE	PERMITTEE ☐ OWNER ☐ LESSEE	HOUSE CONNECTION STREET LOCATION	DISTANCE FEET	DIR	DEPTH FEET IN.	L C	R C

IMPORTANT: When ready for inspection, notify the proper County, Town or Village Department 24 hours in advance. Do not cover installation before inspection is made.

This Permit is issued subject to the provisions of the Nassau County Sewer Ordinance, the conditions printed on the reverse side hereof or attached hereto. Attachments on "S" series permits only.

☐ STF Only ☐ Additional Conditions Attached

Ludwig G. Hasl
COMMISSIONER OF PUBLIC WORKS

S-SCP-1 (10/82)

CODE B - BUSINESS, R - RESIDENCE, 1 - 4 FAMILIES
M MULTIPLE DWELLINGS, 5 OR MORE FAMILIES

CONDITIONS

1. This permit shall not relieve the permittee or installer from obtaining any additional permits required by law, ordinance or regulation of Nassau County or Town or Incorporated Village, therein.
2. No tunneling under structures within the highway or sidewalk areas will be permitted.
3. The permittee shall maintain the installation up to the County Sanitary Sewer Lateral or Trunk.
4. The installer shall not cover the installation before inspection is made by the proper County, Town or Incorporated Village.
5. This permit must be kept on the premises, available for exhibition at all times during the construction of the work and it shall become void unless connection is made within sixty (60) days from the date of issuance. No refund will be made for permits issued and not used within the time limit given.
6. The permittee shall notify the Commissioner of Public Works immediately in the event of any accident, change of conditions or other occurrence that occasions discharge to the County Sewers. Failure to comply with this condition shall void this permit.
7. Cesspools, septic tanks or overflow pools are not allowed to be pumped, drained or discharged into the County Sanitary Sewer Lateral or Trunk.
8. The County makes no warranty of the location of the lateral spur house connection and the location of same shall be the sole responsibility of the permittee.
9. ADDITIONAL CONDITIONS: "S" numbered series permits are subject to any conditions attached. All special requirements must be installed before connecting to the sanitary sewer facility

COUNTY OF NASSAU, DEPARTMENT OF PUBLIC WORKS
Division of Sanitation and Water Supply
1 West Street, Mineola, N.Y. 11501

SEWER CONNECTION PERMIT ADDITIONAL CONDITIONS

DATE	PERMIT NO.

The above numbered permit, attached hereto, is subject to the following additional conditions:

ORIGINAL PERMITTEE

SWS-1340, 10/78

UNITED STATES DEPARTMENT OF LABOR
Occupational Safety and Health Administration

UTILITY REGULATIONS.

1. In the interest of safety, prevention of accidents, interruptions, lost construction time and loss of dollars:

   a. Notify LILCO of "INTENT TO DIG" seventy-two (72) hours before starting the job. Send "excavation notices" to ... Long Island Lighting Company, Notification Section, Long Island Lighting Mapping, 1660 Old Walt Whitman Rd., Melville, N.Y. 11747. Call LILCO at (516) 661-6000 for blank "excavation forms" as a convenience to you or for any other information desired.

   b. Expose gas or underground electric facilities by hand digging.

   c. Report any damage or potential damage at once by calling (516) 931-5800 - Hicksville; 791-4400 - Hewlett.

2. Contractors failing to notify the UTILITY COMPANY:

   a. Violate the State and Federal Laws under the State General Business Law, Article 20, Section 322a and OSHA, Subpart P-1926.651.

   b. Risk damage to their own equipment and property of others.

   c. Jeopardize the safety - and the lives - of their employees and the public.

   d. Create costly delays in work.

   e. Face possible present and future claims or lawsuits for damages.

3. New York State Department of Labor, RULE 23, states that construction equipment and load must be kept a minimum of ten (10) feet clear from all overhead electric wires.

ATTACHMENT NO. 6
(FOR INFORMATION ONLY)

ORDINANCE NO. 70-1976

AN ORDINANCE TO AMEND ORDINANCE NO. 119-1950 ENTITLED "AN ORDINANCE AUTHORIZING THE COUNTY EXECUTIVE TO ENTER INTO CONTRACTS FOR THE DISPOSAL OF SEWAGE, PURSUANT TO THE COUNTY GOVERNMENT LAW OF NASSAU COUNTY AND AMENDMENT THERETO" AS AMENDED BY ORDINANCE NO. 343-1968; PURSUANT TO THE COUNTY GOVERNMENT OF NASSAU COUNTY.

(Passed by Board of Supervisors on March 8, 1976. Votes for 130; votes against, none. Became an ordinance on March 8, 1976 with the approval of the County Executive.)

WHEREAS, the form of permit described and set forth in Section 2 of Ordinance No. 119-1950, as amended by Ordinance No. 343-1968 has been found to be inadequate and fails to serve the best interests of the County of Nassau in that the deposit of $75.00 is not sufficient nor a proper method of assuring payment of the monthly billings; the permit does not provide for inspection fees to cover the cost of same; the public liability coverage is not sufficient; and, in general the permit does not protect the County against improper or unlawful disposal of sewage into the County sewage facilities, now therefore.

BE IT ORDAINED BY THE BOARD OF SUPERVISORS AS FOLLOWS:

Section 1. Section 2 of Ordinance No. 119-1950 as amended any Ordinance No. 343-1968 is hereby amended to read as follows:

Section 2. Such contracts shall be evidenced by a permit signed by the Commissioner of Public Works and approved by the County Executive which permits shall be in substantially the following form:

DEPARTMENT OF PUBLIC WORKS

NASSAU COUNTY

DISPOSAL PERMIT

Expires December 31,

_____ of _____

is hereby authorized to deliver scavenger wastes for disposal and treatment to the Bay Park Sewage Treatment Plant. In consideration of the issuance of this permit and the disposal of such scavenger wastes at the above named treatment plant, the permit holder agrees as follows:

1. To pay to the County of Nassau all charges for disposal of sewage delivered by such permit holder at the rates fixed by the County Executive in the schedule of rates posted at the above mentioned treatment plant in effect during the month in which such deliveries are made. Payment for the above services shall be made at the time of delivery of the waste to the plant for disposal, by remittance of a prepaid coupon or coupons purchased by the permit holder from the County upon issuance of this permit. An initial inspection charge of $25.00 shall be paid by the permit holder for each truck inspected at the time of the issuance of the permit and thereafter an annual inspection charge of $25.00 shall be paid for each truck inspected.

2. To maintain Workmen's Compensation insurance covering its or his employees and public liability and property damage insurance covering its or his operations in and about the sewage treatment plant having the following minimum limits:

Public Liability $100,000/300,000

Property Damage $50,000

Certificates of insurance with ten days notice of cancellation clauses shall be delivered to the County of Nassau upon the execution of this agreement.

3. To comply with all local laws and the rules and regulations established by the Commissioner of Public Works governing the operations and conduct of the permit holder under this permit.

4. To furnish the names and addresses of all his or its existing industrial customers and any additional such customers as he or it may acquire from time to time.

5. That the waste delivered for disposal shall not be "objectionable" as defined by Section 4.3 of the Nassau County Sewer Ordinance as amended.

6. The premises used by the permit holder for the storage of his or its trucks may be inspected by a duly authorized representative of the Department of Public Works at any time during any work day.

RECOMMENDED:

Commissioner of Public Works

DATE OF ISSUE:

Approved

County Executive

ACCEPTED

Applicant

Section 2. This Ordinance shall be effective as of the 1st day of January, 1976.

Approved: March 8, 1976

County Executive

Notes:

APPENDIX C – TEMPORARY TREATMENT SYSTEM TECHNICAL SUBMITTAL

Technical Submittal

for the

Temporary Treatment System

located at

Garvies Point
Glen Cove, NY

QT 6864

Rev. 0

June 19, 2017

PREPARED BY:

GROUND/WATER TREATMENT & TECHNOLOGY, LLC
627 MOUNT HOPE ROAD WHARTON, NEW JERSEY 07885
(973) 983-0901

GWTT
Ground/Water Treatment & Technology, LLC

627 Mount Hope Road
Wharton, New Jersey 07885
Tel: (800) 770-0901
(973) 983-0901
Fax: (973) 983-0903

Posillico, Inc.
Garvies Point
Glen Cove, NY

Temporary Treatment System

The proposed groundwater treatment system can treat a maximum of 50 gpm of water generated from dewatering operations.

The total treatment system consists of the following major components:

- One (1) settling tank
- Two (2) transfer pumps
- Two (2) multi-bag filters, parallel operation
- Two (2) liquid phase granular activated carbon adsorbers, series operation
- One (1) effluent flowmeter and totalizer
- One (1) trailer

Water from the sump wells will be pumped into the influent settling tank. The settling tank is an open top, gravity flow tank and designed to facilitate the settling of solids.

Solids and/or sludge that have settled to the bottom of settling tank will need to be periodically removed to prevent accumulated material from reducing the settling time thus reducing the efficiency of the unit. All material from the bottom of the tank must be disposed of in accordance with site and local regulations

The water will then be pumped to the bag filter skid via a duplex electric transfer pump setup (1 primary, 1 backup) capable of producing 50 gpm @ approximately 95' TDH. The pumps will be equipped with a 3 Hp, 480 V, 3 phase electric motor. The control system will consist of two (2) pump motor starters and five (5) float controls – pump 1 on, pump 1 off, pump 2 on, pump 2 off and a high level alarm. If the high level alarm float is activated, a strobe light will activate to alert the operator.

The bag filter skid will consist of two (2) multi-bag filter housings plumbed in parallel. The inlet and outlet of the bag filter skid will be equipped with manifolds complete with isolation valves. Each of the filter housings will contain four (4) bag filters designed to remove suspended particles prior to the inlet of the carbon adsorbers. The inlet and outlet of each of the bag filter housings will also be equipped with pressure gauges to monitor the differential pressure across the filter housing. The bag filters should be changed once the differential pressure across the housing reaches 15 to 25 psi. The bag filter housings will be plumbed in parallel such that the bags in one (1) filter housing can be changed while the remaining filter housing continues to process water at the design water flow rate of 50 gpm.

GWTT
Ground/Water Treatment & Technology, LLC

627 Mount Hope Road
Wharton, New Jersey 07885
Tel: (800) 770-0901
(973) 983-0901
Fax: (973) 983-0903

If the bag filters are not properly operated and maintained, the differential pressure across the filter housings can rise to a level where the transfer pumps cannot pump water from the settling tank faster than raw water is being introduced into the treatment system. In this situation, the water level in the settling tank will raise enough to activate the high level alarm.

From the bag filter skid, water will continue to flow under pressure to the two (2) carbon adsorbers plumbed in series. The carbon adsorbers will each contain 1,000 lbs. of reactivated, granular liquid phase carbon media designed to remove low levels of SVOCs and VOCs such as petroleum hydrocarbons prior to discharge. If breakthrough of SVOCs or VOCs occurs on the lead carbon adsorbers, the water will temporarily be directed to the lag units. The spent carbon will be removed from the lead units and will be replaced with 1,000 lbs of reactivated carbon media. The spent carbon will be sampled to determine RCRA waste characteristics and will be disposed of according to site and local regulations.

The inlet and outlet of each carbon adsorber will be equipped with a pressure gauge to monitor the differential pressure across the carbon media. The differential pressure across each carbon adsorber should be recorded in a log book on a daily basis. If the differential pressure across a particular carbon adsorber rises to a level where water flow is restricted (as measured by the effluent flowmeter), that carbon adsorber should be taken off-line temporarily to backwash the media. Backwash water should be obtained from a clean water source such as the backwater tank, a hydrant or a water truck. A pressure switch will be installed in the piping prior to the inlet of the lead carbon adsorber.

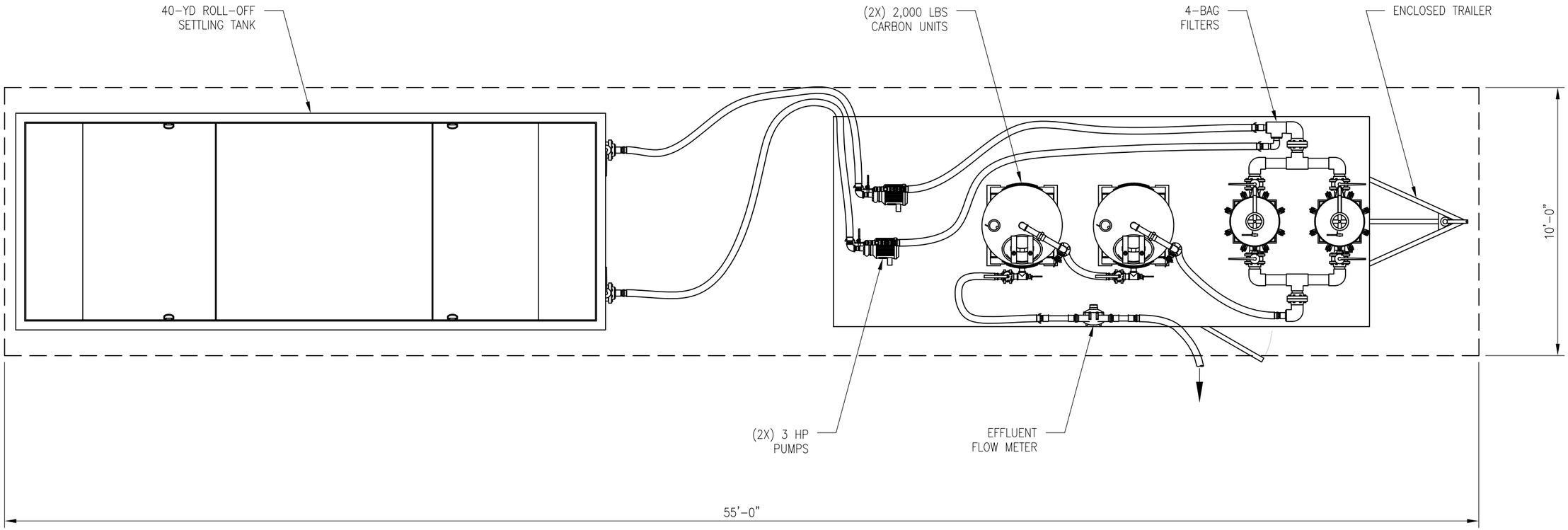
A 2” diameter mechanical flow meter with a totalizer will be provided after the effluent of the carbon adsorber trains to indicate the flow rate and to record the total gallons of water treated. The flow meter has an acceptable flow range of 3 to 160 gpm. Flow readings should be recorded daily in a log book.

With exception to the settling tank, the major components of the treatment system will be installed in an enclosed trailer. The trailer is equipped with heating, lights and ventilation. The individual components of the system will be interconnected using PVC piping and suction hose. Pressure gauges and sample taps will be located throughout the system to monitor system performance. Butterfly valves will be provided on the inlet and outlet of each of the major units to isolate them for maintenance.

06/19/17
Rev 0

TEMPORARY TREATMENT SYSTEM

OVERALL PLAN VIEW



NOTES:

1. DESIGN FLOW RATE: 50 GPM
2. SYSTEM FOOTPRINT APPROXIMATELY: 10'x55'
3. NOT ALL VALVES, CONNECTIONS, ETC. SHOWN FOR CLARITY
4. GENERATOR BY OTHERS – 480V, 3ϕ, 100 AMPS

REV.	DATE	BY	REMARKS	REV.	DATE	BY	REMARKS
A	02/21/17	RS	PRELIMINARY DESIGN FOR REVIEW				

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CUSTOMER: POSILLICO

SITE: GARVIES POINT GLEN COVE, NY

TITLE: EQUIPMENT LAYOUT 50 GPM TEMPORARY TREATMENT SYSTEM

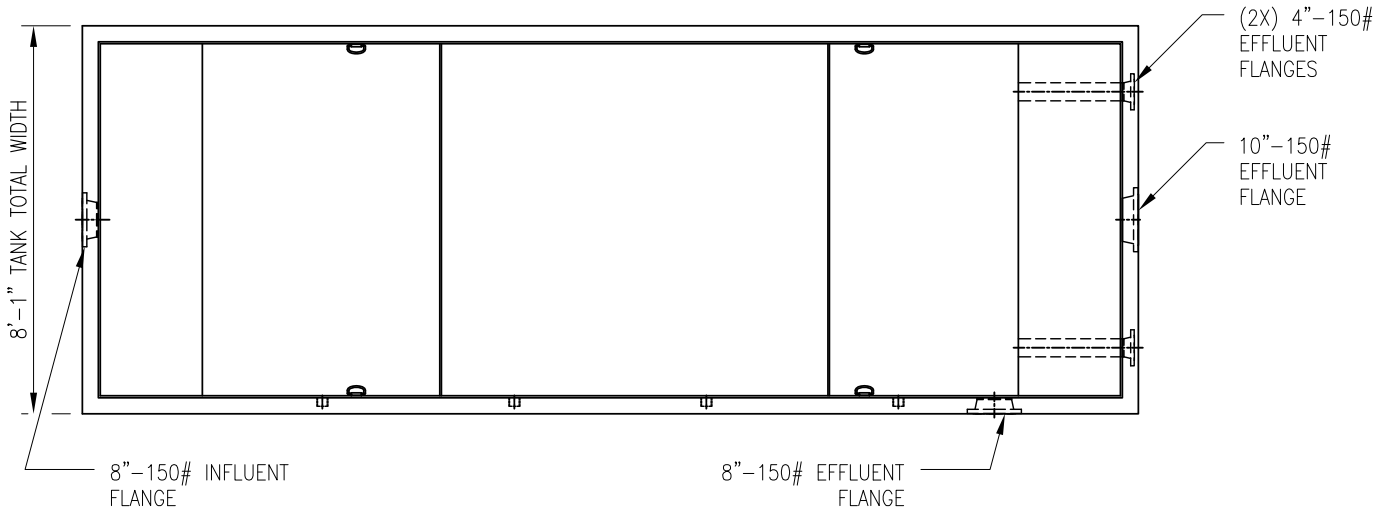
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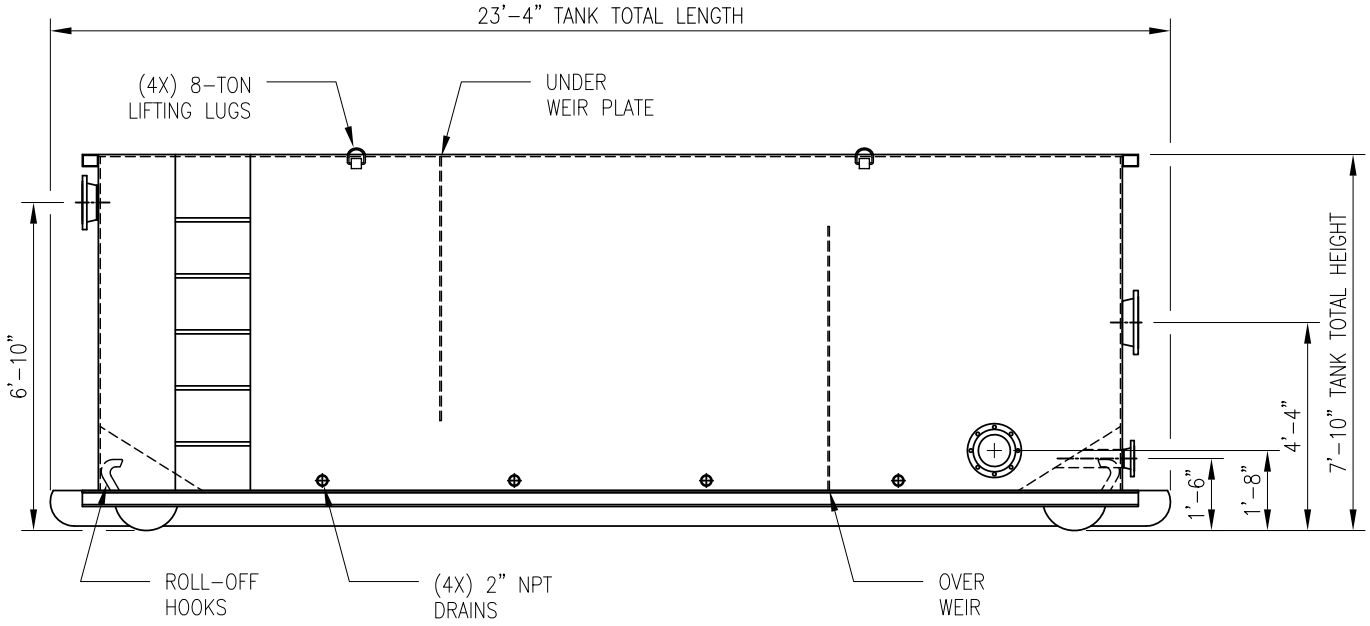
DRAWN BY: RS DATE: 02/21/17

APPROVED BY: JMB DATE: 02/21/17

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627 MOUNT HOPE ROAD · WHARTON, NJ 07885
PHONE: 973-983-0901 · FAX: 973-983-0903
www.gwttllc.com

DWG SIZE: B | SHEET: 1 OF 1 | DRAWING NO.: QT-147284-LYT01 | A





NOTES:

1. ALL MATERIAL TO BE CARBON STEEL UNLESS OTHERWISE NOTED.
2. INTERIOR FINISH:
   PREP: SSPC–SP10–2 MIL PROFILE
   TREATMENT: CARBOLINE PHENOLINE 353 (GRAY) 5–6 MILS DFT
3. EXTERIOR FINISH:
   PREP: SSPC–SP3–2 MIL PROFILE
   TREATMENT: CARBOLINE CARBOCOAT 8215 (BLUE) 2–3 MILS DFT

40 YARD ROLL–OFF SETTLING TANK SPECIFICATIONS

- TANK CONSTRUCTION: A–36 CARBON STEEL
- INLET CONNECTION: 8" FLANGE
- OUTLET CONNECTION: (2X) 4" FLANGE, 8" FLANGE, 10" FLANGE
- DRAINS (4x): 2" NPT
- APPX. TANK WEIGHT (EMPTY): 10,000 Lbs.
- APPX. TANK WEIGHT (OPERATING): 65,000 Lbs.

