SLEEPY HOLLOW COMMONS PHASE 1B

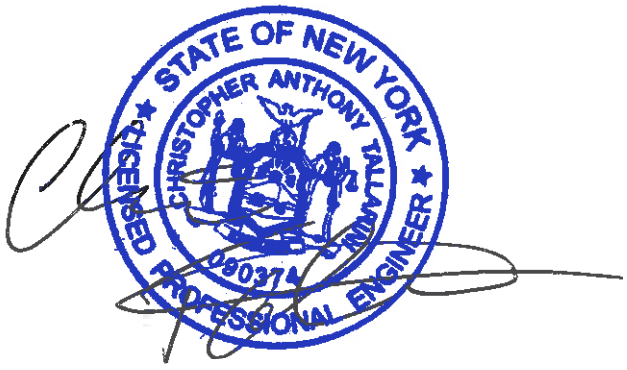
STORMWATER POLLUTION PREVENTION PLAN (SWPPP)

Prepared for:
Sleepy Hollow Local Development Corporation
28 Beekman Avenue
Village of Sleepy Hollow
Westchester County, New York 10591

August 14, 2020

PREPARED BY:

555 Pleasantville Road
South Building, Suite 201
Briarcliff Manor, NY 10510
Tel: (914) 747-1120
Fax: (914) 747-1956



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Introduction

The Sleepy Hollow Commons Phase 1B Project is a proposed soil fill import and placement program aimed at surcharging the existing underlying soil strata to minimize future settlement and mitigate any adverse effects that settlement of the existing underlying soil strata would have on potential future site improvements. The Project will involve soil disturbances of one (1) or more acres of land and therefore must comply with the requirements of the New York State Department of Environmental Conservation (NYSDEC) State Pollution Elimination System (SPDES) General Permit for Stormwater Discharges from Construction Activity (GP-0-20-001).

The principal features of the Project are the milling/rubbilization of the existing asphalt pavement, installation of vertical and horizontal wick drains, placement and compaction of approximately 175,000 cubic yards of fill material and the installation of settlement monitoring instrumentation over an area of 6.8 fully impervious acres (parking lot) in the south-east quadrant of the site. Due to these characteristics, this project is classified as a redevelopment project per chapter 9 of the New York State Department of Environmental Conservation's Stormwater Design Manual (NYSDEC SWDM).

This project consists of a reduction in impervious area and subsequently a reduction in offsite flow for all storm events. At the project site, there are two existing BMP's (vegetated swales) along the west side of site. All runoff from the project site is discharged through the BMP's in the existing and proposed condition. The existing BMP's will continue to treat to the area of disturbance at the completion of this project. The capacity of the BMP's will not only be maintained but improved because this project provides a reduction in flow for all storm events, as noted above. Calculations supporting the BMP's performance and pre vs post comparisons are discussed within the Proposed Conditions section of this report, and detailed calculations are included in **Appendix I**. Because the capacity of the existing BMP's is being maintained, the SWPPP is only required to address erosion and sediment control.

See **Figure 1** below for a Project Location Map.

Figure 1: Project Location Map

Required Project Timeline

The timing of work in the Phase 1B portion of the overall master site plan is driven largely by the availability of free fill materials, sourced by the Sleepy Hollow Local Development Corporation (SHLDC), and delivered at no cost to the project site, thus enabling the SHLDC to control costs and meet grant requirements that restrict funding, budget and timelines. The final design of the master site plan has not yet been decided upon by SHLDC and has not been approved by the Village of Sleepy Hollow. Additionally, funding for future phases (beyond Phase 1B) has not been obligated or secured. As such, the continuation/extent of work beyond this phase is unknown. Due to this reason, there is currently no larger common plan of development available. Therefore, this document has been specifically prepared for the guaranteed work that can be performed at the site. In the event a larger common plan of development is finalized, a SWPPP that includes post-construction stormwater management control practices will be prepared for the entire project site.

This report has been developed in accordance with the requirements of GP-0-20-001 and is intended for use by the owner and site contractor as a design guidance document for construction activities associated with this Project. See **Appendix B** for the SWPPP Preparer Certification Form.

Existing Conditions

Overview

The Project site currently consists of an existing fully impervious asphalt parking lot, with sporadic fences on otherwise vacant lot. The site is bounded by Metro-North Rail Road (MNR) tracks on the west, Devries Park on the North, Philipsburg Manor on East, and the remainder by private property. The project site was previously developed as an employee parking lot for the former General Motor's plant, located on the west side of the Metro-North Rail Road (MNR) tracks. There were also several small auxiliary buildings located in the parking lot that were previously demolished. The buildings have been demolished, but the asphalt-paved parking lot remains.

Existing Soils

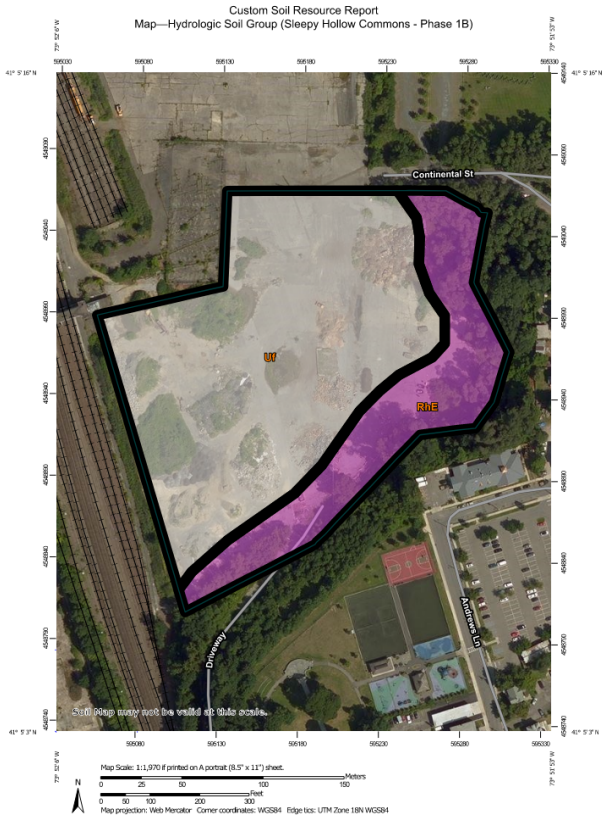
See **Appendix D** for the USDA National Resources Conservation Service (NRCS) Report for the site soil map units within the Project area. A summary the existing site soil units and hydrologic soil groups within the project area is listed on **Table 1**, below.

Table 1: NRCS Site Soil Units

Soil Unit Symbol	Soil Unit Name	Hydrologic Soil Group (HSG)	Acres of Project Area	Percentage of Project Area
Uf	Urban Land	N/A	7.2	71.7%
RhE	Riverhead loam, 25 to 50 % slopes	A	2.9	28.3%
Totals for Area of Interest			**10.1**	**100.0%**

A map of the Project area and its underlying NCRS soil map units is provided below as **Figure 2**. Each NRCS soil map unit is described by a Hydrologic Soil Group (HSG), noted by letters A through D, which describes each soil group's runoff potential. Soils within the Project area belong to HSG Group A, and the remainder is impervious with no available NRCS soil type. Group A soils have low runoff potential when thoroughly wet, as water is transmitted freely through the soil. Group A soils typically have less than 10 percent clay and more than 90 percent sand or gravel and have gravel or sand textures. The "Urban Land", as classified by NRCS is impervious area, in this case a parking

Figure 2: NRCS Soil Map



Proposed Conditions

Overview

The primary feature of the proposed Sleepy Hollow Commons Phase 1B Project is the proposed soil fill import and placement (stockpiling) and compacting of approximately 175,000 cubic yards of fill material over an area of approximately 6.8 acres to surcharge the existing underlying soil strata. At the completion of this work, soil stockpiles for the surcharge program will vary in height up to a maximum height of approximately twenty-seven (27) feet above existing grade. Wick drains will be installed to collect and convey groundwater to the surface as the underlying soils are surcharged. Swales will be constructed to convey groundwater from the wick drains and runoff from the stockpile area to the existing onsite stormwater BMP's (vegetated swale system, EX BMP-2 in particular). Erosion and sediment controls will be implemented to mitigate migration of sediment from the fill import and placement operations to the existing onsite BMP's during construction.

State Environmental Quality Review Act (SEQR)

All proposed action in New York State are require to go through the NYS's Environmental Quality Review Act (SEQR). This process requires all state and local government agencies to consider and assess the environmental impacts of all actions they have the discretion to approve, undertake or fund. SEQR also requires that the approving agency identify and mitigate the significant environmental impacts of the activity it is approving. On October 26, 2015, the Sleepy Hollow Local Development Corporation (SHLDC), concluded the project site was subject to SEQR an declared their intent to act as lead agency.

Environmental Impact Statement (EIS)

The project site is located within the Village of Sleepy Hollow's Riverfront Development Zoning District. Any proposed action within this district requires an Environmental Impact Statement (EIS) be conducted to evaluate potential impacts and any proposed mitigation efforts. The SHLDC progressed through the EIS process and on April 24, 2017, the SHLDC adopted the EIS findings which concluded review process and SEQR. The EIS is included in **Appendix K**.

New York State Office of Parks, Recreation and Historic Preservation (OPRHP)

A Stage 1A Literature Review and Sensitivity Analysis was prepared as part of the East Parcel Re-development Draft EIS. As part of the environmental review for the East Parcel project site, the New York State Historic Preservation Office was contacted. On December 7, 2015 and in accordance with the NYS Historic Preservation Act of 1980 (Section 14.09 of the New York Parks, Recreation and Historic Preservation Law), the OPRHP concluded that the proposed action lacked the potential to yield pre-historic or historic cultural resources and would have no impact on archeological and/or historic resources listed in or eligible for the New York State and National Register of Historic Places. See **Appendix K** for the adopted Final Environmental Impact Statement Report for correspondence from the OPRHP (dated, December 7, 2015) documenting this determination.

Brownfield Cleanup & Site Management Plan (BCA)

The Contractor shall be made aware that the project site was in a remedial program under the New York State (NYS) Brownfield Cleanup Program (BCP) administered by New York State Department of Environmental Conservation (NYSDEC). The site was remediated in accordance with Brownfield Cleanup Agreement (BCA) Index# C360070-12-10 which was executed on December 31, 2010 and amended August 20, 2013.

A site management plan (SMP) was previously developed by the project's environmental engineer (Roux & Associates) and is approved by the NYSDEC. The SMP is included in **Appendix K**. All conditions of the SMP shall be adhered to by the contractor in addition to this SWPPP.

Limits of Disturbance

The Project will involve soil disturbances of one (1) or more acres of land and therefore must comply with the requirements of the New York State Department of Environmental Conservation (NYSDEC) State Pollution Elimination System (SPDES) General Permit for Stormwater Discharges from Construction Activity (GP-0-20-001). In total, the project will disturb 6.8 Acres of land, all of which is existing impervious area.

Stormwater runoff from the project site is directed to an existing on-site BMP (vegetated swale system EX BMP-2) that is oriented north-south along the western border of the site. The swale discharges through a closed drainage system to the Pocantico River (tidally influenced) at the northern end of the site. Stormwater discharges from the site, entering the Pocantico River approximately 1,900 feet upstream of the confluence with the Hudson River (please see **Appendix J** for Hudson River Tidal data and the Pocantico River profile). The NYSDEC Classification of the Pocantico River is SB[1] (NYSDEC Resource Mapper) and the river is not on the list of 303(d) segments per Appendix E of General Permit GP-0-020-001. See **Appendix H** for a Site Diagram Plan that depicts the total project area, surcharge stockpile area and existing on-site vegetated swale system.

The maximum amount of disturbance at any one time will be 6.8 acres and will be beyond the initial 5-acre threshold until the first section of stockpile equaling 1.8 acres is stabilized (see Site Diagram 1 in **Appendix H** for proposed initially stabilized areas and the Sequence of Operations on contract drawing 3 of 28) .

Because the project is located within a traditional land use MS4 and the owner is separate entity (Sleepy Hollow Local Development Corporation – SHLDC), the Village of Sleepy Hollow as the MS4 has allowed disturbance greater than 5 acres due to the owner/operator's compliance with the following 5 conditions:

1. The owner or operator shall have a qualified inspector conduct at least two (2) site inspections in accordance with Part IV.C. of this permit every seven (7) calendar days, for as long as greater than five (5) acres of soil remain disturbed. The two (2) inspections shall be separated by a minimum of two (2) full calendar days.
2. In areas where soil disturbance activity has temporarily or permanently ceased, the application of soil stabilization measures must be initiated by the end of the next business day and completed within seven (7) days from the date the current soil disturbance activity ceased. The soil stabilization measures selected shall be in conformance with the technical standard, New York State Standards and Specifications for Erosion and Sediment Control, dated November 2016.
3. The owner or operator shall prepare a phasing plan that defines maximum disturbed area per phase and shows required cuts and fills.

[1] SB - Marine Waters - best usage for swimming and other recreation, and fishing.

4. The owner or operator shall install any additional site-specific practices needed to protect water quality.
5. The owner or operator shall include the requirements above in their SWPPP.

Please see the attached letter of authorization from the MS4, included in **Appendix B,** which shows concurrence of the proposed disturbance and the reasoning for this allowance.

Natural Buffers

The limits of disturbance at the project are approximately 700 FT south of the Pocantico River. The natural riparian area along the banks of the river or federal wetlands are not impacted at all by this project. There are no other waterbodies or wetlands near the site of importance.

Flood Plain Impacts

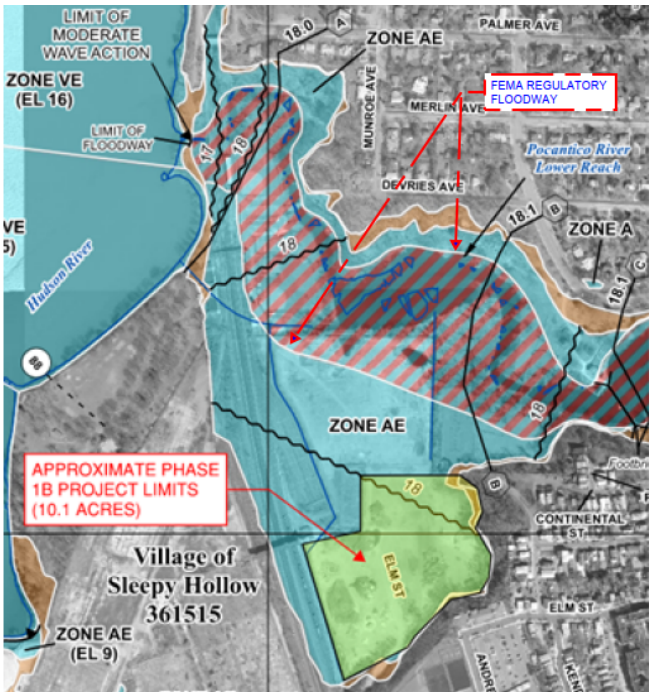
The project site is subject to tidally-influenced flooding from the Pocantico River (via the Hudson River) which has an associated regulatory floodway. On streams with a regulatory floodway, no new construction, substantial improvements or other development in the floodway (including fill) shall be permitted unless:

1. A technical evaluation by a licensed professional engineer shows that such an encroachment shall not result in any increase in flood levels during occurrence of the base flood; or

2. The Village of Sleepy Hollow agrees to apply to the Federal Emergency Management Agency (FEMA) for a conditional FIRM and floodway revision.

The Phase 1B project limits are within the floodplain of the Pocantico River (Zone AE), however the project limits are not within the Pocantico River floodway limits. As such, per section 220-14-B-2 of the Village of Sleepy Hollow Flood Damage Prevention code (adopted FEMA regulations), new construction, substantial improvements or other development (including fill) is permitted. See **Figure 3** below for a portion of the FEMA Flood Insurance Rate Map (Map No. 36119C0253G) at the project site. Additionally, due to the tidal impacts of the Hudson River, fill at this location in the flood plain within a tidal water body will not impact water surface elevations.

Figure 3: FEMA Flood Insurance Rate Map



Pre- and Post- Construction Stormwater Flow Rates

The proposed area to be disturbed consists of a fully impervious asphalt parking lot and has a corresponding TR-20 Runoff Curve Number (CN) of 98. For the proposed stormwater calculations, Hydraulic Soil Group Classification D was used for the surcharge location to satisfy section 5.1.6.b of the SWDM, where it is requires compacted pervious soils shall be changed by 1 'HSG Level' to accommodate for the compaction when calculating post construction runoff rates. The usage of HSG D in this case is appropriate to satisfy section 5.1.6.b of the NYSDEC SWDM because of the change from asphalt (impervious area), to a compacted stabilized and seeded soil stockpile, is an obvious improvement in runoff conditions, while still utilizing the most conservative CN. A Curve Number of 89 was utilized for the proposed surcharge stockpile location (HSG D, Poor grass cover to be conservative). Please note that extensive soil testing was performed during the investigation phase of this project, including multiple soil borings and testing across the entire project site. Although an HSG rating was not provided by the NRCS soil survey, due to the site coverage being impervious at the area of disturbance, the site-specific testing and observations performed indicates that the soil in the proposed disturbed area would be classified as HSG C or better (see **Appendix D** for site specific soil data and determination).

This change in the curve number and the change in time of concentration generated a reduction in offsite flow rates for all storm events. See **Table 2** below for a summary of the pre-construction versus post-construction offsite discharge flow rates for the 1-, 10-

and 100-year storm events (See **Appendix I** for the pre and post-development drainage maps and for stormwater calculations (HydroCAD)).

Table 2: Pre- vs. Post-Offsite Discharge Flow Rates

Drainage Area	1 Year (cfs)			10 Year (cfs)			100 Year (cfs)		
	Pre	Post	Diff	Pre	Post	Diff	Pre	Post	Diff
Drainage Area 1 **(DA1)**	18.02	18.02	0.00	37.13	37.13	0.00	70.17	70.17	0.00
Drainage Area 2 **(DA2)**	40.19	34.63	(5.56)	93.72	87.10	(6.62)	188.19	182.13	(6.06)

Due to the reduction in offsite flow, stormwater quantity control for the 1, 10 and 100-year storm events is not required per section 9.2.1.A, paragraph I & II of the SWDM.

Pre- and Post- Construction Water Quality Volumes & Existing On-site BMP's

Pre- and post-construction water quality volumes were calculated to determine if there would be any negative impacts to the existing on-site vegetated swale (EX BMP-2) running north-south along the western border of the site due to the proposed soil stockpiling operations. See **Table 3** below for a summary of the ***actual*** pre-construction versus post-construction Water Quality Volumes (WQv)).

Table 3: Pre- vs. Post-Construction Water Quality Volumes

Pre-Construction				
Existing Area @ Surcharge Location				
Size		% Impervious	WQv	
SF	Acres		CF	Acre-Ft
296,208	6.80	100%	**35,175**	0.8075
Post-Construction				
Proposed Disturbed Area (Surcharge Location)				
Size		% Impervious	WQv	
SF	Acres		CF	Acre-Ft
296,208	**6.80**	**20%***	**8,516**	**0.1955**

* Actual impervious area is zero (0) %. Twenty (20) % shown as the minimum required per the New York State Department of Environmental Conservation (NYSDEC) Stormwater Design Manual (SWDM).

As can be seen in **Table 3** above, there is an actual reduction in WQv generated from the disturbed area, reduced from **35,175** CF to **8,516** CF for a total reduction of **26,659** CF or **0.6120** Acre-Ft. *These values in table 3 are used to portray the magnitude of reduction in **actual** volumetric flow during the Water Quality Volume (WQv) event being directed to EX BMP-2, and not to claim this volume as water quality treatment generated*

from Phase 1B (calculations are not meant to comply with section 5.1.6.a of the NYSDEC SWDM).

The data in **Table 3** shows that the proposed project will not impact the performance of this BMP. Due to this reduction in flow and the relative volume of the BMP, the level of stormwater treatment provided by the EX BMP-2 has not been impacted and additional water quality treatment is not required for this project. Please note, that even if the entire project area was considered "impervious" for calculation purposes, there would be a net 0 increase in WQv because the existing site is fully impervious.

Post-construction stormwater runoff during the water quality event (1.5" storm) from DA-2 has been reduced by **9.00** CFS (**22.47** CFS to **13.47** CFS) due to the proposed conditions. The average capacity of this BMP is approximately **41** CFS. The WQv flow rate has been significantly reduced in the post-construction condition and is well below the capacity of the existing BMP (see **Appendix I** for HydroCad calculations and small storm hydrology CN translation calculations).

EX BMP-2 has an overall approximate length of 640 LF and top width of 24 FT. For reference only, please see **Appendix H** for a plan showing the location, approximate dimensions and approximate capacity calculations of existing EX BMP-2. As stated above, these swales are existing BMP's (not designed by WSP) and the calculations included herein are provided to show that the existing capacity of the BMP is not impacted.

Good Housekeeping BMP Measures

The following practices shall be implemented to mitigate pollutants of concern during the construction phase of the Project. The contractor shall be responsible for the implementing the following good housekeeping measures to avoid discharges the following pollutants:

- Material Handling and Waste Management (potential pollutant: trash/construction waste)
- Proper Equipment Fueling Maintenance Practices (potential pollutant: fuel oil/gasoline)
- Spill Prevention and Control (potential pollutant: lubrication oil, antifreeze, engine coolant, other misc. chemicals)
- Installation and maintenance of planned erosion and sediment control measures for stockpiling operations (potential pollutant: erosion/sediment) – **see erosion and sediment control section below for more detailed information*

All construction waste materials shall be collected and disposed of into dumpsters located within the Project limits. Only trash and construction debris from the site shall be deposited in the dumpster. No construction waste or materials shall be buried on the site. All personnel working on the site shall be instructed of the proper procedures for

construction waste disposal. Adequate sanitary facilities shall be provided at the construction site

Disposal of any hazardous waste materials shall be in accordance with federal, state, and local regulations. No hazardous waste shall be stored or disposed of on site. Any hazardous waste generated by this construction shall be transported in structurally sound, sealed shipping containers and immediately removed from the site. Material safety data sheets, material inventory, and emergency contact numbers will be maintained on site. All personnel working on the site shall be instructed of the proper procedures for hazardous waste disposal.

All construction equipment and maintenance materials shall be stored in the designated construction entrance areas in locations as shown on the Project plans.

During construction, several types of vehicles and equipment will be used on the site. Fueling of vehicles and equipment shall be done offsite to the extent possible and shall be performed only at the construction staging areas if needed. The contractor shall provide spill protection, clean up supplies, and fire suppression for all fuel stations. Fuel tanks shall be contained in a steel spill prevention pan and covered with a fire-proof, weather resistant roof. Fuel in the containment pan shall not be allowed to accumulate. Spilled fuel shall be immediately cleaned up and legally disposed of in accordance with NYSDEC regulations.

Erosion & Sediment Control

An Erosion and Sediment Control Plan was prepared and is included in the Phase 1B Construction Plans as **Appendix F** of this report. The Erosion and Sediment Control Plan incorporates the following temporary and permanent measures, designed in accordance with the *New York State Standards and Specifications for Erosion and Sediment Control, November, 2016* (Blue Book):

- *Stabilized Construction Access* – A stabilized construction access shall be constructed at the entrance to the Project site at Continental Street.
- *Silt Fence* - Silt fence is a sediment control device that will be installed along the contours of slopes within the Project limits. The purpose of silt fence is to reduce runoff velocity and effect deposition of transported sediment load.
- *Inlet Protection* - Inlet protection is a sediment control device that will be installed around any existing and proposed drainage inlets to prevent heavily sediment laden water from entering storm drains. The fabric drop inlet protection option was selected from the Blue Book, with the detail included in the Project drawings.
- *Soil Stockpiling* - Soil stockpiling will be only be performed on the site in accordance with the detail found in the Project drawings. The detail incorporates sediment barriers such as silt fence or hay bales and requires vegetative or other physical cover to prevent soil migration.

- *Stone Check Dams* - Stone check dams are proposed as a temporary erosion control device intended to reduce velocities in the open channels that shall convey groundwater collected by the wick drains.
- *Sediment Traps* – A sediment trap is proposed collect any sediment conveyed through the proposed swale system before reaching the existing swale system (EX BMP-2) and eventually the Pocantico River.
- *Rolled Erosion Control Fabric* – Rolled erosion control fabric is proposed anywhere slopes steeper than 3:1 are to be disturbed or created. Erosion control fabric is an erosion control device intended to control erosion by absorbing rain splash energy, withstand runoff and protect and promote seed germination and establishment.
- *Dust Control* - Dust control should be accomplished with vegetative cover and mulch for non-driving areas and with a water sprinkling truck on pavement and on haul roads and access routes. A sprinkling truck should apply water to all exposed earth surfaces until the surface becomes wet and shall not produce runoff. As required by the Community Air Monitoring Program (CAMP) and the approved Site Management Plan (SMP), dust monitoring will be performed to ensure dust particulate levels in the air generated by the construction activities do not exceed limits as specified in the SMP.
- *Temporary and Permanent Area Seeding* - Temporary Area Seeding will be applied as an erosion control measure to protect disturbed areas for an interim period by covering all bare ground that exists as a result of construction activities. The optimum timing for the general seed mixture is early spring. Permanent seedings may be made any time of year if properly mulched and adequate moisture is provided. Late June through early August is not a good time to seed but may facilitate covering the land without additional disturbance if construction is completed. Portions of the seeding may fail due to drought and heat. These areas may need reseeding in late summer/fall or the following spring. The seed mixtures are as follows:

Seed Mixture	Variety	Application Rate Pounds/acre	Application Rate Pounds/1,000 ft^2
Mix #6*			
Creeping red fescue	Ensylva, Pennlawn, Boreal	20	0.45
Chewings fescue	Common	20	0.45
Perennial ryegrass	Pennfine, Linn	5	0.10
Red Clover	Common	10	0.45

The above measures shall be installed and maintained throughout construction in accordance with the Project drawings. When the Project is completed and final stabilization achieved, all temporary controls shall be removed by the contractor. Permanent measures shall be maintained by the owner in perpetuity.

Implementation & Construction Sequencing

WSP will be responsible for overseeing and inspecting the contractor's operations. Details associated with the implementation of the proposed temporary and permanent erosion and sediment control measures during construction along with a suggested sequence of construction are provided in the Phase 1B Construction Plans (see **Appendix F**). The Contractor responsible for installing, constructing, repairing, replacing, inspecting and maintaining the erosion and sediment control practices included in the SWPPP must be a certified Trained Contractor, as described in Part III.A.6 of GP-0-20-001.

Inspection & Maintenance

During construction, a Site Log Book is required to be kept on-site throughout the duration of construction per General Permit GP-0-20-001. See **Appendix E** for the Construction Site Inspection and the Maintenance Log Book requirements.

Erosion and sediment control inspections are also required to be conducted as necessary under coverage of the permit. The Contractor is required to have all temporary erosion and sediment control practices inspected once every seven calendar days by a "Qualified Inspector" as defined in GP-0-20-001. If any erosion and sediment control measure is found to be functioning inadequately either by the "Trained Contractor" or "Qualified Inspector", corrective action shall be implemented within one business day or sooner and shall be completed within a reasonable time frame. No part of the Maintenance and Inspection requirements outlined herein shall in any way absolve the Contractor from full compliance with the terms of GP-0-20-001. The maintenance schedule is provided on **Table 4**, below.

Table 4: Erosion & Sediment Control Maintenance Schedule

EROSION & SEDIMENT CONTROL MAINTENANCE SCHEDULE					
MONITORING REQUIREMENTS				MAINTENANCE REQUIREMENTS	
PRACTICE	DAILY	WEEKLY	AFTER 1/2" RAINFALL	DURING CONSTRUCTION (SHORT-TERM)	POST-CONSTRUCTION (LONG-TERM)
STABILIZED CONSTRUCTION ENTRANCE	INSPECT	-	INSPECT	CLEAN/ TOP DRESS	REMOVE
SILT FENCE	-	INSPECT	INSPECT	CLEAN/REMOVE SEDIMENT/REPLACE	REMOVE
DUST CONTROL	INSPECT	-	INSPECT	MULCH/ESTABLISH VEGETATION/WATER	NA
SOIL STOCKPILES	-	INSPECT	INSPECT	MULCH/REPAIR SILT FENCE	REMOVE
INLET PROTECTION	-	INSPECT	INSPECT	CLEAN/REMOVE SEDIMENT/REPLACE	REMOVE
SWALES	-	INSPECT	INSPECT	REMOVE SEDIMENT/MAINTAIN VEGETATION	REMOVE
STONE CHECK DAMS/SEDIMENT TRAP	-	INSPECT	INSPECT	REMOVE SEDIMENT/REPAIR	REMOVE
ROLLED EROSION CONTROL MAT	-	INSPECT	INSPECT	RE-FASTEN AS NEEDED, WATER SEED IF SEED IMPREGNATED	REMOVE

General Permit Coverage

Construction may begin after a Notice of Intent (NOI) to obtain coverage under SPDES General Permit GP-0-20-001 has been filed and accepted by NYSDEC. Following the filing of the NOI and confirmation of acceptance from NYSDEC, construction may commence in accordance with the approved plan construction sequence and erosion and sediment control plan. A copy of the completed NOI can be found in **Appendix A**. During construction, all erosion and sediment control measures shall be maintained and replaced as necessary to protect water quality and as construction inspections require (see **Appendix C** for the Owner and Operator Certifications). Upon completion of construction and establishment of final stabilization, all temporary erosion control measures may be removed. Final stabilization means that all soil disturbance activities have ceased and a uniform, perennial vegetative cover with a density of eighty (80) percent over the entire pervious surface has been established; or other equivalent stabilization measures. A Notice of Termination (NOT) for Stormwater Discharges Associated with Construction Activity (see **Appendix G**) can be completed by the appropriate Qualified Inspector and the Owner/Operator and submitted to NYSDEC to terminate coverage under GP-0-20-001. The owner or operator shall retain a copy of the NOI, NOI Acknowledgment Letter, SWPPP, MS4 SWPPP Acceptance form and any inspection reports that were prepared in conjunction with this permit for a period of at least five (5) years from the date that the Department receives a complete NOT submitted in accordance with Part V. of GP-0-20-001.