	VOLUME (GAL.)	DESIGN FLOW (GPM) @ 15 MIN. RETENTION
NOMINAL	8,000	533
OPERATING	6,400	425

NO.	REVISIONS	BY	DATE
B	UPDATED TO NEW CAD STANDARDS	RJS	09/03/15
A	TYPICAL	RJS	06/25/13

TITLE:

EQUIPMENT SPECIFICATION STANDARD 40–YD ROLL–OFF SETTLING TANK

SCALE: NTS	APPROVED BY: MSM	DRAWN BY: RJS
DATE: 06/25/13		

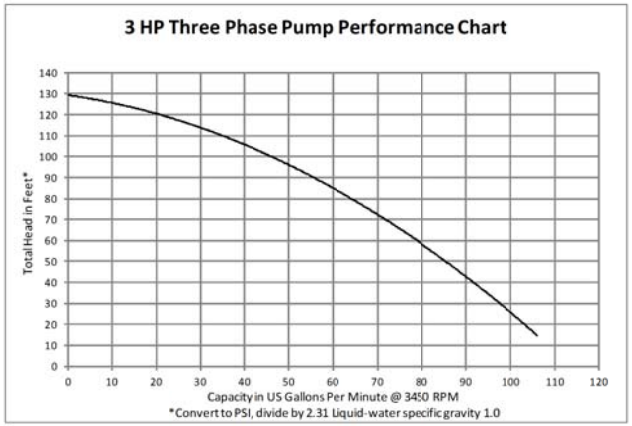
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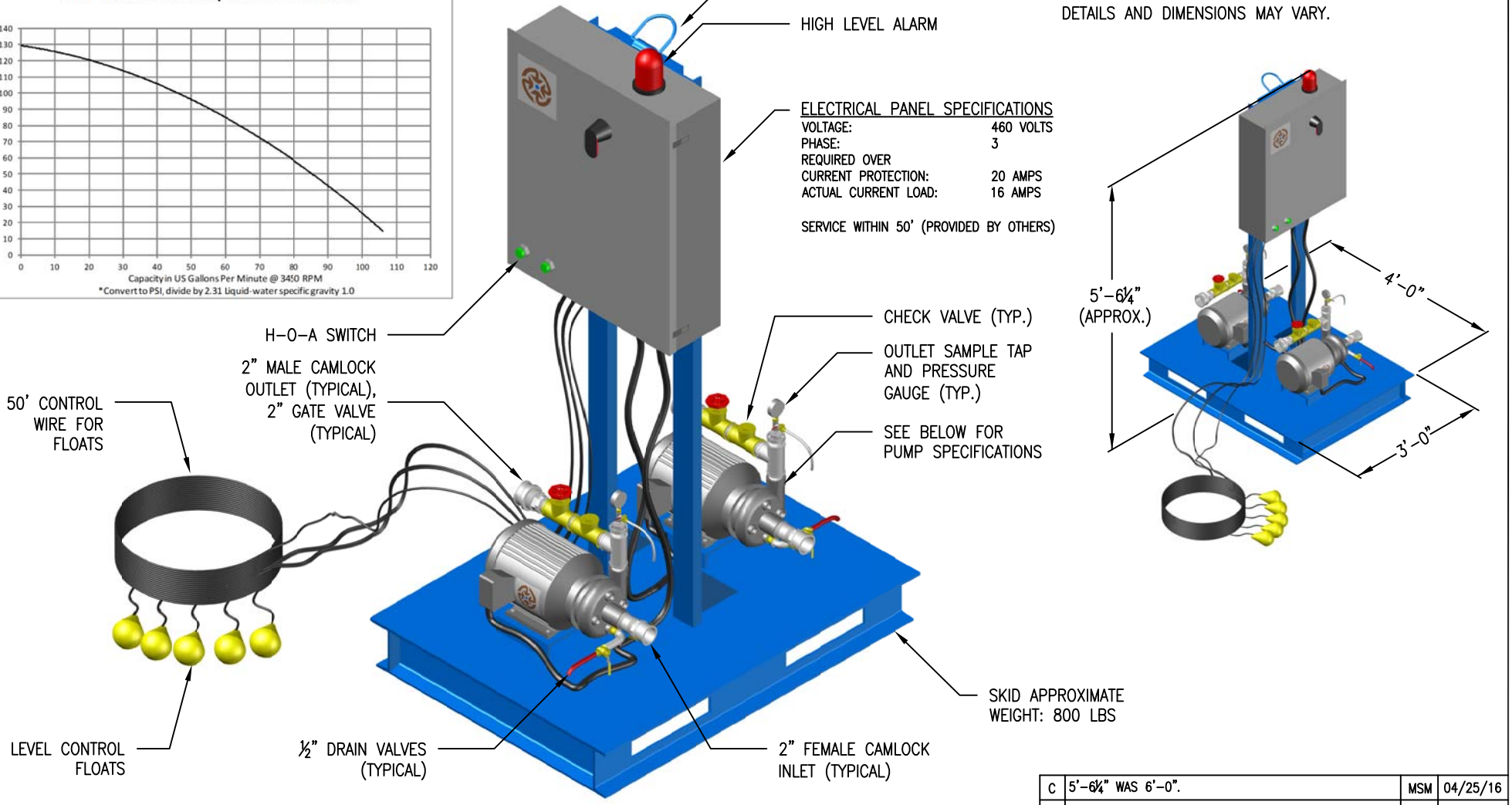
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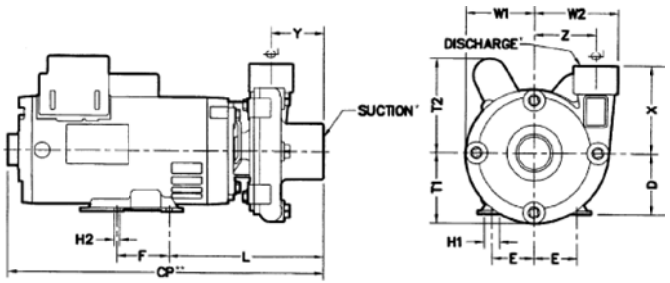




NOTE: THIS DRAWING DEPICTS A "TYPICAL" SKID. ACTUAL DETAILS AND DIMENSIONS MAY VARY.

3 HP PUMP MECHANICAL/ELECTRICAL SPECIFICATIONS

– TYPICAL CAPACITY AND HEAD:	50 GPM @ 95' TDH
– CONSTRUCTION:	CAST IRON W/ STAINLESS STL. IMPELLER AND BUNA-N SEALS
– MAXIMUM TEMPERATURE:	180°F
– MAXIMUM HEAD:	130 ft.
– MAXIMUM FLOW:	105 GPM
– ENCLOSURE:	TEFC
– SUCTION:	1-½" NPT
– DISCHARGE:	1-¼" NPT
– PUMP WEIGHT:	70 Lbs.
– DISCHARGE PORT ROTATES IN 90° INCREMENTS	
– PUMP VOLTAGE @ 60 Hz:	230/460
– FULL LOAD AMPS PER PUMP:	8/4



CP: 17.5	F: 3.00	L: 8.8	T2: 4.9	X: 4.9
D: 3.5	H1: 0.88	OP: 8.4	W1: 3.9	Y: 3.0
E: 2.44	H2: 0.3	T1: 4.0	W2: 4.7	Z: 3.49

NO.	REVISIONS	BY	DATE
C	5'-6¼" WAS 6'-0".	MSM	04/25/16
B	UPDATED TO NEW CAD STANDARDS	RJS	09/28/15
A	TYPICAL	RJS	12/09/11

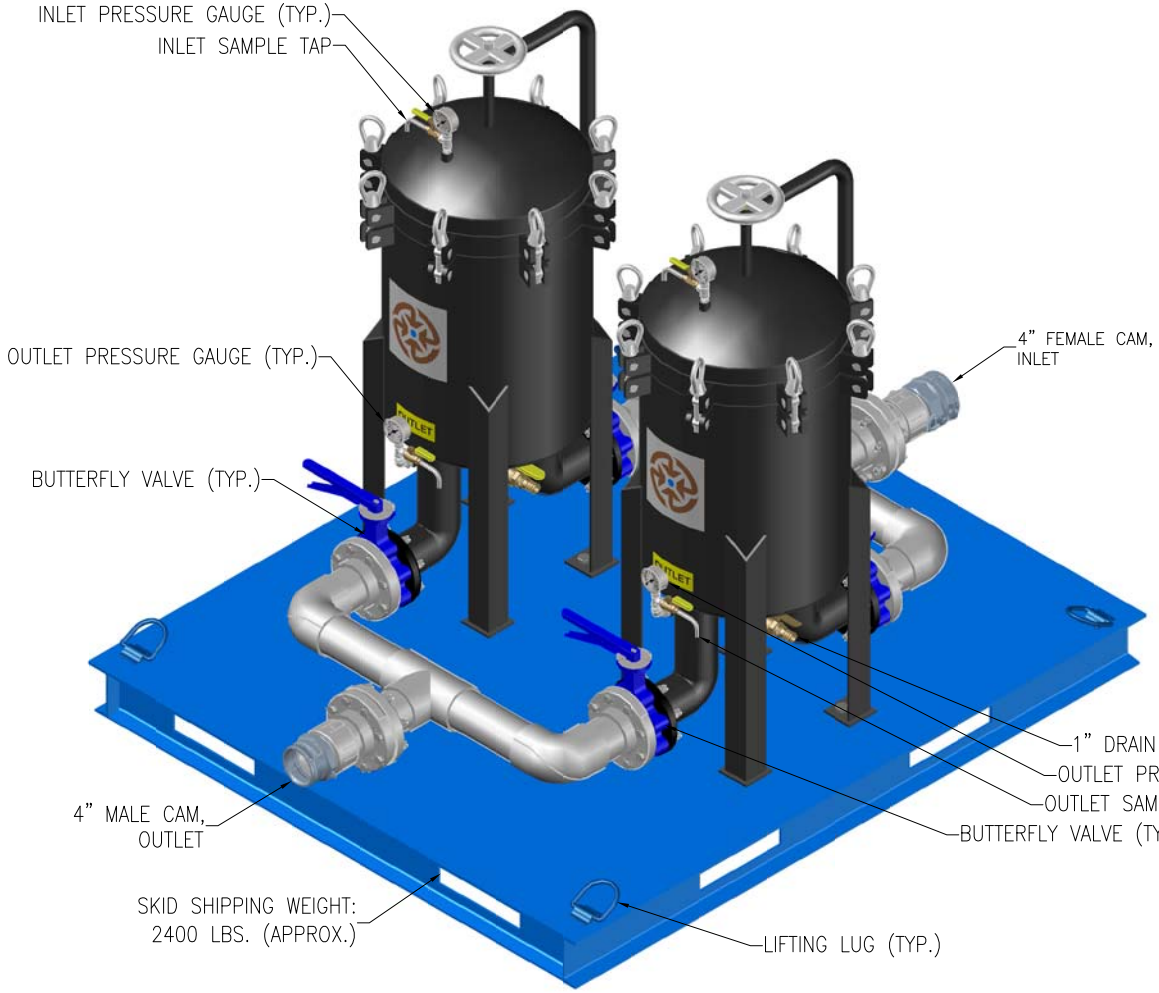
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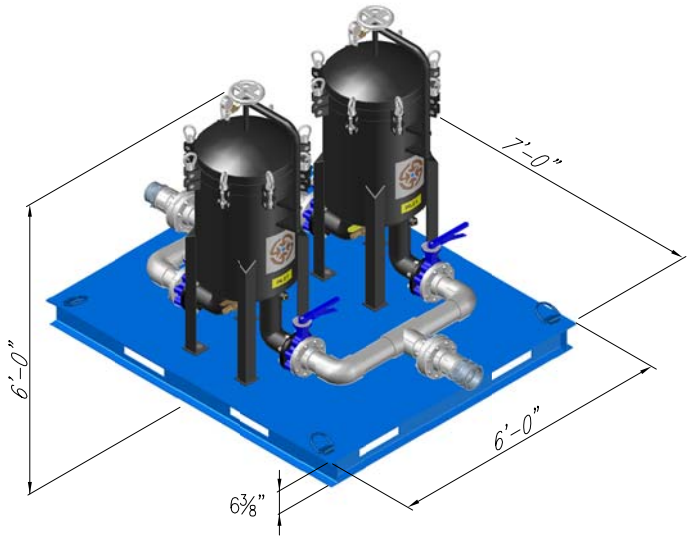
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DATE: 12/09/11		

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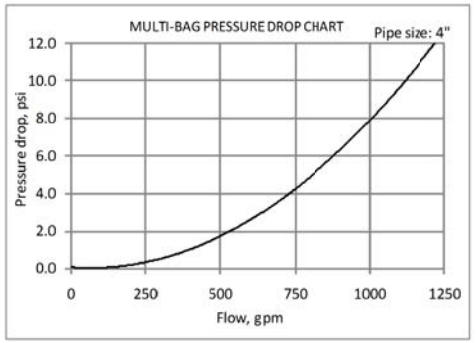
NOTE: THIS DRAWING DEPICTS A "TYPICAL" SKID. ACTUAL DETAILS AND DIMENSIONS MAY VARY.

NO.	REVISIONS	DATE
E	REVISED TITLEBLOCK.	12/15/14
D	ADDED CAMLOCK CONNECTIONS	05/13/14
C	ADDED SKID SHIPPING WEIGHT	02/18/09

CUSTOMER:

SITE:

PRESSURE DROP

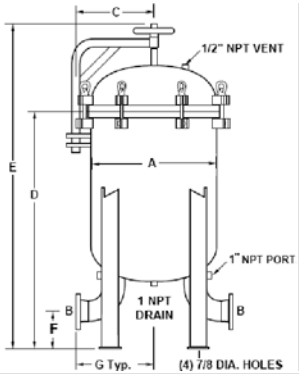


MULTI–BAG FILTER SPECIFICATIONS

– CONSTRUCTION:	CARBON STEEL
– HOUSING STYLE:	STANDARD
– NUMBER OF BASKETS:	4
– STRAINING FILTERING AREA:	17.6 SQ. FT.
– INLET/OUTLET SIZE:	4"
– DRAIN SIZE:	1"
– NOMINAL FLOW RATE:	400 GPM
– STANDARD PRESSURE:	150 PSI
– WEIGHT (PER DRY UNIT):	515 Lbs.

BASIC DIMENSIONS

MODEL NUMBER & A: 22"
LEG BOLT CIRCLE: ø20.0
B: 4" C: 14.0"
D: 46.2" E: 64.7"
F: 6.00" G: 15.4"



TITLE:

EQUIPMENT SPECIFICATION STANDARD DUPLEX FOUR BAG FILTER SKID

SCALE: NTS	APPROVED BY: JMB	DRAWN BY: AAV
DATE: 08/11/08		

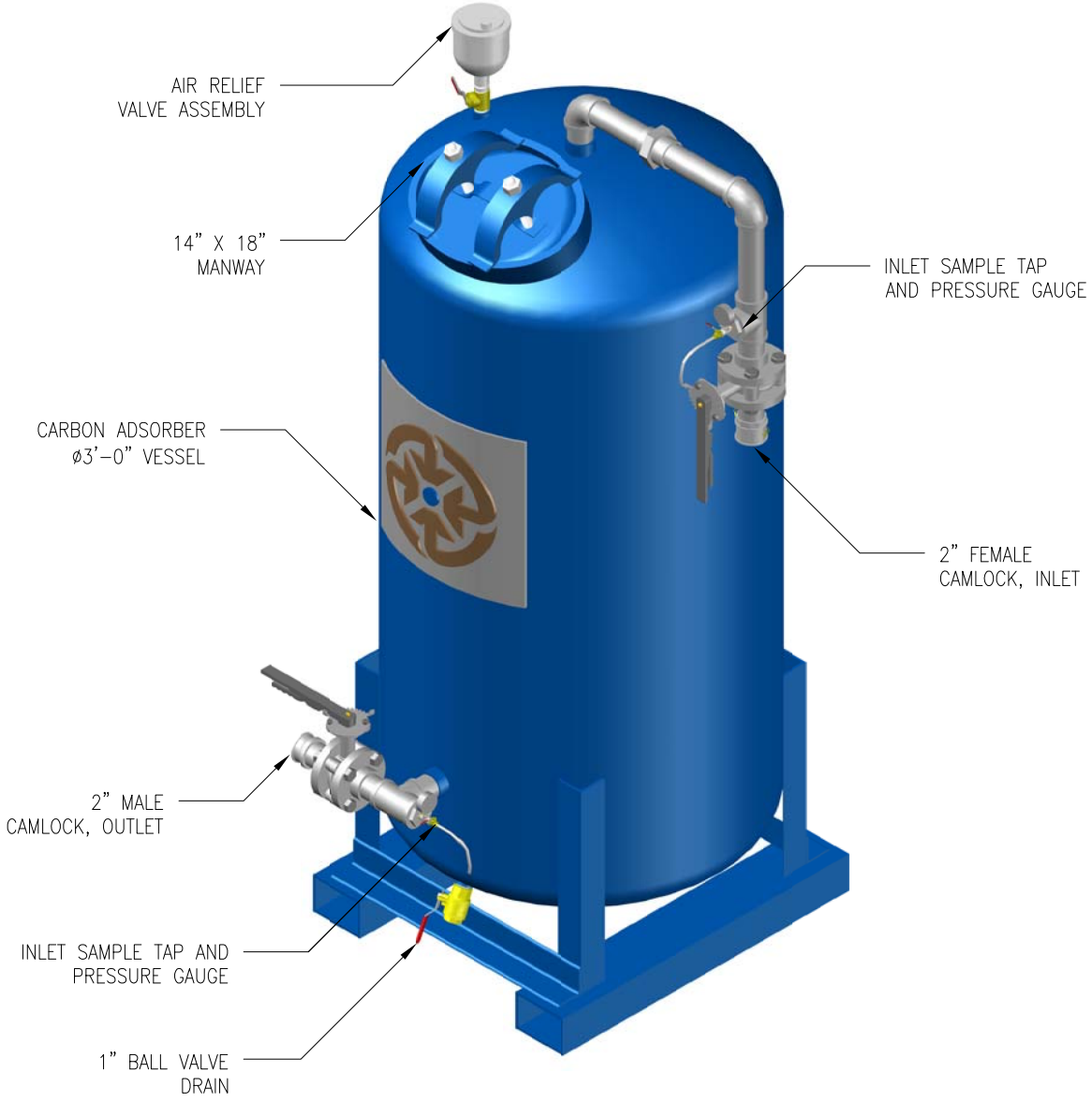
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PHONE: 973-983-0901 • FAX: 973-983-0903
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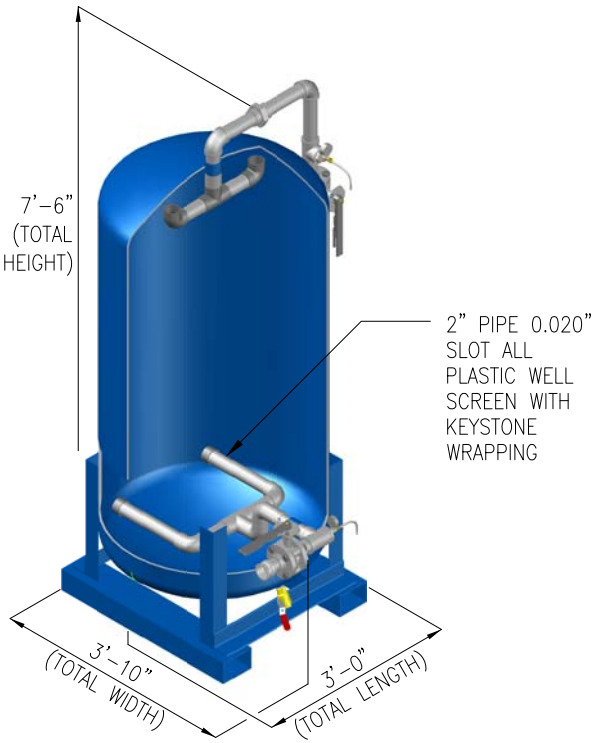
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DWG SIZE: A	SHEET: 1 OF 1	DRAWING NO.: ST–0025–SPC	E

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NOTE: THIS DRAWING DEPICTS A "TYPICAL" VESSEL. ACTUAL DETAILS AND DIMENSIONS MAY VARY.





1,000 POUNDS CARBON ADSORBER SPECIFICATIONS

– CARBON FILL:	1,000 Lbs.
– DESIGN STANDARD PRESSURE:	75 PSI
– MAX FLOW RATE:	50 GPM
– EBCT:	5.25 min. @ 50 GPM
– HOUSING CONSTRUCTION:	A-36 CARBON STEEL
– INLET CONNECTION:	2" FEMALE CAMLOCK
– OUTLET CONNECTION:	2" MALE CAMLOCK
– DRAIN:	1" NPT
– CARBON FILL VOLUME:	38 Cu. ft.
– CARBON ADSORBER WEIGHT:	
EMPTY	1,500 Lbs.
SHIPPING (W/CARBON):	2,500 Lbs.
OPERATING:	5,000 Lbs.

NO.	REVISIONS	BY	DATE
B	UPDATED TO NEW CAD STANDARDS	RJS	09/09/15
A	TYPICAL	RJS	12/13/11

TITLE:

EQUIPMENT SPECIFICATION STANDARD 1,000 LBS CARBON ADSORBER

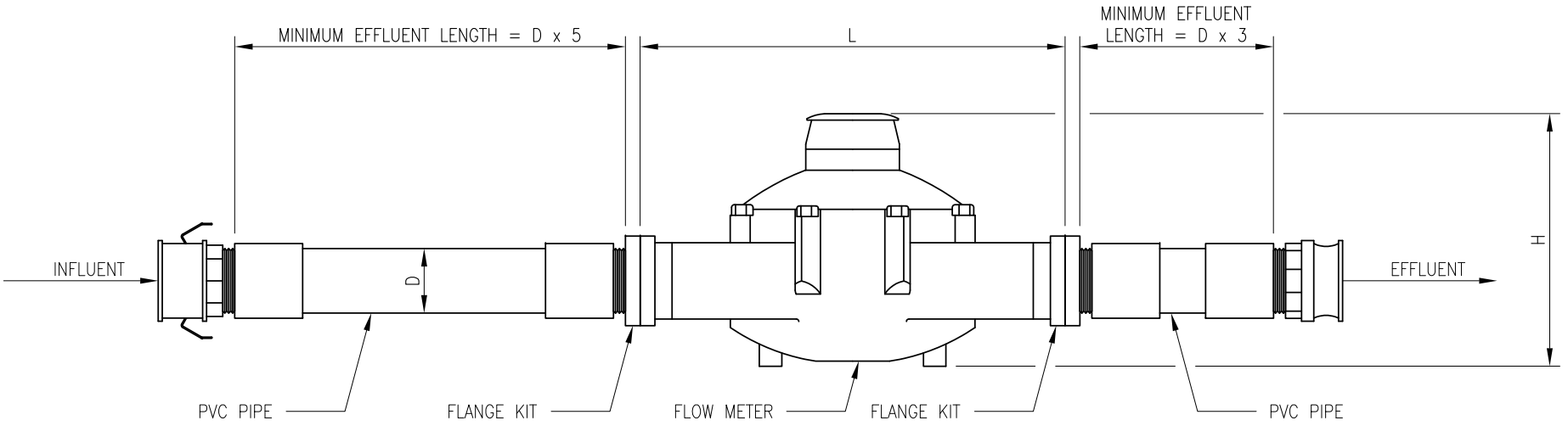
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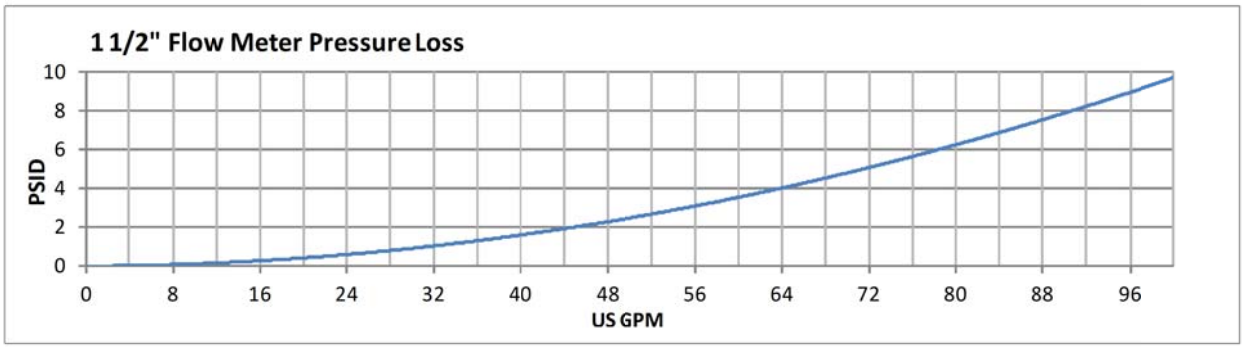
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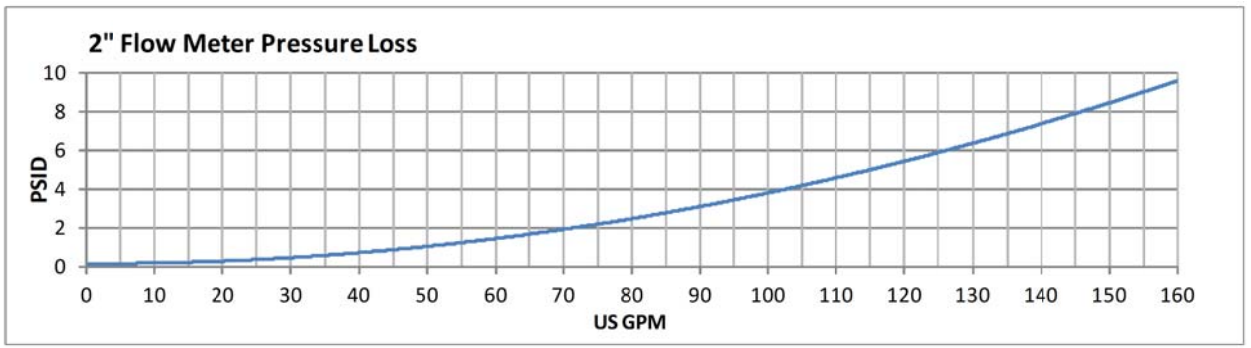
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DWG SIZE: A	SHEET: 1 OF 1	DRAWING NO.: ST-000345-SPC01	B

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T-10 FLOW METER SPECIFICATIONS		
METER SIZE, D (INCHES):	1-1/2	2
MAXIMUM FLOW U.S GPM:	100	160
MINIMUM FLOW U.S GPM:	2	2-½
HEAD LOSS IN INCHES AT MAX FLOW:	23.12	23.12
H (INCHES):	8.13	9.31
L (INCHES):	13	17
MIN. INFLUENT LENGTH (INCHES):	10	12
MIN. EFFLUENT LENGTH (INCHES):	6	8
MAXIMUM TEMPERATURE:	80°F CONSTANT	
PRESSURE RATING:	150 PSI	

NO.	REVISIONS	BY	DATE
B	UPDATED TO NEW CAD STANDARDS	RJS	09/08/15
A	TYPICAL	RJS	03/21/12

TITLE:

STANDARD EQUIPMENT SPECIFICATION T-10 FLOW METER ASSEMBLY

SCALE: NTS	APPROVED BY: RJS	DRAWN BY: RJS
DATE: 03/21/12		

GWTT
Ground/Water Treatment & Technology, LLC
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Ground/Water Treatment & Technology, LLC

Operation and Maintenance Manual

for the

Temporary Groundwater Treatment System

located at

Garvies Point

Glen Cove, NY

Submitted to:

Posillico, Inc.