Appendices

A. Notice of Intent (NOI)
B. SWPPP Preparer Certification Form, MS4 Acceptance Form & MS4 Authorization to Disturb more than 5 Acres
C. Owner/Operator & Contractor Certifications
D. NRCS Soil Report, Soil Classifications and Soil Boring Data
E. Construction Site Inspection and Maintenance Log Book
F. Phase 1B Construction Plans
G. Notice of Termination (NOT)
H. Site and Existing BMP Diagrams
I. Stormwater Calculations (HydroCAD)
J. Hudson River Tidal Data and Pocantico River Profile
K. Adopted Final Environmental Impact Statement Report and Site Management Plan (under separate cover/digital)

Appendix A

Notice of Intent (NOI)

0644089821

NOTICE OF INTENT

New York State Department of Environmental Conservation
Division of Water
625 Broadway, 4th Floor
Albany, New York 12233-3505

NYR _____
(for DEC use only)

Stormwater Discharges Associated with Construction Activity Under State Pollutant Discharge Elimination System (SPDES) General Permit # GP-0-20-001

All sections must be completed unless otherwise noted. Failure to complete all items may result in this form being returned to you, thereby delaying your coverage under this General Permit. Applicants must read and understand the conditions of the permit and prepare a Stormwater Pollution Prevention Plan prior to submitting this NOI. Applicants are responsible for identifying and obtaining other DEC permits that may be required.

-IMPORTANT-
RETURN THIS FORM TO THE ADDRESS ABOVE

OWNER/OPERATOR MUST SIGN FORM

Owner/Operator Information

Owner/Operator (Company Name/Private Owner Name/Municipality Name)
Sleepy Hollow Local Development Corp.

Owner/Operator Contact Person Last Name (NOT CONSULTANT)
Dawley

Owner/Operator Contact Person First Name
Michael

Owner/Operator Mailing Address
28 BEEKMAN AVENUE

City
Sleepy Hollow

State
NY

Zip
10591 - 2602

Phone (Owner/Operator)
914-366-5100

Fax (Owner/Operator)
___-___-____

Email (Owner/Operator)
michael.dawley@sleepyhollowldc.com

FED TAX ID
47-1990126 (not required for individuals)

Project Site Information

Project/Site Name
Sleepy Hollow Commons - Phase 1B

Street Address (NOT P.O. BOX)
100 Continental Street

Side of Street
○ **North** ○ **South** ○ **East** ● **West**

City/Town/Village (THAT ISSUES BUILDING PERMIT)
Village of Sleepy Hollow

State: NY
Zip: 10591 - 2602
County: WESTCHESTER
DEC Region: 3

Name of Nearest Cross Street
KENDALL AVENUE

Distance to Nearest Cross Street (Feet)
250

Project In Relation to Cross Street
○ **North** ○ **South** ○ **East** ● **West**

Tax Map Numbers
Section-Block-Parcel
115.11-1-2

Tax Map Numbers

1. Provide the Geographic Coordinates for the project site. To do this, go to the NYSDEC Stormwater Interactive Map on the DEC website at:

https://gisservices.dec.ny.gov/gis/stormwater/

Zoom into your Project Location such that you can accurately click on the centroid of your site. Once you have located the centroid of your project site, go to the bottom right hand corner of the map for the X, Y coordinates. Enter the coordinates into the boxes below. For problems with the interactive map use the help function.

X Coordinates (Easting)
-73867
Ex. -73.749

Y Coordinates (Northing)
41087
Ex. 42.652

2. What is the nature of this construction project?

○ **New Construction**

○ **Redevelopment with increase in impervious area**

● **Redevelopment with no increase in impervious area**

*Decrease in Impervious Area

3. Select the predominant land use for both pre and post development conditions.
SELECT ONLY ONE CHOICE FOR EACH

Pre-Development Existing Land Use

- ○ FOREST
- ○ PASTURE/OPEN LAND
- ○ CULTIVATED LAND
- ○ SINGLE FAMILY HOME
- ○ SINGLE FAMILY SUBDIVISION
- ○ TOWN HOME RESIDENTIAL
- ○ MULTIFAMILY RESIDENTIAL
- ○ INSTITUTIONAL/SCHOOL
- ○ INDUSTRIAL
- ○ COMMERCIAL
- ○ ROAD/HIGHWAY
- ○ RECREATIONAL/SPORTS FIELD
- ○ BIKE PATH/TRAIL
- ○ LINEAR UTILITY
- ● PARKING LOT
- ○ OTHER

Post-Development Future Land Use

- ○ SINGLE FAMILY HOME
- ○ SINGLE FAMILY SUBDIVISION — Number of Lots
- ○ TOWN HOME RESIDENTIAL
- ○ MULTIFAMILY RESIDENTIAL
- ○ INSTITUTIONAL/SCHOOL
- ○ INDUSTRIAL
- ○ COMMERCIAL
- ○ MUNICIPAL
- ○ ROAD/HIGHWAY
- ○ RECREATIONAL/SPORTS FIELD
- ○ BIKE PATH/TRAIL
- ○ LINEAR UTILITY (water, sewer, gas, etc.)
- ○ PARKING LOT
- ○ CLEARING/GRADING ONLY
- ○ DEMOLITION, NO REDEVELOPMENT
- ○ WELL DRILLING ACTIVITY *(Oil, Gas, etc.)
- ○ OTHER: Soil Stockpile

***Note**: for gas well drilling, non-high volume hydraulic fractured wells only

4. In accordance with the larger common plan of development or sale, enter the total project site area; the total area to be disturbed; existing impervious area to be disturbed (for redevelopment activities); and the future impervious area constructed within the disturbed area. (Round to the nearest tenth of an acre.)

Total Site Area	Total Area To Be Disturbed	Existing Impervious Area To Be Disturbed	Future Impervious Area Within Disturbed Area
10.1	6.8	6.8	0.0

5. Do you plan to disturb more than 5 acres of soil at any one time? ● **Yes** ○ **No**

6. Indicate the percentage of each Hydrologic Soil Group(HSG) at the site.

A	B	C	D
28 %	0 %	%	0 %

Remaining 72% is urban land

7. Is this a phased project? ○ **Yes** ● **No**

8. Enter the planned start and end dates of the disturbance activities.

Start Date 02/01/2020 - **End Date** 05/31/2021

9. Identify the nearest surface waterbody(ies) to which construction site runoff will discharge.

Name: Pocantico River

9a. Type of waterbody identified in Question 9?

- ○ Wetland / State Jurisdiction On Site (Answer 9b)
- ○ Wetland / State Jurisdiction Off Site
- ○ Wetland / Federal Jurisdiction On Site (Answer 9b)
- ● Wetland / Federal Jurisdiction Off Site
- ○ Stream / Creek On Site
- ○ Stream / Creek Off Site
- ○ River On Site
- ● River Off Site
- ○ Lake On Site
- ○ Lake Off Site
- ○ Other Type On Site
- ○ Other Type Off Site

9b. How was the wetland identified?

- ○ Regulatory Map
- ○ Delineated by Consultant
- ○ Delineated by Army Corps of Engineers
- ● Other (identify): DEC Rsrc Mappr

10. Has the surface waterbody(ies) in question 9 been identified as a 303(d) segment in Appendix E of GP-0-20-001? ○ **Yes** ● **No**

11. Is this project located in one of the Watersheds identified in Appendix C of GP-0-20-001? ○ **Yes** ● **No**

12. Is the project located in one of the watershed areas associated with AA and AA-S classified waters? ○ **Yes** ● **No**
If no, skip question 13.

13. Does this construction activity disturb land with no existing impervious cover and where the Soil Slope Phase is identified as an E or F on the USDA Soil Survey? ○ **Yes** ● **No**
If Yes, what is the acreage to be disturbed?

14. Will the project disturb soils within a State regulated wetland or the protected 100 foot adjacent area? ○ **Yes** ● **No**

15. Does the site runoff enter a separate storm sewer system (including roadside drains, swales, ditches, culverts, etc)? ◉ **Yes** ○ **No** ○ **Unknown**

16. What is the name of the municipality/entity that owns the separate storm sewer system?

Village of Sleepy Hollow

17. Does any runoff from the site enter a sewer classified as a Combined Sewer? ○ **Yes** ◉ **No** ○ **Unknown**

18. Will future use of this site be an agricultural property as defined by the NYS Agriculture and Markets Law? ○ **Yes** ◉ **No**

19. Is this property owned by a state authority, state agency, federal government or local government? ○ **Yes** ◉ **No**

20. Is this a remediation project being done under a Department approved work plan? (i.e. CERCLA, RCRA, Voluntary Cleanup Agreement, etc.) ○ **Yes** ◉ **No**

21. Has the required Erosion and Sediment Control component of the SWPPP been developed in conformance with the current NYS Standards and Specifications for Erosion and Sediment Control (aka Blue Book)? ◉ **Yes** ○ **No**

22. Does this construction activity require the development of a SWPPP that includes the post-construction stormwater management practice component (i.e. Runoff Reduction, Water Quality and Quantity Control practices/techniques)? ○ **Yes** ◉ **No**
If No, skip questions 23 and 27-39.

23. Has the post-construction stormwater management practice component of the SWPPP been developed in conformance with the current NYS Stormwater Management Design Manual? ○ **Yes** ○ **No**

24. The Stormwater Pollution Prevention Plan (SWPPP) was prepared by:

- ● **Professional Engineer (P.E.)**
- ○ **Soil and Water Conservation District (SWCD)**
- ○ **Registered Landscape Architect (R.L.A)**
- ○ **Certified Professional in Erosion and Sediment Control (CPESC)**
- ○ **Owner/Operator**
- ○ **Other**

SWPPP Preparer

WSP

Contact Name (Last, Space, First)

TALLARINI, CHRISTOPHER

Mailing Address

555 Pleasantville Road

City

Briarcliff Manor

State NY Zip 10510 -

Phone 914 7471120 -

Fax - -

Email

christopher.tallarini@wsp.com

SWPPP Preparer Certification

I hereby certify that the Stormwater Pollution Prevention Plan (SWPPP) for this project has been prepared in accordance with the terms and conditions of the GP-0-20-001. Furthermore, I understand that certifying false, incorrect or inaccurate information is a violation of this permit and the laws of the State of New York and could subject me to criminal, civil and/or administrative proceedings.

First Name Christopher **MI** A

Last Name Tallarini

Signature

Date 08 / 13 / 2020

25. Has a construction sequence schedule for the planned management practices been prepared? ● Yes ○ No

26. Select **all** of the erosion and sediment control practices that will be employed on the project site:

Temporary Structural

- ● Check Dams
- ○ Construction Road Stabilization
- ● Dust Control
- ○ Earth Dike
- ○ Level Spreader
- ● Perimeter Dike/Swale
- ○ Pipe Slope Drain
- ○ Portable Sediment Tank
- ● Rock Dam
- ○ Sediment Basin
- ● Sediment Traps
- ● Silt Fence
- ● Stabilized Construction Entrance
- ● Storm Drain Inlet Protection
- ○ Straw/Hay Bale Dike
- ○ Temporary Access Waterway Crossing
- ○ Temporary Stormdrain Diversion
- ● Temporary Swale
- ○ Turbidity Curtain
- ○ Water bars

Biotechnical

- ○ Brush Matting
- ○ Wattling

Vegetative Measures

- ○ Brush Matting
- ○ Dune Stabilization
- ○ Grassed Waterway
- ● Mulching
- ○ Protecting Vegetation
- ○ Recreation Area Improvement
- ● Seeding
- ○ Sodding
- ○ Straw/Hay Bale Dike
- ○ Streambank Protection
- ● Temporary Swale
- ○ Topsoiling
- ○ Vegetating Waterways

Permanent Structural

- ○ Debris Basin
- ○ Diversion
- ○ Grade Stabilization Structure
- ○ Land Grading
- ○ Lined Waterway (Rock)
- ○ Paved Channel (Concrete)
- ○ Paved Flume
- ○ Retaining Wall
- ○ Riprap Slope Protection
- ○ Rock Outlet Protection
- ○ Streambank Protection

Other

Post-construction Stormwater Management Practice (SMP) Requirements

Important: Completion of Questions 27-39 is not required if response to Question 22 is No.

27. Identify all site planning practices that were used to prepare the final site plan/layout for the project.

- ○ **Preservation of Undisturbed Areas**
- ○ **Preservation of Buffers**
- ○ **Reduction of Clearing and Grading**
- ○ **Locating Development in Less Sensitive Areas**
- ○ **Roadway Reduction**
- ○ **Sidewalk Reduction**
- ○ **Driveway Reduction**
- ○ **Cul-de-sac Reduction**
- ○ **Building Footprint Reduction**
- ○ **Parking Reduction**

27a. Indicate which of the following soil restoration criteria was used to address the requirements in Section 5.1.6("Soil Restoration") of the Design Manual (2010 version).

- ○ All disturbed areas will be restored in accordance with the Soil Restoration requirements in Table 5.3 of the Design Manual (see page 5-22).
- ○ Compacted areas were considered as impervious cover when calculating the **WQv Required**, and the compacted areas were assigned a post-construction Hydrologic Soil Group (HSG) designation that is one level less permeable than existing conditions for the hydrology analysis.

28. Provide the total Water Quality Volume (WQv) required for this project (based on final site plan/layout).

Total WQv Required

			.				**acre-feet**

29. Identify the RR techniques (Area Reduction), RR techniques(Volume Reduction) and Standard SMPs with RRv Capacity in Table 1 (See Page 9) that were used to reduce the Total WQv Required(#28).

Also, provide in Table 1 the total impervious area that contributes runoff to each technique/practice selected. For the Area Reduction Techniques, provide the total contributing area (includes pervious area) and, if applicable, the total impervious area that contributes runoff to the technique/practice.

Note: Redevelopment projects shall use Tables 1 and 2 to identify the SMPs used to treat and/or reduce the WQv required. If runoff reduction techniques will not be used to reduce the required WQv, skip to question 33a after identifying the SMPs.

Table 1 - Runoff Reduction (RR) Techniques and Standard Stormwater Management Practices (SMPs)

	Total Contributing Area (acres)		Total Contributing Impervious Area(acres)
RR Techniques (Area Reduction)			
○ Conservation of Natural Areas (RR-1)	___.___	and/or	___.___
○ Sheetflow to Riparian Buffers/Filters Strips (RR-2)	___.___	and/or	___.___
○ Tree Planting/Tree Pit (RR-3)	___.___	and/or	___.___
○ Disconnection of Rooftop Runoff (RR-4)	___.___	and/or	___.___
RR Techniques (Volume Reduction)			
○ Vegetated Swale (RR-5)			___.___
○ Rain Garden (RR-6)			___.___
○ Stormwater Planter (RR-7)			___.___
○ Rain Barrel/Cistern (RR-8)			___.___
○ Porous Pavement (RR-9)			___.___
○ Green Roof (RR-10)			___.___
Standard SMPs with RRv Capacity			
○ Infiltration Trench (I-1)			___.___
○ Infiltration Basin (I-2)			___.___
○ Dry Well (I-3)			___.___
○ Underground Infiltration System (I-4)			___.___
○ Bioretention (F-5)			___.___
○ Dry Swale (O-1)			___.___
Standard SMPs			
○ Micropool Extended Detention (P-1)			___.___
○ Wet Pond (P-2)			___.___
○ Wet Extended Detention (P-3)			___.___
○ Multiple Pond System (P-4)			___.___
○ Pocket Pond (P-5)			___.___
○ Surface Sand Filter (F-1)			___.___
○ Underground Sand Filter (F-2)			___.___
○ Perimeter Sand Filter (F-3)			___.___
○ Organic Filter (F-4)			___.___
○ Shallow Wetland (W-1)			___.___
○ Extended Detention Wetland (W-2)			___.___
○ Pond/Wetland System (W-3)			___.___
○ Pocket Wetland (W-4)			___.___
○ Wet Swale (O-2)			___.___

Table 2 - Alternative SMPs (DO NOT INCLUDE PRACTICES BEING USED FOR PRETREATMENT ONLY)

Alternative SMP	Total Contributing Impervious Area(acres)
○ **Hydrodynamic**	
○ **Wet Vault**	
○ **Media Filter**	
○ **Other**	

Provide the name and manufacturer of the Alternative SMPs (i.e. proprietary practice(s)) being used for WQv treatment.

Name

Manufacturer

Note: Redevelopment projects which do not use RR techniques, shall use questions 28, 29, 33 and 33a to provide SMPs used, total WQv required and total WQv provided for the project.

30. Indicate the Total RRv provided by the RR techniques (Area/Volume Reduction) and Standard SMPs with RRv capacity identified in question 29.

Total RRv provided

. **acre-feet**

31. Is the Total RRv provided (#30) greater than or equal to the total WQv required (#28).

○ **Yes** ○ **No**

If Yes, go to question 36.
If No, go to question 32.

32. Provide the Minimum RRv required based on HSG.
[Minimum RRv Required = (P)(0.95)(Ai)/12, Ai=(S)(Aic)]

Minimum RRv Required

. **acre-feet**

32a. Is the Total RRv provided (#30) greater than or equal to the Minimum RRv Required (#32)?

○ **Yes** ○ **No**

If Yes, go to question 33.
Note: Use the space provided in question #39 to summarize the specific site limitations and justification for not reducing 100% of WQv required (#28). A detailed evaluation of the specific site limitations and justification for not reducing 100% of the WQv required (#28) must also be included in the SWPPP.
If No, sizing criteria has not been met, so NOI can not be processed. SWPPP preparer must modify design to meet sizing criteria.

33. Identify the Standard SMPs in Table 1 and, if applicable, the Alternative SMPs in Table 2 that were used to treat the remaining total WQv(=Total WQv Required in 28 - Total RRv Provided in 30).

Also, provide in Table 1 and 2 the total impervious area that contributes runoff to each practice selected.

Note: Use Tables 1 and 2 to identify the SMPs used on Redevelopment projects.

33a. Indicate the Total WQv provided (i.e. WQv treated) by the SMPs identified in question #33 and Standard SMPs with RRv Capacity identified in question 29.

WQv Provided

[ ][ ][ ].[ ][ ][ ] **acre-feet**

Note: For the standard SMPs with RRv capacity, the WQv provided by each practice = the WQv calculated using the contributing drainage area to the practice - RRv provided by the practice. (See Table 3.5 in Design Manual)

34. Provide the sum of the Total RRv provided (#30) and the WQv provided (#33a). [ ][ ][ ].[ ][ ][ ]

35. Is the sum of the RRv provided (#30) and the WQv provided (#33a) greater than or equal to the total WQv required (#28)? ○ **Yes** ○ **No**

If Yes, go to question 36.
If No, sizing criteria has not been met, so NOI can not be processed. SWPPP preparer must modify design to meet sizing criteria.

36. Provide the total Channel Protection Storage Volume (CPv) required and provided or select waiver (36a), if applicable.

CPv Required

[ ][ ][ ].[ ][ ][ ] **acre-feet**

CPv Provided

[ ][ ][ ].[ ][ ][ ] **acre-feet**

36a. The need to provide channel protection has been waived because:

○ Site discharges directly to tidal waters or a fifth order or larger stream.

○ Reduction of the total CPv is achieved on site through runoff reduction techniques or infiltration systems.

37. Provide the Overbank Flood (Qp) and Extreme Flood (Qf) control criteria or select waiver (37a), if applicable.

Total Overbank Flood Control Criteria (Qp)

Pre-Development

[ ][ ][ ].[ ][ ][ ] **CFS**

Post-development

[ ][ ][ ].[ ][ ][ ] **CFS**

Total Extreme Flood Control Criteria (Qf)

Pre-Development

[ ][ ][ ].[ ][ ][ ] **CFS**

Post-development

[ ][ ][ ].[ ][ ][ ] **CFS**

37a. The need to meet the Qp and Qf criteria has been waived because:

- ○ Site discharges directly to tidal waters or a fifth order or larger stream.
- ○ Downstream analysis reveals that the Qp and Qf controls are not required

38. Has a long term Operation and Maintenance Plan for the post-construction stormwater management practice(s) been developed? ○ **Yes** ○ **No**

If Yes, Identify the entity responsible for the long term Operation and Maintenance

39. Use this space to summarize the specific site limitations and justification for not reducing 100% of WQv required(#28). (See question 32a) This space can also be used for other pertinent project information.

40. Identify other DEC permits, existing and new, that are required for this project/facility.

- ○ Air Pollution Control
- ○ Coastal Erosion
- ○ Hazardous Waste
- ○ Long Island Wells
- ○ Mined Land Reclamation
- ○ Solid Waste
- ○ Navigable Waters Protection / Article 15
- ○ Water Quality Certificate
- ○ Dam Safety
- ○ Water Supply
- ○ Freshwater Wetlands/Article 24
- ○ Tidal Wetlands
- ○ Wild, Scenic and Recreational Rivers
- ○ Stream Bed or Bank Protection / Article 15
- ○ Endangered or Threatened Species(Incidental Take Permit)
- ○ Individual SPDES
- ○ SPDES Multi-Sector GP
- ● Other BCA C360070-12-10 (Brown Field Cleanup with Site Managment Plan)
- ○ None

41. Does this project require a US Army Corps of Engineers Wetland Permit? ○ **Yes** ● **No**
If Yes, Indicate Size of Impact. .

42. Is this project subject to the requirements of a regulated, traditional land use control MS4? ● **Yes** ○ **No**
(If No, skip question 43)

43. Has the "MS4 SWPPP Acceptance" form been signed by the principal executive officer or ranking elected official and submitted along with this NOI? ● **Yes** ○ **No**

44. If this NOI is being submitted for the purpose of continuing or transferring coverage under a general permit for stormwater runoff from construction activities, please indicate the former SPDES number assigned.

Owner/Operator Certification

I have read or been advised of the permit conditions and believe that I understand them. I also understand that, under the terms of the permit, there may be reporting requirements. I hereby certify that this document and the corresponding documents were prepared under my direction or supervision. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations. I further understand that coverage under the general permit will be identified in the acknowledgment that I will receive as a result of submitting this NOI and can be as long as sixty (60) business days as provided for in the general permit. I also understand that, by submitting this NOI, I am acknowledging that the SWPPP has been developed and will be implemented as the first element of construction, and agreeing to comply with all the terms and conditions of the general permit for which this NOI is being submitted.

Print First Name

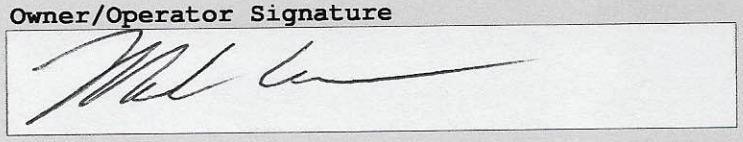
Michael

MI

Print Last Name

Dawley

Owner/Operator Signature



Date

08/13/2020

Appendix B

SWPPP Preparer Certification Form, MS4 Acceptance Form & MS4 Authorization to Disturb more than 5 Acres

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

SWPPP Preparer Certification Form

SPDES General Permit for Stormwater Discharges From Construction Activity (GP-0-20-001)

Project Site Information

Project/Site Name

Sleepy Hollow Commons

Owner/Operator Information

Owner/Operator (Company Name/Private Owner/Municipality Name)

Sleepy Hollow Local Development Corporation

Certification Statement – SWPPP Preparer

I hereby certify that the Stormwater Pollution Prevention Plan (SWPPP) for this project has been prepared in accordance with the terms and conditions of the GP-0-20-001. Furthermore, I understand that certifying false, incorrect or inaccurate information is a violation of this permit and the laws of the State of New York and could subject me to criminal, civil and/or administrative proceedings.

Christopher	A	Tallarini
First name	MI	Last Name

8/14/2020

Signature Date

Revised: January 2020

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

NYS Department of Environmental Conservation
Division of Water
625 Broadway, 4th Floor
Albany, New York 12233-3505

MS4 Stormwater Pollution Prevention Plan (SWPPP) Acceptance Form

for

Construction Activities Seeking Authorization Under SPDES General Permit

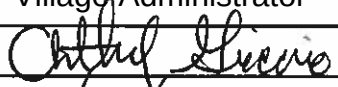
*(NOTE: Attach Completed Form to Notice Of Intent and Submit to Address Above)

I. Project Owner/Operator Information	
1. Owner/Operator Name:	Sleepy Hollow Local Developement Corporation
2. Contact Person:	Michael Dawley
3. Street Address:	28 Beekman Avenue
4. City/State/Zip:	Sleepy Hollow, NY
II. Project Site Information	
5. Project/Site Name:	Sleepy Hollow Commons
6. Street Address:	100 Continental Street
7. City/State/Zip:	Sleepy Hollow, NY 10591
III. Stormwater Pollution Prevention Plan (SWPPP) Review and Acceptance Information	
8. SWPPP Reviewed by:	Anthony Catalano, PE
9. Title/Position:	Consulting Village Engineer
10. Date Final SWPPP Reviewed and Accepted:	08/14/2020
IV. Regulated MS4 Information	
11. Name of MS4:	Village of Sleepy Hollow
12. MS4 SPDES Permit Identification Number: NYR20A	306
13. Contact Person:	Anthony Giaccio
14. Street Address:	28 Beekman Avenue
15. City/State/Zip:	Village of Sleepy Hollow
16. Telephone Number:	(914) 366-5105

MS4 SWPPP Acceptance Form - continued

V. Certification Statement - MS4 Official (principal executive officer or ranking elected official) or Duly Authorized Representative

I hereby certify that the final Stormwater Pollution Prevention Plan (SWPPP) for the construction project identified in question 5 has been reviewed and meets the substantive requirements in the SPDES General Permit For Stormwater Discharges from Municipal Separate Storm Sewer Systems (MS4s). Note: The MS4, through the acceptance of the SWPPP, assumes no responsibility for the accuracy and adequacy of the design included in the SWPPP. In addition, review and acceptance of the SWPPP by the MS4 does not relieve the owner/operator or their SWPPP preparer of responsibility or liability for errors or omissions in the plan.

Printed Name:	ANTHONY GIACCIO
Title/Position:	Village Administrator
Signature:	
Date:	8/14/2020

VI. Additional Information

(NYS DEC - MS4 SWPPP Acceptance Form - January 2015)

August 14, 2020

Mr. Christopher Tallarini, PE
555 Pleasantville Road, South Building
Briarcliff Manor, NY 10510

Re: Exceedance of Disturbance Area Threshold During Construction Activities
Sleepy Hollow Commons Project – Phase 1B
Village of Sleepy Hollow, NY

Dear Mr. Tallarini:

Per the Stormwater Pollution Prevention Plan (SWPPP) for the Sleepy Hollow Commons – Phase 1B project, the maximum allowable disturbance at any one time shall be 6.8 acres, which is beyond the initial 5-acre threshold. As determined by the design engineer, during the design phase, the height, slope, footprint and required grades to safely operate mechanical equipment required to install the surcharge stockpile cannot fit safely within a five acre foot print. Additionally, the partial installation and stabilization of a stockpile of this shape and height was determined not to be possible based on its geometry.

Because the project is located within a traditional land use MS4 and the owner is a separate entity (Sleepy Hollow Local Development Corporation – SHLDC), the Village of Sleepy Hollow as the MS4 is hereby permitting a disturbance greater than the five (5) acre threshold as a condition of the owner/operator's compliance with the following five (5) conditions:

1. The owner or operator shall have a qualified inspector conduct at least two (2) site inspections in accordance with Part IV.C. of this permit every seven (7) calendar days, for as long as greater than five (5) acres of soil remain disturbed. The two (2) inspections shall be separated by a minimum of two (2) full calendar days.
2. In areas where soil disturbance activity has temporarily or permanently ceased, the application of soil stabilization measures must be initiated by the end of the next business day and completed within seven (7) days from the date the current soil disturbance activity ceased. The soil stabilization measures selected shall be in conformance with the technical standard, New York State Standards and Specifications for Erosion and Sediment Control, dated November 2016.
3. The owner or operator shall prepare a phasing plan that defines maximum disturbed area per phase and shows required cuts and fills.
4. The owner or operator shall install any additional site-specific practices needed to protect water quality.
5. The owner or operator shall include the requirements above in their SWPPP.

As noted in the applicant's SWPPP within the "Limits of Disturbance" section, these conditions are included and shall be enforced via the qualified inspector noted in condition 1 above. The qualified inspection shall also confirm that the contractor conducts his operations in accordance with the sequence of operations on drain 3 of 28 of the construction drawings.