GWTT Ref # QT-146864-OMM1
Rev 0

June 19th, 2017

PREPARED BY:

GROUND/WATER TREATMENT & TECHNOLOGY, LLC
627 MOUNT HOPE ROAD WHARTON, NEW JERSEY 07885
(973) 983-0901

Foreword

When water is being processed this treatment system must be manned by a qualified operator. The operator shall follow the procedures in this manual.

The treatment plant operator must fully read and understand all components of this manual. Failure to follow the instructions carefully may lead to the discharge of contaminated water.

The document includes a compilation of manuals of the equipment provided by GWTT. These manuals are not intended to be used as a training tool for nonqualified personnel. All operation and maintenance must be performed by a qualified operator. The operator should be familiar with process piping, electrical controls and components, chemicals and chemical handling procedures, pumps, etc. Any operation or maintenance by unqualified personnel may result in serious injury, death or damage to property and the environment.

OPERATOR SIGN-OFF

Job Number: _____

Job Name: _____ Job Location: _____

When water is being processed this treatment system must be manned by a qualified operator. The operator shall follow the procedures in this manual.

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Client Name (Print): _____ Employer: _____

Client Signature: _____ Date: _____

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SYSTEM DESCRIPTION

50 GPM Groundwater Treatment System

The proposed groundwater treatment system can treat a maximum of 50 gpm of water generated from dewatering operations.

The total treatment system consists of the following major components:

- One (1) settling tank
- Two (2) transfer pumps
- Two (2) multi-bag filters, parallel operation
- Two (2) liquid phase granular activated carbon adsorbers, series operation
- One (1) effluent flowmeter and totalizer
- One (1) trailer

Water from the sump wells will be pumped into the influent settling tank. The settling tank is an open top, gravity flow tank and designed to facilitate the settling of solids.

Solids and/or sludge that have settled to the bottom of settling tank will need to be periodically removed to prevent accumulated material from reducing the settling time thus reducing the efficiency of the unit. All material from the bottom of the tank must be disposed of in accordance with site and local regulations

The water will then be pumped to the bag filter skid via a duplex electric transfer pump setup (1 primary, 1 backup) capable of producing 50 gpm @ approximately 95' TDH. The pumps will be equipped with a 3 Hp, 480 V, 3 phase electric motor. The control system will consist of two (2) pump motor starters and five (5) float controls – pump 1 on, pump 1 off, pump 2 on, pump 2 off and a high level alarm. If the high level alarm float is activated, a strobe light will activate to alert the operator.

The bag filter skid will consist of two (2) multi-bag filter housings plumbed in parallel. The inlet and outlet of the bag filter skid will be equipped with manifolds complete with isolation valves. Each of the filter housings will contain four (4) bag filters designed to remove suspended particles prior to the inlet of the carbon adsorbers. The inlet and outlet of each of the bag filter housings will also be equipped with pressure gauges to monitor the differential pressure across the filter housing. The bag filters should be changed once the differential pressure across the housing reaches 15 to 25 psi. The bag filter housings will be plumbed in parallel such that the bags in one (1) filter housing can be changed while the remaining filter housing continues to process water at the design water flow rate of 50 gpm.

If the bag filters are not properly operated and maintained, the differential pressure across the filter housings can rise to a level where the transfer pumps cannot pump water from the settling tank faster than raw water is being introduced into the treatment system. In this situation, the water level in the settling tank will raise enough to activate the high level alarm.

From the bag filter skid, water will continue to flow under pressure to the two (2) carbon adsorbers plumbed in series. The carbon adsorbers will each contain 1,000 lbs. of reactivated, granular liquid phase carbon media designed to remove low levels of SVOCs and VOCs such as petroleum hydrocarbons prior to discharge. If breakthrough of SVOCs or VOCs occurs on the lead carbon adsorbers, the water will temporarily be directed to the lag units. The spent carbon will be removed from the lead units and will be replaced with 1,000 lbs of reactivated carbon media. The spent carbon will be

sampled to determine RCRA waste characteristics and will be disposed of according to site and local regulations.

The inlet and outlet of each carbon adsorber will be equipped with a pressure gauge to monitor the differential pressure across the carbon media. The differential pressure across each carbon adsorber should be recorded in a log book on a daily basis. If the differential pressure across a particular carbon adsorber rises to a level where water flow is restricted (as measured by the effluent flowmeter), that carbon adsorber should be taken off-line temporarily to backwash the media. Backwash water should be obtained from a clean water source such as the backwater tank, a hydrant or a water truck. A pressure switch will be installed in the piping prior to the inlet of the lead carbon adsorber.

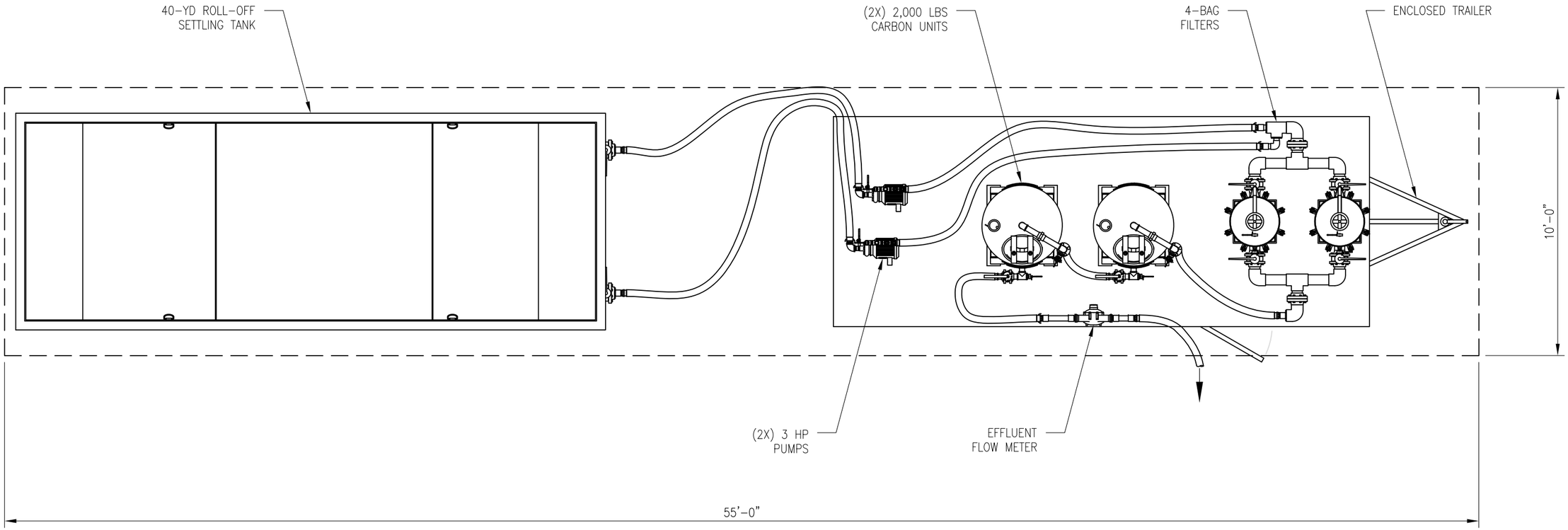
A 2" diameter mechanical flow meter with a totalizer will be provided after the effluent of the carbon adsorber trains to indicate the flow rate and to record the total gallons of water treated. The flow meter has an acceptable flow range of 3 to 160 gpm. Flow readings should be recorded daily in a log book.

With exception to the settling tank, the major components of the treatment system will be installed in an enclosed trailer. The trailer is equipped with heating, lights and ventilation. The individual components of the system will be interconnected using PVC piping and suction hose. Pressure gauges and sample taps will be located throughout the system to monitor system performance. Butterfly valves will be provided on the inlet and outlet of each of the major units to isolate them for maintenance.

SYSTEM DRAWINGS

TEMPORARY TREATMENT SYSTEM

OVERALL PLAN VIEW



NOTES:

1. DESIGN FLOW RATE: 50 GPM
2. SYSTEM FOOTPRINT APPROXIMATELY: 10'x55'
3. NOT ALL VALVES, CONNECTIONS, ETC. SHOWN FOR CLARITY
4. GENERATOR BY OTHERS – 480V, 3ϕ, 100 AMPS

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REV.	DATE	BY	REMARKS	REV.	DATE	BY	REMARKS
A	02/21/17	RS	PRELIMINARY DESIGN FOR REVIEW				

CUSTOMER: POSILLICO

SITE: GARVIES POINT GLEN COVE, NY

TITLE: EQUIPMENT LAYOUT 50 GPM TEMPORARY TREATMENT SYSTEM

SCALE: NTS

DRAWN BY: RS DATE: 02/21/17

APPROVED BY: JMB DATE: 02/21/17

GWTT Ground/Water Treatment & Technology, LLC

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www.gwttllc.com

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PRE-STARTUP PROCEDURE

Step 1. General

a. Walk the entire treatment system from back to front to ensure that all pipes and hoses are connected. This includes verifying the discharge is connected.

b. Secure all camlock connections by way of pins or zip-ties

c. Verify all system components' pressure gauges read zero (0) psi

d. Ensure walkways are clean of debris and obstructions for operator safety

e. Verify location/presence of fire extinguisher and first aid kit

f. Verify all equipment, hose and/or pipe is free of debris prior to setting up system

Step 2. Generator

a. Verify fuel level is reading FULL

- If NOT full, record fuel level

b. Verify output switches are set to 480 V

c. Attach electrical supply wires

Step 3. Flowmeter

a. Verify the meter is free of all debris

b. Record effluent flowmeter totalizer before continuing with the Pre-Startup Procedure

Step 4. Media Units

a. Verify influent and effluent piping is free of debris

b. Verify that the influent and effluent valves on all lead and lag carbon units are CLOSED

c. Confirm that all lead and lag carbon units have been hydrated by using the sample taps

d. Confirm that all carbon unit hatches have been secured following hydration

e. Confirm that air relief valves are installed and open

f. Verify that carbon units are plumbed in series

g. Verify all auxiliary valves on influent & effluent piping on all lead & lag carbon units are CLOSED

Step 5. Bag Filters

a. Verify that housings lids are completely secured

b. Verify the housings are free of all debris

c. Verify that new bag filters are installed in each housing

d. Verify that the O-Ring gasket on each housing is in good condition

e. Verify that the influent and effluent valves on both bag filter housings are CLOSED

f. Verify that the drain valves on both housings are CLOSED

g. Verify that pressure gauges are installed on the inlet and outlet of each housing

h. OPEN the sample tap valve on the primary housing to allow air to bleed during startup

Step 6. Transfer Pumps

a. Verify that inlet manifold valves (if any) are in the OPEN position

b. Verify that the effluent valves on the pumps are in the OPEN position

c. Verify that all drain connections are CLOSED

d. Verify that the sample tap valves on both pumps are in the OPEN position

e. Verify that the main disconnect switch for the transfer pumps is OFF

f. Verify that both transfer pump H/O/A switches are in the OFF position

Step 7. Settling Tank

a. Verify that transfer pump floats are hung at the correct elevations

b. Verify that all drain connections are CLOSED

c. Verify that unused inlet and outlet connections are CLOSED

d. Verify the tank is as level as possible for efficient processing

e. Verify the tank is free of all debris

f. Verify the tank is filled with clean water

SYSTEM STARTUP PROCEDURE

IMPORTANT NOTE:

Always verify all valves are open and transfer pumps are properly secured before operating these pumps. These pumps are non-self-priming and require a flooded suction. If the pumps are running without a flooded suction i.e. running dry, the pumps will become damaged.

Startup Procedure is to be executed in the order set forth to prevent damage to equipment. Do not deviate from this procedure.

Step 1. Generator

a. Make sure all local controls (H/O/A switches and knife switches)are in the OFF position

b. Main Disconnect Knife Switch & Circuit Breaker on Generator in OFF Position

c. Start Generator and allow to warm up in Idle/Low then turn up to RUN/HIGH

d. Turn ON Generator Circuit Breaker

e. Energize Main disconnect and Local Knife Switches

f. Individually turn ON all local controls (H/O/A switches and knife switches) one at a time, start at the back end of the process and work towards the head of the WWTP

Step 2. Settling Tank

a. Open the influent valve to allow process water to enter when the system is deemed ready

b. Open the effluent valves on the tank to allow clean water into the transfer pumps. This includes any valves associated with the manifold between the tank and the pumps (if any)

Step 3. Transfer Pumps

a. On the main interior disconnect and panel, place the switch to the ON position

b. Open the sample tap on the discharge side of the transfer pumps.

c. Ensure that the drain on the bottom of each pump is closed.

d. Wait until a steady stream of water, not a light trickle, exits each pump's sample tap. This will insure each pump is properly primed before proceeding.

e. On the main panel, briefly turn Pump 1 on then off using the HAND position of the toggle switch. Do not bump the pump motor for more than a few seconds. Running the pump dry can ruin the pump seals and can cause serious damage to it.

f. Inspect the rotation of the fan and ensure proper rotation. If the rotation of the fan is opposite the arrow shown on the back of the pump, the pump is wired incorrectly and should not be used in this condition and will require the wires to be reversed in the panel. **Only qualified GWTT personnel to enter the control panel. Contact GWTT before attempting to enter a panel if you suspect incorrect wiring.**

g. Slowly throttle the discharge of each pump down and ensure that the pressure gauge is indicating a rise in pressure.

   - If the pressure gauge is not indicating a rise in pressure, shut down the pump immediately. This condition indicates the presence of an air bubble trapped in the pump. Wait until a steady stream of water exits the sample tap.
   - If the pressure gauge is indicating a normal rise in pressure, there is no air trapped in the pump.

h. CLOSE the sample tap

i. On the panel, move Pump 1's switch to the OFF position temporarily in order to finish the startup procedure.

j. On the main panel, briefly turn Pump 2 on then off using the HAND position of the toggle switch. Do not bump the pump motor for more than a few seconds. Running the pump dry can ruin the pump seals and can cause serious damage to it.

k. Inspect the rotation of the fan and ensure proper rotation. If the rotation of the fan is opposite the arrow shown on the back of the pump, the pump is wired incorrectly and should not be used in this condition and will require the wires to be reversed in the panel. **Only qualified GWTT personnel to enter the control panel. Contact GWTT before attempting to enter a panel if you suspect incorrect wiring.**

l. Slowly throttle the discharge of each pump down and ensure that the pressure gauge is indicating a rise in pressure.
   - If the pressure gauge is not indicating a rise in pressure, shut down the pump immediately. This condition indicates the presence of an air bubble trapped in the pump. Wait until a steady stream of water exits the sample tap.
   - If the pressure gauge is indicating a normal rise in pressure, there is no air trapped in the pump.

m. CLOSE the sample tap

n. On the panel, move Pump 2's switch to the OFF position temporarily in order to finish the startup procedure.

Step 4. <u>Bag Filters</u>

a. OPEN the influent and effluent valves on the primary housing to be used during operation

b. Verify the other housing's influent and effluent valves are still CLOSED

Step 5. <u>Media Units</u>

a. OPEN the influent and effluent valves on all the media units

Step 6. Flowmeter

a. Use throttling valves to ensure system treatment limits are not exceeded

Step 7. General

a. Walk the entire treatment system while processing water to confirm no leaks, no open sample tap valves and no open drain valves

b. Once running, check flow rate and throttle pumps to a maximum of 50 gpm

Notes

- During cold weather operation, the pump housings and all hoses must be drained when not in use to prevent freezing and cracking.
- The pumps must also be greased periodically in accordance with the manufacturer's recommendations.
- The manufacturer's manual for all the pumps is located in the Appendix section of this manual.

END OF SHIFT SHUTDOWN PROCEDURE

IMPORTANT NOTE:

Always verify all valves are open and transfer pumps are properly secured before operating these pumps. These pumps are non-self-priming and require a flooded suction. If the pumps are running without a flooded suction i.e. running dry, the pumps will become damaged.

Shutdown Procedure is to be executed in the order set forth to prevent damage to equipment. Do not deviate from this procedure.

This procedure is to be executed for the purposes of shutting down the system but leaving the internal heater running to prevent freezing during winter months.

COLD WEATHER NOTE:
IN THE EVENT OF COLD WEATHER (<40° F), ALL SYSTEM HOSES ARE TO BE DRAINED TO PREVENT FREEZING LEADING TO CRACKS, RUPTURES, AND OPERATIONAL PROBLEMS.

Step 1. **Settling Tank**

a. CLOSE the tank's influent valve

b. Allow water inside tank to continue to be processed removing as much water as possible without causing the transfer pumps to run dry.

- This should be accomplished by leaving the transfer pumps on AUTO until all OFF floats activate. Once activated, use MANUAL to drain further until gauges start to stutter due to air being sucked in. Stop the pumps immediately at this time.

c. CLOSE the tank's effluent valves once all water has been removed

Step 2. **Transfer Pumps**

a. On the main panel, toggle Pump 1's switch and Pump 2's switch to the OFF position

Step 3. **Bag Filters**

a. CLOSE influent and effluent valves on each bag filter housing

b. Drain each housing of process water

c. REMOVE and dispose used bag filters from each housing

Step 4. Media Units

a. CLOSE influent and effluent valves on each media unit

Step 5. Generator

a. Move main interior panel disconnect to the OFF position

b. Move exterior disconnect to the OFF position

c. Turn breaker OFF on generator

d. Allow generator to reach its idling point

e. Move main switch on generator to OFF

System is now partially shutdown

FINAL SHUTDOWN PROCEDURE

IMPORTANT NOTE:

Always verify all valves are open and transfer pumps are properly secured before operating these pumps. These pumps are non-self-priming and require a flooded suction. If the pumps are running without a flooded suction i.e. running dry, the pumps will become damaged.

Shutdown Procedure is to be executed in the order set forth to prevent damage to equipment. Do not deviate from this procedure.

COLD WEATHER NOTE:
IN THE EVENT OF COLD WEATHER (<40° F), ALL SYSTEM HOSES ARE TO BE DRAINED TO PREVENT FREEZING LEADING TO CRACKS, RUPTURES, AND OPERATIONAL PROBLEMS.

Step 1. Settling Tank

a. CLOSE the tank's influent valves

b. Allow water inside tanks to continue to be processed through removing as much water as possible without causing the transfer pumps to run dry.

- Remove water from the oil/water separator leaving the transfer pumps on AUTO until all OFF floats activate. Once activated, use MANUAL to drain further until gauges start to stutter due to air being sucked in. Stop the pumps immediately at this time.

c. CLOSE the tanks' effluent valves once water has been removed

Step 2. Transfer Pumps

a. On the main panel, toggle Pump 1's switch and Pump 2's switch to the OFF position

Step 3. Bag Filters

a. CLOSE influent and effluent valves on each bag filter housing

b. Drain each housing of process water

c. REMOVE and dispose used bag filters from each housing

Step 4. Media Units

a. Drain all units

b. CLOSE influent and effluent valves on each media unit

Step 5. Disconnect Hoses

a. Disconnect hoses from pumps to drain completely

b. Disconnect hoses from media units to drain completely

c. Drain effluent pipe trap by disconnecting from flowmeter

d. Disconnect discharge

Step 6. Miscellaneous Electrical Equipment

a. Verify fan switch is in the OFF position

b. Verify heater switch is in the OFF position

c. Verify lights switch is in the OFF position

Step 7. Generator

f. Move main interior panel disconnect to the OFF position

g. Move exterior disconnect to the OFF position

h. Turn breaker OFF on generator

i. Allow generator to reach its idling point

j. Move main switch on generator to OFF

System is now completely shutdown

Troubleshooting

IMPORTANT NOTE:

UNDER NO CIRCUMSTANCES ARE NON-AUTHORIZED PERSONNEL TO ENTER A GWTT CONTROL PANEL FOR PURPOSES OF DIAGNOSING PROBLEMS OR TO MAKE ANY CHANGES/ADJUSTMENTS TO THE ELECTRICAL SYSTEMS AND RELATED INFRASTRUCTURE. ONLY A QUALIFIED GWTT TECHNICIAN IS PERMITTED TO DO SO. FAILURE TO COMPLY CAN RESULT IN SERIOUS BODILY INJURY AND/OR DEATH.

- **Generator**

Problem	Possible Reason	Solution
Generator does not start up	Empty fuel tank	Refuel to FULL
	Settled particles on bottom of tank due to low fuel level	Change fuel filter then refuel to FULL
Generator surges	Low or incorrect voltages/amps	Verify all voltage switches are set to correct output of 480 V
		Verify amps across each leg are reading correctly per manufacturer guidelines posted on generator
	Undersized; not rated high enough	A properly sized generator will need to be used. Breaker will still show intact, however
	Low fuel level in tank	Refuel to FULL
Generator breaker tripping	Low or incorrect voltages/amps	Verify all voltage switches are set to correct output of 480 V
		Check for conductivity across each lead wire
		Verify breaker has been moved completely to "off" and then "on" and that it is not stuck midway
		Verify amps across each leg are reading correctly per manufacturer guidelines posted on generator
No power to the system	Generator not wired correctly to the system	Power down generator and correctly attach lead wires
	Disconnects not switched to ON	Toggle disconnect switches from OFF to ON

Note: In the situation where none of the above solutions are successful, it is recommend to contact the manufacturer directly for additional support

- **Transfer Pumps**

Problem	Possible Reason	Solution
Pumps on, no water and high pressure	Closed valves on pump	Verify all valves are open and functioning
	Clogged impeller	Turn off pump, remove influent hose and examine impeller to see if there is any material/debris lodged
	Closed valves on Settling Tank	Verify all valves are open and functioning
	Closed valves on bag filters	Verify influent valves are open and functioning on the bag filters
Leaking pump (from bottom)	Pump seal has been blown	Turn off pump, disconnect all hoses and power. Contact GWTT for pump seal replacement.
	Open drain valve	Close drain valve on the bottom of the pump
Leaking pump (from top)	Plumbing fittings not tight enough	Verify all plumbing connections are tight and thread sealant is present.
	Hose crimped at inlet	Reposition hose so that the inlet is not crimped and there can be a smooth flow
Pump tripping	Material lodged in impeller	Material needs to be removed from impeller to allow it to rotate freely
	Motor control (panel contactor) is faulty	Contactor needs to be replaced inside main control panel
Loud grinding	Bad bearing	Bearing needs replacing due to being worn out or breaking
	Not enough grease	Grease should be added per manufacturer's specs (See Appendix)
	Foreign objects/trash interfering	Examine impeller to see if there is any material/debris lodged

- **Bag Filters**

Problem	Possible Reason	Solution
No water/Low flow	Valves closed	Verify all valves are open and functioning properly
Housing leaking	O-ring gasket on lid is missing, damaged, or flat (not rounded)	Replace gasket to insure a tight seal between the lid and body
	Lid not secured	Resecure lid by loosening all bolts and then initially tightening them in a star pattern (like a car tire). Finish tightening in an all-around pattern.
	Open drain valve	Close drain valve on the bottom of the housing
High differential pressure (15-25 psi)	Dirty bags	Change bags by releasing air pressure first by opening bottom and top valves. Remove the dirty bags and properly dispose of them. Finally, replace with clean bags. (See Appendix for detailed instructions)

- **Media Units**

Problem	Possible Reason	Solution
Leaking water from manway lids	Gasket on lid is missing, damaged or poorly positioned	Replace gasket to insure a tight seal between the lid and body
	Lid not secured	Resecure lid by loosening all bolts, centering the gasket and lid, and finally tightening all bolts
Airpot (if present) leaking	Carbon clogging	Remove airpot leaving only the ball valve
High pressure (> 20-25 psi)	Units are frozen	System will not operate. Units will need a constant heat source to thaw the frozen water. The time required will vary dependent on heat source.
	Valves closed	Verify all valves are open and functioning properly
	Carbon clogging	Contact GWTT for a required backwash (See Appendix for instructions)

- **Flowmeter**

Problem	Possible Reason	Solution
No water	Blockages in flowmeter as a result of media being passed through from a broken screen	Verify there are no blockages/clogs in the flowmeter.
	Valves closed	Verify all valves are open
Totalizer not functioning	Bad Bearing	Bearing needs to be replaced by disassembly
	Blockages in flowmeter	Verify there are no blockages/clogs in the flowmeter
	Impeller stuck	Flowmeter needs to have the impeller rotated by hand to disengage

➢ Operation

Problem	Possible Reason	Solution
High pressure	Valves closed	Verify all valves are open and functioning properly
High pressure on pump, low pressure on bag filter	Transfer pump gate valve is in the incorrect position	Rotate valve handle to correct open position
	Transfer pump check valve flapper broken and obstructing flow	Contact GWTT for a required valve replacement
High level condition	Pump switch position incorrect	Verify switch is in the "on" position
	Pump valve position incorrect	Verify all valves are open and functioning properly
	Float levels incorrect	Verify floats are hung at the correct heights per drawing
	Obstructions in hose/pipe	Verify there is no debris or clogs in all pipe and hose
	Dirty bags in filter housings	Check if bag filters are dirty; if so, replace with clean bags
	Dirty/clogged media	Contact GWTT for a required backwash
	Throttling valve (if present) position incorrect	Verify all valves are open and functioning properly
	Pumps not running	Refer to Transfer Pumps Troubleshooting section

Appendix A:

Bag Filter Changeout Instructions

Duplex Four-Bag Filters Changeout Instructions

Duplex four-bag filter housing skids allow uninterrupted operation of the system during filter bag changeouts. The skid is plumbed with INLET and OUTLET butterfly valves on each filter housing such that the bag in any of the filter housing can be changed while the system continues to process up to 50 gpm of water through each of the remaining filter housings. Each filter housing is constructed from stainless or carbon steel and holds four (4) 30" standard length #2 bags. 5-micron filter bags are typically used prior to liquid phase carbon adsorbers.

When a four-bag filter housing is first put on-line prior to carbon adsorbers, the inlet pressure is typically between 5 and 10 psi. As the filter bags accumulate material from the water treatment stream, the pressure in the four-bag filter housing will increase. When the differential pressure (calculated by subtracting the OUTLET pressure from the INLET pressure) reaches 15 to 25 psi, the bags in that filter housing should be changed. Due to the variability in water quality from site to site, the changeout differential pressure may occur in a matter of seconds, minutes, hours or even days.

For the filter housing(s) that will remain on-line

1. Confirm that the INLET and OUTLET butterfly valves of the filter housing(s) that will remain on-line are open. This will allow you to process up to 50 gpm of water through each of the filter housings that will remain on-line.

For the filter housing that will be taken off-line to change the bags

1. Close the INLET butterfly valve of the filter housing that needs to have the bags changed.
2. Close the OUTLET butterfly valve of the filter housing.
3. Slowly open the VENT ball valve on the top of the filter housing. This will relieve residual pressure within the filter housing and act as a vent while the filter housing is drained.
4. After the water has stopped flowing from the VENT valve, slowly open the DRAIN ball valve at the bottom of the filter housing. This will drain any remaining water in the filter housing.
5. Loosen each of the eye nuts to allow them to swing free.
6. Open the lid on the top of the filter housing.
7. Swing the lid away from the housing to access the basket and filter bag.
8. Remove the spent bag filter by lifting it out of the basket. Spent bag filters should be disposed of properly according to site and local regulations.
9. To install a new filter bag, place your arm inside a new filter bag and fully extend your arm and the bag into the basket. Withdraw your arm, leaving the filter bag firmly seated within the basket.
10. Verify that the O-ring is securely in place in the groove on the top plate of the filter housing.
11. Swing the lid back into position and tighten the eye nuts evenly to ensure a leak proof seal between the lid and the body of the filter housing.
12. Close the DRAIN ball valve at the bottom of the filter housing.
13. Leave the VENT valve open to purge air from the filter housing while it is being filled with water.
14. Open the OULET valve and then open the INLET valve slowly. Opening the INLET valve slowly will prevent a pressure surge within the filter housing which may damage the bags.
15. Close the VENT valve once water starts flowing out of it.
16. The filter housing is now ready to process water.

Appendix B:

Backwash Procedure

NOTE: DO NOT ENTER ANY CONFINED SPACES IN EQUIPMENT BELONGING TO GROUND/WATER TREATMENT & TECHNOLOGY, LLC WITHOUT WRITTEN CONSENT FROM THE PROPER AUTHORITIES. ALL CONFINED SPACES, INCLUDING THOSE CONTAINING ACTIVATED CARBON, SHOULD BE PRESUMED TO BE HAZARDOUS. APPROPRIATE SAFETY MEASURES SHOULD ALWAYS BE TAKEN BEFORE ENTERING, AS WELL AS WHEN WORKERS ARE IN A CONFINED SPACE. OSHA REGULATIONS APPLICABLE TO RESPIRATORY PROTECTION IN OXYGEN-DEFICIENT ATMOSPHERES SHOULD BE STRICTLY FOLLOWED.

It is required to contact GWTT before executing any backwashing procedures as a qualified representative will need to be present.

At the start of backwash all valves in the adsorption system are closed. To initiate backwash, the sequencing is as follows:

1. Isolate the vessel to be backwashed from the process stream.
2. Connect hose to the backwashing vessel to guide clean backwash water to the effluent of the vessel and from the influent of the vessel to a catchment. This catchment is typically the influent tank of the Groundwater Treatment System or some other temporary holding tank.
3. Engage clean backwash water supply (typically a nearby hydrant) into the effluent of the vessel to be backwashed. The flow direction will be up flow -opposite of normal operation.
    a. Backwash water should not be introduced at a pressure greater than the vessel rating of 50-75 psi.
4. Slowly open the valve on the Influent side of the vessel being backwashed, which is now temporarily the Backwash Effluent of this vessel during the backwash process.
5. Slowly open the valve on the Effluent side of the vessel being backwashed, which is now temporarily the Backwash Influent of this vessel during the backwash process.
6. Backwash the vessel for approximately 10-30 minutes or until the color of water leaving the vessel is clear.
7. *Slowly close* the valve on the Influent side of the vessel being backwashed, which was temporarily the Backwash Effluent of this vessel during the backwash process.
8. The freshly backwashed vessel is now ready to be put on-line.
9. If necessary, repeat this procedure for all remaining vessels.

If pressure drop is still unacceptable, repeat the entire procedure or call GWTT.

NOTE: PROVISIONS SHOULD BE MADE TO PROPERLY DISPOSE OF THE BACKWASH WATER. IF THE BACKWASH WATER IS SENT TO THE INFLUENT TANK, THE SYSTEM SHOULD TREAT THE BACKWASH

WATER. THE CONTAMINANTS WILL BE ENTRAINED IN THE WASTE FROM THE SYSTEM (BAG/CARTRIDGE FILTERS, SPENT CARBON, ETC.)

Spent Media Removal

When the lead adsorber becomes saturated (exhausted) it is taken off-line for replacement of the spent media. The feed water is directed to the second adsorber, allowing the system to remain in service. Contact Ground/Water Treatment and Technology to arrange removal and disposal/reactivation of the spent carbon as well as installation of new carbon.

Reference Tables

The provided information below is for reference only. In certain situations, backwash times will take longer than the suggested 10-30 minutes and will be done at a rate less than 10 GPM/Sqft. It is best advised to closely monitor the water leaving the vessel and once clear, the vessel is ready to be placed back on-line.

50 GPM System										
Media Vessel Size (Pounds)	1,000									
Cross-sectional Area of Vessel (Sqft)	7.065									
Surface Loading Rate (GPM/Sqft)	10 (optimal)					5				
Time (Minutes)	10	15	20	25	30	10	15	20	25	30
Optimal Flowrate (GPM)	70.1	70.1	70.1	70.1	70.1	35.1.	35.1	35.1	35.1	35.1
Total Clean Water Required (Gallons)	701	1052	1402	1753	2103	351	526	701	877	1052

Appendix C:

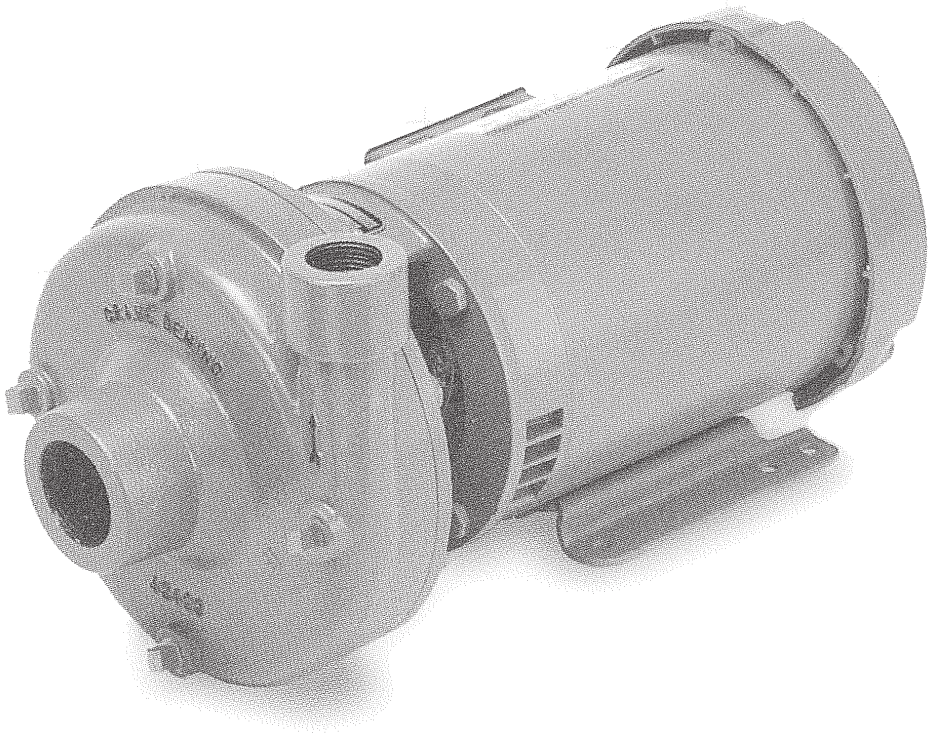
Manufacturer Manuals

Manual Index

DEMING®

INSTALLATION, OPERATION & MAINTENANCE MANUAL
MotorMount Centrifugal Pumps

Series: 3112



IMPORTANT!

Read all instructions in this manual before operating pump.
As a result of Crane Pumps & Systems, Inc., constant product improvement program, product changes may occur. As such Crane Pumps & Systems reserves the right to change product without prior written notification.

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PUMPS & SYSTEMS

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Form No. 119989-Rev. D

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SAFETY FIRST!

Please Read This Before Installing Or Operating Pump. This information is provided for **SAFETY** and to **PREVENT EQUIPMENT PROBLEMS.** To help recognize this information, observe the following symbols:

IMPORTANT! Warns about hazards that can result in personal injury orIndicates factors concerned with assembly, installation, operation, or maintenance which could result in damage to the machine or equipment if ignored.

CAUTION! Warns about hazards that **can or will cause minor** personal injury or property damage if ignored. Used with symbols below.

WARNING! Warns about hazards that can or will cause serious personal injury, death, or major property damage if ignored. Used with symbols below.



Hazardous fluids can cause fire or explosions, burnes or death could result.



Extremely hot - Severe burnes can occur on contact.



Biohazard can cause serious personal injury.



Hazardous fluids can Hazardous pressure, eruptions or explosions could cause personal injury or property damage.



Rotating machinery Amputation or severe laceration can result.



Hazardous voltage can shock, burn or cause death.

Only qualified personnel should install, operate and repair pump. Any wiring of pumps should be performed by a qualified electrician.



WARNING ! To reduce risk of electrical shock, pumps and control panels must be properly grounded in accordance with the National Electric Code (NEC) or the Canadian Electrical Code (CEC) and all applicable state, province, local codes and ordinances. Improper grounding voids warranty.

WARNING! To reduce risk of electrical shock, always disconnect the pump from the power source before handling or servicing. Lock out power and tag.



WARNING! Operation against a closed discharge valve will cause premature bearing and seal failure on any pump, and on end suction and self priming pump the heat build may cause the generation of steam with resulting dangerous pressures. It is recommended that a high case temperature switch or pressure relief valve be installed on the pump body.



CAUTION ! Pumps build up heat and pressure during operation-allow time for pumps to cool before handling or servicing.



WARNING ! Do not pump hazardous materials (flammable, caustic, etc.) unless the pump is specifically designed and designated to handle them.



WARNING ! Do not wear loose clothing that may become entangled in moving parts.

WARNING ! Keep clear of suction and discharge openings. **DO NOT** insert fingers in pump with power connected.



Always wear eye protection when working on pumps.



Make sure lifting handles are securely fastened each time before lifting. **DO NOT** operate pump without safety devices in place. Always replace safety devices that have been removed during service or repair. Secure the pump in its operating position so it can not tip over, fall or slide.

DO NOT exceed manufacturers recommendation for maximum performance, as this could cause the motor to overheat.



WARNING ! To reduce risk of electrical shock, all wiring and junction connections should be made per the NEC or CEC and applicable state or province and local codes. Requirements may vary depending on usage and location.



WARNING! Products returned must be cleaned, sanitized, or decontaminated as necessary prior to shipment, to insure that employees will not be exposed to health hazards in handling said material. All Applicable Laws And Regulations Shall Apply.

Bronze/brass and bronze/brass fitted pumps may contain lead levels higher than considered safe for potable water systems. Lead is known to cause cancer and birth defects or other reproductive harm. Various government agencies have determined that leaded copper alloys should not be used in potable water applications. For non-leaded copper alloy materials of construction, please contact factory.



Crane Pumps & Systems, Inc. is not responsible for losses, injury, or death resulting from a failure to observe these safety precautions, misuse or abuse of pumps or equipment.

A - GENERAL INFORMATION

TO THE PURCHASER:
Congratulations! You are the owner of one of the finest pumps on the market today. These pumps are products engineered and manufactured of high quality components. With years of pump building experience along with a continuing quality assurance program combine to produce a pump which will stand up to the toughest applications.

Check local codes and requirements before installation. Servicing should be performed by knowledgeable pump service contractors or authorized service stations.

RECEIVING:
Upon receiving the pump, it should be inspected for damage or shortages. If damage has occurred, file a claim immediately with the company that delivered the pump. If the manual is removed from the crating, do not lose or misplace.

STORAGE:
Short Term - Pumps are manufactured for efficient performance following long inoperative periods in storage. For best results, pumps can be retained in storage, as factory assembled, in a dry atmosphere with constant temperatures for up to six (6) months.

Long Term - Any length of time exceeding six (6) months, but not more than twenty four (24) months. The units should be stored in a temperature controlled area, a roofed over walled enclosure that provides protection from the elements (rain, snow, wind blown dust, etc..), and whose temperature can be maintained between +40 deg. F and +120 deg. F. Pump should be stored in its original shipping container and before initial start up, rotate impeller by hand to assure seal and impeller rotate freely.

SERVICE CENTERS:
For the location of the nearest Deming Service Center, check your Deming representative or
Crane Pumps & Systems Service Department in Piqua, Ohio, telephone (937) 778-8947 or
Crane Pumps & Systems Canada, Inc., Bramton, Ontario, (905) 457-6223.

B - INSTALLATION

1. FOUNDATION
The Motor-Mount pumps can be installed on any sufficiently soild foundation since pump and motor are rigidly aligned. The unit may be installed on a concrete foundation with anchor bolts set in place or securely mounted on a wall in either a horizontal or vertical position with motor above pump. The pump should be located as near the source of supply as possible with a minimum of suction pipe and elbows.

Foundation bolts, of the proper size, should be imbedded in the concrete. A pipe sleeve, about 2½" diameters larger than the bolt, should be used to allow for final positioning of the bolts. See Figure 1.

Position unit on foundation and level using rectangular metal blocks and shims, or wedges having a small taper as shown in Figure 2.

2. PIPING
A foot valve and strainer must be installed on the lower end of the suction pipe to keep pump completely filled with liquid when the pump is used under suction lift conditions. Connect suction pipe to pump, making certain that all connections are airtight. When a foot valve and strainer are used, it is necessary to install a check valve in the discharge line near the pump to prevent possible casing damage due to line shock or surge when the pump stops. A gate valve should also be installed in the discharge line. Connect discharge pipe to pump casing.

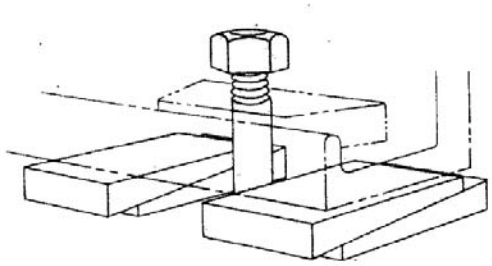


Figure 2. Adjusting Wedges for Mounting

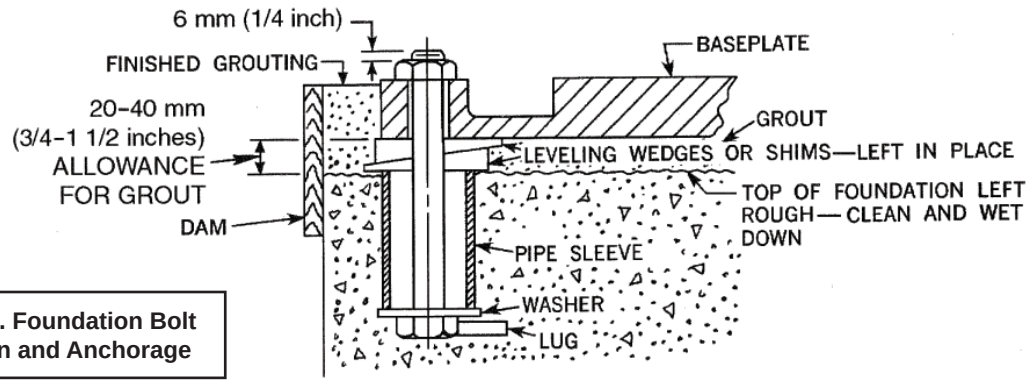


Figure 1. Foundation Bolt Location and Anchorage

It is important that the suction and discharge pipes “line up” naturally with the pump. Do Not “pull” pipes into position with flange bolts or fittings. Both suction and discharge pipes must be supported independently near the pump to eliminate any strain on the pump. Piping should be arranged with as few bends as possible, and, preferably, with long radius elbow whenever possible. Turn shaft to see that it rotates freely. If rotor binds, it indicates a strain on the casing, which must be corrected before operating pump. It may be necessary to shim motor at foundation to assist piping connection line-up.

3. WIRING / ROTATION

Check motor name plate for electrical characteristics. Be sure they are the same as the rating of the electric power available. Connect power lines to motor in accordance with the wiring diagram on the motor. Test rotation by jogging motor. Shaft must rotate in the direction indicated by arrow cast on pump casing.

NOTE: These units are designed to operate at a *maximum* speed of 3550 rpm.

C - OPERATION

1. STARTING THE PUMP

The following important items should be checked before starting.

a. Pump and driver securely bolted
b. Piping complete
c. Motor properly lubricated. Follow the recommendations found in the Maintenance Section
d. Open the seal flush valve, if used
e. Shaft turns freely
f. Rotation is correct. The pump must rotate in the direction of the arrow on the casing.
g. Discharge valve. A high or medium head centrifugal pump operating at full speed with the discharge valve closed, requires much less power than when operating at its rated head and capacity with the discharge valve open.

   For this reason, it is usually best to have the discharge valve only partially open when starting the pump.



WARNING! - Operating the pump with a closed or partially open discharge valve can result in excessive heat buildup. Such operation should be limited to the shortest pratical duration. Operating the pump at or near shut-off head places greater loads on the shaft and motor than operation at the designed flow rate and head.

h. Suction valve, if used, must be fully open. Do not use suction valve as a throttling device.
i. Pump fully primed

Only after these items have been checked should the pump be started.

2. PRIMING

CAUTION: Before starting the pump, the casing and suction line must be filled with liquid, and air-vented through the vent pipe plugs. The pump must not be run until it is completely filled with liquid, because of danger of injuring some of the parts of the pump which depend upon liquid for lubrication.

The discharge gate vale should be closed during priming. Be sure the mechanical seal and power frame are supplied with the proper lubrication.
See LUBRICATION.

PRIMING BY SUCTION PRESSURE

When operating with suction pressure (flooded suction), remove the pipe plug at the top of the casing and when pump is filled with liquid, replace plug.

PRIMING WITH FOOT VALVE AND STRAINER

A foot valve and strainer may be installed on the lower end of the suction pipe to keep pump filled with liquid. Incorporate filler pipe in discharge pipe between pump and check valve. Remove pipe plug at top of casing, then fill suction pipe and pump with liquid. When pump is full of liquid, replace plug and close filler pipe.

CAUTION: When a foot valve and strainer are installed on the suction pipe, a spring loaded type check valve **MUST** be installed next to the pump in the discharge piping to prevent pump rupture from water hammer shock.

Priming by means of primer pump or ejector, attached to the pump, will also remove air from suction pipe and pump casing. When pump is filled with liquid, start motor and slowly open discharge gate valve.

3. STARTING

Start the pump. When the pump has reached its designed operating speed slowly open the discharge valve to obtain the desired capacity and pressure.

With the pump running, carefully check for unusual vibration, quite operation, mechanical seal function and unusually high temperature.



WARNING! - NEVER try to adjust or work on the pump while it is running. Always stop the unit completely before attempting any adjustment.

D. MAINTENANCE

1. LUBRICATION

Motor bearings should have periodic attention and lubrication in accord with motor manufacturer's recommendations. Under ordinary conditions a ball bearing will run from 10°F to 60°F above ambient temperatures. Unless bearing temperature runs extremely hot do not become alarmed.