Regards,

Anthony Giaccio
Village Administrator

Appendix C

Owner/Operation & Contractor Certification
Forms

Owner/Operator Certification Form

SPDES General Permit For Stormwater Discharges From Construction Activity (GP-0-20-001)

Project/Site Name: Sleepy Hollow Commons

eNOI Submission Number: HP2-0GNP-4KHEN

eNOI Submitted by: ☐ **Owner/Operator** ☒ **SWPPP Preparer** ☐ **Other**

Certification Statement - Owner/Operator

I have read or been advised of the permit conditions and believe that I understand them. I also understand that, under the terms of the permit, there may be reporting requirements. I hereby certify that this document and the corresponding documents were prepared under my direction or supervision. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations. I further understand that coverage under the general permit will be identified in the acknowledgment that I will receive as a result of submitting this NOI and can be as long as sixty (60) business days as provided for in the general permit. I also understand that, by submitting this NOI, I am acknowledging that the SWPPP has been developed and will be implemented as the first element of construction, and agreeing to comply with all the terms and conditions of the general permit for which this NOI is being submitted.

Owner/Operator First Name	M.I.	Last Name
Michael		Dawley

Signature

8-13-2020

Date

NEW YORK STATE DEPARTMENT OF ENVI RONMENTAL CONSERVATION SPDES GENERAL PERMIT FOR STORMWATER DISCHARGES From CONSTRUCTION ACTIVITY

Permit No. GP- 0-20-001

Issued Pursuant to Article 17, Titles 7, I and Article 70

of the Environmental Conservation Law

Contractor Certification:

"I hereby certify under penalty of law that I understand and agree to comply with the terms and conditions of the SWPPP and agree to implement any corrective actions identified by the qualified inspector during a site inspection. I also understand that the owner or operator must comply with the terms and conditions of the most current version of the New York State Pollutant Discharge Elimination System ("SPDES") general permit for stormwater discharges from construction activities and that it is unlawful for any person to cause or contribute to a violation of water quality standards. Furthermore, I am aware that there are significant penalties for submitting false information, that I do not believe to be true, including the possibility of fine and imprisonment for knowing violations"

_____ _____

Print Name Signature

_____

Company Name

Appendix D

NRCS Soil Report, Soil Classifications & Soil Boring Data

United States Department of Agriculture

NRCS

Natural Resources Conservation Service

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

Custom Soil Resource Report for Westchester County, New York

Sleepy Hollow Commons - Phase 1B

July 31, 2020

Preface

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

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

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

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

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

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

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require

alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination, write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410 or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer.

Contents

How Soil Surveys Are Made

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

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

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

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

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

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

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

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

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

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

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

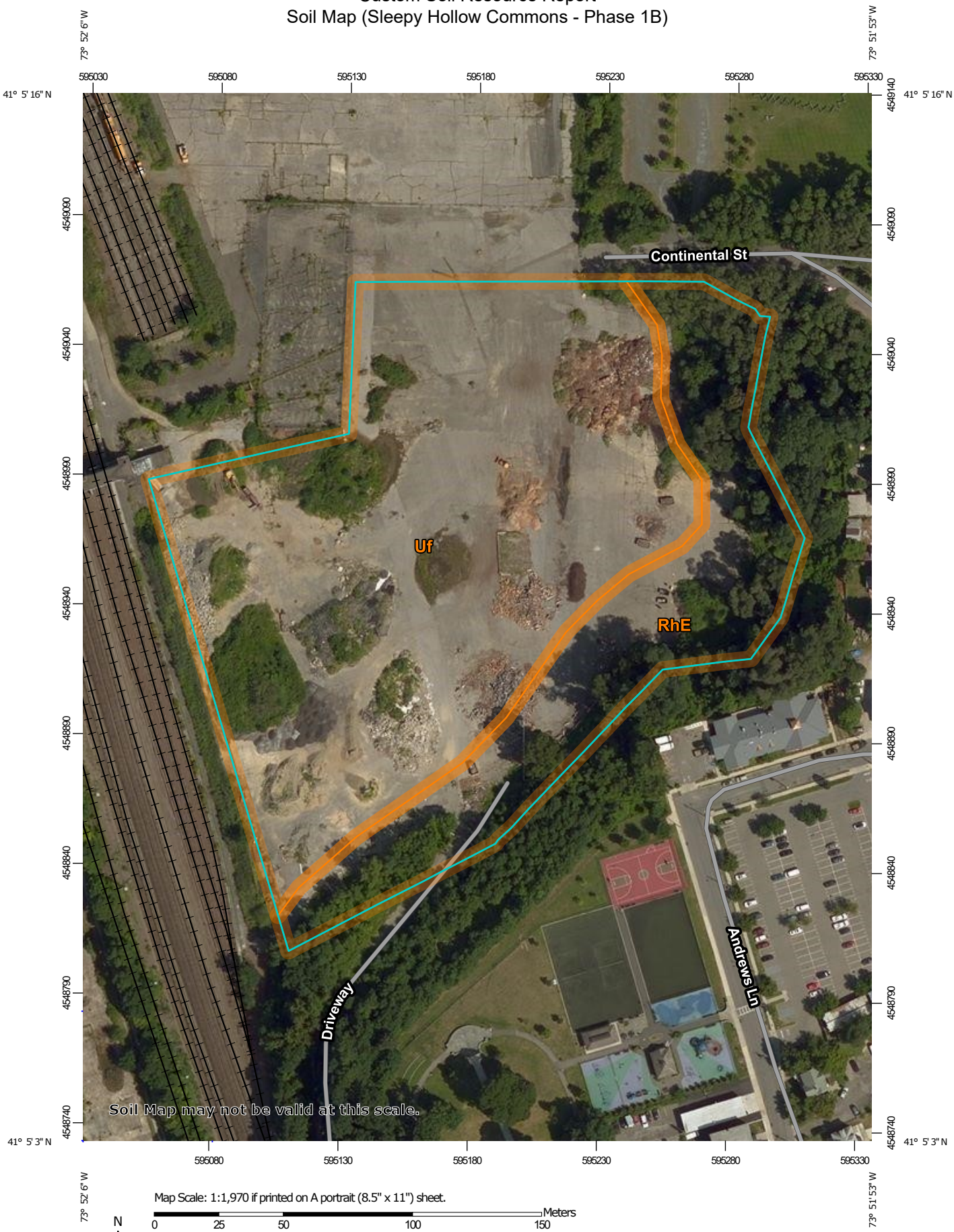
After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

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

Soil Map

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

Custom Soil Resource Report
Soil Map (Sleepy Hollow Commons - Phase 1B)



Map Scale: 1:1,970 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 25 50 100 150

Feet: 0 50 100 200 300

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

MAP LEGEND

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

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

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

Water Features
- Streams and Canals

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

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:12,000.

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

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

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

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

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

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

Soil Survey Area: Westchester County, New York
Survey Area Data: Version 16, Jun 11, 2020

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

Date(s) aerial images were photographed: Jul 21, 2014—Aug 27, 2014

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

Map Unit Legend (Sleepy Hollow Commons - Phase 1B)

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
RhE	Riverhead loam, 25 to 50 percent slopes	2.9	28.3%
Uf	Urban land	7.2	71.7%
Totals for Area of Interest		**10.1**	**100.0%**

Map Unit Descriptions (Sleepy Hollow Commons - Phase 1B)

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

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

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

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or

landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

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

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

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

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

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

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

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

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

Westchester County, New York

RhE—Riverhead loam, 25 to 50 percent slopes

Map Unit Setting

National map unit symbol: bd9k
Elevation: 0 to 950 feet
Mean annual precipitation: 46 to 50 inches
Mean annual air temperature: 46 to 52 degrees F
Frost-free period: 115 to 215 days
Farmland classification: Not prime farmland

Map Unit Composition

Riverhead and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Riverhead

Setting

Landform: Terraces, deltas
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Riser
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Loamy glaciofluvial deposits overlying stratified sand and gravel

Typical profile

H1 - 0 to 6 inches: loam
H2 - 6 to 25 inches: sandy loam
H3 - 25 to 30 inches: loamy sand
H4 - 30 to 60 inches: loamy sand

Properties and qualities

Slope: 25 to 50 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 5.95 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: Low (about 4.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: A
Hydric soil rating: No

Minor Components

Pompton

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

Charlton
Percent of map unit: 4 percent
Hydric soil rating: No

Hinckley
Percent of map unit: 3 percent
Hydric soil rating: No

Knickerbocker
Percent of map unit: 3 percent
Hydric soil rating: No

Uf—Urban land

Map Unit Setting

National map unit symbol: bd7j
Elevation: 50 to 2,400 feet
Mean annual precipitation: 46 to 50 inches
Mean annual air temperature: 46 to 52 degrees F
Frost-free period: 115 to 215 days
Farmland classification: Not prime farmland

Map Unit Composition

Urban land: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Minor Components

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

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

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

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

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

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

Soil Information for All Uses

Suitabilities and Limitations for Use

The Suitabilities and Limitations for Use section includes various soil interpretations displayed as thematic maps with a summary table for the soil map units in the selected area of interest. A single value or rating for each map unit is generated by aggregating the interpretive ratings of individual map unit components. This aggregation process is defined for each interpretation.

Land Classifications

Land Classifications are specified land use and management groupings that are assigned to soil areas because combinations of soil have similar behavior for specified practices. Most are based on soil properties and other factors that directly influence the specific use of the soil. Example classifications include ecological site classification, farmland classification, irrigated and nonirrigated land capability classification, and hydric rating.

Hydric Rating by Map Unit (Sleepy Hollow Commons - Phase 1B)

This rating indicates the percentage of map units that meets the criteria for hydric soils. Map units are composed of one or more map unit components or soil types, each of which is rated as hydric soil or not hydric. Map units that are made up dominantly of hydric soils may have small areas of minor nonhydric components in the higher positions on the landform, and map units that are made up dominantly of nonhydric soils may have small areas of minor hydric components in the lower positions on the landform. Each map unit is rated based on its respective components and the percentage of each component within the map unit.

The thematic map is color coded based on the composition of hydric components. The five color classes are separated as 100 percent hydric components, 66 to 99 percent hydric components, 33 to 65 percent hydric components, 1 to 32 percent hydric components, and less than one percent hydric components.

In Web Soil Survey, the Summary by Map Unit table that is displayed below the map pane contains a column named 'Rating'. In this column the percentage of each map unit that is classified as hydric is displayed.

Hydric soils are defined by the National Technical Committee for Hydric Soils (NTCHS) as soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part (Federal Register, 1994). Under natural conditions, these soils are either saturated or inundated long enough during the growing season to support the growth and reproduction of hydrophytic vegetation.

The NTCHS definition identifies general soil properties that are associated with wetness. In order to determine whether a specific soil is a hydric soil or nonhydric soil, however, more specific information, such as information about the depth and duration of the water table, is needed. Thus, criteria that identify those estimated soil properties unique to hydric soils have been established (Federal Register, 2002). These criteria are used to identify map unit components that normally are associated with wetlands. The criteria used are selected estimated soil properties that are described in "Soil Taxonomy" (Soil Survey Staff, 1999) and "Keys to Soil Taxonomy" (Soil Survey Staff, 2006) and in the "Soil Survey Manual" (Soil Survey Division Staff, 1993).

If soils are wet enough for a long enough period of time to be considered hydric, they should exhibit certain properties that can be easily observed in the field. These visible properties are indicators of hydric soils. The indicators used to make onsite determinations of hydric soils are specified in "Field Indicators of Hydric Soils in the United States" (Hurt and Vasilas, 2006).

References:

Federal Register. July 13, 1994. Changes in hydric soils of the United States.

Federal Register. September 18, 2002. Hydric soils of the United States.

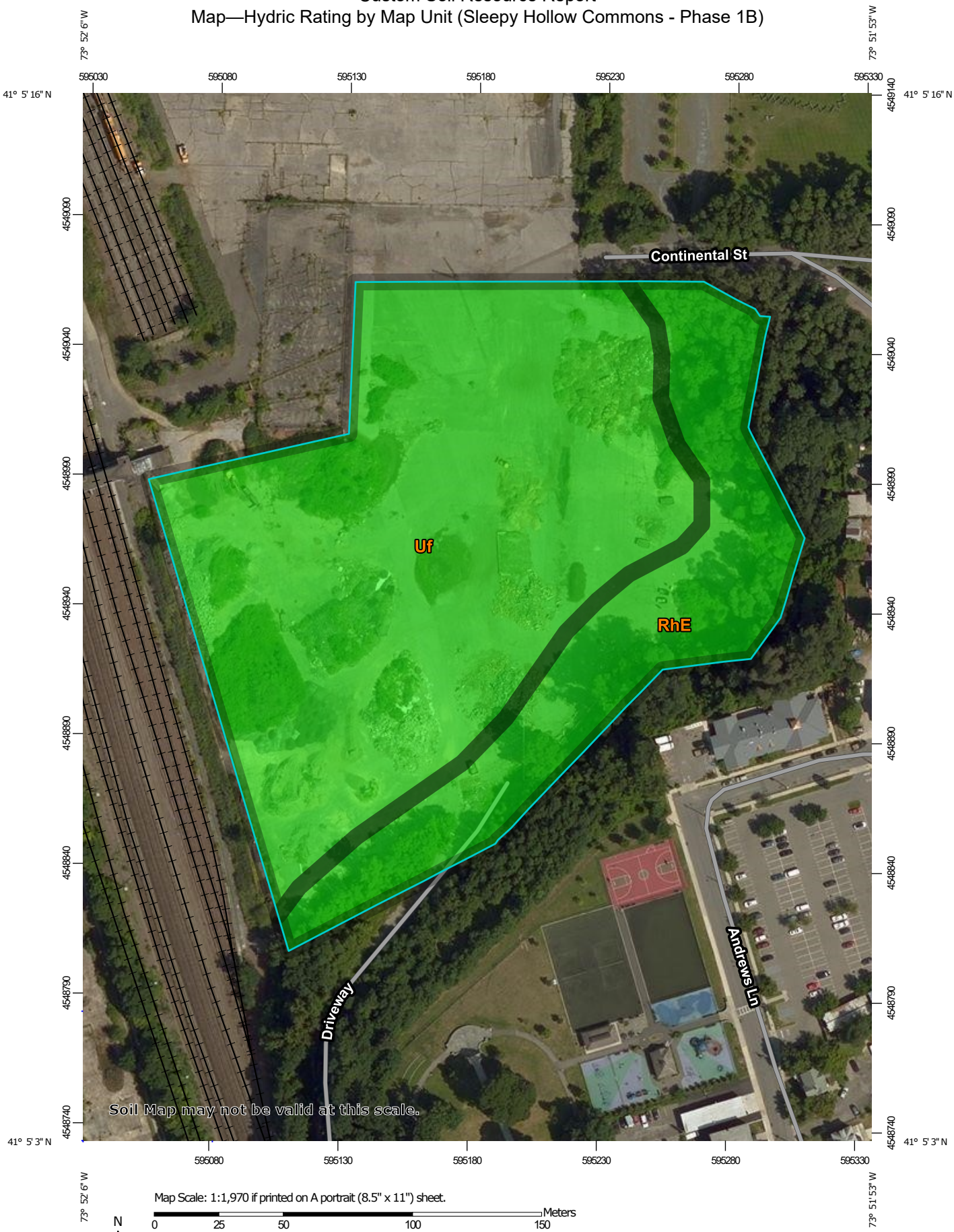
Hurt, G.W., and L.M. Vasilas, editors. Version 6.0, 2006. Field indicators of hydric soils in the United States.

Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18.

Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service. U.S. Department of Agriculture Handbook 436.

Soil Survey Staff. 2006. Keys to soil taxonomy. 10th edition. U.S. Department of Agriculture, Natural Resources Conservation Service.

Custom Soil Resource Report
Map—Hydric Rating by Map Unit (Sleepy Hollow Commons - Phase 1B)



Map Scale: 1:1,970 if printed on A portrait (8.5" x 11") sheet.

N

Meters
0 25 50 100 150

Feet
0 50 100 200 300

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

MAP LEGEND

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

Soils

Soil Rating Polygons
- Hydric (100%)
- Hydric (66 to 99%)
- Hydric (33 to 65%)
- Hydric (1 to 32%)
- Not Hydric (0%)
- Not rated or not available

Soil Rating Lines
- Hydric (100%)
- Hydric (66 to 99%)
- Hydric (33 to 65%)
- Hydric (1 to 32%)
- Not Hydric (0%)
- Not rated or not available

Soil Rating Points
- Hydric (100%)
- Hydric (66 to 99%)
- Hydric (33 to 65%)
- Hydric (1 to 32%)
- Not Hydric (0%)
- Not rated or not available

Water Features
- Streams and Canals

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

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:12,000.

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

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

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

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

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

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

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Survey Area Data: Version 16, Jun 11, 2020

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

Date(s) aerial images were photographed: Jul 21, 2014—Aug 27, 2014

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

Table—Hydric Rating by Map Unit (Sleepy Hollow Commons - Phase 1B)

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
RhE	Riverhead loam, 25 to 50 percent slopes	0	2.9	28.3%
Uf	Urban land	0	7.2	71.7%
Totals for Area of Interest			**10.1**	**100.0%**

Rating Options—Hydric Rating by Map Unit (Sleepy Hollow Commons - Phase 1B)

Aggregation Method: Percent Present

Component Percent Cutoff: None Specified

Tie-break Rule: Lower

Soil Properties and Qualities

The Soil Properties and Qualities section includes various soil properties and qualities displayed as thematic maps with a summary table for the soil map units in the selected area of interest. A single value or rating for each map unit is generated by aggregating the interpretive ratings of individual map unit components. This aggregation process is defined for each property or quality.

Soil Qualities and Features

Soil qualities are behavior and performance attributes that are not directly measured, but are inferred from observations of dynamic conditions and from soil properties. Example soil qualities include natural drainage, and frost action. Soil features are attributes that are not directly part of the soil. Example soil features include slope and depth to restrictive layer. These features can greatly impact the use and management of the soil.

Hydrologic Soil Group (Sleepy Hollow Commons - Phase 1B)

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

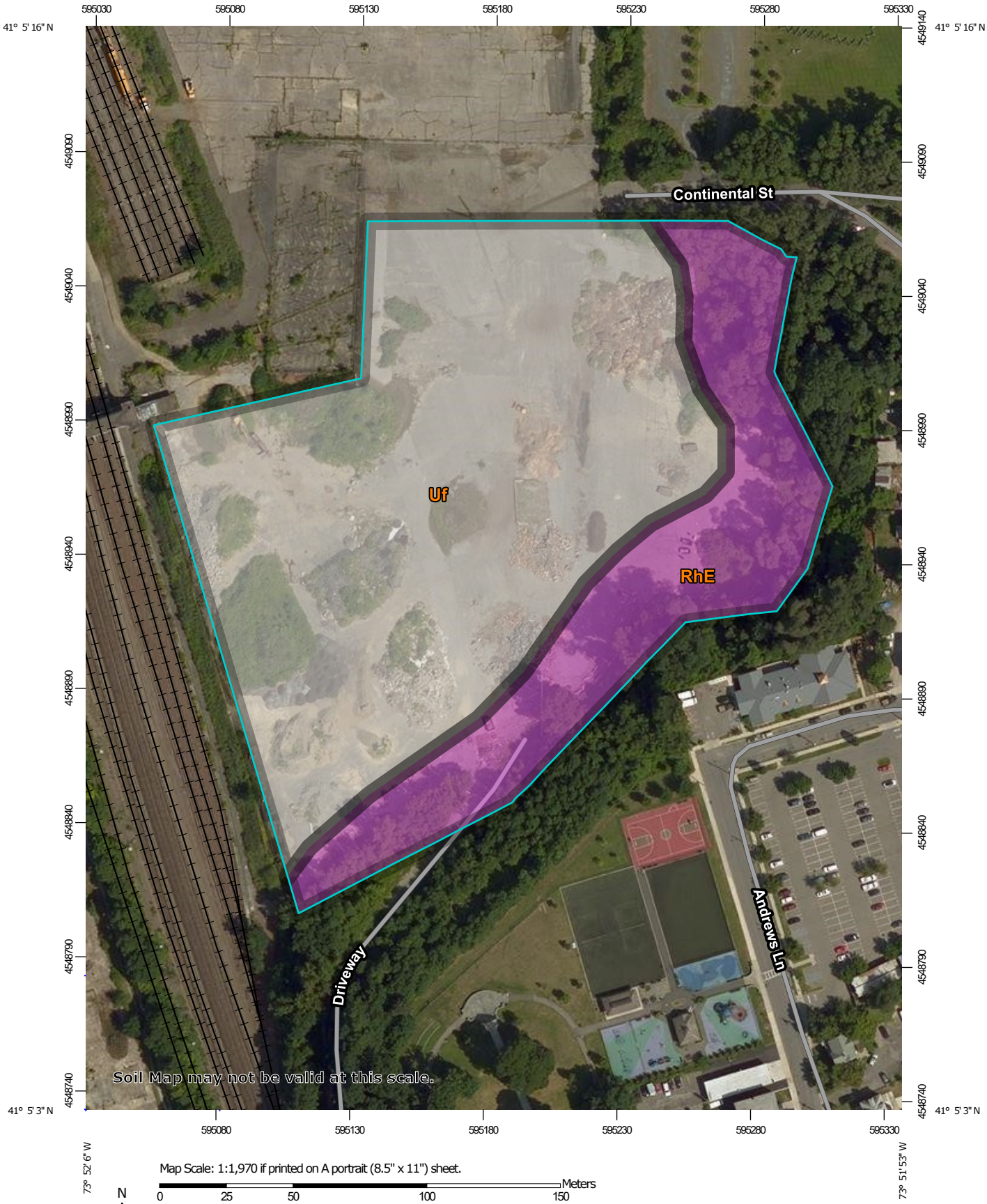
Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at

or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Map—Hydrologic Soil Group (Sleepy Hollow Commons - Phase 1B)



Map Scale: 1:1,970 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 25 50 100 150

Feet: 0 50 100 200 300

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

MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Rating Polygons

A

A/D

B

B/D

C

C/D

D

Not rated or not available

Soil Rating Lines

A

A/D

B

B/D

C

C/D

D

Not rated or not available

Soil Rating Points

A

A/D

B

B/D

C

C/D

D

Not rated or not available

Water Features

Streams and Canals

Transportation

Rails

Interstate Highways

US Routes

Major Roads

Local Roads

Background

Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:12,000.

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

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

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

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

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

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

Soil Survey Area: Westchester County, New York
Survey Area Data: Version 16, Jun 11, 2020

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

Date(s) aerial images were photographed: Jul 21, 2014—Aug 27, 2014

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

Table—Hydrologic Soil Group (Sleepy Hollow Commons - Phase 1B)

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
RhE	Riverhead loam, 25 to 50 percent slopes	A	2.9	28.3%
Uf	Urban land		7.2	71.7%
Totals for Area of Interest			**10.1**	**100.0%**

Rating Options—Hydrologic Soil Group (Sleepy Hollow Commons - Phase 1B)

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

Drainage Class (Sleepy Hollow Commons - Phase 1B)

"Drainage class (natural)" refers to the frequency and duration of wet periods under conditions similar to those under which the soil formed. Alterations of the water regime by human activities, either through drainage or irrigation, are not a consideration unless they have significantly changed the morphology of the soil. Seven classes of natural soil drainage are recognized-excessively drained, somewhat excessively drained, well drained, moderately well drained, somewhat poorly drained, poorly drained, and very poorly drained. These classes are defined in the "Soil Survey Manual."

Custom Soil Resource Report
Map—Drainage Class (Sleepy Hollow Commons - Phase 1B)

Map Scale: 1:1,970 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 25 50 100 150

Feet: 0 50 100 200 300

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

MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

Soils

Soil Rating Polygons

- Excessively drained
- Somewhat excessively drained
- Well drained
- Moderately well drained
- Somewhat poorly drained
- Poorly drained
- Very poorly drained
- Subaqueous
- Not rated or not available

Soil Rating Lines

- Excessively drained
- Somewhat excessively drained
- Well drained
- Moderately well drained
- Somewhat poorly drained
- Poorly drained
- Very poorly drained
- Subaqueous
- Not rated or not available

Soil Rating Points

- Excessively drained
- Somewhat excessively drained
- Well drained
- Moderately well drained
- Somewhat poorly drained
- Poorly drained
- Very poorly drained
- Subaqueous
- Not rated or not available

Water Features

- Streams and Canals

Transportation

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

Background

- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:12,000.

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

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

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

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

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

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

Soil Survey Area: Westchester County, New York
Survey Area Data: Version 16, Jun 11, 2020

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

Date(s) aerial images were photographed: Jul 21, 2014—Aug 27, 2014

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

Table—Drainage Class (Sleepy Hollow Commons - Phase 1B)

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
RhE	Riverhead loam, 25 to 50 percent slopes	Well drained	2.9	28.3%
Uf	Urban land		7.2	71.7%
Totals for Area of Interest			**10.1**	**100.0%**

Rating Options—Drainage Class (Sleepy Hollow Commons - Phase 1B)

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

Soil Reports

The Soil Reports section includes various formatted tabular and narrative reports (tables) containing data for each selected soil map unit and each component of each unit. No aggregation of data has occurred as is done in reports in the Soil Properties and Qualities and Suitabilities and Limitations sections.

The reports contain soil interpretive information as well as basic soil properties and qualities. A description of each report (table) is included.

Land Classifications

This folder contains a collection of tabular reports that present a variety of soil groupings. The reports (tables) include all selected map units and components for each map unit. Land classifications are specified land use and management groupings that are assigned to soil areas because combinations of soil have similar behavior for specified practices. Most are based on soil properties and other factors that directly influence the specific use of the soil. Example classifications include ecological site classification, farmland classification, irrigated and nonirrigated land capability classification, and hydric rating.

Hydric Soil List - All Components (Sleepy Hollow Commons - Phase 1B)

This table lists the map unit components and their hydric status in the survey area. This list can help in planning land uses; however, onsite investigation is recommended to determine the hydric soils on a specific site (National Research Council, 1995; Hurt and others, 2002).

The three essential characteristics of wetlands are hydrophytic vegetation, hydric soils, and wetland hydrology (Cowardin and others, 1979; U.S. Army Corps of Engineers, 1987; National Research Council, 1995; Tiner, 1985). Criteria for all of the characteristics must be met for areas to be identified as wetlands. Undrained hydric soils that have natural vegetation should support a dominant population of ecological wetland plant species. Hydric soils that have been converted to other uses should be capable of being restored to wetlands.

Hydric soils are defined by the National Technical Committee for Hydric Soils (NTCHS) as soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part (Federal Register, 1994). These soils, under natural conditions, are either saturated or inundated long enough during the growing season to support the growth and reproduction of hydrophytic vegetation.

The NTCHS definition identifies general soil properties that are associated with wetness. In order to determine whether a specific soil is a hydric soil or nonhydric soil, however, more specific information, such as information about the depth and duration of the water table, is needed. Thus, criteria that identify those estimated soil properties unique to hydric soils have been established (Federal Register,

2002). These criteria are used to identify map unit components that normally are associated with wetlands. The criteria used are selected estimated soil properties that are described in "Soil Taxonomy" (Soil Survey Staff, 1999) and "Keys to Soil Taxonomy" (Soil Survey Staff, 2006) and in the "Soil Survey Manual" (Soil Survey Division Staff, 1993).

If soils are wet enough for a long enough period of time to be considered hydric, they should exhibit certain properties that can be easily observed in the field. These visible properties are indicators of hydric soils. The indicators used to make onsite determinations of hydric soils are specified in "Field Indicators of Hydric Soils in the United States" (Hurt and Vasilas, 2006).

Hydric soils are identified by examining and describing the soil to a depth of about 20 inches. This depth may be greater if determination of an appropriate indicator so requires. It is always recommended that soils be excavated and described to the depth necessary for an understanding of the redoximorphic processes. Then, using the completed soil descriptions, soil scientists can compare the soil features required by each indicator and specify which indicators have been matched with the conditions observed in the soil. The soil can be identified as a hydric soil if at least one of the approved indicators is present.

Map units that are dominantly made up of hydric soils may have small areas, or inclusions, of nonhydric soils in the higher positions on the landform, and map units dominantly made up of nonhydric soils may have inclusions of hydric soils in the lower positions on the landform.

The criteria for hydric soils are represented by codes in the table (for example, 2). Definitions for the codes are as follows:

1. All Histels except for Folistels, and Histosols except for Folists.
2. Soils in Aquic suborders, great groups, or subgroups, Albolls suborder, Historthels great group, Histoturbels great group, Pachic subgroups, or Cumulic subgroups that:
    A. Based on the range of characteristics for the soil series, will at least in part meet one or more Field Indicators of Hydric Soils in the United States, or
    B. Show evidence that the soil meets the definition of a hydric soil;
3. Soils that are frequently ponded for long or very long duration during the growing season.
    A. Based on the range of characteristics for the soil series, will at least in part meet one or more Field Indicators of Hydric Soils in the United States, or
    B. Show evidence that the soil meets the definition of a hydric soil;
4. Map unit components that are frequently flooded for long duration or very long duration during the growing season that:
    A. Based on the range of characteristics for the soil series, will at least in part meet one or more Field Indicators of Hydric Soils in the United States, or
    B. Show evidence that the soil meets the definition of a hydric soil;

Hydric Condition: Food Security Act information regarding the ability to grow a commodity crop without removing woody vegetation or manipulating hydrology.