2. MECHANICAL SEAL

Only mechanical seals are available on this pump. By their nature, a properly lubricated mechanical seal requires no maintenance.

E - REPAIR



WARNING - If pumping any fluid that could cause bodily injury (hot water, caustic, etc.), always use eye protection and wear protective clothing over all exposed body areas.

REMOVE AND LOCK-OUT POWER TO THE DRIVER WHILE PERFORMING THESE TASKS

Be sure that no one can accidentally restore power while the pump is being serviced.

1. DISASSEMBLY - The following procedure is for the complete disassembly of the pump. If complete dissembly is not necessary, use only those steps which apply.

a. Slowly remove drain plugs (216) in top and bottom of casing (001). Disconnect suction and discharge pipes.

b. Remove motor foundation bolts.

c. Remove capscrews (212) from motor adapter to casing. Remove bypass tube if used.

d. Remove motor, adapter, impeller assembly away from casing. Once loose, lift assembly clear of casing being careful not to damage impeller.

e. Remove impeller nut (024), and unscrew impeller (002) from motor shaft on 1A units, or remove capscrew, washer (270), and slide impeller (002) and (032) off shaft.

f. Using extreme care, lift seal rotating member off shaft or sleeve.

g. Remove four adapter capscrews (219) from motor. Lift adapter off motor using care to avoid damage to seal stationary member.

h. Press seal stationary member out of adapter.

i. Claen and carefully inspect all parts for wear or damage. Replace any part which is excessively worn or damaged.

2. REASSEMBLY

a. With adapter impeller face up, press seal seat gently into seat cavity. Use protective material to avoid damage to seal lapped surface.

b. Mount adapter/seal assembly to motor using capscrews (219). Tighten evenly and firmly. On 1A units, base (053) must be secured at this time.

c. Slide seal rotating member over shaft for 1A units or over sleeve (014) for 2A units, lapped surface down, until lapped surfaces mate.

d. Thread impeller (002) and impeller nut (024) onto shaft on 1A units, or slide key (032) impeller (002) and fasten with washer, and capscrew (026) for 2A units.

e. Pump assembly is now ready to reinstall onto casing.

f. Place gasket (073) on cleaned surface of adapter, aligning capscrew holes.

g. Using care, insert motor/adapter/impeller assembly into cleaned casing. Insert capscrews (212) and hand tighten to control alignment as pilot on adapter enters casing. Continue tightening capscrews until gasket is firmly seated.

h. Tighten capscrews (212) evenly and alternately across capscrew circle diameter until all are firmly tightened.

i. Reinstall drain plugs, replace bypass line (if used), install motor mounting bolts.

NOTE: Model number, pump serial number and part item number are always required to secure correct replacement parts. Refer to the pump serial plate and illustrations in this booklet.

F - LOCATING TROUBLE

1. No Liquid Delivered
   a. Pump not primed - See Priming
   b. Speed too low - Check motor speed and nameplate
   c. Discharge head too high
   d. Suction lift over 15 feet. Check with vacuum gauge.
   e. Impeller completely plugged
   f. Wrong direction of rotation - Check wiring

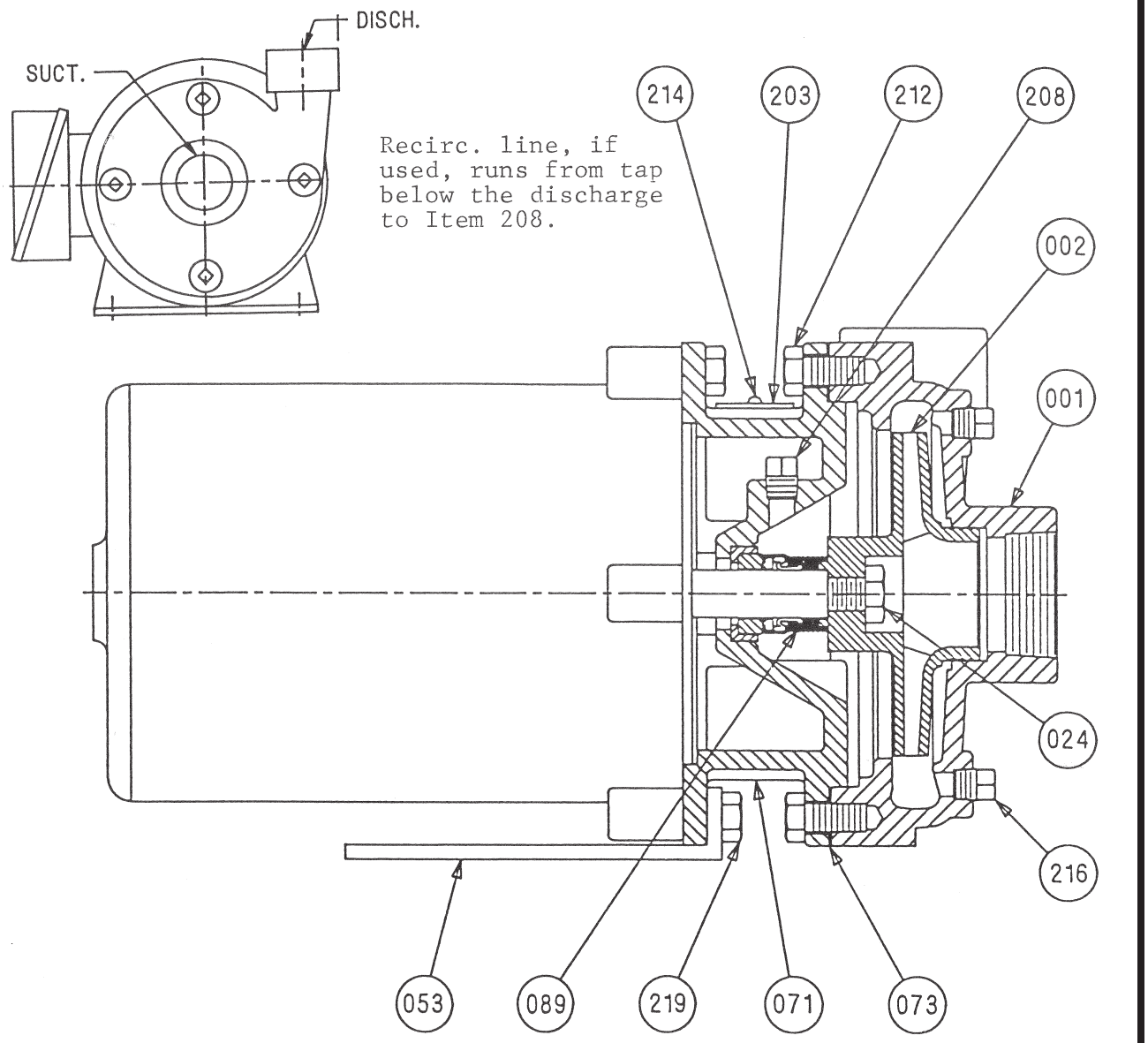
2. Not Enough Liquid Delivered
   a. Air leaks in suction piping
   b. Speed to low - Check motor speed
   c. Discharge head higher than anticipated.
   d. Suction lift over 15 feet. Check with vacuum gauge.
   e. Impeller partially plugged
   f. Not enough suction head for hot water.
   g. Mechanical defects. Impeller or casing worn or damaged
   h. Foot valve too small
   i. Foot valve not immersed deep enough.

3. Not Enough Pressure
   a. Speed too low - Check motor speed
   b. Air or gas in liquid
   c. Mechanical defects. Bent shaft or impeller binding
   d. Impeller diameter too small

4. Pump Works For A While Then Quits
   a. Leak in suction line
   b. Suction plugged
   c. Suction lift over 15 feet. Check with vacuum gauge
   d. Air or gas in liquid

5. Pump Takes Too Much Power
   a. Speed too high
   b. Head lower than rating - pumps too much liquid. Check system requirements
   c. Liquid either viscous or heavier than water, or both.
   d. Mechanical defects.

MODEL 3112-1A

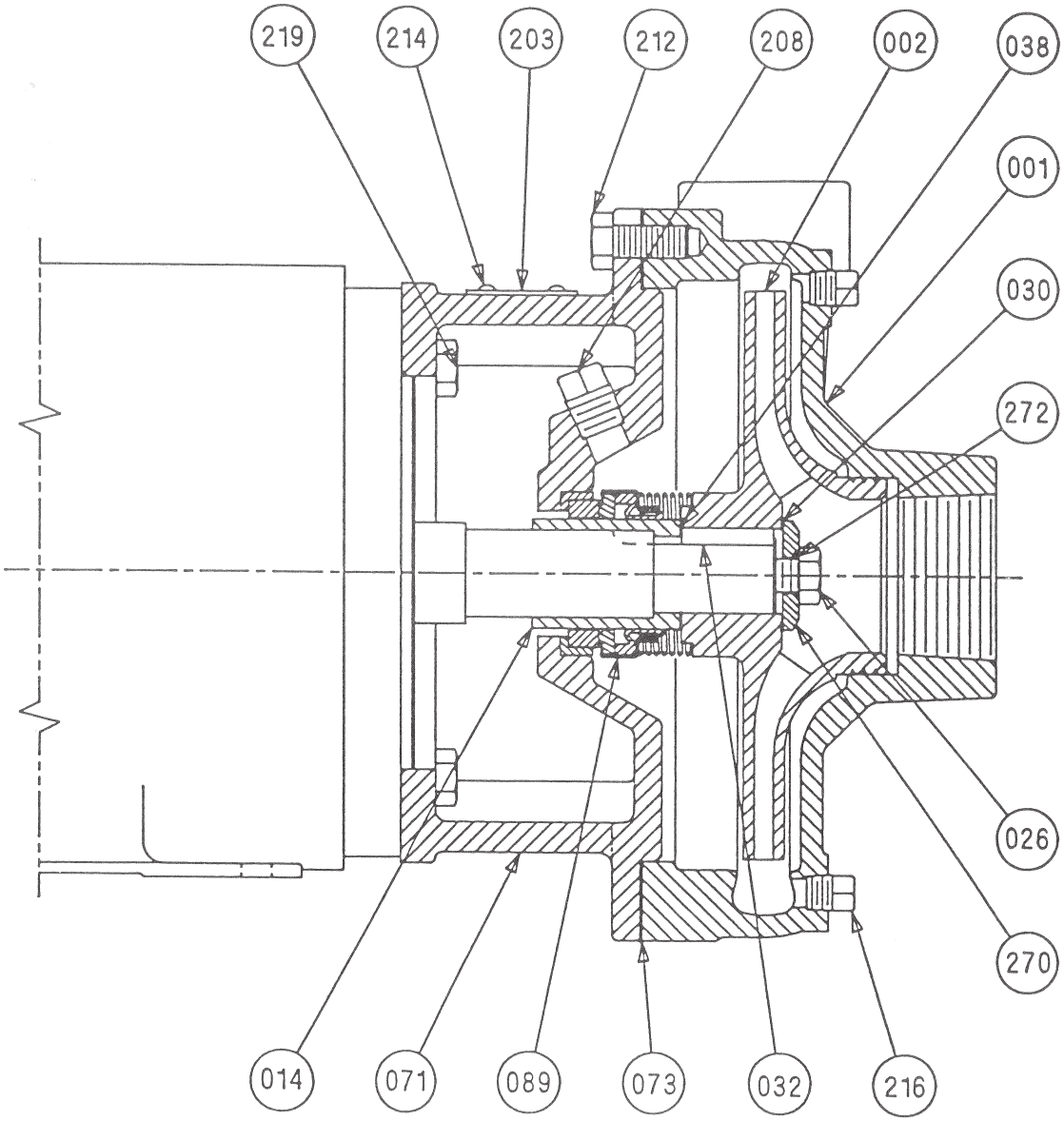


ITEM No.	DESCRIPTION
001	Casing
002	Impeller
024	Impeller Nut
053	Base
071	Adapter
*073	Casing Gasket
*089	Mechanical Seal

ITEM No.	DESCRIPTION
203	Name Plate (Not shown)
208	Pipe Plug
212	Cap screw
214	Drive screw
216	Pipe Plug (Casing)
219	Cap screw

(*) Recommended Spare Parts

MODEL 3112-2A



ITEM No.	DESCRIPTION
001	Casing
002	Impeller
014	Shaft Sleeve
*026	Capscrew
*030	Impeller Gasket
032	Impeller Key
038	Sleeve Gasket
071	Adapter
*073	Casing Gasket
*089	Mechanical Seal

ITEM No.	DESCRIPTION
203	Name Plate
208	Pipe Plug
212	Cap screw
214	Drive screw
216	Pipe Plug (Casing)
219	Cap screw
*270	Impeller Washer
*272	O-ring

(*) Recommended Spare Parts

BARNES® BARNES® PRESSURE PS SYSTEMS CROWN

burks® WEINMAN® DEMING® PROSSER®

Limited 24 Month Warranty

Crane Pumps & Systems warrants that products of our manufacture will be free of defects in material and workmanship under normal use and service for twenty-four (24) months after manufacture date, when installed and maintained in accordance with our instructions.This warranty gives you specific legal rights, and there may also be other rights which vary from state to state. In the event the product is covered by the Federal Consumer Product Warranties Law (1) the duration of any implied warranties associated with the product by virtue of said law is limited to the same duration as stated herein, (2) this warranty is a LIMITED WARRANTY, and (3) no claims of any nature whatsoever shall be made against us, until the ultimate consumer, his successor, or assigns, notifies us in writing of the defect, and delivers the product and/or defective part(s) freight prepaid to our factory or nearest authorized service station. Some states do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply. **THE SOLE AND EXCLUSIVE REMEDY FOR BREACH OF ANY AND ALL WARRANTIES WITH RESPECT TO ANY PRODUCT SHALL BE TO REPLACE OR REPAIR AT OUR ELECTION, F.O.B. POINT OF MANUFACTURE OR AUTHORIZED REPAIR STATION, SUCH PRODUCTS AND/OR PARTS AS PROVEN DEFECTIVE. THERE SHALL BE NO FURTHER LIABILITY, WHETHER BASED ON WARRANTY, NEGLIGENCE OR OTHERWISE.** Unless expressly stated otherwise, guarantees in the nature of performance specifications furnished in addition to the foregoing material and workmanship warranties on a product manufactured by us, if any, are subject to laboratory tests corrected for field performance. Any additional guarantees, in the nature of performance specifications must be in writing and such writing must be signed by our authorized representative. Due to inaccuracies in field testing if a conflict arises between the results of field testing conducted by or for user, and laboratory tests corrected for field performance, the latter shall control. **RECOMMENDATIONS FOR SPECIAL APPLICATIONS OR THOSE RESULTING FROM SYSTEMS ANALYSES AND EVALUATIONS WE CONDUCT WILL BE BASED ON OUR BEST AVAILABLE EXPERIENCE AND PUBLISHED INDUSTRY INFORMATION. SUCH RECOMMENDATIONS DO NOT CONSTITUTE A WARRANTY OF SATISFACTORY PERFORMANCE AND NO SUCH WARRANTY IS GIVEN.**

This warranty shall not apply when damage is caused by (a) improper installation, (b) improper voltage (c) lightning (d) excessive sand or other abrasive material (e) scale or corrosion build-up due to excessive chemical content. Any modification of the original equipment will also void the warranty. We will not be responsible for loss, damage or labor cost due to interruption of service caused by defective parts. Neither will we accept charges incurred by others without our prior written approval.

This warranty is void if our inspection reveals the product was used in a manner inconsistent with normal industry practice and\or our specific recommendations. The purchaser is responsible for communication of all necessary information regarding the application and use of the product. **UNDER NO CIRCUMSTANCES WILL WE BE RESPONSIBLE FOR ANY OTHER DIRECT OR CONSEQUENTIAL DAMAGES, INCLUDING BUT NOT LIMITED TO TRAVEL EXPENSES, RENTED EQUIPMENT, OUTSIDE CONTRACTOR FEES, UNAUTHORIZED REPAIR SHOP EXPENSES, LOST PROFITS, LOST INCOME, LABOR CHARGES, DELAYS IN PRODUCTION, IDLE PRODUCTION, WHICH DAMAGES ARE CAUSED BY ANY DEFECTS IN MATERIAL AND\OR WORKMANSHIP AND\OR DAMAGE OR DELAYS IN SHIPMENT. THIS WARRANTY IS EXPRESSLY IN LIEU OF ANY OTHER EXPRESS OR IMPLIED WARRANTY, INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE**.

No rights extended under this warranty shall be assigned to any other person, whether by operation of law or otherwise, without our prior written approval.

CRANE®

PUMPS & SYSTEMS

A Crane Co. Company

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Ontario, Canada L6T 2J6
Phone: (905) 457-6223
Fax: (905) 457-2650

IMPORTANT!
WARRANTY REGISTRATION

Your product is covered by the enclosed Warranty.
To complete the Warranty Registration Form go to:

http://www.cranepumps.com/ProductRegistration/

If you have a claim under the provision of the warranty, contact your local Crane Pumps & Systems, Inc. Distributor.

RETURNED GOODS
RETURN OF MERCHANDISE REQUIRES A "RETURNED GOODS AUTHORIZATION".
CONTACT YOUR LOCAL CRANE PUMPS & SYSTEMS, INC. DISTRIBUTOR.



Products Returned Must Be Cleaned, Sanitized,
Or Decontaminated As Necessary Prior To Shipment,
To Insure That Employees Will Not Be Exposed To Health
Hazards In Handling Said Material. All Applicable Laws
And Regulations Shall Apply.

Notes

INSTALLATION, OPERATION AND MAINTENANCE MANUAL

ROSEDALE PRODUCTS, INC.

MULTI-BASKET STRAINER & MULTI-BAG FILTER

150 PSIG RATED FILTER UNIT

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Rosedale Engineering Standards are the property of Rosedale Products, Inc. A Rosedale standard or copy thereof shall not be distributed (except with express approval of Rosedale Products, Inc.) to any individual or firm beyond the intended recipient firm or individual. Firms of individuals acting contrary to the above may be subject to suit, ineligibility for continued or future employment, or removal from Rosedale's "Approved Manufacturers and Specialty Contractors List".

I. Installation

Please remove all shipping and crating materials carefully. Be sure to remove the plugs from the inlet and outlet openings. Dispose of all crating materials safely.

After positioning the Multi-Basket Filter into its proper location, secure the (4) support legs to the floor or platform. Provided on each support pad is a mounting hole to allow positive attachment to the base.

The Multi-Basket Filter is now ready for connection to the system. The inlet service line should be connected to the inlet flange. It is very important to identify which flange is the inlet side of the Multi-Basket Filter unit. The inlet side of the unit consists of a riser pipe which carries the fluid from the inlet flange to the top of the housing, above the basket retainer plate (see spare parts diagram for part identification). Connect the outlet service line to the outlet flange.

There is a 1/2" NPT port on the cover of your Multi-Basket Filter unit. This port can remain plugged or used for a pressure gauge or special fitting as your application requires.

There are (3) NPT drains located on the inlet, outlet and the bottom of the housing. These ports allow complete drainage of the filter housing including the inlet riser.

Some applications require special procedures for proper installation such as electrical grounding, pressure relief valves, flow by-pass systems, etc.. Please consult with specialists regarding your specific needs.

After completing installation be sure to double check connections for integrity. Your Multi-Basket Filter unit has been factory pressure tested leak free, therefore, any seepage problems usually occur from improper installation connections.

You are now ready to install the filter basket and bag (if applicable). Remove cover by loosening closure assemblies sufficiently to allow them to swing free. Turn handwheel on the top of the housing to lift cover clear of basket retainer plate. Swing cover away from housing to gain access to strainer baskets and/or filter bags.

The next step is to install the strainer or filter bag basket. If you've ordered the strainer basket option. A basket seal is utilized which prevents unfiltered liquid from by-passing the basket.

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If your installation requires a filter bag, insert bag into the bag basket making sure filter bag ring is firmly seated inside the basket retainer plate opening. No basket seal is necessary when a filter bag is used. For best results, be sure filter bag is installed fully extended to the bottom of the basket.

Before replacing cover assembly, inspect cover seal (replace as necessary). Close cover and alternately tighten the closure assemblies evenly to ensure a leak proof seal between cover and housing body. The recommended maximum torque values for the Multi-Basket Filter closure assemblies is 160-240$^{ft\text{-}lbs}$ for 7/8"-9 size closures, and 225-275$^{ft\text{-}lbs}$ for 1"-8 size closures.

Each installation may have different closure bolting torque requirements to effectively seal the filter vessel cover. Many installations require significantly lower closure bolting torque due to the variables explained below. The suggested torque values are for reference only. They are to be used as a guideline by maintenance personnel. These values are meant as a guideline for safe operation of the filter system at its maximum rated pressure. Many variables affect the torque required to operate the filter vessel without leaks. These variables include the diameter of the bolt, type and number of threads, material type and grade, condition of the nut bearing surface and lubrication of bolt threads and nut bearing surfaces. Other factors such as the condition of the o-ring, o-ring material, viscosity of the fluid being filtered, operating pressures, temperature, and the closure assembly tightening procedure must also be considered.

Your Rosedale Multi-Basket Filter unit is now ready for operation!

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II. Operation

Filter System Start-Up Procedure:

Prior to turning on the flow to the inlet service, please make the following checks:

1. Check inside filter unit to be sure baskets and filter bags (if applicable) are in housing and do not require cleaning or replacement. If necessary install clean filter baskets and bags (if applicable).

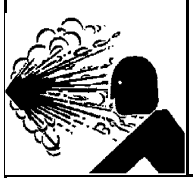
2. Check that filter unit cover is securely fastened to housing (see page 1). You are now ready to open the flow to the inlet service line. Slowly open the inlet service line approximately 25% of normal operational flow (open slowly as not to displace filter bag inside the housing). After filter unit is pressurized and trapped air is vented, slowly open outlet service line valve until completely open. Complete opening of inlet service line until desired flow rate is reached.

Once the desired service flow has been established, the filter will operate efficiently until dirty. With the standard filter basket no more than *15 PSI Differential Pressure* through the filter should be attained (higher differential baskets can be specially ordered). Operating the filter unit with a high differential may cause filter bags to rupture and/or cause damage to filter system or downstream equipment.

To prevent excessive drop through the filter unit, regular inspection of the filter media is required. Monitoring of differential pressure through the housing can be utilized as a means of determining whether or not the filter media needs cleaning or replacement. When it becomes necessary to clean or replace filter media, follow the procedure outlined below:

1. First close the flow from the inlet service line.
2. Close the flow to the outlet service line. (In some applications closing flow to outlet is not required.)
3. Relieve the pressure from the filter unit.

⚠ WARNING



CONTENTS UNDER PRESSURE
Relieve Pressure in accordance with Manufacturer's instructions before opening Filter Vessel.
FAILURE TO DO SO MAY RESULT IN SERIOUS BODILY INJURY.

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4. Drain housing sufficiently to access filter basket.
5. Remove cover by loosening closure assemblies sufficiently to allow them to swing free. Turn handwheel on top of housing to lift cover clear of basket retainer plate. Swing cover away from housing to gain access to strainer baskets and/or filter bags.
6. Remove filter basket and clean thoroughly, remove the filter bag (if applicable) and dispose of properly.
7. Remove debris and sludge from inside of bag/basket sealing surface and O-ring groove to avoid interference with cover seal or flow of fluid being filtered.
8. Install clean filter basket and filter bag (if applicable). Be sure filter bag is seated inside the basket retainer plate.
9. Inspect cover gasket for cuts or other signs of failure and make sure it is properly seated.
10. Swing cover back into position, and alternately tighten closure assemblies evenly to ensure a leak proof seal between cover and housing body. The recommended maximum torque values for the Multi-Basket Filter closure assemblies is 160-240$^{\text{Ft-Lbs}}$ for 7/8"-9 size closures, and 225-275$^{\text{Ft-Lbs}}$ for 1"-8 size closures. Many installations require significantly lower closure bolting torque due to the variables previously explained in Section I.