References:

Federal Register. July 13, 1994. Changes in hydric soils of the United States.

Federal Register. Doc. 2012-4733 Filed 2-28-12. February, 28, 2012. Hydric soils of the United States.

Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18.
Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service. U.S. Department of Agriculture Handbook 436.
Soil Survey Staff. 2010. Keys to soil taxonomy. 11th edition. U.S. Department of Agriculture, Natural Resources Conservation Service.
Vasilas, L.M., G.W. Hurt, and C.V. Noble, editors. Version 7.0, 2010. Field indicators of hydric soils in the United States.

Report—Hydric Soil List - All Components (Sleepy Hollow Commons - Phase 1B)

Hydric Soil List - All Components–NY119-Westchester County, New York					
Map symbol and map unit name	**Component/Local Phase**	**Comp. pct.**	**Landform**	**Hydric status**	**Hydric criteria met (code)**
RhE: Riverhead loam, 25 to 50 percent slopes	Riverhead	85	Terraces,deltas	No	—
	Pompton	5	—	No	—
	Charlton	4	—	No	—
	Hinckley	3	—	No	—
	Knickerbocker	3	—	No	—
Uf: Urban land	Urban land	85	—	Unranked	—
	Udorthents	5	—	No	—
	Riverhead	2	—	No	—
	Chatfield	2	—	No	—
	Udorthents-Wet substratum	2	—	No	—
	Unadilla	2	—	No	—
	Sutton	2	—	No	—

References

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American Society for Testing and Materials (ASTM). 2005. Standard classification of soils for engineering purposes. ASTM Standard D2487-00.

Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of wetlands and deep-water habitats of the United States. U.S. Fish and Wildlife Service FWS/OBS-79/31.

Federal Register. July 13, 1994. Changes in hydric soils of the United States.

Federal Register. September 18, 2002. Hydric soils of the United States.

Hurt, G.W., and L.M. Vasilas, editors. Version 6.0, 2006. Field indicators of hydric soils in the United States.

National Research Council. 1995. Wetlands: Characteristics and boundaries.

Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_054262

Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service, U.S. Department of Agriculture Handbook 436. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053577

Soil Survey Staff. 2010. Keys to soil taxonomy. 11th edition. U.S. Department of Agriculture, Natural Resources Conservation Service. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053580

Tiner, R.W., Jr. 1985. Wetlands of Delaware. U.S. Fish and Wildlife Service and Delaware Department of Natural Resources and Environmental Control, Wetlands Section.

United States Army Corps of Engineers, Environmental Laboratory. 1987. Corps of Engineers wetlands delineation manual. Waterways Experiment Station Technical Report Y-87-1.

United States Department of Agriculture, Natural Resources Conservation Service. National forestry manual. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/home/?cid=nrcs142p2_053374

United States Department of Agriculture, Natural Resources Conservation Service. National range and pasture handbook. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/landuse/rangepasture/?cid=stelprdb1043084

United States Department of Agriculture, Natural Resources Conservation Service. National soil survey handbook, title 430-VI. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/scientists/?cid=nrcs142p2_054242

United States Department of Agriculture, Natural Resources Conservation Service. 2006. Land resource regions and major land resource areas of the United States, the Caribbean, and the Pacific Basin. U.S. Department of Agriculture Handbook 296. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053624

United States Department of Agriculture, Soil Conservation Service. 1961. Land capability classification. U.S. Department of Agriculture Handbook 210. http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_052290.pdf

Soil Type Determination at Site

Hydrologic Soils Group C Definition:

Group C— Soils in this group have moderately high runoff potential when thoroughly wet. Water transmission through the soil is somewhat restricted. Group C soils typically have between 20 percent and 40 percent clay and less than 50 percent sand and have loam, silt loam, sandy clay loam, clay loam, and silty clay loam textures. Some soils having clay, silty clay, or sandy clay textures may be placed in this group if they are well aggregated, of low bulk density, or contain greater than 35 percent rock fragments. The limits on the diagnostic physical characteristics of group C are as follows. The saturated hydraulic conductivity in the least transmissive layer between the surface and 50 centimeters [20 inches] is between 1.0 micrometers per second (0.14 inches per hour) and 10.0 micrometers per second (1.42 inches per hour). The depth to any water impermeable layer is greater than 50 centimeters [20 inches]. The depth to the water table is greater than 60 centimeters [24 inches]. Soils that are deeper than 100 centimeters [40 inches] to a restriction or water table are in group C if the saturated hydraulic conductivity of all soil layers within 100 centimeters [40 inches] of the surface exceeds 0.40 micrometers per second (0.06 inches per hour) but is less than 4.0 micrometers per second (0.57 inches per hour).

Table 7–2 Criteria for assignment of hydrologic soil groups when any water impermeable layer exists at a depth greater than 100 centimeters [40 inches]

Soil property	Hydrologic soil group A	Hydrologic soil group B	Hydrologic soil group C	Hydrologic soil group D
Saturated hydraulic conductivity of the least transmissive layer	>10 µm/s (>1.42 in/h)	≤10.0 to >4.0 µm/s (≤1.42 to >57 in/h)	≤4.0 to >0.40 µm/s (≤0.57 to >0.06 in/h)	≤0.40 µm/s (≤0.06 in/h)
	and	and	and	and/or
Depth to water impermeable layer	>100 cm [>40 in]	>100 cm [>40 in]	>100 cm [>40 in]	>100 cm [>40 in]
	and	and	and	and/or
Depth to high water table	>100 cm [>40 in]	>100 cm [>40 in]	>100 cm [>40 in]	>100 cm [>40 in]

Site specific soil Characteristics as compared to Table 7-2[1] of the NRCS National Engineering Handbook's Part 630 - Hydrology (Hydrologic Soil Groups) are as follows (Table 7-2 was utilized because the depth to ground water is equal to or greater than 40 inches):

The Soil properties on the onsite soil are listed below and can be compared to table 7-2 above:

1.) Saturated hydraulic conductivity of the least transmissive layer:

Saturated conductivity = ***0.156 IN/Hr***, which fits the range of ***0.57 to 0.06 IN/Hr*** measured during the Phase 1A water and sewer work (sewer profile cuts through west end of surcharge area, very good sample location with calculations attached). The water table was found to be roughly consistent across the site.

[1] Table 7-2 was utilized because the depth to ground water is greater than 40 inches

2.) Depth to Water Impermeable Layer: The depth to the water impermeable layers at each boring site within the surcharge area is deeper than 40 inches. ***Please note that SAND is present at the surface to relatively significant depths at all locations throughout the surcharge area, see boring numbers 1 – 5.***

Boring	Depth to Impermeable Layer		Description of Water Impermeable Layer	Notes
B1	55	FT	Decomposed bedrock	Evidence of water throughout every stratum above this point changes from sand gravel to sandy silt & silty clay to organic clay throughout the soil column.
B2	65	FT	Decomposed bedrock	Evidence of water throughout every stratum above this point changes from sand gravel to sandy silt & silty clay to organic clay throughout the soil column.
B3	60	FT	Decomposed bedrock, fine sand and Brown Clayey silt	Evidence of water throughout every stratum above this point changes from sand gravel to sandy silt & silty clay to organic clay throughout the soil column.
B4	82	FT	Decomposed bedrock	Evidence of water throughout every stratum above this point changes from sand gravel to sandy silt & silty clay to organic clay throughout the soil column.
B5	52	FT	Medium stiff to still clay,	Evidence of water throughout every stratum above this point changes from sand gravel to sandy silt & silty clay to organic clay throughout the soil column. Medium stiff to still clay, may be permeable, water in strata above and below. Decomposed rock at 92’

3.) Depth to High Water Table

The high-water table was found to be consistent across the site at 40” – 46” (say 40” worst case scenario). This was observed during the construction of Phase 1A (water and sewer construction).

Conclusion:

Hydrologic soil groups are largely classified based on their upper stratum of the soils (less than 100 centimeters or 40 inches), due to the impact the upper layer has on runoff during storm events. The deeper layers will not impact the immediate runoff characteristics due to typical storm intensities. In all 5 borings within the project area, the top layer (at least 6 ft deep min) consisted of mixtures of sandy/coarse gravel/traces of silty material.

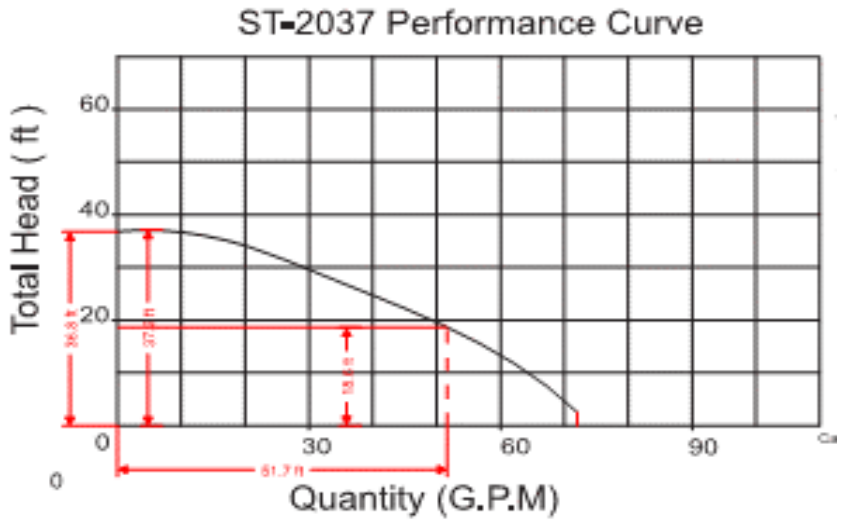
Per Table 7-2, all 3 conditions are met in order to classify this soil as ‘HSG C’.

Hydrologic Soil Group Calculations
Sleppy Hollow Commons - Phase 1B

Actual Site Pump Flows During Phase 1A

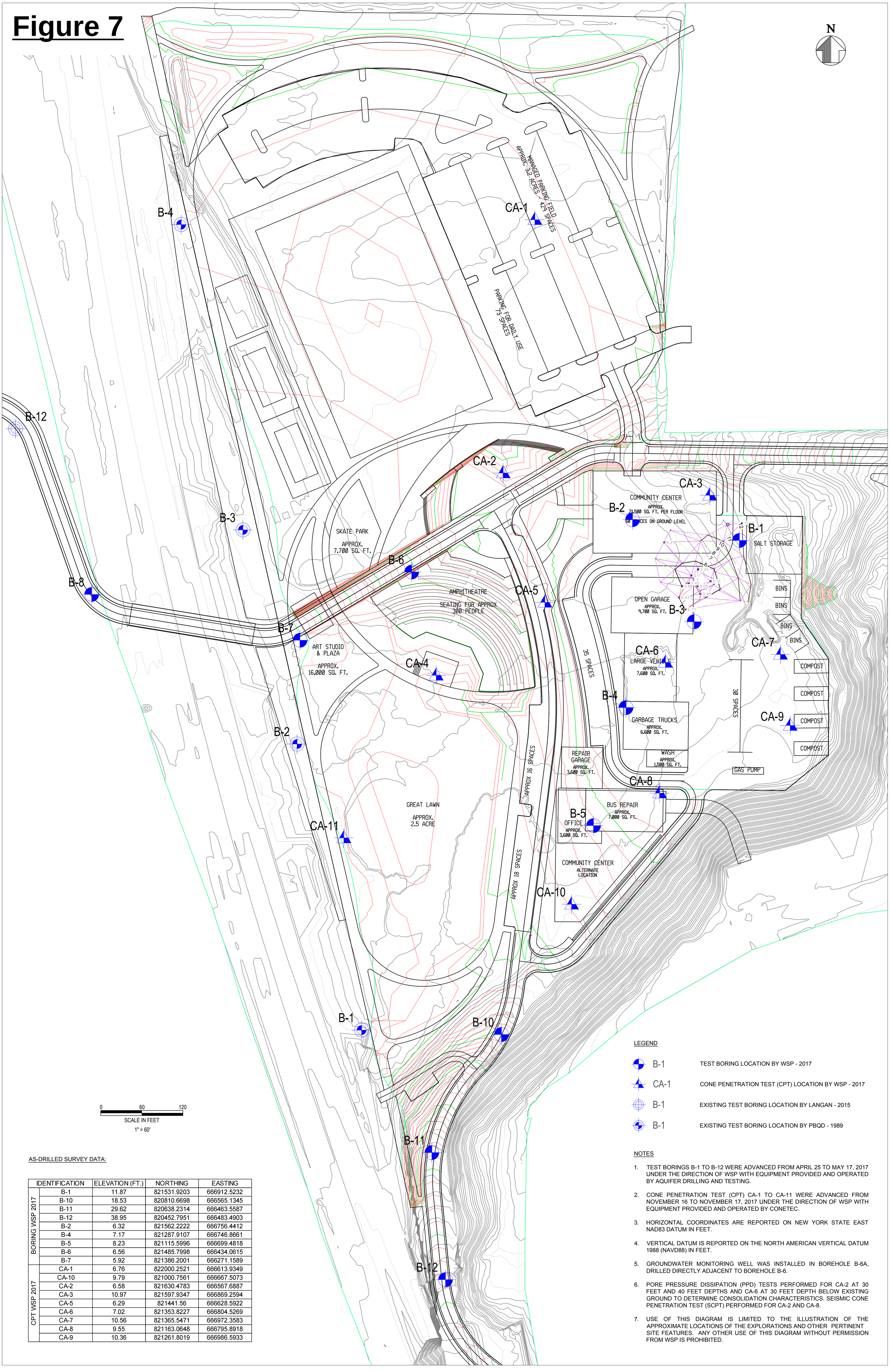
No Pumps	4	#
Max Capactiy	73	GPM
Discharge Hose	3	In
Static Head	8	FT
Hose Length	50	LF
Total Head 3"	***23.407***	***FT***
Flow Per Pump*	***18.61***	***GPM***
Total Flow	74.44	GPM

Was physically measured on site to backcheck calcs



Trench Infitration:		
Length	100	LF
Depth/Height	8	FT
Walls (Multiplier)	2	-
Wall Area for Infitration	1600	SF
Infiltration Flow:	74.44	GPM
Infiltration Flow:	9.978552279	CFS
Infiltration Flow per SF:	0.006236595	CFS
Infiltration Flow per SF:	22.45174263	CFH
Infiltration Flow per SQ-In:	0.155914879	CIH
Infiltration Speed=	**0.155914879**	**In/Hr**
HSG Transmisivity Range:	**0.57 to 0.06 In/Hr**	**OK**

Figure 7



0 60 120

SCALE IN FEET

1" = 60'

AS-DRILLED SURVEY DATA:

	IDENTIFICATION	ELEVATION (FT.)	NORTHING	EASTING
BORING WSP 2017	B-1	11.87	821531.9203	666912.5232
	B-10	18.53	820810.6698	666565.1345
	B-11	29.62	820638.2314	666463.5587
	B-12	38.95	820452.7951	666483.4903
	B-2	6.32	821562.2222	666756.4412
	B-4	7.17	821287.9107	666746.8661
	B-5	8.23	821115.5996	666699.4818
	B-6	6.56	821485.7998	666434.0615
	B-7	5.92	821386.2001	666271.1589
CPT WSP 2017	CA-1	6.76	822000.2521	666613.9349
	CA-10	9.79	821000.7561	666667.5073
	CA-2	6.58	821630.4783	666567.6887
	CA-3	10.97	821597.9347	666869.2594
	CA-5	6.29	821441.56	666628.5922
	CA-6	7.02	821353.8227	666804.5269
	CA-7	10.56	821365.5471	666972.3583
	CA-8	9.55	821163.0648	666795.8918
	CA-9	10.36	821261.8019	666986.5933

LEGEND

- B-1 — TEST BORING LOCATION BY WSP - 2017
- CA-1 — CONE PENETRATION TEST (CPT) LOCATION BY WSP - 2017
- B-1 — EXISTING TEST BORING LOCATION BY LANGAN - 2015
- B-1 — EXISTING TEST BORING LOCATION BY PBQD - 1989

NOTES

1. TEST BORINGS B-1 TO B-12 WERE ADVANCED FROM APRIL 25 TO MAY 17, 2017 UNDER THE DIRECTION OF WSP WITH EQUIPMENT PROVIDED AND OPERATED BY AQUIFER DRILLING AND TESTING.
2. CONE PENETRATION TEST (CPT) CA-1 TO CA-11 WERE ADVANCED FROM NOVEMBER 16 TO NOVEMBER 17, 2017 UNDER THE DIRECTION OF WSP WITH EQUIPMENT PROVIDED AND OPERATED BY CONETEC.
3. HORIZONTAL COORDINATES ARE REPORTED ON NEW YORK STATE EAST NAD83 DATUM IN FEET.
4. VERTICAL DATUM IS REPORTED ON THE NORTH AMERICAN VERTICAL DATUM 1988 (NAVD88) IN FEET.
5. GROUNDWATER MONITORING WELL WAS INSTALLED IN BOREHOLE B-6A, DRILLED DIRECTLY ADJACENT TO BOREHOLE B-6.
6. PORE PRESSURE DISSIPATION (PPD) TESTS PERFORMED FOR CA-2 AT 30 FEET AND 40 FEET DEPTHS AND CA-6 AT 30 FEET DEPTH BELOW EXISTING GROUND TO DETERMINE CONSOLIDATION CHARACTERISTICS. SEISMIC CONE PENETRATION TEST (SCPT) PERFORMED FOR CA-2 AND CA-8.
7. USE OF THIS DIAGRAM IS LIMITED TO THE ILLUSTRATION OF THE APPROXIMATE LOCATIONS OF THE EXPLORATIONS AND OTHER PERTINENT SITE FEATURES. ANY OTHER USE OF THIS DIAGRAM WITHOUT PERMISSION FROM WSP IS PROHIBITED.

BORING LOG

BORING NUMBER: **B-1**
SHEET NUMBER: **1** of **3**
PROJECT NUMBER: **I188137B**

PROJECT: **East Parcel Redevelopment**
LOCATION: **East Parcel, Sleepy Hollow, New York**
CLIENT: **Sleepy Hollow Local Development Corporation**
CONTRACTOR: **Aquifer Drilling & Testing, Inc.**
DRILLER: **David Carter**
INSPECTOR: **Astrid Hesse**
DRILLING METHOD: **Mud Rotary**
RIG TYPE: **Truck Rig CME-75, Automatic Hammer**

LOCATION: **East Parcel, Sleepy Hollow, New York**
COORD. **N: 821,531.9** **E: 666,912.5**
STN. NO.: OFFSET:
SURFACE ELEV.: **11.9 feet**
DATUM: **Horiz. NAD83; Vert. NAVD88**
START DATE: **5/2/17** TIME: **11:45 am**
FINISH DATE: **5/3/17** TIME: **1:00 pm**

	Casing	Split Spoon	Shelby Tube	Pitcher	Grab	Core Barrel
Type/Symbol	HW	S ■	U ▯	P ▯	G ☒	C ▯
I.D.	4.0"	1.375"				
O.D.	4.5"	2.0"				
Length	15'	24"				
Hammer Wt.	140lbs	140 lbs	Drill Rod Size		NW	
Hammer Fall	30""	30"	I.D. (O.D.)		2.25" (2.625")	

GROUNDWATER DATA

Date	Time	Water Depth (ft)	Casing Depth (ft)	Hole Depth (ft)
5/2/2017	12:30 pm	5.5	0	6

DEPTH (feet)	GRAPHIC LOG	CASING (Blows/ft)	SAMPLE TYPE	SAMPLE NUMBER	SAMPLE SYMBOL	SAMPLE DEPTH (feet)	SOIL (Blows/6 in.) 0/6	6/12	12/18	18/24	REC. (in.)	CORING RUN (in.)	CORING REC. (in.)	CORING REC. %	CORING L>4" (in.)	CORING RQD %	Depth Elev.	FIELD CLASSIFICATION AND REMARKS
		P	G	1		0.0 - 3.0												Top 6' excavated by hand excavation tools. G-1: Brown medium to fine SAND, trace fine Gravel, trace Silt, moist. (FILL)
		U																
		S																
		H	G	2		3.0 - 5.5												G-2: Brown Clayey SILT, some fine Sand, moist. (FILL)
5		P																
		U	G	3		5.5 - 6.0												G-3: Gray-brown Clayey SILT, and fine Sand, wet. (FILL)
		S	S	1		6.0 - 8.0	2	1	1	2	16							S-1: Brown Clayey SILT, and fine Sand, very soft to soft, wet. (FILL)
		H																
		P	S	2		8.0 - 10.0	3	3	3	4	23							S-2: Brown fine SAND, some Clayey Silt, loose, wet. (FILL)
		U																
10		S	S	3		10.0 - 12.0	3	2	2	3	23							S-3: Brown fine SAND, trace Silt, very loose, wet. (SP-SM)
		H																
		P																
		U																
		S																
15			S	4		15.0 - 17.0	3	1	1	2	17							S-4: Gray-brown fine SAND, little Clayey Silt, very loose, wet. (SM)
20			S	5		20.0 - 22.0	1	2	2	5	16							S-5: Gray-brown medium to fine SAND, trace Silt, very loose, wet. (SP-SM)

PB BORINGS 2 EAST PARCEL LOGS.GPJ EAST PARCEL-LIB.GLB.GLB 3/1/18

BORING LOG
(continued)

BORING NUMBER: **B-1**
SHEET NUMBER: **2** of **3**
PROJECT NUMBER: **I188137B**

PROJECT: **East Parcel Redevelopment**
LOCATION: **East Parcel, Sleepy Hollow, New York**
CLIENT: **Sleepy Hollow Local Development Corporation**

CONTRACTOR: **ADT**
DRILLER: **David Carter**
INSPECTOR: **Astrid Hesse**

DEPTH (feet)	GRAPHIC LOG	CASING (Blows/ft)	SAMPLE TYPE	SAMPLE NUMBER	SAMPLE SYMBOL	SAMPLE DEPTH (feet)	SOIL (Blows/6 in.) 0/6	6/12	12/18	18/24	REC. (in.)	CORING RUN (in.)	CORING REC. (in.)	CORING REC. %	CORING L>4" (in.)	CORING RQD %	Depth Elev.	FIELD CLASSIFICATION AND REMARKS
			S	6		25.0 - 27.0	3	2	2	3	20							S-6: Brown fine SAND, some Clayey Silt, interlayered with varved Clayey SILT, very loose, wet. (SM) Added Bentonite at 27'.
30			S	7		30.0 - 32.0	3	3	4	7	23							S-7: Brown varved CLAY & SILT, trace fine Sand, medium stiff, wet. (CL) Organic Content = 0.5%
35			S	8		35.0 - 37.0	5	6	8	9	21							S-8: Brown varved SILT & CLAY, little interlayered fine Sand, stiff, wet. (ML)
40			S	9		40.0 - 42.0	6	8	9	12	17							S-9: Brown varved SILT & CLAY, little interlayered partially laminated fine Sand, very stiff, wet. (ML)
45			S	10		45.0 - 47.0	7	8	21	85	16							S-10: Brown fine SAND, some Clayey Silt, medium dense, wet. (SM) 3" of coarse to medium GRAVEL in bottom of spoon. Rig chattering.
50			S	11		50.0 - 52.0	18	22	27	59	10							S-11: Brown coarse to fine SAND, and medium to fine Gravel, little Silt, dense, wet. (SM) Rig chattering.
55			S	12		55.0 - 55.8	33	70/3"			9							S-12: Brown coarse to fine Sand, and medium to fine Gravel, little Clayey Silt, very dense, moist. (SM) Rig chattering.

PB BORINGS 2 EAST PARCEL LOGS.GPJ EAST PARCEL-LIB.GLB.GLB 3/1/18

BORING LOG
(continued)

BORING NUMBER: **B-1**
SHEET NUMBER: **3** of **3**
PROJECT NUMBER: **I188137B**

PROJECT: **East Parcel Redevelopment**
LOCATION: **East Parcel, Sleepy Hollow, New York**
CLIENT: **Sleepy Hollow Local Development Corporation**

CONTRACTOR: **ADT**
DRILLER: **David Carter**
INSPECTOR: **Astrid Hesse**

DEPTH (feet)	GRAPHIC LOG	CASING (Blows/ft)	SAMPLE TYPE	SAMPLE NUMBER	SAMPLE SYMBOL	SAMPLE DEPTH (feet)	SOIL (Blows/6 in.) 0/6	6/12	12/18	18/24	REC. (in.)	CORING RUN (in.)	CORING REC. (in.)	CORING REC. %	CORING L>4" (in.)	CORING RQD %	FIELD CLASSIFICATION AND REMARKS
			S	13	■	60.0 - 60.8	55	60/3"			8						S-13: Gray coarse to fine SAND, some fine Gravel, some Clayey Silt, with 2" of Decomposed Rock in tip of spoon, very dense, moist. (SM/Decomposed Rock)
																	Rollerbit refusal at 63 ft. End of boring at 63 ft.
65																	
70																	
75																	
80																	
85																	
90																	

Depth Elev.

PB BORINGS 2 EAST PARCEL LOGS.GPJ EAST PARCEL-LIB.GLB.GLB 3/1/18

BORING LOG

BORING NUMBER: **B-2**
SHEET NUMBER: **1** of **3**
PROJECT NUMBER: **I188137B**

PROJECT: **East Parcel Redevelopment**
LOCATION: **East Parcel, Sleepy Hollow, New York**
CLIENT: **Sleepy Hollow Local Development Corporation**
CONTRACTOR: **Aquifer Drilling & Testing, Inc.**
DRILLER: **David Carter**
INSPECTOR: **Astrid Hesse**
DRILLING METHOD: **Mud Rotary**
RIG TYPE: **Truck Rig CME-75, Automatic Hammer**

LOCATION: **East Parcel, Sleepy Hollow, New York**
COORD. **N: 821,562.2** **E: 666,756.4**
STN. NO.: OFFSET:
SURFACE ELEV.: **6.3 feet**
DATUM: **Horiz. NAD83; Vert. NAVD88**
START DATE: **5/4/17** TIME: **8:20 am**
FINISH DATE: **5/5/17** TIME: **12:00 pm**

	Casing	Split Spoon	Shelby Tube	Pitcher	Grab	Core Barrel
Type/Symbol	HW	S ■	U ▯	P ▯	G ☒	C ▯
I.D.	4.0"	1.375"				
O.D.	4.5"	2.0"				
Length	15'	24"				
Hammer Wt.	140lbs	140 lbs	Drill Rod Size		NW	
Hammer Fall	30""	30"	I.D. (O.D.)		2.25" (2.625")	

GROUNDWATER DATA

Date	Time	Water Depth (ft)	Casing Depth (ft)	Hole Depth (ft)
5/4/2017	9:30 am	6	0	6
5/5/2017	8:15 am	2.3	15	52

DEPTH (feet)	GRAPHIC LOG	CASING (Blows/ft)	SAMPLE TYPE	SAMPLE NUMBER	SAMPLE SYMBOL	SAMPLE DEPTH (feet)	SOIL (Blows/6 in.) 0/6	6/12	12/18	18/24	REC. (in.)	CORING RUN (in.)	CORING REC. (in.)	CORING REC. %	CORING L>4" (in.)	CORING RQD %	Depth Elev.	FIELD CLASSIFICATION AND REMARKS
		P	G	1		0.0 - 1.0												Top 6' excavated by hand excavation tools. 8" asphalt. G-1: Dark gray coarse to fine GRAVEL, and coarse to fine Sand, trace Silt, dry. (FILL)
		U	G	2		1.0 - 4.0												G-2: Gray coarse to fine SAND, some medium to fine Gravel, trace Silt, frequent large oyster shells (up to 4-5"), moist. (FILL)
		S																
		H																
		P	G	3		4.0 - 6.0												G-3: Brown coarse to fine SAND, some Clayey Silt, some coarse to fine Gravel, moist to wet. (FILL)
5		U																
		S	S	1	■	6.0 - 8.0	10	8	8	10	18							S-1: Dark gray coarse to fine SAND, little Clayey Silt, trace fine Gravel, medium dense, wet, slight organic odor. (FILL)
		H																
		P	S	2	■	8.0 - 10.0	5	4	5	6	24							S-2A: Top 18": Dark gray to black coarse to fine SAND, little Clayey Silt, loose, wet, slight organic odor. (FILL)
		U																
10		S	S	3	■	10.0 - 12.0	4	3	1	3	16							S-2B: Bottom 6": Black SILT & CLAY, little fine Sand, occasional shell fragments, occasional plant fibers, stiff, moist, slight organic odor. (FILL) S-3: Dark gray coarse to fine SAND, some fine Gravel, some Silt & Clay, occasional shell fragments, very loose, wet, slight organic odor. (FILL)
		40																
		40																Added Bentonite at 12'.
		40																
		20																
15			S	4	■	15.0 - 17.0	3	2	1	1	12							S-4: Dark gray coarse to fine SAND, some coarse to fine Gravel, some Clayey Silt, very loose, wet, slight organic odor. (FILL)
																		Wood fibers in tip of spoon and in wash.
20			S	5	■	20.0 - 22.0	WOH	WOH	1	1	24							S-5: Dark brown Organic Silty CLAY, some coarse to fine Sand, trace fine Gravel, noted organic material/Peat, very soft, wet, strong organic odor. (OH) Organic Content = 42.7%

PB BORINGS 2 EAST PARCEL LOGS.GPJ EAST PARCEL-LIB.GLB.GLB 3/1/18

BORING LOG
(continued)

BORING NUMBER: **B-2**
SHEET NUMBER: **2** of **3**
PROJECT NUMBER: **I188137B**

PROJECT: **East Parcel Redevelopment**
LOCATION: **East Parcel, Sleepy Hollow, New York**
CLIENT: **Sleepy Hollow Local Development Corporation**

CONTRACTOR: **ADT**
DRILLER: **David Carter**
INSPECTOR: **Astrid Hesse**

DEPTH (feet)	GRAPHIC LOG	CASING (Blows/ft)	SAMPLE TYPE	SAMPLE NUMBER	SAMPLE SYMBOL	SAMPLE DEPTH (feet)	SOIL (Blows/6 in.) 0/6	6/12	12/18	18/24	REC. (in.)	CORING RUN (in.)	CORING REC. (in.)	CORING REC. %	CORING L>4" (in.)	CORING RQD %	Depth Elev.	FIELD CLASSIFICATION AND REMARKS
			S	6		25.0 - 27.0	WOH	WOH	WOH	WOH	24							S-6: Dark gray Organic Silty CLAY, trace fine Sand, frequent plant fibers, very soft, moist. (OH) No recovery at 1st attempt. 2nd attempt with 3" spoon.
30			S	7		30.0 - 32.0	WOH	WOH	WOH	WOH	20							S-7: Dark gray to dark brown Organic Silty CLAY, trace fine Sand, very frequent plant fibers, very soft, moist. (OH) Organic Content = 14.6%
35			S	8		35.0 - 37.0	WOR	WOH	WOH	WOH	24							S-8: Dark gray Organic Silty CLAY, some medium to fine Sand, trace fine Gravel, frequent plant fibers, very soft, wet. (OH)
40			S	9		40.0 - 42.0	WOH	WOH	WOH	3	20							S-9: Dark gray to gray medium to fine SAND, and Silt & Clay, very loose, wet. (SM)
45			S	10		45.0 - 47.0	9	35	36	56	17							S-10: Gray fine SAND, some Silt, very dense, wet. (SM)
50			S	11		50.0 - 52.0	3	8	11	10	18							S-11: Gray fine SAND, some Silt, medium dense, wet. (SM)
55			S	12		55.0 - 57.0	3	11	15	16	13							S-12: Gray coarse to fine SAND, and fine Gravel, little Clayey Silt, medium dense, moist. (SM) Rig chattering.