Your Rosedale Multi-Basket Filter is now ready for operation. Refer to filter system start-up procedure.

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III. Spare Parts List

Your Rosedale Multi-Basket Filter unit will give you many years of reliable service provided periodic inspections are made of various components and replacement of worn parts are made promptly. The following is meant to be a recommended spare parts list, these parts are illustrated on the following page.

SPARE PARTS LIST			
Balloon	Description	Part Number	Time-Frame
1	Cover Seal	#150CG-*	as needed
2	Basket Seal	9BG-*	as needed
3	Handwheel	◆HDW	as needed
4	Eye Nut	◆ENNI	as needed
5	Rod End	◆RENI	as needed
6	Clevis Pin Assembly	◆CPNI	as needed
7	Filter Bag	(See Order)	as needed
8	Filter Basket	(See Order)	as needed

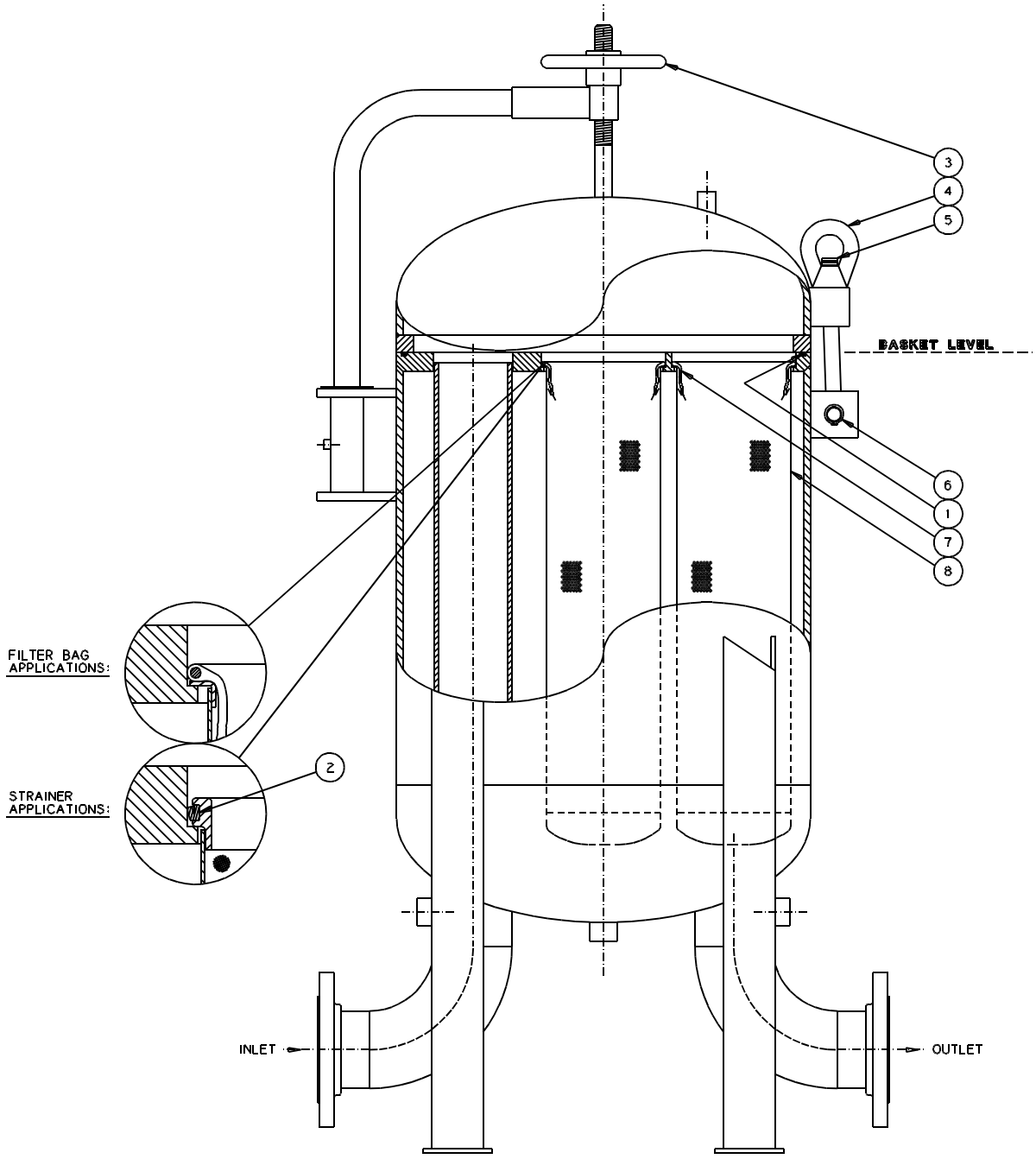
* Select Material Designation:
C=Carbon Steel
S=304 Stainless Steel
S316=316 Stainless Steel
HC22=Hastelloy C-22
B=Buna N
E=Ethylene Propylene
V=Viton
TEV=Teflon Encapsulated Viton
TSW=Teflon Solid White

Select Model Designation: 16-18-22-24-30-36-42-48

◆Select Size Designation:
9 = 7/8"-9 (Models 16-30)
36 = 1"-8 (Models 36-48)

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IV. Spare Parts Diagram



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Important Notice

Warranty: In the event any Rosedale Products, Inc. filtration product is found to be defective in material, workmanship, or not in conformance with any express warranty for a specific purpose, Rosedale's only obligation and your exclusive remedy, shall be to repair, replace or refund the purchase price of such parts or products upon timely notification thereof and substantiation that the product has been stored, maintained and used in accordance with Rosedale's written instructions.

EXCLUSIONS TO WARRANTY: THIS WARRANTY IS EXCLUSIVE AND IS IN LIEU OF ANY IMPLIED WARRANTY OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR OTHER WARRANTY OF QUALITY, EXCEPT OF TITLE AND AGAINST PATENT INFRINGEMENT.

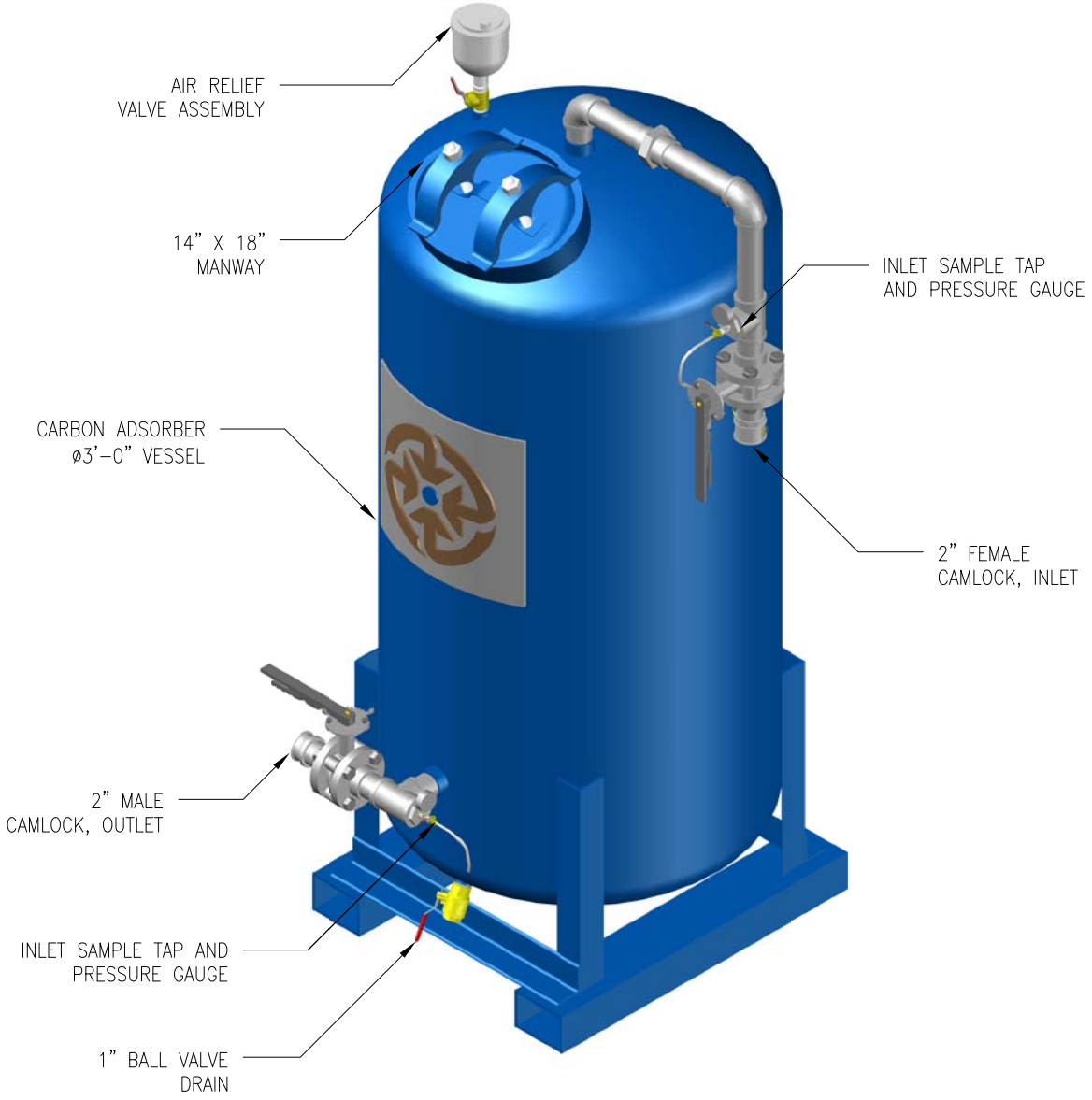
LIMITATION OF LIABILITY: Except as provided above, Rosedale shall not be liable or responsible for any loss or damage, whether direct, indirect, incidental, special or consequential, arising out of sale, use or misuse of Rosedale filtration products, or the user's inability to use such products.

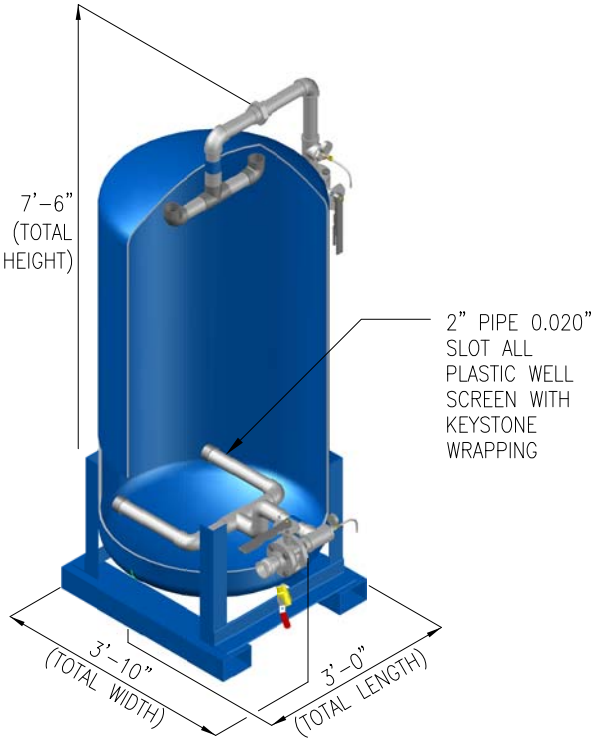
THE REMEDIES SET FORTH HEREIN ARE EXCLUSIVE.

Rosedale Products, Inc.
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Ann Arbor, MI 48103 USA
734-665-8201
800-821-5373
Fax. 734-665-2214
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NOTE: THIS DRAWING DEPICTS A "TYPICAL" VESSEL. ACTUAL DETAILS AND DIMENSIONS MAY VARY.





1,000 POUNDS CARBON ADSORBER SPECIFICATIONS

– CARBON FILL:	1,000 Lbs.
– DESIGN STANDARD PRESSURE:	75 PSI
– MAX FLOW RATE:	50 GPM
– EBCT:	5.25 min. @ 50 GPM
– HOUSING CONSTRUCTION:	A-36 CARBON STEEL
– INLET CONNECTION:	2" FEMALE CAMLOCK
– OUTLET CONNECTION:	2" MALE CAMLOCK
– DRAIN:	1" NPT

– CARBON FILL VOLUME:	38 Cu. ft.
– CARBON ADSORBER WEIGHT:	
EMPTY	1,500 Lbs.
SHIPPING (W/CARBON):	2,500 Lbs.
OPERATING:	5,000 Lbs.

NO.	REVISIONS	BY	DATE
B	UPDATED TO NEW CAD STANDARDS	RJS	09/09/15
A	TYPICAL	RJS	12/13/11

TITLE:

EQUIPMENT SPECIFICATION STANDARD 1,000 LBS CARBON ADSORBER

SCALE: NTS	APPROVED BY: MSM	DRAWN BY: RJS
DATE: 12/13/11		

GWTT Ground/Water Treatment & Technology, LLC
627 MOUNT HOPE ROAD • WHARTON, NJ 07885
PHONE: 973-983-0901 • FAX: 973-983-0903
www.gwttllc.com

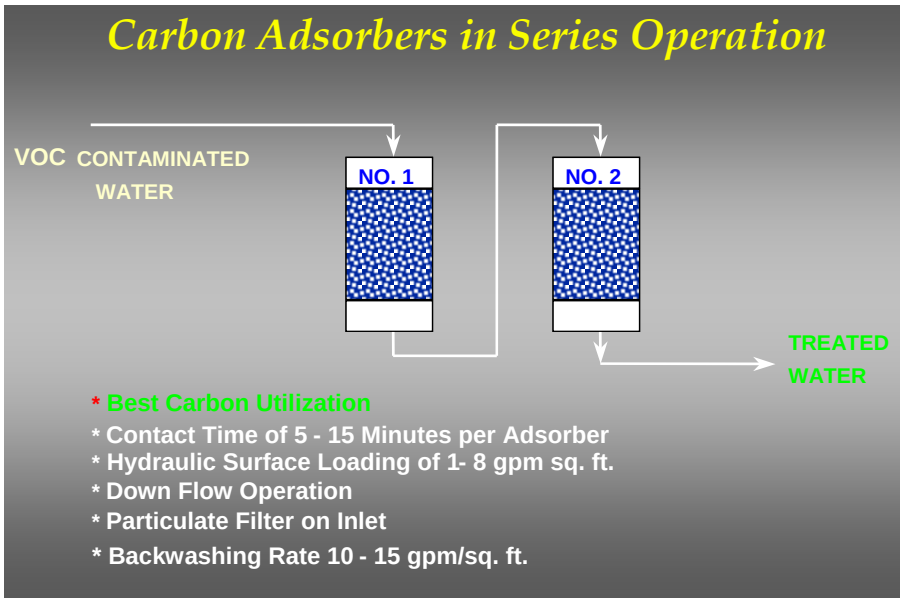
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DWG SIZE: A	SHEET: 1 OF 1	DRAWING NO.: ST-000345-SPC01	B

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Design of Pump and Treat GAC Systems

A pump and treat scheme like the one shown in the Figure below made up of two adsorbers in series allows for the best utilization of the carbon. The adsorbers should be sized to give an empty bed contact time (EBCT) of between 5 and 15 minutes at a hydraulic surface loading of 1 to 8 gpm/ft^2. These operating parameters are important in that they can strongly influence the length of the mass transfer zone (MTZ). The length of the MTZ should be significantly shorter than the depth of carbon bed. If this is not the case rapid breakthrough of the components being controlled may occur.



The lead adsorber in series operation is normally operated beyond the breakthrough discharge limit for the first compound needing to be controlled. This allows for more complete loading of the carbon contained in the first adsorber (reducing carbon consumption) before it is changed out with fresh carbon and the second adsorber is moved to the lead position. Under some circumstances such as low contaminant concentrations, long contact times and long expected operating cycles, adsorbers can be operated in parallel without a backup adsorber, provided the effluent from the adsorber is frequently monitored. Often the appearance of the contaminant of interest at the vessels 75% sample port is used to schedule changeout servicing. Monitoring in this manner assures breakthrough beyond acceptable limits does not occur.

The above is an excerpt from USFilter Westates Technical Dept. Los Angeles, CA, Tech Note No. 24, October 2001 "Carbon Applications for Groundwater Clean-Up" by James R. Graham, PhD., Technical Director, USFilter Westates.

USFILTER WESTATES CARBON AQUACARB® 830 AND 1240

Coal based granular activated carbon

(Formerly KG-401 and KG-502)



FOR MUNICIPAL, INDUSTRIAL AND REMEDIAL WATER TREATMENT

Description & Applications

AquaCarb® 830 and AquaCarb® 1240 are high activity granular activated carbons manufactured from selected grades of bituminous coal. Manufactured by direct activation, they exhibit exceptional hardness and attrition resistance and have become a cost effective choice for use in municipal, industrial and remedial water treatment applications. These high surface area microporous carbons have been specifically developed for the removal of a broad range of organic contaminants from potable, waste and process waters.

- ANSI/NSF Standard 61 classified for use in potable water applications
- Fully conforms to physical, performance and leachability requirements established by the current ANSI/AWWA B604 (which includes the Food Chemical Codex requirements)
- A detailed quality assurance program guarantees consistent quality from lot to lot and shipment to shipment

Quality Control

All AquaCarb® activated carbons are extensively quality checked at our State of California certified environmental and carbon testing laboratory located in Los Angeles, CA. USFilter's laboratory is fully equipped to provide complete quality control analyses using ASTM standard test methods in order to assure the consistent quality of all AquaCarb® carbons.

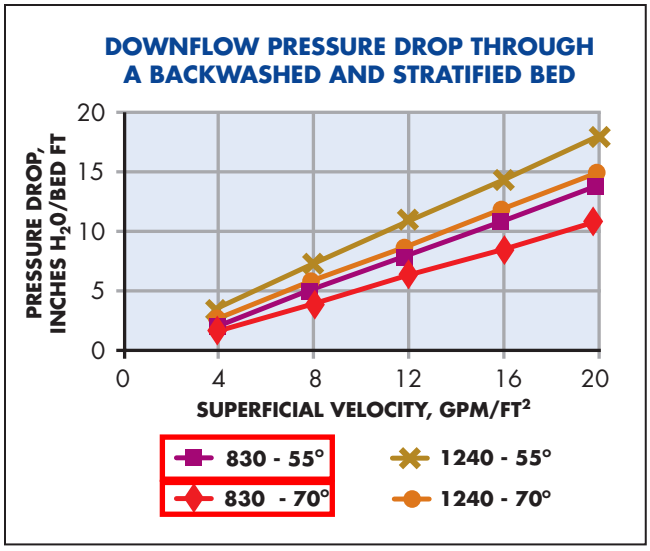
Our technical staff offers hands-on guidance in selecting the most appropriate system, operating conditions and carbon to meet your needs. For more information, contact your nearest USFilter representative.

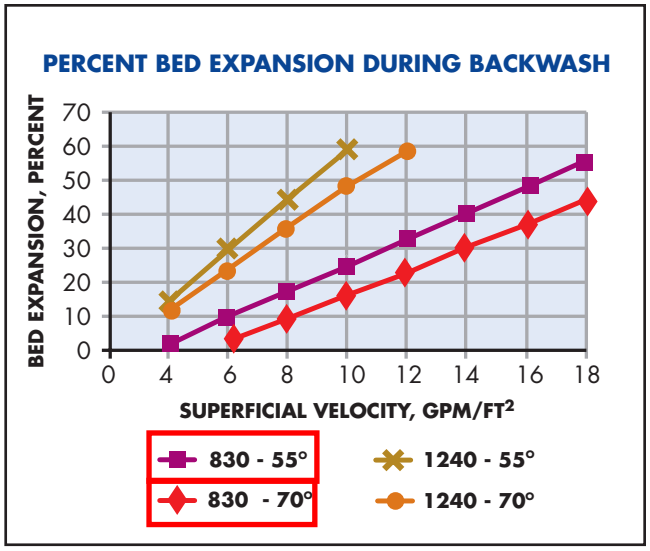
USFilter

AQUACARB® 830
AQUACARB® 1240

Coal based granular activated carbon

(Formerly KG-401 and KG-502)





Safety Note: Wet activated carbon depletes oxygen from the air and therefore dangerously low levels of oxygen may be encountered. Whenever workers enter a vessel containing activated carbon, the vessel's oxygen content should be determined and work procedures for potentially low oxygen areas should be followed. Read Material Safety Data Sheet (MSDS) before using this product.

All information presented herein is believed reliable and in accordance with accepted engineering practices. USFilter makes no warranties as to the completeness of this information. Users are responsible for evaluating individual product suitability for specific applications. USFilter assumes no liability whatsoever for any special, indirect or consequential damages arising from the sale, resale or misuse of its products.

SPECIFICATIONS/TYPICAL PROPERTIES

Specification	AquaCarb® 830	AquaCarb® 1240
Carbon Type	Bituminous Coal	Bituminous Coal
Mesh Size, U.S. Sieve	8 x 30	12 x 40
Effective Size, mm	0.8 - 1.1	0.55 - 0.75
Uniformity Coefficient (max)	2.1	1.9
Iodine No., mgI_2/g (min.)	900	1000
Abrasion No., Wt. % (min.)	80	80
Apparent Density, g/cc	0.46 - 0.54	0.46 - 0.54

USFilter reserves the right to change the specifications referred to in this literature at any time, without prior notice. AquaCarb is a trademark of United States Filter Corporation or its affiliates.

USFilter
Westates
Customer and
Technical Service Network:

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(Louisiana) 225.744.3153
Western Region 800.659.1771
Mid-Atlantic Region 800.659.1717
Midwest Region 708.345.7290
Northwest Region 800.659.1718
Southeast Region 225.744.3153
New England Region 800.659.1717

www.usfilter.com

WS-AQ83-DS-0704

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WESTATES CARBON
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Santa Fe Springs, CA 90670

TOLL FREE 800.659.1771
TELEPHONE 562.229.9606
FACSIMILE 562.229.9322

CARBON SPECIFICATION

AQUACARB™ NS
(Reactivated)

ANALYSIS	SPECIFICATIONS
Type	Reactivated Bituminous Coal
PSD, U.S. Standard Mesh Size	8x30 mesh, 5% max. over, 5% max. under
Iodine Number, mgI_2/g	850 min. 950 typical
Abrasion Number, wt. %	75 min.
Moisture as Packed, wt. %	2% max.
Apparent Density, g/cc	0.46 - 0.58

ARB® UTILITY MANAGEMENT SYSTEMS™

NEPTUNE TECHNOLOGY GROUP

T-10 METER

SIZES: 1 1/2" and 2"



T-10 water meters are warranted for performance, materials, and workmanship.

Every T-10 water meter meets or exceeds the latest AWWA C700 Standard. Its nutating disc, positive displacement principle is time-proven for accuracy and dependability since 1892, ensuring maximum utility revenue.

CONSTRUCTION

The T-10 water meter consists of three major assemblies: a register, a no-lead high copper alloy maincase, and a nutating disc measuring chamber.

The T-10 meter is available with a variety of register types. For reading convenience, the register can be mounted in one of four positions on the meter.

The corrosion-resistant no-lead high copper alloy maincase will withstand most service conditions: internal water pressure, rough handling, and in-line piping stress.

The innovative floating chamber design of the nutating disc measuring element protects the chamber from frost damage while the unique chamber seal extends the low flow accuracy by sealing the chamber outlet port to the maincase outlet port. The nutating disc measuring element utilizes corrosion-resistant materials throughout and a thrust roller to minimize wear.

WARRANTY

Neptune provides a limited warranty with respect to its T-10 water meters for performance, materials and workmanship.

When desired, maintenance is easily accomplished either by replacement of major assemblies or individual components.

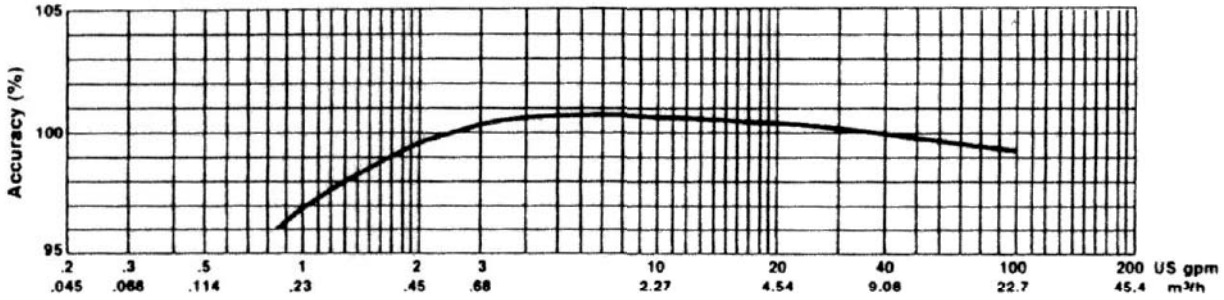
KEY FEATURES

- Register
  - Magnetic drive, low torque registration ensures accuracy
  - Impact-resistant register
  - High resolution, low flow leak detection
  - Bayonet style register mount allows in-line serviceability
  - Tamperproof seal pin deters theft
  - Date of manufacture, size, and model stamped on dial face
- No-Lead Maincase
  - Made from no-lead high copper alloy
  - ANSI/NSF 61 Certified
  - Lifetime guarantee
  - Resists internal pressure stresses and external damage
  - Handles in-line piping variations and stresses
  - No-lead high copper alloy provides residual value vs. plastic
  - Electrical grounding continuity
- Nutating Disc Measuring Chamber
  - Positive displacement
  - Widest effective flow range for maximum revenue
  - Proprietary polymer materials maximize long term accuracy
  - Floating chamber design is unaffected by meter position or in-line piping stresses

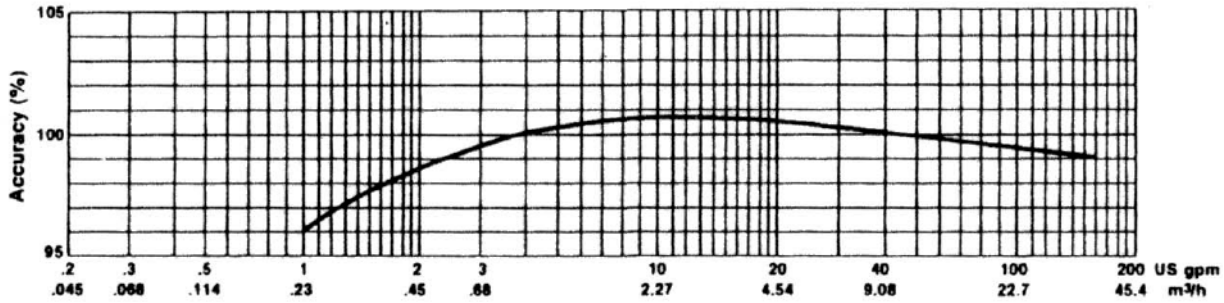
SYSTEMS COMPATIBILITY

Adaptability to all present and future systems for flexibility is available only with Neptune's ARB® Utility Management Systems™.

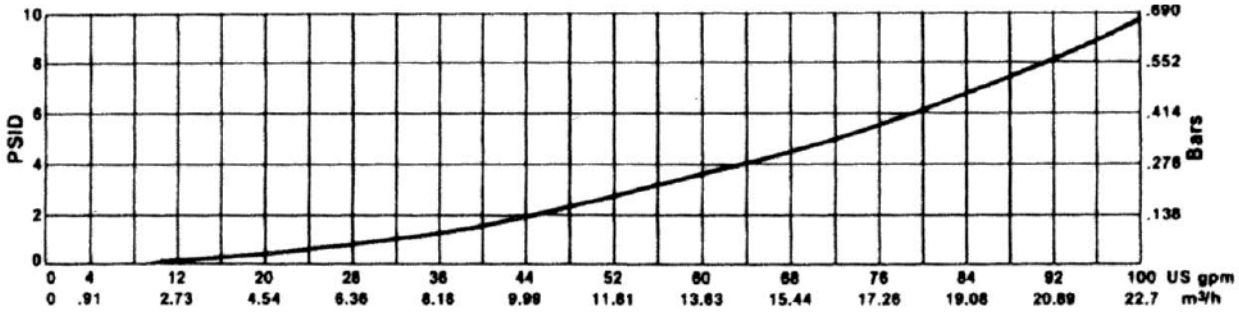
1 1/2" ACCURACY



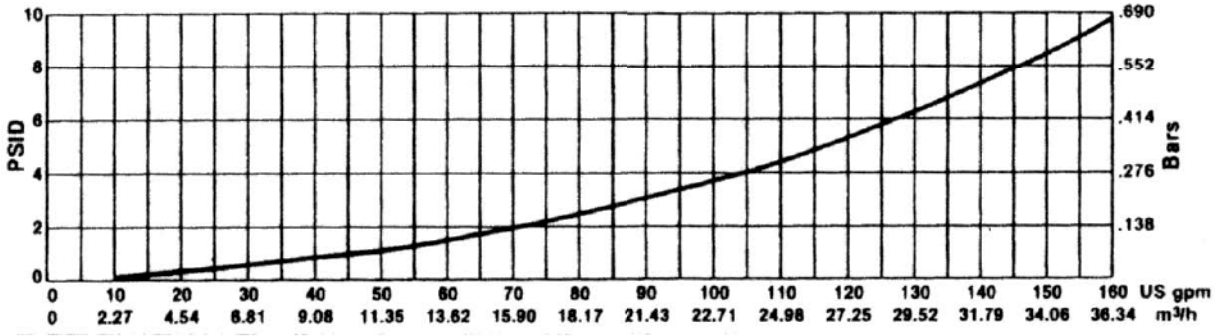
2" ACCURACY



1 1/2" PRESSURE LOSS



2" PRESSURE LOSS



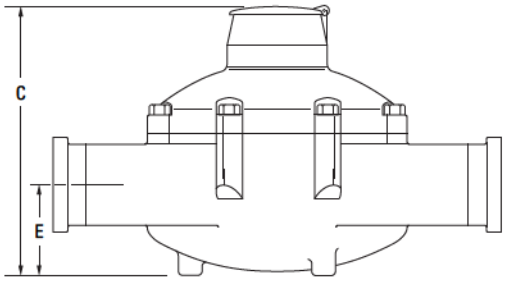
These charts show typical meter performance. Individual results may vary.

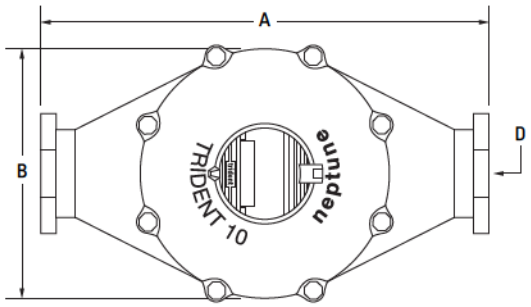
OPERATING CHARACTERISTICS

Meter Size	Normal Operating Range @100% Accuracy (±1.5%)	AWWA Standard	Low Flow @ 95% Accuracy
1 1/2"	2 to 100 US gpm 0.46 to 22.73 m³/h	5 to 100 US gpm 1.1 to 22.7 m³/h	3/4 US gpm 0.17 m³/h
2"	2 1/2 to 160 US gpm 0.57 to 36.36 m³/h	8 to 160 US gpm 1.8 to 36.3 m³/h	1 US gpm 0.23 m³/h

DIMENSIONS

Meter Size	A in/mm	B in/mm	C-Std. in/mm	C-ARB in/mm	D-Threads per inch	D-Thread Type	E in/mm	Weight lbs/kg
1 1/2"	12 5/8	8 1/16	8 1/8	8 9/16	11 1/2	1 1/2"	2 9/16	31
Screw End	321	205	206	217		NPT	65	14.1
1 1/2"	13	8 1/16	8 1/8	8 9/16	—	—	2 9/16	35
Flanged End	330	205	206	217			65	15.9
2"	15 1/4	9 7/16	9 5/16	9 3/4	11 1/2	2"	3 1/8	40
Screw End	387	240	237	248		NPT	79	18.1
2"	17	9 7/16	9 5/16	9 3/4	—	—	3 1/8	44
Flanged End	432	240	237	248			79	20.0





GUARANTEED SYSTEMS COMPATIBILITY

All T-10 meters are guaranteed adaptable to our ARB®V, ProRead (ARB VI), E-CODER™(ARB VII), E-Coder)R900*i*, TRICON®/S, TRICON/E3®, and Neptune meter reading systems without removing the meter from service.

REGISTRATION

ProRead Registration (per sweep hand revolution)		**1 ½"**	**2"**
100	US Gallons	✓	✓
100	Imperial Gallons	✓	✓
10	Cubic Feet	✓	✓
1	Cubic Metre		✓
0.1	Cubic Metre	✓	
Register Capacity ProRead & E-coder		**1 ½"**	**2"**
1	US Gallons	✓	✓
1	Imperial Gallons	✓	✓
0.1	Cubic Feet	✓	✓
0.001	Cubic Metres	✓	✓
E-Coder High Resolution (8-digit reading)		**1½"**	**2"**
1	US Gallons	✓	✓
1	Imperial Gallons	✓	✓
.1	Cubic Feet	✓	✓
0.001	M^3	✓	✓

SPECIFICATIONS

- Certification: ANSI/ NSF 61
- Application: cold water measurement of flow in one direction
- Maximum operating water pressure: 150 psi (1034 kPa)
- Maximum operating water temperature: 80°F
- Measuring chamber: nutating disc technology design made from proprietary synthetic polymer

OPTIONS

- Sizes:
  - 1 ½" flanged or threaded end
  - 2" flanged or threaded end
- Units of measure: U.S. gallons, imperial gallons, cubic feet, cubic metres
- Register types:
  - Direct reading: Bronze box and cover (standard)
  - Remote reading: ProRead Absolute Encoder, E-Coder, E-Coder)R900*i*, TRICON/S, TRICON/E3
  - Reclaim
- Measuring chamber: synthetic polymer
- Companion flanges: cast iron or no-lead high copper alloy
- Environmental Conditions:
  - Operating temperature: 33ºF to 149ºF (0ºC to 65ºC)
  - Storage temperature: 33ºF to 158ºF (0ºC to 70ºC)

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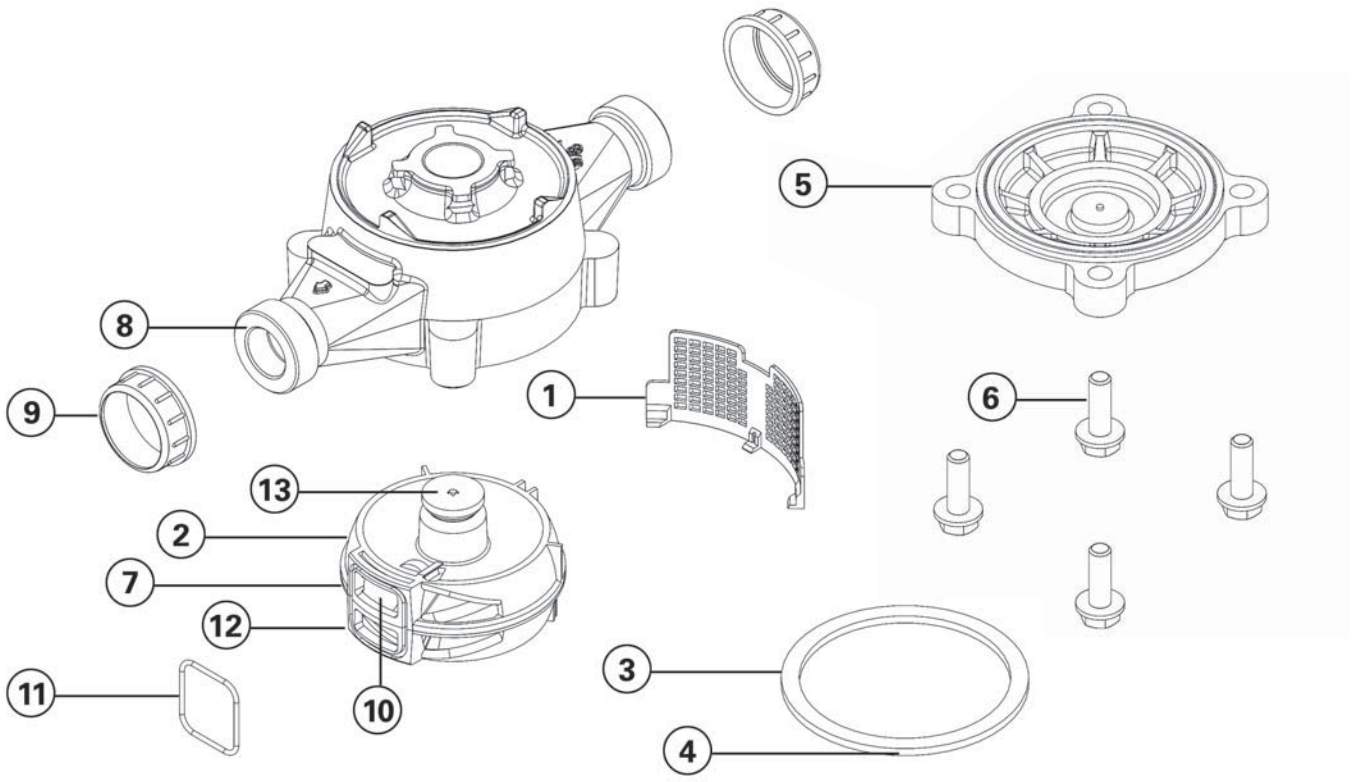
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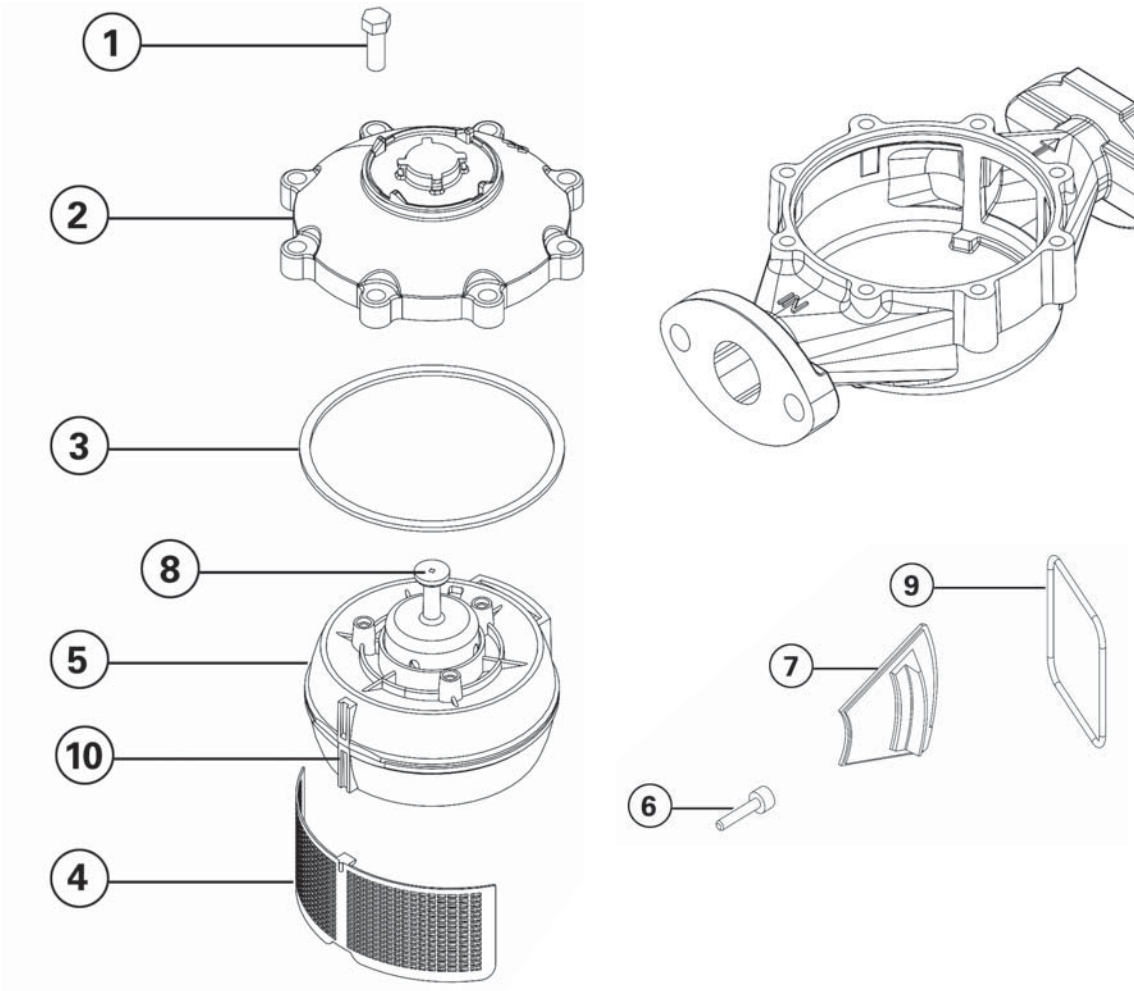
T-10 Parts List





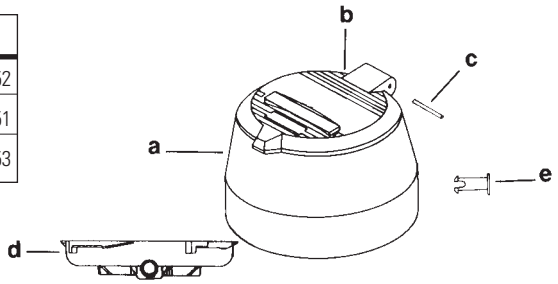
ITEM NO.	DESCRIPTION	PART NUMBER		
		5/8", 5/8" X 3/4"	3/4"	1"
	Register			
1	Strainer	9399-005	9831-001	9831-002
2	Chamber Complete	9400-600	9826-200	9826-300
3	Gasket, Bottom cap	8340-028	8340-034	8340-038
4	Liner, Bottom Cap*	9398-001	9832-001	9841-001
5	Bottom Cap, Plastic	9397-501	-	-
	Bronze	9397-023	9833-024	9842-024
	Cast Iron	9397-010	9833-010	9842-010
	Ductile Iron (Special Order)	9397-020	9833-003	9842-101
6	Bolt and Washer			
	SST-302 (w/washer)	8353-106	8353-106	8353-106
	SST-316 (w/washer	8353-105	8353-105	8353-105
7	Thrust Roller	81-500	81-500	190-500
8	Spud Plug	1787-101	1787-101	1787-102
9	Spud Cap Plastic	1788-008	1789-008	1790-007
10	Diaphragm	9391-001	9829-001	9840-001
11	"O" Ring	9386-001	9386-002	9386-003
12	Drive Shaft	9393-001	9216-004	9233-002
13	Magnet	6724-003	6724-003	6724-003
	Control Block Assembly	N/A	N/A	N/A

* Not required with SP or Bronze bottom caps.



ITEM NO.	DESCRIPTION	PART NUMBER SP Chamber	
		1-1/2"	2"
1	Bolts	8307-051	8307-051
2	Cover, Maincase	9082-002	9080-002
3	Gasket, Maincase	9083-001	9083-002
4	Strainer	9084-001	9084-002
5	Chamber Complete	9098-600	9098-610
6	Thrust Roller	9850-100	9850-100
7	Diaphragm	9086-101	9086-102
8	Control Block Assembly	9097-000	9097-010
9	"O" Ring	8316-607	8316-606
10	Drive Shaft	9096-001	9096-002
11	Magnet	6724-003	6724-003

REGISTRATION	5/8"	3/4"	1"	1-1/2"	2"
Cu. Ft.	9107-012	9107-022	9107-032	9107-042	9107-052
Gal.	9107-011	9107-021	9107-031	9107-041	9107-051
M^3	9107-013	9107-023	9107-033	9107-043	9107-053



ITEM NO.	GOLD DESCRIPTION	BRONZE	PLASTIC	COLOR
	Register Box Assembled	9131-100	9131-000	
a	Register Box (Brz Box & Lid only)	9133-202	9133-001	
b	Register Cover	9132-202	9132-001	
c	Hinge Pin, Register	8313-402	8350-007	
d	Retainer Ring	9105-001	9105-001	
	Seal Pin, D/R Register, ProRead Register	9106-002	9106-001	9106-002
e	Seal Pin, High Profile Reg Box		9309-501	
	Screw, Pulser Register	8460-011		
	Seal Pin, Old Direct Read	9309-501		

SIZE	REGISTRATION	DIRECT READ	ARB*V 4-WHEEL ENCODER	ARB*V 6-WHEEL ENCODER	PROREAD* 4-WHEEL ENCODER	PROREAD* 6-WHEEL ENCODER
	Cu. Ft.	R82F11	R52F11	R52F12	R62F11	R62F12
5/8"	Gal.	R82G11	R52G11	R52G12	R62G11	R62G12
	M^3	R82M11	R52M11	R52M12	R62M11	R62M12
	Cu. Ft.	R82F21	R52F21	R52F22	R62F21	R62F22
3/4"	Gal.	R82G21	R52G21	R52G22	R62G21	R62G22
	M^3	R82M21	R52M21	R52M22	R62M21	R62M22
	Cu. Ft.	R82F31	R52F31	R52F32	R62F31	R62F32
1"	Gal.	R82G31	R52G31	R52G32	R62G31	R62G32
	M^3	R82M31	R52M31	R52M32	R62M31	R62M32
	Cu. Ft.	R82G42	R52F41	R52F42	R62F41	R62F42
1-1/2"	Gal.	R82G42	R52G41	R52G42	R62G41	R62G42
	M^3	R82M42	R52M41	R52M42	R62M41	R62M42
	Cu. Ft.	R82F52	R52F51	R52F52	R62F51	R62F52
2"	Gal.	R82G52	R52G51	R52G52	R62G51	R62G52
	M^3	R82M52	R52M51	R52M52	R62M51	R62M52

* Registers do not include ARB®V remote receptacles.

When ordering 1" registers for 10 Cu.Ft. registration, add SA68.

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Double Check T-10 Parts List



ITEM	L/C	PART NO.	DESCRIPTION	QTY	PRICE/EACH
1	P	8579-308	Retaining Ring, End Plate	2	3.40
2	P	11918-002	Knob, Shut-Off	2	.50
3	P	8579-037	Retaining Ring, Stem	2	.90
5	P	8316-121	O'ring, End Plate	2	.90
6	P	8316-046	O'ring, Stem	2	.45
7	P	8316-120	O'ring, Housing	4	.35
8	P	11937-001	Stem	2	3.30
9	A	11950-000	Poppet Valve Assembly	2	4.10
10	A	11951-000	Shut-Off Valve Assembly	2	7.90
11	P	11922-001	Housing, Universal	3	1.20
12	P	11923-001	Hoop, Test Port	2	.60
13	P	8356-534	Spring	2	.70
14	P	11925-001	Housing, Single	1	1.20
15	P	11926-001	Retainer Guide, Spring	1	.70
16	P	11927-001	Strainer, 5/8" Meter/Backflow	1	.60
17	P	8368-816	Test Cock	4	8.60
18	P	7985-032	Label Plate	1	N/A
19	P	11972-001	Retainer Plate, Check #2	1	.30
20	P	8315-023	Pipe Plug, 1/4" NPT, Plastic	4	.20
21	P	8340-028	Gasket	1	.40
22	P	9398-001	Liner	1	.70
23	P	9399-004	Strainer, 5/8" T-10	1	.70
25	A	9400-600	Chamber Assembly, 5/8" T-10	1	16.00
26	L	96018-069	Loctite 326	A/R	N/A
27	P	11917-00X	Maincase (See Spud Size table below)	1	N/A
28	P	9397-XXX	Bottom Cap (See Bottom Cap table below)	1	*
29	P	8353-XXX	Bolt (See Bolt table below)	4	*
30	P	17XX-XXX	Spud Cup (See Spud Cap table below)	2	N/A
31	P	11919-001	End Plate w/Hole	2	4.40
31	P	11919-101	End Plate w/ Hole, Silicon Brass	2	12.87
32	L	96018-070	Locquic 764 Primer N	A/R	N/A
33	L	96018-015	Aqua-Flow Lubricant	A/R	N/A
34	L	96018-056	Loctite 567	A/R	N/A
35	P	67946-004	Warning Tab (not shown)	1	N/A
36	A	11959-000	Inlet Module	1	21.45
37	A	11959-100	Check #1 Module	1	10.38
38	A	11959-200	Check #2 Module	1	10.14
39	A	11959-300	Outlet Module	1	19.83
N/A	P	5500-163	Check Valve Removal Tool (not shown)	1	62.07
N/A	P	11977-001	Rubber Repair Kit** (not shown)	1	10.26

* These parts are standard 5/8" T-10 water meter parts.