PB BORINGS 2 EAST PARCEL LOGS.GPJ EAST PARCEL-LIB.GLB.GLB 3/1/18

BORING LOG
(continued)

BORING NUMBER: **B-2**
SHEET NUMBER: **3** of **3**
PROJECT NUMBER: **I188137B**

PROJECT: **East Parcel Redevelopment**
LOCATION: **East Parcel, Sleepy Hollow, New York**
CLIENT: **Sleepy Hollow Local Development Corporation**

CONTRACTOR: **ADT**
DRILLER: **David Carter**
INSPECTOR: **Astrid Hesse**

DEPTH (feet)	GRAPHIC LOG	CASING (Blows/ft)	SAMPLE TYPE	SAMPLE NUMBER	SAMPLE SYMBOL	SAMPLE DEPTH (feet)	SOIL (Blows/6 in.) 0/6	6/12	12/18	18/24	REC. (in.)	FIELD CLASSIFICATION AND REMARKS
							CORING					
							RUN (in.)	REC. (in.)	REC. %	L>4" (in.)	RQD %	Depth Elev.
			S	13		60.0 - 62.0	13	21	23	24	3	S-13: Gray medium to fine GRAVEL, some coarse to fine Sand, little Clayey Silt, dense, moist. (GC/Decomposed Rock) Rig chattering.
65			S	14		65.0 - 65.1	50/1"				1	S-14: Gray medium to fine GRAVEL, and coarse to fine Sand, little Clayey Silt, very dense, moist. (Decomposed Rock) Rig chattering.
70			NR	1		70.0 - 70.0	50/0"					Split spoon refusal at 70 ft. No recovery. End of boring at 70 ft.
75												
80												
85												
90												

PB BORINGS 2 EAST PARCEL LOGS.GPJ EAST PARCEL-LIB.GLB.GLB 3/1/18

BORING LOG

BORING NUMBER: **B-3**
SHEET NUMBER: **1** of **3**
PROJECT NUMBER: **I188137B**

PROJECT: **East Parcel Redevelopment**
LOCATION: **East Parcel, Sleepy Hollow, New York**
CLIENT: **Sleepy Hollow Local Development Corporation**
CONTRACTOR: **Aquifer Drilling & Testing, Inc.**
DRILLER: **David Carter**
INSPECTOR: **Astrid Hesse**
DRILLING METHOD: **Mud Rotary**
RIG TYPE: **Truck Rig CME-75, Automatic Hammer**

LOCATION: **East Parcel, Sleepy Hollow, New York**
COORD. **N: 821,413.2** **E: 666,846.4**
STN. NO.: OFFSET:
SURFACE ELEV.: **6.8 feet**
DATUM: **Horiz. NAD83; Vert. NAVD88**
START DATE: **5/9/17** TIME: **9:15 am**
FINISH DATE: **5/10/17** TIME: **9:45 am**

	Casing	Split Spoon	Shelby Tube	Pitcher	Grab	Core Barrel
Type/Symbol	HW	S ■	U ▯	P ▯	G ☒	C ▯
I.D.	4.0"	1.375"				
O.D.	4.5"	2.0"				
Length	15'	24"				
Hammer Wt.	140lbs	140 lbs	Drill Rod Size		NW	
Hammer Fall	30""	30"	I.D. (O.D.)		2.25" (2.625")	

GROUNDWATER DATA

Date	Time	Water Depth (ft)	Casing Depth (ft)	Hole Depth (ft)
5/9/2017	10:00 am	3.5	0	6

DEPTH (feet)	GRAPHIC LOG	CASING (Blows/ft)	SAMPLE TYPE	SAMPLE NUMBER	SAMPLE SYMBOL	SAMPLE DEPTH (feet)	SOIL (Blows/6 in.) 0/6	6/12	12/18	18/24	REC. (in.)	CORING RUN (in.)	CORING REC. (in.)	CORING REC. %	CORING L>4" (in.)	CORING RQD %	Depth Elev.	FIELD CLASSIFICATION AND REMARKS
		P	G	1		0.0 - 5.0												Top 6' excavated by hand excavation tools. 2" asphalt and 4" subbase. G-1: Gray coarse to fine SAND, little medium to fine Gravel, trace Silt, frequent shell fragments and oyster shells, moist to wet. (FILL)
		U																
		S																
		H																
		P																
5		U	G	2		5.0 - 6.0												G-2: Dark gray medium to fine SAND, trace Silt, trace fine Gravel, wet. (FILL)
		S	S	1		6.0 - 8.0	9	8	13	16	14							S-1: Dark gray coarse to fine SAND, little medium to fine Gravel, little Clayey Silt, medium dense, wet. (FILL)
		H																
		P	S	2		8.0 - 10.0	15	14	16	19	20							S-2: Dark gray coarse to fine SAND, some Clayey Silt, little medium to fine Gravel, occasional shell fragments, medium dense to dense, wet. (FILL)
		U																
10		S	S	3		10.0 - 12.0	11	11	7	5	13							Added Bentonite at 10'. S-3: Dark gray coarse to fine SAND, little Silt, medium dense, wet. (FILL)
		H																
		P																
		U																
		S																
15			S	4		15.0 - 17.0	WOR	WOR	3	4	4							S-4: Dark gray Organic Silty CLAY, little fine Sand, occasional shell fragments, soft, moist. (OH)
20			S	5		20.0 - 22.0	1	1	1	4	11							S-5A: Top 8": Dark gray CLAY & SILT, little fine Sand, loose, moist, organic odor. (ML) Organic Content = 2.9% S-5B: Bottom 4": Dark brown PEAT, very soft to soft, moist. (PT)

PB BORINGS 2 EAST PARCEL LOGS.GPJ EAST PARCEL-LIB.GLB.GLB 3/1/18

BORING LOG
(continued)

BORING NUMBER: **B-3**
SHEET NUMBER: **2** of **3**
PROJECT NUMBER: **I188137B**

PROJECT: **East Parcel Redevelopment**
LOCATION: **East Parcel, Sleepy Hollow, New York**
CLIENT: **Sleepy Hollow Local Development Corporation**

CONTRACTOR: **ADT**
DRILLER: **David Carter**
INSPECTOR: **Astrid Hesse**

DEPTH (feet)	GRAPHIC LOG	CASING (Blows/ft)	SAMPLE TYPE	SAMPLE NUMBER	SAMPLE SYMBOL	SAMPLE DEPTH (feet)	SOIL (Blows/6 in.) 0/6	6/12	12/18	18/24	REC. (in.)	FIELD CLASSIFICATION AND REMARKS
							CORING					
							RUN (in.)	REC. (in.)	REC. %	L>4" (in.)	RQD %	Depth Elev.
			S	6		25.0 - 27.0	WOH	WOH	WOH	WOH	24	S-6: Dark gray to dark brown Organic Silty CLAY, little fine Sand, trace fine Gravel, extremely frequent plant fibers, very soft, moist. (OH)
			U	1		27.0 - 29.0					0	No recovery at first attempt. Second attempt with 3" spoon. U-1: No recovery.
30			S	7		29.0 - 31.0	WOH	WOH	WOH	WOH	24	S-7: Dark gray Organic Silty CLAY, little fine Sand, very frequent plant fibers, very soft, moist. (OH) Organic Content = 11.5%
35			S	8		35.0 - 37.0	WOH	WOH	WOH	WOH	24	S-8: Dark gray Organic Silty CLAY, trace fine Sand, frequent plant fibers, very soft, moist. (OH)
			U	2		37.0 - 39.0					8	U-2: Top: No description available. Bottom: Gray medium to fine SAND, little Clayey Silt, wet. (SM)
			S	9		39.0 - 41.0	5	8	8	12	14	S-9: Gray medium to fine SAND, trace Silt, noted shell fragments, medium dense, wet. (SP-SM)
40												
45			S	10		45.0 - 47.0	5	5	14	34	16	S-10: Gray fine SAND, some Clayey Silt, medium dense, wet. (SM)
50			S	11		50.0 - 52.0	5	3	9	16	16	S-11A: Top 9": Gray SILT & CLAY, and interlayered fine Sand, medium dense, wet. (CL) S-11B: Middle 4": Black PEAT, stiff, moist. (PT) S-11C: Bottom 3": Gray SILT & CLAY, and interlayered fine Sand, medium dense, wet. (CL)
55			S	12		55.0 - 57.0	5	6	5	10	13	S-12: Brown coarse to fine SAND, some fine Gravel, little Silt, medium dense, wet. (SM)

PB BORINGS 2 EAST PARCEL LOGS.GPJ EAST PARCEL-LIB.GLB.GLB 3/1/18

BORING LOG
(continued)

BORING NUMBER: **B-3**
SHEET NUMBER: **3** of **3**
PROJECT NUMBER: **I188137B**

PROJECT: **East Parcel Redevelopment**
LOCATION: **East Parcel, Sleepy Hollow, New York**
CLIENT: **Sleepy Hollow Local Development Corporation**

CONTRACTOR: **ADT**
DRILLER: **David Carter**
INSPECTOR: **Astrid Hesse**

DEPTH (feet)	GRAPHIC LOG	CASING (Blows/ft)	SAMPLE TYPE	SAMPLE NUMBER	SAMPLE SYMBOL	SAMPLE DEPTH (feet)	SOIL (Blows/6 in.) 0/6	6/12	12/18	18/24	REC. (in.)	FIELD CLASSIFICATION AND REMARKS
							CORING					
							RUN (in.)	REC. (in.)	REC. %	L>4" (in.)	RQD %	Depth Elev.
			S	13		60.0 - 60.5	50	50/0"			6	S-13: Brown Clayey SILT, little fine Sand, little fine Gravel, hard, wet. (Decomposed Rock)
												Rig chattering. Very slow drilling at 61'.
65			S	14		65.0 - 65.2	60/2"				2	S-14: Dark gray medium to fine GRAVEL, some coarse to fine Sand, little Silt & Clay, very dense, moist. (Decomposed Rock)
												End of boring at 65.2 ft.
70												
75												
80												
85												
90												

PB BORINGS 2 EAST PARCEL LOGS.GPJ EAST PARCEL-LIB.GLB.GLB 3/1/18

BORING LOG

BORING NUMBER: **B-4**
SHEET NUMBER: **1** of **3**
PROJECT NUMBER: **I188137B**

PROJECT: **East Parcel Redevelopment**
LOCATION: **East Parcel, Sleepy Hollow, New York**
CLIENT: **Sleepy Hollow Local Development Corporation**
CONTRACTOR: **Aquifer Drilling & Testing, Inc.**
DRILLER: **David Carter**
INSPECTOR: **Astrid Hesse**
DRILLING METHOD: **Mud Rotary**
RIG TYPE: **Truck Rig CME-75, Automatic Hammer**

LOCATION: **East Parcel, Sleepy Hollow, New York**
COORD. **N: 821,287.9** **E: 666,746.9**
STN. NO.: OFFSET:
SURFACE ELEV.: **7.2 feet**
DATUM: **Horiz. NAD83; Vert. NAVD88**
START DATE: **5/8/17** TIME: **8:00 am**
FINISH DATE: **5/9/17** TIME: **10:50 am**

	Casing	Split Spoon	Shelby Tube	Pitcher	Grab	Core Barrel
Type/Symbol	HW	S ■	U ▯	P ▨	G ☒	C ▤
I.D.	4.0"	1.375"	2.87"			
O.D.	4.5"	2.0"	3.0"			
Length	15'	24"	30"			
Hammer Wt.	140lbs	140 lbs	Drill Rod Size		NW	
Hammer Fall	30""	30"	I.D. (O.D.)		2.25" (2.625")	

GROUNDWATER DATA

Date	Time	Water Depth (ft)	Casing Depth (ft)	Hole Depth (ft)
5/8/2017	8:30 am	2.8	0	4

DEPTH (feet)	GRAPHIC LOG	CASING (Blows/ft)	SAMPLE TYPE	SAMPLE NUMBER	SAMPLE SYMBOL	SAMPLE DEPTH (feet)	SOIL (Blows/6 in.) 0/6	6/12	12/18	18/24	REC. (in.)	CORING RUN (in.)	CORING REC. (in.)	CORING REC. %	CORING L>4" (in.)	CORING RQD %	Depth Elev.	FIELD CLASSIFICATION AND REMARKS
		P	G	1		0.3 - 4.0												Top 4' excavated by hand excavation tools. Borehole collapsed below 4' due to shallow groundwater. Pushed 4" casing to 6'. 2" asphalt and 2" subbase.
		U																
		S																G-1: Gray coarse to fine SAND, trace fine Gravel, trace Silt, occasional oyster shells up to 3" diameter, moist except wet below 2.8'. (FILL)
		H																
		P																
5		U																
		S	S	1	■	6.0 - 8.0	3	7	13	13	10							S-1: Gray medium to fine SAND, little Silt, medium dense, wet. (FILL)
		H																
		P	S	2	■	8.0 - 10.0	18	5	3	6	15							S-2: Gray medium to fine SAND, little Silt, loose, wet. (FILL)
		U																
10		S	S	3	■	10.0 - 12.0	1	3	2	4	13							Added Bentonite at 10'. S-3: Gray medium to fine SAND, little Silt, very loose to loose, wet. (FILL)
		H																
		P																
		U																
		S																
15			S	4	■	15.0 - 17.0	WOH	WOH	WOH	WOH	23							S-4: Dark gray Organic Silty CLAY, trace fine Sand, frequent plant fibers, very soft, moist. (OH)
20			S	5	■	20.0 - 22.0	WOH	WOH	WOH	WOH	24							S-5: Dark gray Organic Silty CLAY, trace fine Sand, occasional plant fibers, very soft, moist. (OH)
			U	1		22.0 - 24.0					22							U-1: Dark gray Organic Silty CLAY, trace fine Sand, with plant fibers, very soft, moist. (OH)
			S	6	■	24.0 - 26.0	WOR	WOH	WOH	WOH	22							

PB BORINGS 2 EAST PARCEL LOGS.GPJ EAST PARCEL-LIB.GLB.GLB 3/1/18

BORING LOG
(continued)

BORING NUMBER: **B-4**
SHEET NUMBER: **2** of **3**
PROJECT NUMBER: **I188137B**

PROJECT: **East Parcel Redevelopment**
LOCATION: **East Parcel, Sleepy Hollow, New York**
CLIENT: **Sleepy Hollow Local Development Corporation**

CONTRACTOR: **ADT**
DRILLER: **David Carter**
INSPECTOR: **Astrid Hesse**

DEPTH (feet)	GRAPHIC LOG	CASING (Blows/ft)	SAMPLE TYPE	SAMPLE NUMBER	SAMPLE SYMBOL	SAMPLE DEPTH (feet)	SOIL (Blows/6 in.) 0/6	6/12	12/18	18/24	REC. (in.)	CORING RUN (in.)	CORING REC. (in.)	CORING REC. %	CORING L>4" (in.)	CORING RQD %	Depth Elev.	FIELD CLASSIFICATION AND REMARKS
																		S-6: Dark gray Organic Silty CLAY, trace fine Sand, frequent plant fibers, very soft, moist. (OH)
30			S	7		30.0 - 32.0	WOR	WOR	WOH	WOH	24							S-7: Dark gray Organic CLAY, trace fine Sand, frequent plant fibers, very soft, moist. (OH)
			U	2		32.0 - 34.0					23							U-2: Dark gray Organic CLAY, trace fine Sand, with plant fibers, very soft, moist. (OH)
35			S	8		34.0 - 36.0	WOR	WOH	WOH	WOH	24							S-8: Dark gray Organic CLAY, trace fine Sand, very frequent plant fibers, very soft, moist. (OH)
40			S	9		40.0 - 42.0	WOR	WOH	WOH	WOH	24							S-9: Dark gray Organic Silty CLAY, trace fine Sand, very frequent plant fibers, very soft, moist. (OH)
45			S	10		45.0 - 47.0	WOH	1	3	10	9							S-10: Dark gray and brown Organic Silty CLAY, trace fine Sand, frequent plant fibers, soft to medium stiff, moist. (OH) Organic Content = 16.2% Mud flowing out of casing (artesian).
50			S	11		50.0 - 52.0	2	5	5	6	18							S-11: Gray fine SAND, little Silt, loose to medium dense, wet. (SM) Mud flowing out of casing (artesian).
55			S	12		55.0 - 57.0	WOR	WOR	9	11	21							S-12A: Top 14": Dark gray to dark Clayey SILT, little fine Sand, trace fine Gravel, loose, wet. (CH) S-12B: Bottom 7": Dark gray coarse to fine SAND, and fine Gravel, little Silt, loose, wet. (SM) Mud flowing out of casing.

PB BORINGS 2 EAST PARCEL LOGS.GPJ EAST PARCEL-LIB.GLB.GLB 3/1/18

BORING LOG
(continued)

BORING NUMBER: **B-4**
SHEET NUMBER: **3** of **3**
PROJECT NUMBER: **I188137B**

PROJECT: **East Parcel Redevelopment**
LOCATION: **East Parcel, Sleepy Hollow, New York**
CLIENT: **Sleepy Hollow Local Development Corporation**

CONTRACTOR: **ADT**
DRILLER: **David Carter**
INSPECTOR: **Astrid Hesse**

DEPTH (feet)	GRAPHIC LOG	CASING (Blows/ft)	SAMPLE TYPE	SAMPLE NUMBER	SAMPLE SYMBOL	SAMPLE DEPTH (feet)	SOIL (Blows/6 in.) 0/6	6/12	12/18	18/24	REC. (in.)	CORING RUN (in.)	CORING REC. (in.)	CORING REC. %	CORING L>4" (in.)	CORING RQD %	Depth Elev.	FIELD CLASSIFICATION AND REMARKS
			S	13		60.0 - 62.0	2	5	7	9	24							S-13: Brown to red-brown varved to interlayered CLAY & SILT, and fine Sand, stiff/medium dense, moist to wet. (CL) Mud flowing out of casing (artesian).
65			S	14		65.0 - 67.0	10	40	21	16	16							S-14: Brown fine SAND, interlayered with some varved Clayey SILT, very dense, wet. (SM) Mud flowing out of casing (artesian).
70			S	15		70.0 - 72.0	7	8	8	15	16							S-15A: Top 12": Brown varved SILT & CLAY, and medium to fine Sand, stiff, wet. (CL) S-15B: Bottom 4": Gray varved CLAY & SILT, trace fine Sand, very stiff, moist. (CL)
75			S	16		75.0 - 77.0	7	6	13	16	22							S-16: Gray fine SAND, and Silt, medium dense, wet. (SM)
80			S	17		80.0 - 82.0	10	12	16	68	17							S-17: Gray SILT, and medium to fine Sand, trace fine Gravel, medium dense, wet. (ML) Fine GRAVEL in tip of spoon. (Decomposed Rock) Drilling mud flowing out of casing at approximately 47 ft. (artesian condition). End of boring at 82 ft.
85																		
90																		

PB BORINGS 2 EAST PARCEL LOGS.GPJ EAST PARCEL-LIB.GLB.GLB 3/1/18

BORING LOG

BORING NUMBER: **B-5**
SHEET NUMBER: **1** of **4**
PROJECT NUMBER: **I188137B**

PROJECT: **East Parcel Redevelopment**
LOCATION: **East Parcel, Sleepy Hollow, New York**
CLIENT: **Sleepy Hollow Local Development Corporation**
CONTRACTOR: **Aquifer Drilling & Testing, Inc.**
DRILLER: **David Carter**
INSPECTOR: **Astrid Hesse**
DRILLING METHOD: **Mud Rotary**
RIG TYPE: **Truck Rig CME-75, Automatic Hammer**

LOCATION: **East Parcel, Sleepy Hollow, New York**
COORD. **N: 821,115.6** **E: 666,699.5**
STN. NO.: OFFSET:
SURFACE ELEV.: **8.2 feet**
DATUM: **Horiz. NAD83; Vert. NAVD88**
START DATE: **5/10/17** TIME: **9:55 am**
FINISH DATE: **5/11/17** TIME: **11:15 am**

	Casing	Split Spoon	Shelby Tube	Pitcher	Grab	Core Barrel
Type/Symbol	HW	S ■	U ▯	P ▨	G ☒	C ▤
I.D.	4.0"	1.375"	2.87"			
O.D.	4.5"	2.0"	3.0"			
Length	15'	24"	30"			
Hammer Wt.	140lbs	140 lbs	Drill Rod Size		NW	
Hammer Fall	30""	30"	I.D. (O.D.)		2.25" (2.625")	

GROUNDWATER DATA

Date	Time	Water Depth (ft)	Casing Depth (ft)	Hole Depth (ft)
5/10/2017	10:25 am	3.5	0	4
5/11/2017	7:45 am	3.2	15	62

DEPTH (feet)	GRAPHIC LOG	CASING (Blows/ft)	SAMPLE TYPE	SAMPLE NUMBER	SAMPLE SYMBOL	SAMPLE DEPTH (feet)	SOIL (Blows/6 in.) 0/6	6/12	12/18	18/24	REC. (in.)	CORING RUN (in.)	CORING REC. (in.)	CORING REC. %	CORING L>4" (in.)	CORING RQD %	Depth Elev.	FIELD CLASSIFICATION AND REMARKS
		P	G	1		0.4 - 6.0												Top 6' excavated by hand excavation tools. 2" asphalt and 3" subbase.
		U																G-1: Gray coarse to fine SAND, little medium to fine Gravel, trace Silt, frequent large oyster shells, dry except wet below 3.5'. (FILL)
		S																
		H																
		P																
5		U																
		S	S	1	■	6.0 - 8.0	5	7	3	3	13							S-1: Dark gray to dark brown coarse to fine SAND, little fine Gravel, little Clayey Silt, loose to medium dense, wet. (FILL)
		H																
		P	S	2	■	8.0 - 10.0	WOH	3	7	10	24							S-2: Dark gray to dark brown coarse to fine SAND, some Clayey Silt, trace fine Gravel, occasional shell fragments, loose to medium dense, wet, slight organic odor. (FILL)
		U																
10		S	S	3	■	10.0 - 12.0	6	4	3	3	13							
		H																Added Bentonite at 10'.
		P																S-3: Gray medium to fine SAND, little Silt, trace fine Gravel, loose, wet. (FILL)
		U																
		S																
15			S	4	■	15.0 - 17.0	WOH	3	3	5	19							S-4A: Top 10": Dark gray to dark brown, thinly layered organic CLAY, trace fine Sand, occasional plant fibers, medium stiff, moist. (OH)
																		S-4B: Bottom 9": Dark gray medium to fine SAND, little Clayey Silt, loose, wet. (SM)
20			S	5	■	20.0 - 22.0	WOH	4	3	3	24							S-5: Dark brown PEAT, some fine Sand, trace fine Gravel, medium stiff, moist. (PT)
																		Organic Content = 66.5%

PB BORINGS 2 EAST PARCEL LOGS.GPJ EAST PARCEL-LIB.GLB.GLB 3/1/18

BORING LOG
(continued)

BORING NUMBER: **B-5**
SHEET NUMBER: **2** of **4**
PROJECT NUMBER: **I188137B**

PROJECT: **East Parcel Redevelopment**
LOCATION: **East Parcel, Sleepy Hollow, New York**
CLIENT: **Sleepy Hollow Local Development Corporation**

CONTRACTOR: **ADT**
DRILLER: **David Carter**
INSPECTOR: **Astrid Hesse**

DEPTH (feet)	GRAPHIC LOG	CASING (Blows/ft)	SAMPLE TYPE	SAMPLE NUMBER	SAMPLE SYMBOL	SAMPLE DEPTH (feet)	SOIL (Blows/6 in.) 0/6	6/12	12/18	18/24	REC. (in.)	CORING RUN (in.)	CORING REC. (in.)	CORING REC. %	CORING L>4" (in.)	CORING RQD %	Depth Elev.	FIELD CLASSIFICATION AND REMARKS
			S	6		25.0 - 27.0	WOH	WOH	WOH	WOH	24							S-6: Dark gray Organic Silty CLAY, little fine Sand, frequent plant fibers, very soft, moist. (OH)
			U	1		27.0 - 29.0					22							U-1: Dark gray Organic Silty CLAY, little fine Sand, with plant fibers, very soft, moist. (OH)
			S	7		29.0 - 31.0	WOH	WOH	WOH	WOH	24							S-7: Dark gray Organic CLAY, trace fine Sand, frequent plant fibers, very soft, moist. (OH)
30			U	2		31.0 - 33.0					23							U-2: Dark gray Organic Silty CLAY, trace fine Sand, with plant fibers, very soft, moist. (OH)
35			S	8		35.0 - 37.0	WOH	WOH	1	36	22							S-8: Gray coarse to fine SAND, some Silt & Clay, trace fine Gravel, very loose, wet. (SC)
40			S	9		40.0 - 42.0	3	5	5	5	12							S-9: Brown coarse to fine SAND, some fine Gravel, little Silt, loose to medium dense, wet. (SM)
45			S	10		45.0 - 47.0	5	4	5	5	17							S-10: Yellow-brown fine SAND, some Silt, occasional thin layers of Silt, loose, wet. (SM)
50			S	11		50.0 - 52.0	3	4	4	3	19							S-11: Brown SILT & CLAY, trace interlayered fine Sand, medium stiff to stiff, wet. (ML)
55			S	12		55.0 - 57.0	WOH	4	5	4	13							S-12: Brown fine SAND, and Clayey Silt, loose, very wet. (SM)

PB BORINGS 2_EAST PARCEL LOGS.GPJ EAST PARCEL-LIB.GLB.GLB 3/1/18

BORING LOG
(continued)

BORING NUMBER: **B-5**
SHEET NUMBER: **3** of **4**
PROJECT NUMBER: **I188137B**

PROJECT: **East Parcel Redevelopment**
LOCATION: **East Parcel, Sleepy Hollow, New York**
CLIENT: **Sleepy Hollow Local Development Corporation**

CONTRACTOR: **ADT**
DRILLER: **David Carter**
INSPECTOR: **Astrid Hesse**

DEPTH (feet)	GRAPHIC LOG	CASING (Blows/ft)	SAMPLE TYPE	SAMPLE NUMBER	SAMPLE SYMBOL	SAMPLE DEPTH (feet)	SOIL (Blows/6 in.) 0/6	6/12	12/18	18/24	REC. (in.)	FIELD CLASSIFICATION AND REMARKS
							CORING					
							RUN (in.)	REC. (in.)	REC. %	L>4" (in.)	RQD %	Depth Elev.
			S	13		60.0 - 62.0	3	5	3	4	24	S-13: Brown red-brown and yellow-brown SILT, some fine Sand, interlayered with Clayey SILT, loose, wet. (CL-ML)
65			S	14		65.0 - 67.0	2	2	1	2	19	S-14: Gray and red-brown SILT & CLAY, trace interlayered fine Sand, soft, wet. (ML)
70			S	15		70.0 - 72.0	4	3	4	5	15	S-15: Gray and red-brown fine SAND, and Silt, interlayered with varved SILT & CLAY, loose, wet. (SC-SM)
75			S	16		75.0 - 77.0	11	11	10	14	16	S-16A: Top 14": Gray fine SAND, some Silt, occasional seams of Silt & Clay, medium dense, wet. (SM) S-16B: Bottom 2": Red-brown varved SILT & CLAY, little fine Sand, stiff, moist. (CL-ML)
80			S	17		80.0 - 82.0	8	9	14	17	19	S-17: Gray and brown SILT, some fine Sand, interlayered with varved Clayey SILT, medium dense, wet. (CL-ML)
85			S	18		85.0 - 87.0	15	13	16	14	15	S-18: Gray fine SAND, and Silt, medium dense, wet. (SM)
90			S	19		90.0 - 92.0	48	66	39	31	13	S-19A: Top 8": Gray SILT, and fine Sand, trace fine Gravel, very dense, wet. (Decomposed Rock) S-19B: Bottom 5": Dark gray coarse to fine SAND, some Clayey Silt, trace fine Gravel, very dense, moist. (Decomposed Rock) Rig chattering.