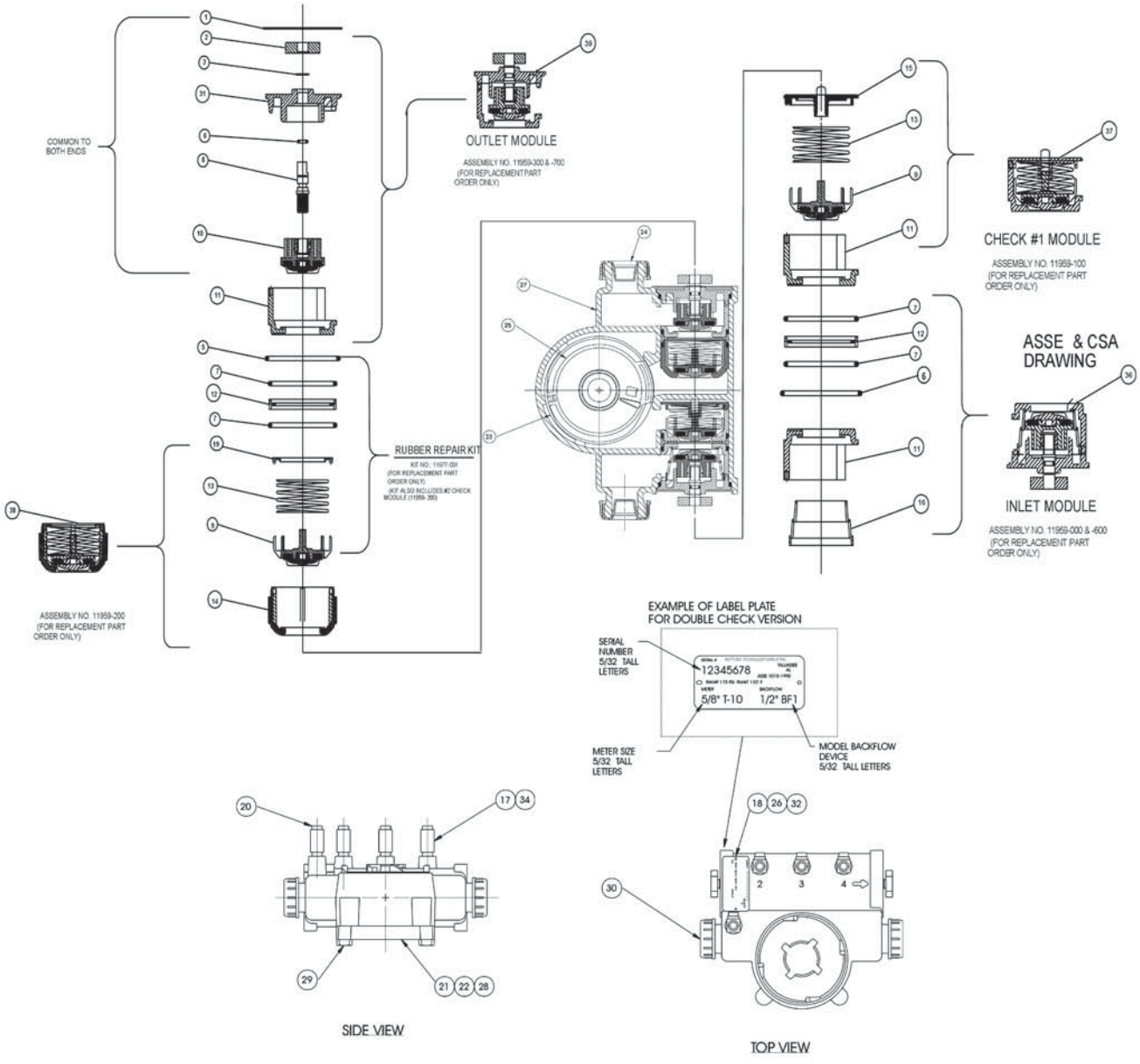
** Includes item 5 (qty 2), item 7 (qty 4) and item 9 (qty 2).

SPUD SIZE	
1	11917-003
2	11917-004

BOTTOM CAP		
1	Cast Iron	9397-010
2	Bronze	9397-023
3	Plastic	9397-501

BOLT	
1	302 SST 8353-106
2	316 SST 8353-105

SPUD CAP	
1	1788-008
2	1789-008


COMMON TO BOTH ENDS
OUTLET MODULE
ASSEMBLY NO. 11959-300 & -700 (FOR REPLACEMENT PART ORDER ONLY)
RUBBER REPAIR KIT
KIT NO.: 11977-001 (FOR REPLACEMENT PART ORDER ONLY) (KIT ALSO INCLUDES #2 CHECK MODULE (11959-350)
ASSEMBLY NO. 11959-200 (FOR REPLACEMENT PART ORDER ONLY)
CHECK #1 MODULE
ASSEMBLY NO. 11959-100 (FOR REPLACEMENT PART ORDER ONLY)
ASSE & CSA DRAWING
INLET MODULE
ASSEMBLY NO. 11959-000 & -600 (FOR REPLACEMENT PART ORDER ONLY)
EXAMPLE OF LABEL PLATE FOR DOUBLE CHECK VERSION
SERIAL NUMBER 5/32 TALL LETTERS
12345678
5/8" T-10
1/2" BF1
METER SIZE 5/32 TALL LETTERS
MODEL BACKFLOW DEVICE 5/32 TALL LETTERS
SIDE VIEW
TOP VIEW

DIFFERENTIAL GAUGE METHOD

To test check valve #1 (#2) for 1.0 psi in the direction of flow under normal no back pressure conditions.

The instructions for check valve #2 are provided in parentheses.

Before conducting testing, the customer should be contacted and a testing date scheduled. Just prior to testing, the customer should be notified that water service will be temporarily discontinued.

1. Verify that the appropriate backflow preventer is being tested and note the general conditions of the backflow preventer and the surrounding area.
2. Flush the test cocks. This is done to remove any lodged foreign materials that might interfere with the test.
3. Install flair fittings on test cock #2 and #3.
4. Maintain test kit and low pressure hose at **same level** as check valve. Close all needle valves.
5. Attach high pressure hose from test kit to test cock #2 (#3).
6. Close No. 2 shutoff valve (outlet).
7. Open test cock #2 (#3). Open the high bleed needle valve and bleed all air from hose and test kit. Close high bleed needle valve.
8. Close service shutoff valve; then close No.1 shutoff valve (inlet).
9. Open test cock #3 (#4).
10. Observe whether the needle on the gauge is maintained at 1.0 psi or above.
11. Record the results.
12. Close test cocks #2 (#3) and #3 (#4); disconnect the high pressure hose, and **open No. 1 shutoff valve, No. 2 shutoff valve, before opening the service shutoff valve.**

SIGHT TUBE METHOD

To test check valve #1 (#2) will hold back 1.0 psi in the direction of flow under normal no back-pressure conditions.

The instructions for check valve #2 are provided in parentheses.

Before conducting testing, the customer should be contacted and a testing date scheduled. Just prior to testing, the customer should be notified that water service will be temporarily discontinued.

1. Verify that the appropriate reverse flow preventer is being tested and note the general conditions of the reverse flow preventer and the surrounding area.
2. Flush the test cocks. This is done to remove any lodged foreign materials that might interfere with the test.
3. Install adapter (tee with ball valve) on test cock #2 (#3).
4. Attach a sight tube to test cock #2 (#3).
5. Attach a short sight tube or ell to test cock #3 (#4).
6. Close No. 2 shutoff valve (outlet).
7. Open test cock #2 (#3) and fill the sight tube so that the water level in the sight tube will be at least 28 inches above the water level at sight tube of ell attached to test cock #3 (#4). Close test cock #2 (#3).
8. Close service shutoff valve; then close No. 1 shutoff valve (inlet).
9. Open test cock #3 (#4) and open test cock #2 (#3),
10. Observe whether the level in the sight tube is maintained at least 28 inches above water level at test cock #3 (#4).
11. Record the results.
12. Close test cocks #2 (#3) and #3 (#4); disconnect the sight tube, and **open No. 1 shutoff valve, No. 2 shutoff valve, before opening the service valve.**

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Appendix D:

SDS

USFilter

Material Safety Data Sheet

SECTION 1 – CHEMICAL PRODUCT AND COMPANY INFORMATION

****

Product Name: ACTIVATED CARBON, *AquaCarb Series, VOCarb Series, AC Series, VC Series, BevCarb Series, and UltraCarb Series*
Part Number:100 **Chemical Family**: activated carbon

Manufacturer's Name: U.S. FILTER WESTATES CARBON
Address: 5375 South Boyle Avenue, Los Angeles, CA 90058
Product/Technical Information Phone Number: (323) 277-1500
Medical/Handling Emergency Phone Number: CHEMTREC 1-800-424-9300
Transportation Emergency Phone Number: CHEMTREC 1-800-424-9300

Revision Date/Revision Number: February 13, 2002

SECTION 2 – COMPOSITION INFORMATION

****

Chemical Name	Percent by Weight	CAS#
Activated Carbon	100	7440-44-0

SECTION 3 – HAZARDS IDENTIFICATION

****

Appearance & Odor: black granules without taste or odor
Emergency Overview: Dust that contacts eyes may be irritating or cause mechanical injury. Dust may cause slight skin irritation. Dust may be irritating to the respiratory tract and cause coughing or sneezing. Ingestion of powder may be irritating to the gastrointestinal tract. Warning: Wet activated carbon depletes oxygen from the air and therefore dangerously low levels of oxygen may be encountered. Whenever workers enter a vessel containing activated carbon, the vessel's oxygen content should be determined and work procedures for potentially low oxygen areas should be followed.
Fire &Explosion Hazards: When burned**,** hazardous products of combustion including carbon oxides can occur. Irritating and/or toxic gases due to decomposition of the product may be generated during a fire. Fight fire from a safe distance from a protected location. Contact with strong oxidizers such as ozone or liquid oxygen may cause rapid combustion.
Primary Route(s) of Exposure: Eye contact, skin contact, ingestion, or inhalation are all possible routes of entry.
Inhalation- Acute Effects: Dust may be irritating to the respiratory tract and cause coughing or sneezing.
Skin Contact-Acute Effects: Dust may cause slight skin irritation.

SECTION 3 – HAZARDS IDENTIFICATION (continued)

****

Eye Contact- Acute Effects: Dust that contacts eyes may be irritating or cause mechanical injury.
Ingestion- Acute Effects: Ingestion of powder may be irritating to the gastrointestinal tract.

SECTION 4 – FIRST AID MEASURES

****

Inhalation First Aid: Remove affected person from area to fresh air and provide oxygen if breathing is difficult. Give artificial respiration ONLY if breathing has stopped and give CPR ONLY if there is no breathing and no pulse. Obtain medical attention.
Skin Contact First Aid: Wash skin for 5 minutes with flowing water and soap. Clothing should be discarded or washed before reuse. Obtain medical assistance if irritation develops. DO NOT instruct person to neutralize affected skin area.
Eye Contact First Aid: Immediately irrigate eyes with flowing water continuously for 15 minutes while holding eyes open. Contacts should be removed before or during flushing. Seek medical assistance if irritation develops. DO NOT instruct person to neutralize.
Ingestion First Aid: Vomiting may need to be induced if directed by a physician or poison control center. DO NOT have unqualified personnel induce vomiting. Obtain medical attention immediately.
Medical Conditions Aggravated: Respiratory ailments may be aggravated by exposure to this product.
Note to Physician: No specific antidote, treat patient symptomatically.

SECTION 5 – FIRE FIGHTING MEASURES

****

Flash Point/Method: Nonflammable
Auto Ignition Temperature: 840°C (1,710°F)
Upper/Lower Explosion Limits: not applicable

Extinguishing Media: Water spray, carbon dioxide, foam or dry chemical
Fire Fighting Procedures: In the event of a fire, wear full protective clothing and NIOSH approved self-contained breathing apparatus with full face piece, operated in the positive pressure mode.
Fire & Explosion Hazards: When burned**,** hazardous products of combustion including carbon oxides can occur. Irritating and/or toxic gases due to decomposition of the product may be generated during a fire. Fight fire from a safe distance from a protected location. Contact with strong oxidizers such as ozone or liquid oxygen may cause rapid combustion.
Hazardous Products of Decomposition and /or Combustion: Carbon oxides**.**

NFPA Ratings:
HEALTH-1 FLAMMABILITY- 0 REACTIVITY-0 OTHER- none

SECTION 6 – ACCIDENTAL RELEASE MEASURES

****

Clean up spills in a manner that does not disperse dust into the air. Handle in accordance with good industrial hygiene and safety practices. These practices include avoiding unnecessary exposure, and removal of material from eyes, skin, and clothing. Dispose of virgin (unused) carbon (waste or spillage) in a facility permitted for non-hazardous wastes. Spent (used) carbon should be disposed of in accordance with applicable laws. Do not reuse empty bags. Dispose of in facility permitted for non-hazardous wastes. DO NOT DUMP INTO ANY SEWERS, ON THE GROUND OR INTO ANY BODY OF WATER. All disposal methods must be in compliance with all Federal, State, Local and Provincial laws and regulations. Regulations may vary in different locations. Waste characterizations and compliance with applicable laws are the responsibility solely of the waste generator.

SECTION 7 – HANDLING AND STORAGE

****

Handling: Avoid dispersion into air. Keep containers dry and closed. Follow good handling and housekeeping practices to minimize spills, generation of airborne dusts, and accumulation of dusts on exposed surfaces. Use with adequate exhaust ventilation to draw dust away from workers' breathing zones. Prevent or minimize exposures to dusts by using appropriate respirators, gloves, and eye protection. Wash exposed skin areas thoroughly with soap and water. Use caution when pouring, using pneumatic transport, swirling, etc. as this material can become electrostatically charged.

Storage: Avoid breaking bags or spilling media so as to avoid possibly creating residual dust. Store in ambient atmospheric conditions. Product should be stored in a closed dry container. Maintain good housekeeping procedures. Store away from strong oxidizers such as ozone, liquid oxygen, chlorine, permanganate, etc.

General Comments: Containers of this material may be hazardous when empty since they retain product residues (dust, solids); observe all warnings and precautions listed for the product.

SECTION 8 –PERSONAL PROTECTION/ EXPOSURE CONTROL

****

Respiratory Protection: Use NIOSH/MSHA approved respiratory protection equipment appropriate to the material and/or its concentration where airborne exposure is likely. If exposures cannot be kept to a minimum with engineering controls, consult manufacturer to determine appropriate type equipment for a given application. Observe respirator use limitations specified by NIOSH/MSHA or the manufacturer.

Skin Protection: Wear appropriate dust resistant clothing and gloves.

Eye Protection: Safety glasses with side shields are recommended for any type of handling. Where eye contact or dusty conditions may be likely, dust tight goggles are recommended.

SECTION 8 –PERSONAL PROTECTION/ EXPOSURE CONTROL (continued)

****

Ventilation Protection: Provide ventilation if necessary to minimize exposure. Dilute ventilation acceptable, but local mechanical exhaust ventilation preferred, if practical, at sources of air contamination such as open process equipment. The following publication offers ventilation guidelines and techniques: "INDUSTRIAL VENTILATION, A MANUAL OF RECOMMENDED PRACTICE" available from the ACGIH.
Other Protection: Safety showers, with quick opening valves which stay open, and eye wash fountains, or other means of washing the eyes with a gentle flow of cool to tepid tap water, should be readily available in all areas where this material is handled or stored. Water should be supplied through insulated and heat-traced lines to prevent freeze-ups in cold weather.

Exposure Limits:
OSHA PEL-TWA: 15 mg/m^3 (total), 5 mg/ m^3 (resp)
OSHA PEL-STEL: 10 mg/m^3

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

****

Appearance & Odor: black granules without taste or odor
Vapor Pressure: zero
Vapor Density (Air=1): not applicable
Boiling Point: not applicable
Melting Point: not applicable
Specific Gravity: 0.25 - 0.60 g/cc
Solubility in Water: Insoluble
Volatile Percentage: 0%
pH: not determined
Flash Point/method: Nonflammable
Auto Ignition Temperature: 840°C
Upper/Lower Explosion Limits: not applicable
Other: none

SECTION 10 – STABILITY AND REACTIVITY

****

Stability: This product is considered stable under the specified conditions of storage, shipment and use.
Incompatibilities: Contact with strong oxidizers such as ozone, liquid oxygen, chlorine, permanganate, etc. may result in rapid combustion. Avoid contact with strong acids.
Polymerization: Hazardous polymerization will not occur.
Decomposition: Hazardous decomposition will produce carbon oxides.
Conditions to avoid: Store away from strong oxidizers such as ozone, liquid oxygen, chlorine, permanganate, etc. Moist air will reduce the operating life.

SECTION 11 – TOXICOLOGICAL INFORMATION

****

INHALATION – Acute: Inhalation of carbon dust is mildly irritating to the lungs and can immediately give rise to an increased mucociliary transport and airway resistance mediated by the vagus. The inhalation LC50 (Rat) is > 64.4 mg/l.
INHALATION – Chronic: There are no known chronic inhalation effects.
SKIN CONTACT – Acute: Skin contact is expected to be slightly irritating. The primary skin irritation index (rabbit) is 0.

SECTION 11 – TOXICOLOGICAL INFORMATION (continued)

****

SKIN CONTACT – Chronic: There are no known chronic dermal effects.
EYE CONTACT – Acute: Eye contact can cause conjunctivitis, epithelial hyperplasia of the cornea, as well as eczematous inflammation of the eyelids.
INGESTION – Acute: Carbon is practically nontoxic. The probable oral lethal dose (human) is greater than 15 g/kg; more than one quart (2.2 lbs) for a 70 kg (150 lb) person.
INGESTION – Chronic: There are no known chronic ingestion effects.
CARCINOGENICITY/MUTAGENICITY: There are no known carcinogenic/mutagenic effects.
REPRODUCTIVE EFFECTS: There are no known reproductive effects.
NEUROTOXICITY: There are no known neurotoxic effects.
OTHER EFFECTS: No other toxic effects of carbon are known.
TARGET ORGANS: Target organs include the respiratory system and the cardiovascular system**.**

SECTION 12 – ECOLOGICAL INFORMATION

****

This material, in its original state, is not harmful to the environment.

SECTION 13 – DISPOSAL CONSIDERATIONS

****

Clean spills in a manner that does not disperse dust into the air, preferably a wet-down procedure or vacuum. If material is not contaminated, spilled media can be rebagged. Material that cannot be used or chemically reprocessed and empty containers should be disposed of in accordance with all applicable regulations. Product containers should be thoroughly emptied before disposal. Generators of waste material are required to evaluate all waste for compliance with RCRA and any local disposal procedures and regulations. NOTE: State and local regulations may be more stringent than federal regulations.

Warning: Wet activated carbon depletes oxygen from the air and therefore dangerously low levels of oxygen may be encountered. Whenever workers enter a vessel containing activated carbon, the vessel's oxygen content should be determined and work procedures for potentially low oxygen areas should be followed.

SECTION 14 – TRANSPORTATION INFORMATION

****

DOT Shipping Description: Not DOT Regulated

SECTION 15 – REGULATORY INFORMATION

****

CERCLA SECTION 103 (40CFR302.4): no RQ: none
SARA SECTION 302 (40CFR355.30): no
SARA SECTION 304 (40CFR355.40): no
SARA SECTION 313 (40CFR372.65): no
SARA HAZARD CATEGORIES, SARA SECTIONS 311/312 (40CFR370.21):
ACUTE: yes CHRONIC: no FIRE: no REACTIVE: no SUDDEN RELEASE: no
OSHA PROCESS SAFETY (29CFR1910.119): no
CALIFORNIA PROPOSITION 65: no

SECTION 16 – OTHER INFORMATION

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Disclaimer: The information contained herein is based on data considered accurate. However, no warranty is expressed or implied regarding the accuracy of these data or the results to be obtained from the user thereof. It is the buyer's responsibility to ensure that its activities comply with federal, state, provincial and local laws.

Created by: James R. Graham

Appendix E:

Operator Log Sheet

GWTT
Ground/Water Treatment & Technology, LLC

OPERATOR LOG

SITE: _____

627 Mount Hope Road
Wharton, New Jersey 07885
Tel: (973) 983-0901
Fax: (973) 983-0903

Date	Shift	Time	Generator Operating Hours	Process Flow Meter Reading	Effluent Flow Meter Reading	Inlet Bag Filter PSI	Outlet Bag Filter PSI	BF Differential PSI	Inlet **Lead** Carbon Adsorber PSI	Outlet **Lead** Carbon Adsorber PSI	Lead Carbon Differential PSI	Inlet **Lag** Carbon Adsorber PSI	Outlet **Lag** Carbon Adsorber PSI	Lag Carbon Differential PSI	Operator Initials
	Start														
	End														
	Start														
	End														
	Start														
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APPENDIX D – NASSAU COUNTY DISCHARGE PERMIT

EDWARD P. MANGANO
COUNTY EXECUTIVE

SHILA SHAH-GAVNOUDIAS, P.E.
COMMISSIONER

COUNTY OF NASSAU
DEPARTMENT OF PUBLIC WORKS
1194 PROSPECT AVENUE
WESTBURY, NEW YORK 11590-2723

June 27, 2017

Mr. Robert Delmonte
Posillico
1750 New Highway
Farmingdale, New York 11735

Re: Garvies Point Waterfront Redevelopment
Phase I Temporary Water Discharge
Approval for Discharge to Sanitary Sewer System

Dear Mr. Delmonte,

The Industrial Pretreatment Unit has reviewed the request made in your correspondence dated June 22, 2017, for the temporary discharge of non-potable water to the Nassau County sewer system from the Phase I portion of the Garvies Point Waterfront Redevelopment in Glen Cove.

Approval for the temporary discharge is granted, limited to a maximum of 50 gpm between the hours of 2:00 AM through 6:30 AM. All of the discharge volume shall be treated via the system as referenced in your correspondence with effluent sampling conducted at least once per month. Analyses of the discharge shall include pH, VOCs, total metals and TSS and shall adhere to the requirements of the Nassau County Sewer Ordinance, No. 266-1985. Results of the analyses and flow records shall be sent to the following address: Nassau County Department of Public Works
Industrial Pretreatment Unit
Attention: Pasquale Assalone, P.E.
1194 Prospect Avenue
Westbury, New York 11590-2723

Please note that the County reserves the right to cancel this temporary approval at any time. In accordance with Departmental requirements, a disposal fee of $3.405 per thousand gallons shall be accessed. An invoice shall be transmitted separately.

Should you have any questions or comments concerning the above, please contact me at (516) 571-6889 or Pasquale Assalone at (516) 571-6887.

Very truly yours,

Richard Cotugno.
Superintendent of Sewage Plants
Unit Head, Environmental Operations

c: NCDPW - Pasquale Assalone