PB BORINGS 2 EAST PARCEL LOGS.GPJ EAST PARCEL-LIB.GLB.GLB 3/1/18

BORING LOG
(continued)

BORING NUMBER: **B-5**
SHEET NUMBER: **4** of **4**
PROJECT NUMBER: **I188137B**

PROJECT: **East Parcel Redevelopment**
LOCATION: **East Parcel, Sleepy Hollow, New York**
CLIENT: **Sleepy Hollow Local Development Corporation**

CONTRACTOR: **ADT**
DRILLER: **David Carter**
INSPECTOR: **Astrid Hesse**

DEPTH (feet)	GRAPHIC LOG	CASING (Blows/ft)	SAMPLE TYPE	SAMPLE NUMBER	SAMPLE SYMBOL	SAMPLE DEPTH (feet)	SOIL (Blows/6 in.) 0/6	6/12	12/18	18/24	REC. (in.)	CORING RUN (in.)	CORING REC. (in.)	CORING REC. %	CORING L>4" (in.)	CORING RQD %	FIELD CLASSIFICATION AND REMARKS / Depth Elev.
100																	Rollerbit refusal at 94 ft. End of boring at 94 ft.
105																	
110																	
115																	
120																	
125																	

PB BORINGS 2 EAST PARCEL LOGS.GPJ EAST PARCEL-LIB.GLB.GLB 3/1/18

Appendix E

Construction Site Inspection and Maintenance Log Book

APPENDIX F
CONSTRUCTION SITE INSPECTION AND MAINTENANCE LOG BOOK

STATE POLLUTANT DISCHARGE ELIMINATION SYSTEM FOR CONSTRUCTION ACTIVITIES

SAMPLE CONSTRUCTION SITE LOG BOOK

Table of Contents

I. **PRE-CONSTRUCTION MEETING DOCUMENTS**

Project Name _____

Permit No. _____ **Date of Authorization** _____

Name of Operator _____

Prime Contractor _____

a. **Preamble to Site Assessment and Inspections**

The Following Information To Be Read By All Person's Involved in The Construction of Stormwater Related Activities:

The Operator agrees to have a qualified inspector[1] conduct an assessment of the site prior to the commencement of construction[2] and certify in this inspection report that the appropriate erosion and sediment controls described in the SWPPP have been adequately installed or implemented to ensure overall preparedness of the site for the commencement of construction.

Prior to the commencement of construction, the Operator shall certify in this site logbook that the SWPPP has been prepared in accordance with the State's standards and meets all Federal, State and local erosion and sediment control requirements. A preconstruction meeting should be held to review all of the SWPPP requirements with construction personnel.

When construction starts, site inspections shall be conducted by the qualified inspector at least every 7 calendar days. The Operator shall maintain a record of all inspection reports in this site logbook. The site logbook shall be maintained on site and be made available to the permitting authorities upon request.

Prior to filing the Notice of Termination or the end of permit term, the Operator shall have a qualified inspector perform a final site inspection. The qualified inspector shall certify that the site has undergone final stabilization[3] using either vegetative or structural stabilization methods and that all temporary erosion and sediment controls (such as silt fencing) not needed for long-term erosion control have been removed. In addition, the Operator must identify and certify that all permanent structures described in the SWPPP have been constructed and provide the owner(s) with an operation and maintenance plan that ensures the structure(s) continuously functions as designed.

1 Refer to "Qualified Inspector" inspection requirements in the current SPDES General Permit for Stormwater Discharges from Construction Activity for complete list of inspection requirements.
2 "Commencement of construction" means the initial removal of vegetation and disturbance of soils associated with clearing, grading or excavating activities or other construction activities.
3 "Final stabilization" means that all soil-disturbing activities at the site have been completed and a uniform, perennial vegetative cover with a density of eighty (80) percent has been established or equivalent stabilization measures (such as the use of mulches or geotextiles) have been employed on all unpaved areas and areas not covered by permanent structures.

b. Pre-construction Site Assessment Checklist
(NOTE: Provide comments below as necessary)

1. Notice of Intent, SWPPP, and Contractors Certification:

Yes No NA

[ ] [ ] [ ] Has a Notice of Intent been filed with the NYS Department of Conservation?
[ ] [ ] [ ] Is the SWPPP on-site? Where?_____
[ ] [ ] [ ] Is the Plan current? What is the latest revision date?_____
[ ] [ ] [ ] Is a copy of the NOI (with brief description) onsite? Where?_____
[ ] [ ] [ ] Have all contractors involved with stormwater related activities signed a contractor's certification?

2. Resource Protection

Yes No NA

[ ] [ ] [ ] Are construction limits clearly flagged or fenced?
[ ] [ ] [ ] Important trees and associated rooting zones, on-site septic system absorption fields, existing vegetated areas suitable for filter strips, especially in perimeter areas, have been flagged for protection.
[ ] [ ] [ ] Creek crossings installed prior to land-disturbing activity, including clearing and blasting.

3. Surface Water Protection

Yes No NA

[ ] [ ] [ ] Clean stormwater runoff has been diverted from areas to be disturbed.
[ ] [ ] [ ] Bodies of water located either on site or in the vicinity of the site have been identified and protected.
[ ] [ ] [ ] Appropriate practices to protect on-site or downstream surface water are installed.
[ ] [ ] [ ] Are clearing and grading operations divided into areas <5 acres?

4. Stabilized Construction Access

Yes No NA

[ ] [ ] [ ] A temporary construction entrance to capture mud and debris from construction vehicles before they enter the public highway has been installed.
[ ] [ ] [ ] Other access areas (entrances, construction routes, equipment parking areas) are stabilized immediately as work takes place with gravel or other cover.
[ ] [ ] [ ] Sediment tracked onto public streets is removed or cleaned on a regular basis.

5. Sediment Controls

Yes No NA

[ ] [ ] [ ] Silt fence material and installation comply with the standard drawing and specifications.
[ ] [ ] [ ] Silt fences are installed at appropriate spacing intervals
[ ] [ ] [ ] Sediment/detention basin was installed as first land disturbing activity.
[ ] [ ] [ ] Sediment traps and barriers are installed.

6. Pollution Prevention for Waste and Hazardous Materials

Yes No NA

[ ] [ ] [ ] The Operator or designated representative has been assigned to implement the spill prevention avoidance and response plan.
[ ] [ ] [ ] The plan is contained in the SWPPP on page _____
[ ] [ ] [ ] Appropriate materials to control spills are onsite. Where? _____

II. CONSTRUCTION DURATION INSPECTIONS

a. Directions:

Inspection Forms will be filled out during the entire construction phase of the project.

Required Elements:

1) On a site map, indicate the extent of all disturbed site areas and drainage pathways. Indicate site areas that are expected to undergo initial disturbance or significant site work within the next 14-day period;

2) Indicate on a site map all areas of the site that have undergone temporary or permanent stabilization;

3) Indicate all disturbed site areas that have not undergone active site work during the previous 14-day period;

4) Inspect all sediment control practices and record the approximate degree of sediment accumulation as a percentage of sediment storage volume (for example, 10 percent, 20 percent, 50 percent);

5) Inspect all erosion and sediment control practices and record all maintenance requirements such as verifying the integrity of barrier or diversion systems (earthen berms or silt fencing) and containment systems (sediment basins and sediment traps). Identify any evidence of rill or gully erosion occurring on slopes and any loss of stabilizing vegetation or seeding/mulching. Document any excessive deposition of sediment or ponding water along barrier or diversion systems. Record the depth of sediment within containment structures, any erosion near outlet and overflow structures, and verify the ability of rock filters around perforated riser pipes to pass water; and

6) Immediately report to the Operator any deficiencies that are identified with the implementation of the SWPPP.

SITE PLAN/SKETCH

Inspector (print name)	**Date of Inspection**
Qualified Inspector (print name)	**Qualified Inspector Signature**

The above signed acknowledges that, to the best of his/her knowledge, all information provided on the forms is accurate and complete.

Maintaining Water Quality

Yes No NA
[ ] [ ] [ ] Is there an increase in turbidity causing a substantial visible contrast to natural conditions at the outfalls?
[ ] [ ] [ ] Is there residue from oil and floating substances, visible oil film, or globules or grease at the outfalls?
[ ] [ ] [ ] All disturbance is within the limits of the approved plans.
[ ] [ ] [ ] Have receiving lake/bay, stream, and/or wetland been impacted by silt from project?

Housekeeping

1. General Site Conditions

Yes No NA
[ ] [ ] [ ] Is construction site litter, debris and spoils appropriately managed?
[ ] [ ] [ ] Are facilities and equipment necessary for implementation of erosion and sediment control in working order and/or properly maintained?
[ ] [ ] [ ] Is construction impacting the adjacent property?
[ ] [ ] [ ] Is dust adequately controlled?

2. Temporary Stream Crossing

Yes No NA
[ ] [ ] [ ] Maximum diameter pipes necessary to span creek without dredging are installed.
[ ] [ ] [ ] Installed non-woven geotextile fabric beneath approaches.
[ ] [ ] [ ] Is fill composed of aggregate (no earth or soil)?
[ ] [ ] [ ] Rock on approaches is clean enough to remove mud from vehicles & prevent sediment from entering stream during high flow.

3. Stabilized Construction Access

Yes No NA
[ ] [ ] [ ] Stone is clean enough to effectively remove mud from vehicles.
[ ] [ ] [ ] Installed per standards and specifications?
[ ] [ ] [ ] Does all traffic use the stabilized entrance to enter and leave site?
[ ] [ ] [ ] Is adequate drainage provided to prevent ponding at entrance?

Runoff Control Practices

1. Excavation Dewatering

Yes No NA
[ ] [ ] [ ] Upstream and downstream berms (sandbags, inflatable dams, etc.) are installed per plan.
[ ] [ ] [ ] Clean water from upstream pool is being pumped to the downstream pool.
[ ] [ ] [ ] Sediment laden water from work area is being discharged to a silt-trapping device.
[ ] [ ] [ ] Constructed upstream berm with one-foot minimum freeboard.

Runoff Control Practices (continued)

2. Flow Spreader

Yes No NA

[ ] [ ] [ ] Installed per plan.
[ ] [ ] [ ] Constructed on undisturbed soil, not on fill, receiving only clear, non-sediment laden flow.
[ ] [ ] [ ] Flow sheets out of level spreader without erosion on downstream edge.

3. Interceptor Dikes and Swales

Yes No NA

[ ] [ ] [ ] Installed per plan with minimum side slopes 2H:1V or flatter.
[ ] [ ] [ ] Stabilized by geotextile fabric, seed, or mulch with no erosion occurring.
[ ] [ ] [ ] Sediment-laden runoff directed to sediment trapping structure

4. Stone Check Dam

Yes No NA

[ ] [ ] [ ] Is channel stable? (flow is not eroding soil underneath or around the structure).
[ ] [ ] [ ] Check is in good condition (rocks in place and no permanent pools behind the structure).
[ ] [ ] [ ] Has accumulated sediment been removed?.

5. Rock Outlet Protection

Yes No NA

[ ] [ ] [ ] Installed per plan.
[ ] [ ] [ ] Installed concurrently with pipe installation.

Soil Stabilization

1. Topsoil and Spoil Stockpiles

Yes No NA

[ ] [ ] [ ] Stockpiles are stabilized with vegetation and/or mulch.
[ ] [ ] [ ] Sediment control is installed at the toe of the slope.

2. Revegetation

Yes No NA

[ ] [ ] [ ] Temporary seedings and mulch have been applied to idle areas.
[ ] [ ] [ ] 4 inches minimum of topsoil has been applied under permanent seedings

Sediment Control Practices

1. Silt Fence and Linear Barriers

Yes No NA

[ ] [ ] [ ] Installed on Contour, 10 feet from toe of slope (not across conveyance channels).
[ ] [ ] [ ] Joints constructed by wrapping the two ends together for continuous support.
[ ] [ ] [ ] Fabric buried 6 inches minimum.
[ ] [ ] [ ] Posts are stable, fabric is tight and without rips or frayed areas.
Sediment accumulation is ___% of design capacity.

Sediment Control Practices (continued)

2. Storm Drain Inlet Protection (Use for Stone & Block; Filter Fabric; Curb; or, Excavated; Filter Sock or Manufactured practices)

Yes No NA

[ ] [ ] [ ] Installed concrete blocks lengthwise so open ends face outward, not upward.
[ ] [ ] [ ] Placed wire screen between No. 3 crushed stone and concrete blocks.
[ ] [ ] [ ] Drainage area is 1acre or less.
[ ] [ ] [ ] Excavated area is 900 cubic feet.
[ ] [ ] [ ] Excavated side slopes should be 2:1.
[ ] [ ] [ ] 2" x 4" frame is constructed and structurally sound.
[ ] [ ] [ ] Posts 3-foot maximum spacing between posts.
[ ] [ ] [ ] Fabric is embedded 1 to 1.5 feet below ground and secured to frame/posts with staples at max 8-inch spacing.
[ ] [ ] [ ] Posts are stable, fabric is tight and without rips or frayed areas.
[ ] [ ] [ ] Manufactured insert fabric is free of tears and punctures.
[ ] [ ] [ ] Filter Sock is not torn or flattened and fill material is contained within the mesh sock.

Sediment accumulation ___% of design capacity.

3. Temporary Sediment Trap

Yes No NA

[ ] [ ] [ ] Outlet structure is constructed per the approved plan or drawing.
[ ] [ ] [ ] Geotextile fabric has been placed beneath rock fill.
[ ] [ ] [ ] Sediment trap slopes and disturbed areas are stabilized.

Sediment accumulation is ___% of design capacity.

4. Temporary Sediment Basin

Yes No NA

[ ] [ ] [ ] Basin and outlet structure constructed per the approved plan.
[ ] [ ] [ ] Basin side slopes are stabilized with seed/mulch.
[ ] [ ] [ ] Drainage structure flushed and basin surface restored upon removal of sediment basin facility.
[ ] [ ] [ ] Sediment basin dewatering pool is dewatering at appropriate rate.

Sediment accumulation is ___% of design capacity.

Note: Not all erosion and sediment control practices are included in this listing. Add additional pages to this list as required by site specific design. All practices shall be maintained in accordance with their respective standards.

Construction inspection checklists for post-development stormwater management practices can be found in Appendix F of the New York Stormwater Management Design Manual.

CONSTRUCTION DURATION INSPECTIONS

b. Modifications to the SWPPP (To be completed as described below)

The Operator shall amend the SWPPP whenever:

1. There is a significant change in design, construction, operation, or maintenance which may have a significant effect on the potential for the discharge of pollutants to the waters of the United States and which has not otherwise been addressed in the SWPPP; or
2. The SWPPP proves to be ineffective in:
   a. Eliminating or significantly minimizing pollutants from sources identified in the SWPPP and as required by this permit; or
   b. Achieving the general objectives of controlling pollutants in stormwater discharges from permitted construction activity; and
3. Additionally, the SWPPP shall be amended to identify any new contractor or subcontractor that will implement any measure of the SWPPP.

Modification & Reason:

Appendix F

Phase 1B Construction Plans

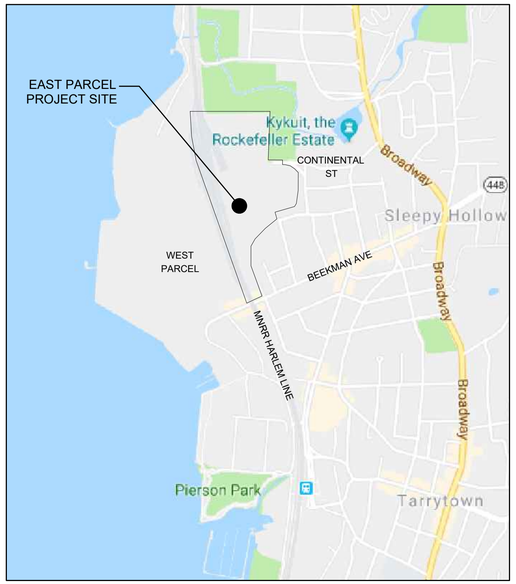
FINAL PLANS

SLEEPY HOLLOW COMMONS - PHASE 1B
WICK DRAIN AND SURCHARGE PROGRAM

PREPARED FOR THE VILLAGE OF SLEEPY HOLLOW

WESTCHESTER COUNTY, NEW YORK

INDEX OF DRAWINGS		
SHEET NO.	TITLE	DRAWING
1	TITLE AND DRAWING INDEX	TS-01
2	GENERAL NOTES - 1	GEN-01
3	LEGEND, ABBREVIATIONS AND GENERAL NOTES - 2	GEN-02
4	EXISTING CONDITIONS PLAN	EXP-01
5	OVERVIEW PLAN	OVW-01
6	GENERAL PLAN - 1	GNP-01
7	GENERAL PLAN - 2	GNP-02
8	GENERAL PLAN - 3	GNP-03
9	GENERAL PLAN - 4	GNP-04
10	STOCKPILE CROSS SECTIONS	SCS-01
11	EROSION AND SEDIMENT CONTROL PLANS - 1	ESC-01
12	EROSION AND SEDIMENT CONTROL PLANS - 2	ESC-02
13	EROSION AND SEDIMENT CONTROL PLANS - 3	ESC-03
14	EROSION AND SEDIMENT CONTROL PLANS - 4	ESC-04
15	EROSION AND SEDIMENT CONTROL DETAILS - 1	ESD-01
16	EROSION AND SEDIMENT CONTROL DETAILS - 2	ESD-02
17	GENERAL SURCHARGE AND PRELAOD FILL NOTES - 1	SCN-01
18	VERTICAL DRAIN DETAILS	VDD-01
19	VERTICAL DRAINS AND INSTRUMENTATION PLAN - 1	VDI-01
20	VERTICAL DRAINS AND INSTRUMENTATION PLAN - 2	VDI-02
21	VERTICAL DRAINS AND INSTRUMENTATION PLAN - 3	VDI-03
22	VERTICAL DRAINS AND INSTRUMENTATION PLAN - 4	VDI-04
23	INSTRUMENTATION AND MONITORING NOTES	IMN-01
24	INSTRUMENTATION DETAILS - 1	IND-01
25	INSTRUMENTATION DETAILS - 2	IND-02
26	INSTRUMENTATION DETAILS - 3	IND-03
27	INSTRUMENTATION DETAILS - 4	IND-04
28	TEMPORARY MSE WALL - NOTES AND DETAILS	WND-01



LOCATION MAP

N.T.S.

THE LATEST REVISIONS OF THE STANDARD SHEETS, WHICH ARE CURRENT ON THE DATE OF ADVERTISEMENT FOR BIDS, SHALL BE CONSIDERED TO BE IN EFFECT. ALL PAY ITEMS AND WORK CONTAQINED IN THE CONTRACT AND ANY ADDITIONAL PAY ITEMS AND WORK ENCOUNTERED DURING THE COURSE OF THE CONTRACT SHALL BE SUBJECT TO THE APPLICABLE STANDARD SHEET(S) UNLESS OTHERWISE SPECIFIED IN THE CONTRACT DOCUMENTS.

ALL WORK CONTEMPLATED UNDER THIS CONTRACT IS TO BE COVERED BY AND IN CONFORMITY WITH THE STANDARD SPECIFICATIONS (US CUSTOMARY UNITS) OF MAY 1, 2019, EXCEPT AS MODIFIED ON THESE PLANS AND IN THE ITEMIZED PROPOSAL.

CONTRACT PLANS HAVE BEEN DESIGNED IN ACCORDANCE WITH NYSDOT POLICIES AND GUIDELINES.

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT OR LAND SURVEYOR, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE STAMP OF A LICENSED PROFESSIONAL IS ALTERED, THE ALTERING ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT OR LAND SURVEYOR SHALL STAMP THE DOCUMENT AND INCLUDE THE NOTATION "ALTERED BY" FOLLOWED BY THEIR SIGNATURE. THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

SLEEPY HOLLOW
LOCAL DEVELOPMENT CORPORATION

WSP USA INC.
555 Pleasantville Road
Briarcliff Manor, NY 10510
(914) 747-1120

ENGINEER OF RECORD:

STATE OF NEW YORK
DANIEL P BRIAR
098621
LICENSED PROFESSIONAL ENGINEER

NEW YORK STATE LICENSED
PROFESSIONAL ENGINEER

KEY PLAN:

REVISIONS:

PROJECT NAME:

SLEEPY HOLLOW COMMONS PROJECT - PHASE IB

VILLAGE OF SLEEPY HOLLOW
WESTCHESTER COUNTY, NEW YORK

ISSUE DATE: 9/19/2019

PROJECT NUMBER: 188137D

SCALE: NONE

DRAWING NAME: **TITLE & DRAWING INDEX**

DRAWING NUMBER: TS-01

SHEET NUMBER: 1 OF 28

GENERAL NOTES:

1. UNLESS NOTED OTHERWISE, ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH NEW YORK STATE DEPARTMENT OF TRANSPORTATION, OFFICE OF ENGINEERING STANDARD SPECIFICATIONS – CONSTRUCTION AND MATERIALS DATED SEPTEMBER 6, 2019 AS AMENDED BY CURRENT ADDITIONS AND MODIFICATIONS THERETO, PROJECT SPECIFICATIONS INCLUDED IN THE CONTRACT DOCUMENTS, THE BUILDING CODE OF THE STATE OF NEW YORK, WESTCHESTER COUNTY DEPARTMENT OF HEALTH REGULATIONS AND LOCAL CODES HAVING JURISDICTION OVER THE WORK.

2. WHEN PROPOSED WORK SHOWN IN THE PLANS AND SPECIFICATIONS IS IN CONFLICT, THE INFORMATION IN THE SPECIFICATIONS SHALL GOVERN.

3. THE CONTRACTOR SHALL EXAMINE AND VERIFY IN THE FIELD ALL EXISTING AND GIVEN CONDITIONS AND DIMENSIONS WITH THOSE SHOWN ON THE CONTRACT DOCUMENTS. IF THE FIELD CONDITIONS AND DIMENSIONS DIFFER FROM THOSE SHOWN ON THE CONTRACT DOCUMENTS, THE CONTRACTOR SHALL NOTIFY THE ENGINEER, ALL FIELD CONDITIONS AND DIMENSIONS SHALL BE SO NOTED ON THE DRAWINGS AND SUBMITTED FOR APPROVAL.

4. THE CONTRACTOR'S ATTENTION IS DIRECTED TO THE FACT THAT, DUE TO THE NATURE OF THIS PROJECT, THE EXACT EXTENT OF WORK CAN NOT ALWAYS BE ACCURATELY DETERMINED PRIOR TO THE COMMENCEMENT OF WORK. THE CONTRACT DOCUMENTS HAVE BEEN PREPARED BASED ON FIELD INSPECTION AND OTHER INFORMATION AVAILABLE AT THE TIME. ACTUAL FIELD CONDITIONS MAY REQUIRE MODIFICATIONS TO CONSTRUCTION DETAILS AND WORK QUANTITIES. THE CONTRACTOR SHALL PERFORM THE WORK IN ACCORDANCE WITH THE FIELD CONDITIONS AND A.O.B.E.. ALL FIELD CONDITIONS AND DIMENSIONS DIFFERENT FROM THE DRAWINGS SHALL BE NOTED & SUBMITTED TO THE ENGINEER FOR APPROVAL. PAYMENT TO DO SO IS INCLUDED UNDER ITEM 625.01, SURVEY OPERATIONS.

5. ALL BIDDERS SHOULD INSPECT THE PROJECT SITE PRIOR TO SUBMITTING BIDS TO VERIFY THE FIELD CONDITIONS WHICH MAY BE ENCOUNTERED AND THE NATURE OF THE WORK TO BE DONE UNDER THIS CONTRACT. NO COMPENSATION WILL BE ALLOWED TO THE BIDDER FOR FAILURE TO INCLUDE ALL LABOR, MATERIALS AND EQUIPMENT COSTS NECESSARY TO COMPLETE THE WORK.

6. CONCURRENT WITH CONSTRUCTION WORK OF THIS CONTRACT, OTHER PROJECTS ON THIS AND ADJACENT ROADWAYS MAY BE UNDER CONSTRUCTION. THE CONTRACTOR SHALL COORDINATE HIS/HER WORK THROUGH THE ENGINEER ON ALL ONGOING CONSTRUCTION PROJECTS.

7. AGENCIES WITH WHICH THE CONTRACTOR MAY BE DIRECTLY OR INDIRECTLY INVOLVED IN NOTIFICATIONS AND COORDINATION INCLUDE BUT ARE NOT LIMITED TO THE FOLLOWING:

   A. MUNICIPAL

      1. VILLAGE OF SLEEPY HOLLOW POLICE
      2. VILLAGE OF SLEEPY HOLLOW SCHOOL DISTRICT
      3. VILLAGE OF SLEEPY HOLLOW DEPARTMENT OF PUBLIC WORKS
      4. VILLAGE OF SLEEPY HOLLOW
      5. VILLAGE OF SLEEPY HOLLOW FIRE DEPARTMENT

   B. PRIVATE COMPANIES (REFER TO INFORMATION FOR BIDDERS IN SPECIFICATIONS)

      1. CON EDISON
      2. VERIZON
      3. CABLEVISION

8. THE CONTRACTOR SHALL PERFORM ALL WORK WITH CARE SO THAT ANY MATERIALS WHICH ARE TO REMAIN IN PLACE OR WHICH ARE TO REMAIN THE PROPERTY OF THE VILLAGE WILL NOT BE DAMAGED. IF THE CONTRACTOR DAMAGES ANY MATERIALS WHICH ARE TO REMAIN THE PROPERTY OF THE VILLAGE, THE DAMAGED MATERIALS SHALL BE REPAIRED OR REPLACED IN A MANNER SATISFACTORY TO THE ENGINEER AT THE EXPENSE OF THE CONTRACTOR.

9. THE CONTRACTOR SHALL TAKE THE NECESSARY PRECAUTIONS TO AVOID FILLING CATCH BASINS WITHIN THE CONTRACT LIMITS WITH DEBRIS RESULTING FROM THEIR CONTRACT OPERATIONS, EXCEPT STRUCTURES AND PIPES TO BE ABANDONED. IN THE EVENT THE CONTRACTOR'S OPERATION DAMAGES OR BLOCKS THE DRAINAGE SYSTEM, THE CONTRACTOR SHALL AT HIS/HER OWN EXPENSE IMMEDIATELY REPAIR OR RESTORE THE DRAINAGE SYSTEM AS DIRECTED BY THE ENGINEER.

10. ROADS USED FOR HAULING MATERIALS SHALL BE MAINTAINED AND KEPT FREE FROM DEBRIS BY THE CONTRACTOR, AND SHALL BE LEFT IN A CONDITION SATISFACTORY TO THE ENGINEER. COST IS INCLUDED UNDER ITEM 619.01.

11. CONTRACTOR SHALL BE RESPONSIBLE FOR CHECKING EXISTING GRADES, ROADWAYS AND UTILITIES WHICH MAY EFFECT THE WORK.

12. CONTRACTOR SHALL ESTABLISH OR VERIFY DIMENSIONS OF EXISTING STRUCTURES, EQUIPMENT AND THEIR LOCATIONS WITH THE REQUIRED ACCURACY WHERE NEEDED.

13. CONTRACTOR SHALL FOLLOW OSHA SAFETY AND HEALTH STANDARDS (29 CFR 1925/1910, LATEST REVISION) AS WELL AS ALL STATE AND LOCAL REQUIREMENTS.

14. UTILITIES SHALL BE PROTECTED AND MAINTAINED AT ALL TIMES. CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL UTILITIES AND SHALL "MARK OUT" EACH UTILITY PRIOR TO PROCEEDING WITH ANY EXCAVATION OR SITE WORK. CONTRACTOR IS RESPONSIBLE FOR NOTIFICATION TO ALL UTILITIES BY MEANS OF CODE 753. CERTAIN UTILITIES SUCH AS TRAFFIC LOOP DETECTORS ARE NOT COVERED UNDER THE CODE 753 CALL OUT. CONTRACTOR IS RESPONSIBLE FOR COORDINATING WITH UTILITY OWNERS FOR THEIR MARK OUT AND TO MAKE ARRANGEMENTS PRIOR TO THE START OF WORK. CONTRACTOR SHALL BE HELD RESPONSIBLE FOR RESTORATION AND REPAIR OF ANY DAMAGE AT NO ADDITIONAL COST TO THE OWNER.

15. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF HIS WORK AND NEWLY INSTALLED OR EXISTING WORK, INCLUDING PROTECTION OF BUILDING OCCUPANTS, PUBLIC AND PERSONNEL. CONTRACTOR SHALL PROVIDE APPROPRIATE BARRIERS AND SAFETY MEASURES AS REQUIRED. COST FOR THIS WORK TO BE INCLUDED UNDER ITEM 619.01.

16. SUBMISSION OF CONTRACTOR'S BID IMPLIES THAT HE HAS EXAMINED THE EXISTING FACILITIES BY MEANS OF SITE INSPECTION AND OTHER MEANS, AND IS FAMILIAR WITH ALL THE REQUIREMENTS OF THE WORK. ADDITIONAL COMPENSATION REQUESTS WILL NOT BE CONSIDERED DUE TO THE CONTRACTORS FAILURE TO INFORM HIMSELF OF THE SITE CONDITIONS AND CONTRACT REQUIREMENTS.

17. THE CONTRACTOR SHALL PROVIDE ALL CUTTING AND PATCHING AS REQUIRED FOR THE INSTALLATION OF HIS WORK, COST INCLUDED UNDER THE APPROPRIATE PAY ITEMS.

18. THE CONTRACTOR SHALL PROVIDE ALL RIGGING, HOISTING, SCAFFOLDING, SHEETING, TRENCH DEWATERING, ETC. AS REQUIRED FOR THE INSTALLATION OF HIS WORK, COST INCLUDED UNDER THE APPROPRIATE PAY ITEMS.

19. ALL DEBRIS, EXCAVATION MATERIALS, ETC. SHALL BE REMOVED FROM THE R.O.W. ON A DAILY BASIS AND PROPERLY DISPOSED OF BY THE CONTRACTOR AS PER CONTRACT SPECIFICATIONS.

20. REMOVED ASPHALT SHALL BE TRANSPORTED TO ANY APPROVED RECYCLING CENTER WHERE THE WEIGHT IN TONS SHALL BE CERTIFIED TO THE MUNICIPALITY.

21. ALL CONSTRUCTION WORK SHALL BE CONFINED TO THE AREA INDICATED ON THE PLANS AND SHALL NOT BLOCK MEANS OF EGRESS.

22. UNLESS OTHERWISE STATED IN THE CONTRACT DOCUMENTS, MATERIALS (INCLUDING FINE AND COURSE AGGREGATE) AND EQUIPMENT SHALL APPEAR ON THE NYSDOT MATERIALS BUREAU APPROVED LIST. THIS LIST CAN BE FOUND ON THE NYSDOT WEBSITE. THE ENGINEER, OR HIS DESIGNEE, SHALL HAVE FINAL SAY IN WHETHER OR NOT A MATERIAL CAN BE ACCEPTED FOR USE ON THE PROJECT.

23. HORIZONTAL COORDINATES SHALL BE REPORTED ON NEW YORK STATE PLANE COORDINATE SYSTEM (NYSPCS) OF 1983, NEW YORK EAST ZONE (NAD 83) HORIZONTAL DATUM IN U.S. SURVEY FEET.ELEVATIONS SHALL BE REPORTED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88) IN U.S. SURVEY FEET.

UTILITY NOTES:

1. THE CONTRACTOR IS ALERTED TO THE RULES AND REGULATIONS OF GENERAL BUSINESS LAW ARTICLE 36 AND PUBLIC SERVICE LAW 119-b (NEW YORK STATE INDUSTRIAL CODE 53 OF TITLE 16, (16 NYCRR PART 753) AND IS DIRECTED TO COMPLY. AT LEAST 2 DAYS BUT NOT MORE THAN 10 WORKING DAYS BEFORE THE COMMENCEMENT DATE OF THE EXCAVATION OR DEMOLITION THE CONTRACTOR SHALL NOTIFY THE NEW YORK CITY ONE-CALL CENTER AT 1-800-272-4480 AND PROVIDE THE LOCATION AND DATE OF THE PROPOSED EXCAVATION OR DEMOLITION.

2. LOCATIONS OF EXISTING UTILITIES SHOWN ON THE PLANS HAVE BEEN TAKEN FROM RECORD DRAWINGS AND ARE BASED UPON THE BEST AVAILABLE INFORMATION. ACTUAL FIELD CONDITIONS MAY VARY FROM THE CONDITIONS SHOWN ON THE PLANS AND OTHER INFRASTRUCTURE NOT SHOWN MAY EXIST NEAR OR WITHIN THE AREA OF WORK. IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE EXACT LOCATIONS OF ALL UTILITIES PRIOR TO WORKING IN THE AREA AND TO AVOID INTERFERENCE.

3. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IF ANY INFRASTRUCTURE IS EXPOSED AND/OR UNDERMINED DURING THE COURSE OF CONSTRUCTION. IN THE EVENT THE CONTRACTOR DAMAGES AN EXISTING UTILITY SERVICE CAUSING AN INTERRUPTION IN SERVICE, THE CONTRACTOR WILL IMMEDIATELY NOTIFY THE ENGINEER, AND THE UTILITY COMPANY. THE CONTRACTOR SHALL COMMENCE WORK TO RESTORE SERVICE AND MAY NOT CEASE HIS WORK OPERATION UNTIL SERVICE IS RESTORED AT NO ADDITIONAL COST TO THE VILLAGE OF SLEEPY HOLLOW.

4. THE CONTRACTOR SHALL RECORD ANY UTILITIES FOUND IN THE FIELD BUT NOT SHOWN IN THE CONTRACT DRAWINGS AS PART OF THE AS-BUILT PLANS (SEE REMOVAL NOTE 4).

5. CONTRACTOR'S OPERATIONS SHALL BE SCHEDULED AND COORDINATED THROUGH THE ENGINEER, WITH THE VARIOUS AGENCIES, SUCH AS CON EDISON, VERIZON, CABLEVISION, AND THE VILLAGE OF SLEEPY HOLLOW, WHOSE FACILITIES WILL BE AFFECTED BY THIS PROJECT.

6. CONTRACTOR SHALL PROVIDE SURVEYED LOCATIONS OF ALL UNDERGROUND UTILITIES EXPOSED DURING OPERATIONS DEPICTED WITHIN THE CONTRACT DOCUMENTS AND PROVIDED TO THE VILLAGE IN PLAN FORMAT. PAYMENT INCLUDED UNDER SURVEY OPERATIONS ITEM 625.01.

7. THE CONTRACTOR IS REQUIRED TO INSTALL PREVIOUSLY PROCURED MANHOLE RISERS THAT ARE STORED AT THE PROJECT SITE. THE SURCHARGE CONTRACTOR SHALL INSTALL THE MANHOLE RISERS CONCURRENTLY WHILE THE SURCHARGE IS BEING INSTALLED AND MAKE PROVISIONS VIA PROPOSED GRADING SEQUENCE TO ALLOW THE VILLAGE OF SLEEPY HOLLOW ACCESS TO THE SANITARY SEWER MANHOLES DURING THE SURCHARGE PROCESS IN CASE MAINTENANCE OF THE ACTIVE SANITARY SEWER IS REQUIRED.

SOIL EROSION AND SEDIMENT CONTROL NOTES

1. ALL SOIL EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE INSTALLED IN ACCORDANCE WITH NEW YORK STANDARDS & SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL (NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION (NYSDEC), AUGUST 2005), OR MOST CURRENT EDITION.

2. ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE MAINTAINED UNTIL COMPLETION OF CONSTRUCTION AND SHALL BE IN ACCORDANCE WITH NYSDEC REQUIREMENTS.

3. THE VILLAGE OF SLEEPY HOLLOW, NYSDEC OR THE ENGINEER MAY REQUEST ADDITIONAL MEASURES TO MINIMIZE THE POTENTIAL FOR ONSITE OR OFFSITE EROSION PROBLEMS THAT MAY OCCUR DURING CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE FOR COMPLYING WITH THESE MEASURES.

4. NO DISTURBED AREA SHALL BE LEFT EXPOSED FOR MORE THAN 14 DAYS AFTER WORK STOPPAGE. THESE AREAS MUST IMMEDIATELY RECEIVE TEMPORARY SEED AND MULCH. IF THE SEASON PREVENTS THE ESTABLISHMENT OF A TEMPORARY COVER, THE DISTURBED AREAS WILL BE MULCHED WITH STRAW, OR EQUIVALENT MATERIAL. THE SEEDING WILL BE DONE IN ACCORDANCE WITH NEW YORK STATE STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL.

5. ANY GRADED AREAS NOT SUBJECT TO FURTHER DISTURBANCE OR CONSTRUCTION TRAFFIC SHALL, WITHIN 10 DAYS OF FINAL GRADING, RECEIVE PERMANENT VEGETATIVE COVER (SEED MIX) IN COMBINATION WITH SUITABLE MULCH AS PER THE NYSDEC, AUGUST 2005 OR LATEST EDITION.

6. PAVED AREAS SHALL BE KEPT CLEAN AT ALL TIMES.

7. IF FOR ANY REASON THE CONSTRUCTION IS HALTED FOR EXTENDED PERIODS, THE CONTRACTOR SHALL STABILIZE THE SELECT MATERIAL BY HYDRO-SEED OR OTHER MEANS, TO THE SATISFACTION OF THE ENGINEER FOR ALL AREAS DEVOID OF VEGETATION.

8. DUST CONTROL – WATER SHALL BE APPLIED BY SPRINKLER OR WATER TRUCK DURING CONSTRUCTION ACTIVITIES TO MINIMIZE SEDIMENT TRANSPORT AND MAINTAIN ACCEPTABLE AIR QUALITY CONDITIONS. REPETITIVE TREATMENTS SHALL BE DONE AS NEEDED TO THE SATISFACTION OF THE ENGINEER. WATER FOR DUST CONTROL IS INCLUDED IN ITEM 619.01.

9. THE TIMELY MAINTENANCE OF SEDIMENT CONTROL STRUCTURES IS THE RESPONSIBILITY OF THE CONTRACTOR. ALL STRUCTURES SHALL BE MAINTAINED IN GOOD WORKING ORDER AT ALL TIMES. THE SEDIMENT LEVEL IN ALL SEDIMENT TRAPS SHALL BE CLOSELY MONITORED AND SEDIMENT REMOVED PROMPTLY WHEN MAXIMUM LEVELS ARE REACHED OR AS ORDERED BY THE ENGINEER. ALL SEDIMENT CONTROL STRUCTURES SHALL BE INSPECTED WEEKLY, AND AFTER EACH RAINFALL IN EXCESS OF 1/2 INCH TO INSURE PROPER OPERATION AS DESIGNED.

10. THE CONTRACTOR SHALL REPAIR OR REPLACE DAMAGED EROSION CONTROL DEVICES IMMEDIATELY, AND IN NO CASE, MORE THAN TWENTY FOUR (24) HOURS AFTER OBSERVING OR BEING INFORMED ABOUT SUCH DEFICIENCIES.

11. THE CONTRACTOR SHALL BE PREPARED TO IMPLEMENT INTERIM DRAINAGE CONTROLS AND EROSION CONTROL MEASURES AS THE NEED ARISES DURING THE COURSE OF CONSTRUCTION.

12. THE CONTRACTOR SHALL MAKE AVAILABLE ONSITE ALL EQUIPMENT, MATERIALS AND LABOR NECESSARY TO PERFORM EMERGENCY EROSION CONTROL AND DRAINAGE IMPROVEMENTS WITHIN FOUR (4) HOURS OF ANY IMPENDING EMERGENCY SITUATION.

13. ALL SOIL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE MAINTAINED BY THE CONTRACTOR UNTIL FINAL ACCEPTANCE OF THE SITE WORK BY THE OWNER. UPON CERTIFICATION OF FINAL ACCEPTANCE, THE OWNER WILL ASSUME RESPONSIBILITY FOR THE CONTINUED MAINTENANCE OF PERMANENT SOIL EROSION AND SEDIMENT CONTROL MEASURES.

14. NO CONSTRUCTION ACTIVITIES OF ANY KIND SHOULD OCCUR WITHIN THE LIMITS OF ANY PROTECTED AREAS INCLUDING, BUT NOT LIMITED TO GRADING, EXCAVATION, STOCKPILING OF MATERIALS, STORAGE OF CONSTRUCTION EQUIPMENT, VEHICLE PARKING, MOVEMENT OF WORKERS OR MACHINERY, OR DUMPING OF CONSTRUCTION DEBRIS.

15. SOIL BORINGS HAVE BEEN TAKEN THROUGHOUT THE PROJECT AREA, BORING LOGS AND GEOTECHNICAL DATA ARE AVAILABLE IN APPENDIX E OF THE BID BOOK.

16. TEMPORARY DITCHES SHALL BE CONSTRUCTED TO PREVENT RUNOFF FROM GOING BEYOND THE R.O.W. LINES DURING CONSTRUCTION. SEPARATE PAYMENT WILL BE MADE FOR THIS WORK UNDER ITEM 203.51990006.

DEWATERING NOTES:

1. THE CONTRACTOR SHALL NOT DISCHARGE TURBID WATER INTO THE VILLAGE OF SLEEPY HOLLOW DRAINAGE SYSTEM OR ADJACENT WATERS IN SUCH A MANNER THAT WILL CAUSE A VISIBLE CONTRAST IN RECEIVING WATERS. ALL DEWATERING INVOLVING TURBID WATER SHALL BE ACCOMPLISHED BY PUMPING TO A GEOTEXTILE FABRIC SEDIMENT COLLECTION BAG ("FILTER BAG"). REFER TO FILTER BAG DETAIL ON DWG ESD-02.

ACCESS NOTES:

NW CORNER OF EAST PARCEL USED BY VILLAGE DPW FOR STAGING AND STORAGE OF VILLAGE EQUIPMENT AND MATERIALS. ACCESS TO FROM THE NW CORNER OF THE PARCEL MUST REMAIN CLEAR AND UNOBSTRUCTED AT ALL TIMES.
NE CORNER OF EAST PARCEL USED BY HISTORIC HUDSON VALLEY DURING SEASONAL EVENTS AS OVERFLOW PARKING. ACCESS TO FROM THE NE CORNER OF THE PARCEL MUST REMAIN CLEAR AND UNOBSTRUCTED DURING EVENTS. 2 WAY ACCESS AT CONTINENTAL STREET MUST BE MAINTAINED AT ALL TIMES DURING HHV EVENTS.

SLEEPY HOLLOW
LOCAL DEVELOPMENT CORPORATION

WSP USA INC.
555 Pleasantville Road
Briarcliff Manor, NY 10510
(914) 747-1120

ENGINEER OF RECORD:

STATE OF NEW YORK · DANIEL P BRIAR · 091621 · LICENSED PROFESSIONAL ENGINEER

NEW YORK STATE LICENSED PROFESSIONAL ENGINEER

KEY PLAN:

REVISIONS:

PROJECT NAME:

SLEEPY HOLLOW COMMONS PROJECT - PHASE IB

VILLAGE OF SLEEPY HOLLOW
WESTCHESTER COUNTY, NEW YORK

ISSUE DATE: 9/19/2019

PROJECT NUMBER: 188137D

SCALE: NONE

DRAWING NAME: **GENERAL NOTES - 1**

DRAWING NUMBER: GEN-01

SHEET NUMBER: 2 OF 28

SUGGESTED SEQUENCE OF OPERATIONS:

1. INSTALL TEMPORARY SILT FENCE AND ANY REQUIRED ROW FENCING AT PROJECT LIMITS.
2. CLEAR AND GRUB SITE.
3. RELOCATE EXISTING STOCKPILED MATERIALS LOCATED WITHIN THE SURCHARGE LIMITS TO PROPOSED LOCATION(S) INDICATED ON THE CONTRACT DRAWINGS.
4. PLUG, BACKFILL, AND ABANDON EXISTING STORM DRAINS AS SHOWN ON THE CONTRACT DRAWINGS.
5. INSTALL PERMANENT STEEL SHEETING BETWEEN SURCHARGE LIMITS AND EXISTING WATER MAIN ALONG CONTINENTAL STREET.
6. DEWATER EXISTING DEPRESSIONS AND LOW SPOTS IF NECESSARY WITHIN THE SURCHARGE AND PRELOAD AREA. MILL/RUBBLIZE ASPHALT AND CONCRETE SURFACE AND LOOSEN BASE AND SUBBASE IN LOCATIONS WHERE VERTICAL DRAINS WILL BE INSTALLED.
7. INSTALL EROSION AND SEDIMENT CONTROL MEASURES AROUND PERIMETER OF VERTICAL DRAIN AND SURCHARGE LIMITS.
8. INSTALL VERTICAL DRAINS. PERFORM PRE-AUGERING OR SPUDDING OR OTHER APPROVED MEASURES TO ADVANCE VERTICAL DRAINS THROUGH DENSER MATERIAL OR OBSTRUCTIONS WHERE A VIBRATED MANDREL WAS NOT ABLE TO INSTALL THE DRAINS TO THE REQUIRED DEPTH.
9. INSTALL HORIZONTAL STRIP DRAINS. PRELOAD FILL MATERIAL SHALL BE PUSHED OUT IN FRONT OF THE EARTHWORKS EQUIPMENT FOR THE FIRST ONE FEET OF FILL TO PREVENT ANY DAMAGE TO VERTICAL DRAINS OR HORIZONTAL STRIP DRAINS.
10. MOVE, SPREAD, AND COMPACT THE SURCHARGE AND PRELOAD FILL FROM ON-SITE STOCKPILES TO THE GRADES AND ELEVATIONS SHOWN ON THE CONTRACT DRAWINGS.
11. INSTALL MONITORING INSTRUMENTATION INCREMENTALLY AS NECESSARY AS ADDITIONAL LIFTS OF SURCHARGE AND PRELOAD FILL MATERIAL ARE PLACED AND COMPACTED.
12. INSTALL TEMPORARY EARTH RETAINING WALL ALONG CONTINENTAL STREET AS SURCHARGE AND PRELOAD FILL MATERIAL IS PLACED AND COMPACTED TO MAINTAIN SITE ACCESS.
13. INSTALL ROLLED EROSION CONTROL PRODUCTS ON ALL EXPOSED SLOPES ONCE SURCHARGE AND PRELOAD MATERIAL HAS BEEN PLACED TO PROPOSED ELEVATIONS. CONTRACTOR SHALL STABILIZE "AREA 1" AND "AREA 2" IMMEDIATELY AFTER THE INSTALLATION IS COMPLETE. SEE SWPPP APPENDIX H (SITE DIAGRAM 1) FOR FURTHER DETAILS.
14. MAINTAIN EROSION AND SEDIMENT CONTROL MEASURES AND MONITORING INSTRUMENTATION AND EQUIPMENT FOR THE MINIMUM DURATION OF THE SURCHARGE PERIOD AND AS DIRECTED BY THE ENGINEER.
15. REMOVE TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES AND MONITORING INSTRUMENTATION AND EQUIPMENT AT THE END OF THE SURCHARGE HOLD PERIOD (MINIMUM SIX MONTHS). NO REMOVAL SHALL BE PERFORMED WITHOUT A WRITTEN AUTHORIZATION FROM THE ENGINEER.

ESTIMATE OF QUANTITIES

ITEM NO.	DESCRIPTION	UNIT	QUANTITY
201.06	CLEARING AND GRUBBING	LS	1
203.02	UNCLASSIFIED EXCAVATION AND DISPOSAL	CY	1020
203.011000SH	EXISTING ON-SITE MATERIAL (FURNISHED BY OTHERS)	CY	90000
203.012000SH	MATERIAL FURNISHED AND PLACED IN SURCHARGE AND PRELOAD AREA BY OTHERS	CY	85000
203.020000SH	MATERIAL OBTAINED FROM OFF-SITE SOURCE BY THE CONTRACTOR	CY	0
203.030000SH	SURVEYING FOR EARTHWORK	LS	1
203.040000SH	DEWATERING WORK AREA	LS	1
204.01	CONTROLLED LOW STRENGTH MATERIAL	CY	30
203.51990006	ESTABLISHING NEW DITCHES AND SLOPES	LF	1040
209.11000001	GEOTEXTILE FABRIC SEDIMENT COLLECTION BAG	EA	1
209.110102	CHECK DAM (DITCH BOTTOM WIDTH > 3' TO 6'), STONE-TEMPORARY	EA	10
209.13	SILT FENCE-TEMPORARY	LF	1610
209.140101	SEDIMENT TRAP, EARTH BERM - TEMPORARY	EA	1
209.190201	ROLLED EROSION CONTROL PRODUCT, CLASS II TYPE B, INTERMEDIATE	SY	11080
209.22	CONSTRUCTION ENTRANCE	SY	90
490.30	MISCELLANEOUS COLD MILLING OF BITUMINOUS CONCRETE	SY	27160
552.11	PERMANENT STEEL SHEETING	SF	5040
554.000000SH	TEMPORARY MSE WALL	SF	4300
604.070101	ALTERING DRAINAGE STRUCTURES, LEACHING BASINS AND MANHOLES	EA	5
619.01	BASIC WORK ZONE TRAFFIC CONTROL	LS	1
620.03	STONE FILLING (LIGHT)	CY	193
625.01	SURVEY OPERATIONS	LS	1
634.010000SH	OBSERVATION WELLS	EA	1
634.020000SH	VIBRATING WIRE PIEZOMETERS	EA	3
634.030000SH	MAGNETIC EXTENSOMETERS	EA	3
634.040000SH	SETTLEMENT PLATES	EA	11
634.050000SH	INCLINOMETERS	EA	4
634.060000SH	SURFACE MONITORING POINTS	EA	9
634.070000SH	DEEP BENCHMARKS	EA	1
634.080000SH	SURVEYING AND MONITORING OF INSTRUMENTATION	MONTH	9
634.090000SH	PRE-CONSTRUCTION SURVEY REPORTS	LS	1
634.100000SH	POST-CONSTRUCTION SURVEY REPORTS	LS	1
637.11	ENGINEER'S FIELD OFFICE - TYPE 1	MONTH	12
637.26	RAIN GAUGE	EA	1
637.34	OFFICE TECHNOLOGY AND SUPPLIES	DC	2500
737.010000SH	VERTICAL DRAINS	LF	756000
737.020000SH	PRE-AUGERING AND SPUDDING	EA	4800
737.030000SH	HORIZONTAL STRIP DRAINS	LF	69000
737.040000SH	PERIMETER OUTLET PIPES	LF	0
697.03	FIELD CHANGE PAYMENT	DC	126000
699.040001	MOBILIZATION	LS	1

* ALL WORK DEPICTED IN THIS PLAN SET SHALL BE INCLUSIVE OF THE FOLLOWING NYSDOT ITEM NUMBERS

LEGEND

- 179.3 x – SPOT ELEVATION
- – ORNAMENTAL SHRUB
- – EVERGREEN TREE
- – DECIDUOUS TREE
- – EXISTING SANITARY SEWER MANHOLE
- – EXISTING DRAINAGE MANHOLE
- – TELEPHONE MANHOLE
- – MONITORING WELL
- S – SANITARY SEWER SERVICE
- – UTILITY POLE
- – CHAIN LINK FENCE
- – STOCKADE FENCE
- – METAL FENCE
- – LIGHT POLE
- – SIGN POST
- GV – GAS VALVE
- WV – WATER VALVE
- – FIRE HYDRANT
- – EXISTING CATCH BASIN
- – FIELD INLET CATCH BASIN
- – STONE WALL
- – EXISTING DRAINAGE LINE
- GM – EXISTING GAS MAIN
- WM – EXISTING WATER MAIN
- – BENCHMARK
- – WATER SHUTOFF
- – PROPOSED SANITARY SEWER MANHOLE
- – PROPOSED DRAINAGE MANHOLE
- – PROPOSED DRAINAGE CATCH BASIN
- – PROPOSED TEST PIT
- – PROPOSED CONSTRUCTION FENCING
- – PROPOSED SILT FENCING
- – PROPERTY LINE
- HB – HIGHWAY BOUNDARY
- SA – PROPOSED SANITARY
- SAF – PROPOSED SANITARY FORCE MAIN
- – PROPOSED BURIED TEMPORARY WATER
- – PROPOSED ABOVE GROUND TEMPORARY WATER

ABBREVIATIONS

4" P.C.	4" PLASTIC CONDUIT (TELEPHONE)
MCOD	MULTIPLE CONCRETE DUCT (TELEPHONE)
MTD	MULTIPLE TILE DUCT (TELEPHONE)
STD	SINGLE TILE DUCT (TELEPHONE)
4" P.C.	4" PLASTIC TELEPHONE CONDUIT
CWD	CREOSOTED WOOD DUCT (TELEPHONE)
WIP	WROUGHT IRON PIPE (TELEPHONE)
BSP	BLACK STEEL PIPE (TELEPHONE)
CULV.	CULVERT
BM	BENCHMARK
SPK	SPIKE
ELEC	ELECTRIC
CHIM	CHIMNEY
GIS	GEOGRAPHIC INFORMATION SYSTEM
TMH	TELEPHONE MANHOLE
CR	COUNTY ROAD
SH	STATE HIGHWAY
ELEV.	ELEVATION
CONC.	CONCRETE
UTP	UTILITY POLE
WSO	WATER SHUTOFF
EIC	ENGINEER IN CHARGE
M&PT	MAINTENANCE AND PROTECTION OF TRAFFIC
A.O.B.E.	AS ORDERED BY ENGINEER
RCP	REINFORCED CONCRETE PIPE
HECP	HORIZONTAL ELLIPTICAL CONCRETE PIPE
ACP	ASBESTOS CONCRETE PIPE
OHW	OVERHEAD WIRES
UT	UNDERGROUND TELEPHONE

REVISED NOTES AND ESTIMATE OF QUANTITIES TABLE

THIS SHEET SUPERCEDES SHEET 3A1

SLEEPY HOLLOW
LOCAL DEVELOPMENT CORPORATION

WSP USA INC.
555 Pleasantville Road
Briarcliff Manor, NY 10510
(914) 747-1120

ENGINEER OF RECORD:
DANIEL P BRADY – STATE OF NEW YORK – LICENSED PROFESSIONAL ENGINEER – 091621
NEW YORK STATE LICENSED PROFESSIONAL ENGINEER

KEY PLAN:

REVISIONS:

NO.	DESCRIPTION	DATE
1	ADDENDUM #2	1/7/20

PROJECT NAME:

SLEEPY HOLLOW COMMONS PROJECT - PHASE IB

VILLAGE OF SLEEPY HOLLOW WESTCHESTER COUNTY, NEW YORK

ISSUE DATE: 9/19/2019

PROJECT NUMBER: 188137D

SCALE: NONE

DRAWING NAME: **GENERAL NOTES - 2**

DRAWING NUMBER: GEN-02

SHEET NUMBER: 3A2 OF 28

ACTIVE 18" WATER MAIN

CONTINENTAL ST.

EXISTING ABANDONED 18" WATER MAIN CAPPED AT THIS POINT

EXISTING SEWER PREVIOUSLY ABANDONED DURING PHASE 1 UTILITY RELOCATIONS

EXISTING STORM DRAINS TO BE PLUGGED AND ABANDONDED IN PLACE

PORTION OF EAST PARCEL TO REMAIN CLEAR AND UNOBSTRUCTED FOR VILLAGE/HHV USE DURING SEASONAL EVENTS.

EXISTING STOCKPILE MATERIAL (PHASE 1A WORK) UNSUITABLE FOR USE AS SURCHARGE BACKFILL (APPROX. 6,000 CY)

APPROXIMATE LOCATIONS OF EXISTING DEPRESSIONS AND LOW SPOTS WITHIN SURCHARGE AND PRELOAD AREA

APPROXIMATE LOCATION OF PREVIOUSLY ACQUIRED STOCKPILED MANHOLE RISERS TO BE USED FOR MANHOLE ADJUSTMENTS (SEE GNP-02 & 03)

APPROXIMATE LOCATION OF PREVIOUSLY STOCKPILED ASPHALT AND CONCRETE MATERIAL FROM PHASE 1A WORK

NEW 24" SANITARY SEWER SEE NOTE 1

NEW 18" WATER MAIN SEE NOTE 1

ABANDONED 18" WATER MAIN

Existing Stockpile

PORTION OF EAST PARCEL TO REMAIN CLEAR AND UNOBSTRUCTED FOR VILLAGE DPW USE DURING SEASONAL EVENTS (SEE ACCESS NOTES ON GEN-01)

EXISTING STOCKPILE MATERIAL FOR USE AS SURCHARGE BACKFILL (APPROX. 30,000 CY)

NOTES:

1.) CONTRACTOR TO ENSURE OPERATIONS DO NOT DAMAGE NEWLY INSTALLED WATER/SEWER STRUCTURES/PIPING WITHIN PROJECT AREA.

REVISED/ADDED CALLOUTS

THIS SHEET SUPERCEDES SHEET 4

60 0 30 60 120

GRAPHIC SCALE (IN FEET)

SLEEPY HOLLOW
LOCAL DEVELOPMENT CORPORATION

WSP USA INC.
555 Pleasantville Road
Briarcliff Manor, NY 10510
(914) 747-1120

ENGINEER OF RECORD:

STATE OF NEW YORK · DANIEL P BRIAR · 091621 · LICENSED PROFESSIONAL ENGINEER

NEW YORK STATE LICENSED PROFESSIONAL ENGINEER

KEY PLAN:

REVISIONS:

NO.	DESCRIPTION	DATE
1	ADDENDUM #2	1/7/20

PROJECT NAME:

SLEEPY HOLLOW COMMONS PROJECT - PHASE IB

VILLAGE OF SLEEPY HOLLOW WESTCHESTER COUNTY, NEW YORK

ISSUE DATE: 9/19/2019

PROJECT NUMBER: 188137D

SCALE: AS SHOWN

DRAWING NAME: **EXISTING CONDITIONS PLAN**

DRAWING NUMBER: EXP-01

SHEET NUMBER: 4A1 OF 28

PROPOSED SURCHARGE AND PRELOAD LIMITS

MSE WALL PROFILE

NORTH-SOUTH PROFILE

WEST-EAST PROFILE

GNP/ESC/VDI 01 & 02 MATCHLINE

GNP/ESC/VDI 01 & 03 MATCHLINE

GNP/ESC/VDI 02 & 04 MATCHLINE

GNP/ESC/VDI 03 & 04 MATCHLINE

Existing Stockpile

0+00 1+00 2+00 3+00 3+44

10+00 11+00 12+00 13+00 14+00 15+00 16+02

20+00 21+00 22+00 23+00 24+00 25+00 26+00 27+00 27+33

25.00 23.00 20.00 16.00 15.00 10.00

60 0 30 60 120

GRAPHIC SCALE (IN FEET)

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LOCAL DEVELOPMENT CORPORATION

WSP USA INC.
555 Pleasantville Road
Briarcliff Manor, NY 10510
(914) 747-1120

ENGINEER OF RECORD:

STATE OF NEW YORK · DANIEL P BRIAR · 091621 · LICENSED PROFESSIONAL ENGINEER

NEW YORK STATE LICENSED PROFESSIONAL ENGINEER

KEY PLAN:

REVISIONS:

PROJECT NAME:

SLEEPY HOLLOW COMMONS PROJECT - PHASE IB

VILLAGE OF SLEEPY HOLLOW WESTCHESTER COUNTY, NEW YORK

ISSUE DATE: 9/19/2019

PROJECT NUMBER: 188137D

SCALE: AS SHOWN

DRAWING NAME: **OVERVIEW PLAN**

DRAWING NUMBER: OVW-01

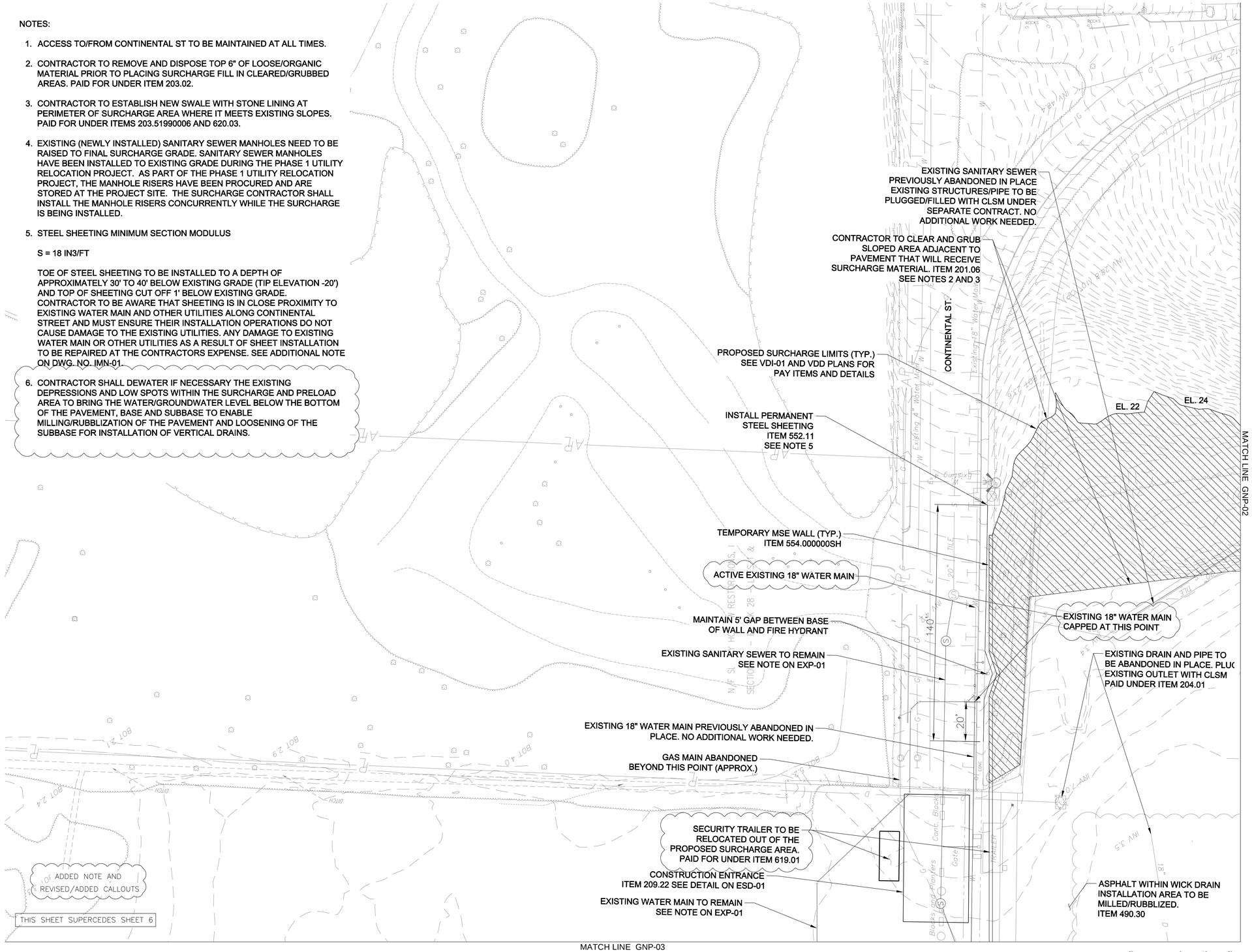
SHEET NUMBER: 5 OF 28

NOTES:

1. ACCESS TO/FROM CONTINENTAL ST TO BE MAINTAINED AT ALL TIMES.
2. CONTRACTOR TO REMOVE AND DISPOSE TOP 6" OF LOOSE/ORGANIC MATERIAL PRIOR TO PLACING SURCHARGE FILL IN CLEARED/GRUBBED AREAS. PAID FOR UNDER ITEM 203.02.
3. CONTRACTOR TO ESTABLISH NEW SWALE WITH STONE LINING AT PERIMETER OF SURCHARGE AREA WHERE IT MEETS EXISTING SLOPES. PAID FOR UNDER ITEMS 203.51990006 AND 620.03.
4. EXISTING (NEWLY INSTALLED) SANITARY SEWER MANHOLES NEED TO BE RAISED TO FINAL SURCHARGE GRADE. SANITARY SEWER MANHOLES HAVE BEEN INSTALLED TO EXISTING GRADE DURING THE PHASE 1 UTILITY RELOCATION PROJECT. AS PART OF THE PHASE 1 UTILITY RELOCATION PROJECT, THE MANHOLE RISERS HAVE BEEN PROCURED AND ARE STORED AT THE PROJECT SITE. THE SURCHARGE CONTRACTOR SHALL INSTALL THE MANHOLE RISERS CONCURRENTLY WHILE THE SURCHARGE IS BEING INSTALLED.
5. STEEL SHEETING MINIMUM SECTION MODULUS

   S = 18 IN3/FT

   TOE OF STEEL SHEETING TO BE INSTALLED TO A DEPTH OF APPROXIMATELY 30' TO 40' BELOW EXISTING GRADE (TIP ELEVATION -20') AND TOP OF SHEETING CUT OFF 1' BELOW EXISTING GRADE. CONTRACTOR TO BE AWARE THAT SHEETING IS IN CLOSE PROXIMITY TO EXISTING WATER MAIN AND OTHER UTILITIES ALONG CONTINENTAL STREET AND MUST ENSURE THEIR INSTALLATION OPERATIONS DO NOT CAUSE DAMAGE TO THE EXISTING UTILITIES. ANY DAMAGE TO EXISTING WATER MAIN OR OTHER UTILITIES AS A RESULT OF SHEET INSTALLATION TO BE REPAIRED AT THE CONTRACTORS EXPENSE. SEE ADDITIONAL NOTE ON DWG. NO. IMN-01.
6. CONTRACTOR SHALL DEWATER IF NECESSARY THE EXISTING DEPRESSIONS AND LOW SPOTS WITHIN THE SURCHARGE AND PRELOAD AREA TO BRING THE WATER/GROUNDWATER LEVEL BELOW THE BOTTOM OF THE PAVEMENT, BASE AND SUBBASE TO ENABLE MILLING/RUBBLIZATION OF THE PAVEMENT AND LOOSENING OF THE SUBBASE FOR INSTALLATION OF VERTICAL DRAINS.



SLEEPY HOLLOW
LOCAL DEVELOPMENT CORPORATION

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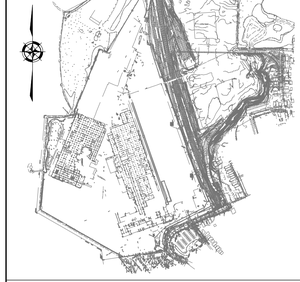
555 Pleasantville Road
Briarcliff Manor, NY 10510
(914) 747-1120

ENGINEER OF RECORD:

STATE OF NEW YORK · DANIEL P BRIAR · 091621 · LICENSED PROFESSIONAL ENGINEER

NEW YORK STATE LICENSED PROFESSIONAL ENGINEER

KEY PLAN:



REVISIONS:

NO.	DESCRIPTION	DATE
1	ADDENDUM #2	1/7/20

PROJECT NAME:

SLEEPY HOLLOW COMMONS PROJECT - PHASE IB

VILLAGE OF SLEEPY HOLLOW WESTCHESTER COUNTY, NEW YORK

ISSUE DATE: 9/19/2019

PROJECT NUMBER: 188137D

SCALE: AS SHOWN

DRAWING NAME: **GENERAL PLAN - 1**

DRAWING NUMBER: GNP-01

SHEET NUMBER: 6A1 OF 28

NOTES:

1. SEE NOTES ON DRAWING GNP-01.

CONTRACTOR TO CLEAR AND GRUB SLOPED AREA ADJACENT TO PAVEMENT THAT WILL RECEIVE SURCHARGE MATERIAL. ITEM 201.06 SEE NOTES 2 AND 3 ON GNP-01

PROPOSED SURCHARGE LIMITS (TYP.) SEE VDI-02 AND VDD PLANS FOR PAY ITEMS AND DETAILS

EXISTING SANITARY SEWER PREVIOUSLY ABANDONED IN PLACE EXISTING STRUCTURES/PIPE PREVIOUSLY PLUGGED/FILLED WITH CLSM UNDER SEPARATE CONTRACT. NO ADDITIONAL WORK NEEDED.

RELOCATE PREVIOUSLY ACQUIRED STOCKPILED MANHOLE RISERS TO BE USED FOR MANHOLE ADJUSTMENTS SEE GNP-03 FOR NEW STOCKPILE LOCATION PAID FOR UNDER ITEM 604.070101

6,000 CY MATERIAL UNSUITABLE FOR USE AS BACKFILL FOR SURCHARGE

RELOCATE UNSUITABLE MATERIAL OUTSIDE OF THE PROPOSED SURCHARGE LIMITS. SEE GNP-03 FOR PROPOSED LOCATION. PAID FOR UNDER ITEM 203.010000 SH SEE SPECIAL NOTE 1 IN CONTRACT DOCUMENTS

ASPHALT WITHIN WICK DRAIN INSTALLATION AREA TO BE MILLED/RUBBLIZED. ITEM 490.30.

EL. 24

EL. 24

EL. 22

MATCH LINE GNP-01

MATCH LINE GNP-04

GRAPHIC SCALE (IN FEET)
30 0 15 30 60

SLEEPY HOLLOW
LOCAL DEVELOPMENT CORPORATION

WSP USA INC.
555 Pleasantville Road
Briarcliff Manor, NY 10510
(914) 747-1120

ENGINEER OF RECORD:

STATE OF NEW YORK · DANIEL P BRIAN · 091621 · LICENSED PROFESSIONAL ENGINEER

NEW YORK STATE LICENSED PROFESSIONAL ENGINEER

KEY PLAN:

REVISIONS:

PROJECT NAME:

SLEEPY HOLLOW COMMONS PROJECT - PHASE IB

VILLAGE OF SLEEPY HOLLOW WESTCHESTER COUNTY, NEW YORK

ISSUE DATE: 9/19/2019

PROJECT NUMBER: 188137D

SCALE: AS SHOWN

DRAWING NAME: **GENERAL PLAN - 2**

DRAWING NUMBER: GNP-02

SHEET NUMBER: 7 OF 28

MATCH LINE GNP-01

NOTES:

1. SEE NOTES ON DRAWING GNP-01.

EXISTING GEOTUBE DEWATERING AND STOCKPILE AREA

TEMPORARY MSE WALL (TYP.) ITEM 554.000000SH

EXISTING DRAIN AND PIPE TO BE ABANDONED IN PLACE. PLUG EXISTING OUTLET WITH CLSM PAID UNDER ITEM 204.01

ASPHALT WITHIN WICK DRAIN INSTALLATION AREA TO BE MILLED/RUBBLIZED. ITEM 490.30

+/-2'

EXISTING SANITARY SEWER TO REMAIN SEE NOTE ON EXP-01

PROPOSED STOCKPILE LOCATION FOR PREVIOUSLY ACQUIRED MANHOLE RISERS TO BE USED FOR MANHOLE ADJUSTMENTS SEE GNP-02 FOR EXISTING STOCKPILE LOCATION

EXISTING WATER MAIN TO REMAIN SEE NOTE ON EXP-01

ADJUST EXISTING SANITARY SEWER MANHOLE TO IN SURCHARGE AREA TO FINAL STOCKPILE GRADE. (TYP.) ITEM 604.070101 SEE NOTE ON GNP-01

PROPOSED SURCHARGE LIMITS (TYP.) SEE VDI-03 AND VDD PLANS FOR PAY ITEMS AND DETAILS

PROPOSED LOCATION FOR RELOCATED 6,000 CY OF UNSUITABLE MATERIALS FROM STOCKPILES ON GNP-02

MATCH LINE GNP-04

30 0 15 30 60

GRAPHIC SCALE (IN FEET)

SLEEPY HOLLOW
LOCAL DEVELOPMENT CORPORATION

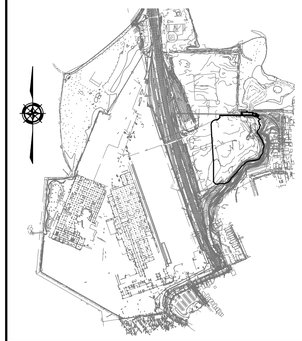
WSP USA INC.
555 Pleasantville Road
Briarcliff Manor, NY 10510
(914) 747-1120

ENGINEER OF RECORD:

STATE OF NEW YORK · DANIEL P BRAM · LICENSED PROFESSIONAL ENGINEER · 091621

NEW YORK STATE LICENSED PROFESSIONAL ENGINEER

KEY PLAN:



REVISIONS:

PROJECT NAME:

SLEEPY HOLLOW COMMONS PROJECT - PHASE IB

VILLAGE OF SLEEPY HOLLOW WESTCHESTER COUNTY, NEW YORK

ISSUE DATE: 9/19/2019

PROJECT NUMBER: 188137D

SCALE: AS SHOWN

DRAWING NAME: **GENERAL PLAN - 3**

DRAWING NUMBER: GNP-03

SHEET NUMBER: 8 OF 28

MATCH LINE GNP-02

MATCH LINE GNP-03

ASPHALT WITHIN WICK DRAIN INSTALLATION AREA TO BE MILLED/RUBBLIZED. ITEM 490.30

CONTRACTOR TO CLEAR AND GRUB SLOPED AREA ADJACENT TO PAVEMENT THAT WILL RECEIVE SURCHARGE MATERIAL. ITEM 201.06 SEE NOTES 2 AND 3 ON GNP-01

+/-18'

+/-18'

+/-18'

+/-4'

EAST PARCEL
SECTION 15 – BLOCK 15 – LOT 1
28.291 ACRES (1,232,334 SQ. FT)

EXISTING SANITARY SEWER TO REMAIN

ADJUST EXISTING SANITARY SEWER MANHOLE TO IN SURCHARGE AREA TO FINAL STOCKPILE GRADE. (TYP.) ITEM 604.070101 SEE NOTE ON GNP-01

PROPOSED SURCHARGE LIMITS (TYP.) SEE VDI-04 AND VDD PLANS FOR PAY ITEMS AND DETAILS

EXISTING SANITARY SEWER PREVIOUSLY ABANDONED IN PLACE EXISTING STRUCTURES/PIPE TO BE PLUGGED/FILLED WITH CLSM UNDER SEPARATE CONTRACT. NO ADDITIONAL WORK NEEDED.

APPROXIMATE LOCATION OF EXISTING DRAINAGE MANHOLE TO BE ABANDONED. CONTRACTOR TO REMOVE COVER, EXCAVATE TO INVERT DEPTH (APPROXIMATELY 7' BELOW RIM) AND CUT EXISTING INLET PIPE 12" FROM CONNECTION TO STRUCTURE. AFTER CUTTING PIPES, PIT TO BE BACKFILLED TO 12" ABOVE INVERT DEPTH WITH LIGHT STONE FILL. ALL WORK TO BE PAID FOR UNDER ITEM 203.02.

EXISTING STOCKPILE
APPROX. 5,000 CY MATERIAL

EXISTING STOCKPILE
APPROX. 25,000 CY MATERIAL

EXISTING STOCKPILE MATERIAL FOR USE AS SURCHARGE FILL RELOCATION, PLACEMENT, COMPACTION TO BE PAID UNDER ITEM 203.000000SH. SEE SPECIAL NOTE 1 IN CONTRACT DOCUMENTS.

NOTES:

1. SEE NOTES ON DRAWING GNP-01.

30 0 15 30 60
GRAPHIC SCALE (IN FEET)

SLEEPY HOLLOW
LOCAL DEVELOPMENT CORPORATION

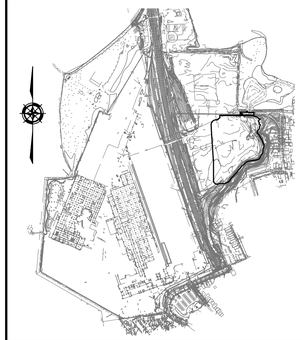
WSP USA INC.
555 Pleasantville Road
Briarcliff Manor, NY 10510
(914) 747-1120

ENGINEER OF RECORD:

STATE OF NEW YORK · DANIEL P BRIAN · LICENSED PROFESSIONAL ENGINEER · 091621

NEW YORK STATE LICENSED PROFESSIONAL ENGINEER

KEY PLAN:



REVISIONS:

PROJECT NAME:

SLEEPY HOLLOW COMMONS PROJECT - PHASE IB

VILLAGE OF SLEEPY HOLLOW
WESTCHESTER COUNTY, NEW YORK

ISSUE DATE: 9/19/2019

PROJECT NUMBER: 188137D

SCALE: AS SHOWN

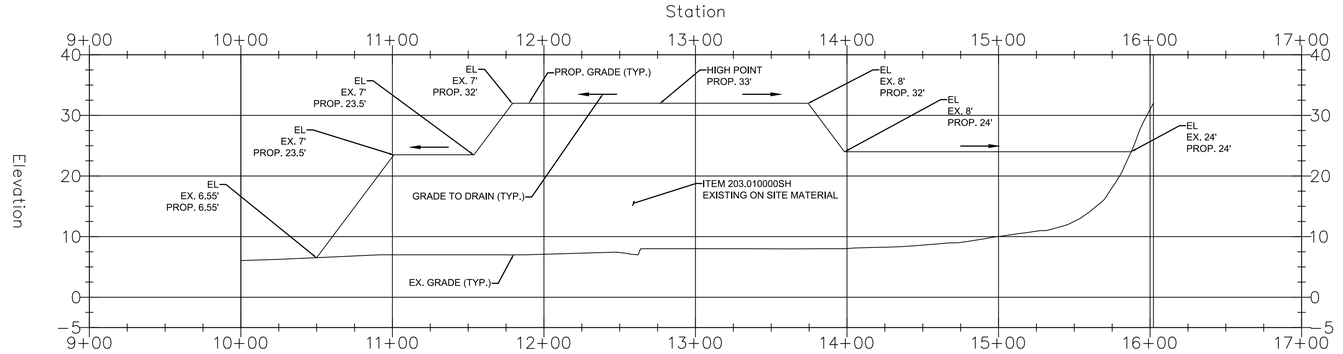
DRAWING NAME: **GENERAL PLAN - 4**

DRAWING NUMBER: GNP-04

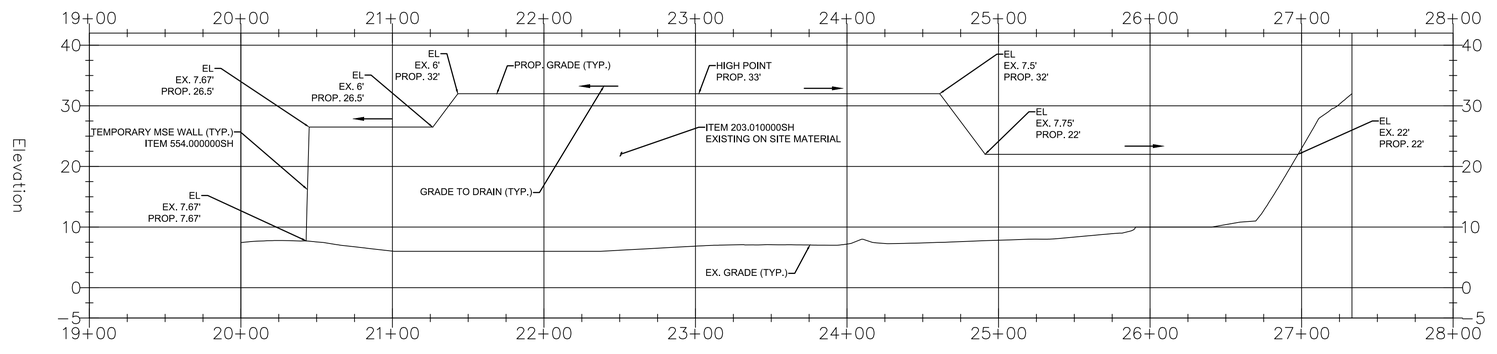
SHEET NUMBER: 9 OF 28

Drawing Path\Name: L:\Proj\188810\A-Continental\3_CADD\AutoCAD\1_Working\Wick&Drain and Surcharge Plans\General Plans_.dwg Printed: Sep 27, 2019, 5:05pm Layout: GNP-04

West–East PROFILE



North–South PROFILE



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WSP USA INC.
555 Pleasantville Road
Briarcliff Manor, NY 10510
(914) 747-1120

ENGINEER OF RECORD:

STATE OF NEW YORK · DANIEL P BRIAN · 091621 · LICENSED PROFESSIONAL ENGINEER

NEW YORK STATE LICENSED
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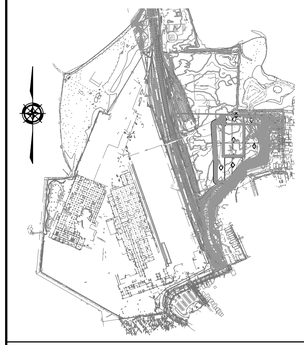


REVISIONS:

PROJECT NAME:

SLEEPY HOLLOW COMMONS PROJECT - PHASE IB

VILLAGE OF SLEEPY HOLLOW
WESTCHESTER COUNTY, NEW YORK

ISSUE DATE: 9/19/2019

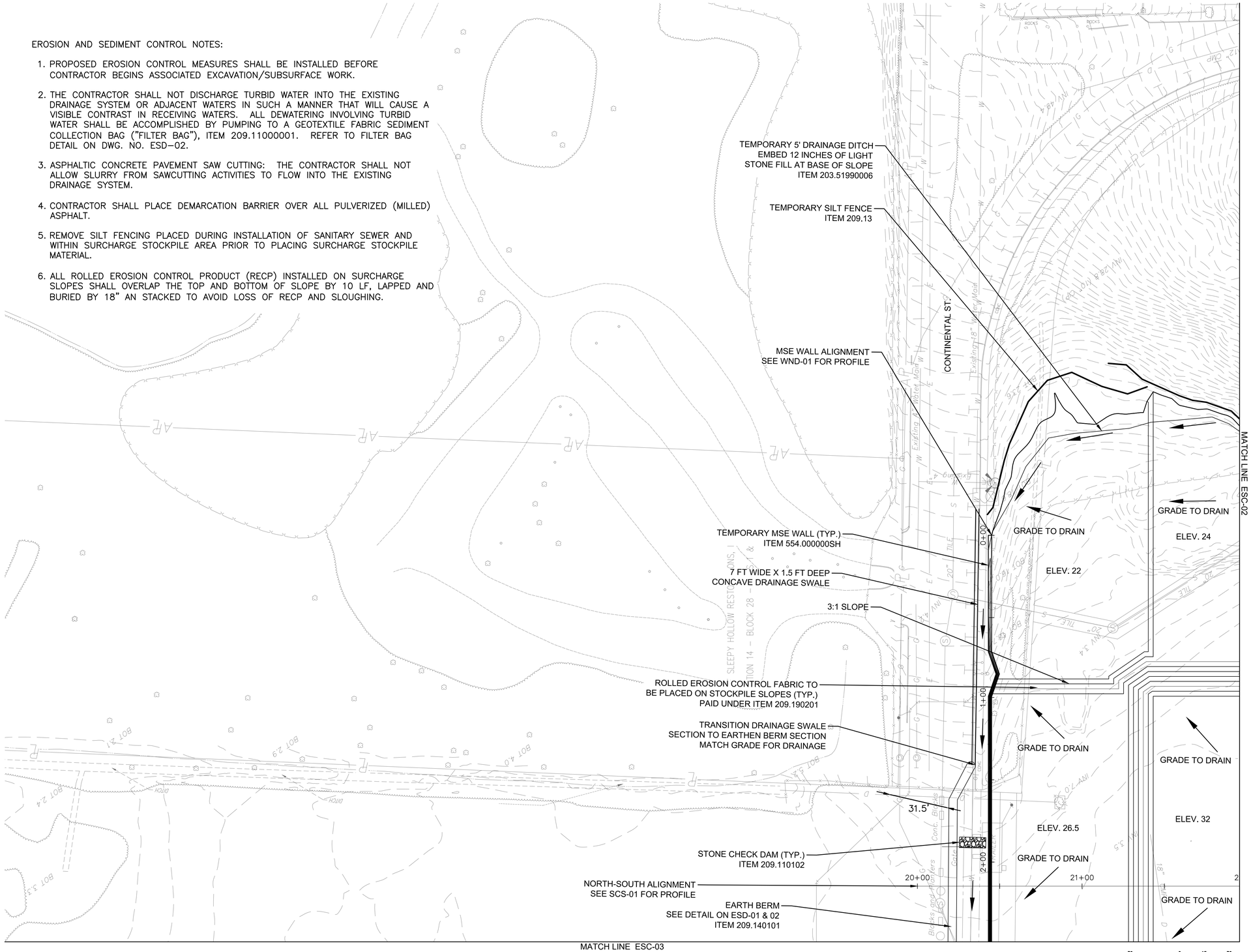
PROJECT NUMBER:	SCALE:
188137D	AS SHOWN

DRAWING NAME:
SURCHARGE AND PRELOAD FILL CROSS SECTIONS

DRAWING NUMBER:	SHEET NUMBER:
SCS-01	10 OF 28

EROSION AND SEDIMENT CONTROL NOTES:

1. PROPOSED EROSION CONTROL MEASURES SHALL BE INSTALLED BEFORE CONTRACTOR BEGINS ASSOCIATED EXCAVATION/SUBSURFACE WORK.
2. THE CONTRACTOR SHALL NOT DISCHARGE TURBID WATER INTO THE EXISTING DRAINAGE SYSTEM OR ADJACENT WATERS IN SUCH A MANNER THAT WILL CAUSE A VISIBLE CONTRAST IN RECEIVING WATERS. ALL DEWATERING INVOLVING TURBID WATER SHALL BE ACCOMPLISHED BY PUMPING TO A GEOTEXTILE FABRIC SEDIMENT COLLECTION BAG ("FILTER BAG"), ITEM 209.11000001. REFER TO FILTER BAG DETAIL ON DWG. NO. ESD–02.
3. ASPHALTIC CONCRETE PAVEMENT SAW CUTTING: THE CONTRACTOR SHALL NOT ALLOW SLURRY FROM SAWCUTTING ACTIVITIES TO FLOW INTO THE EXISTING DRAINAGE SYSTEM.
4. CONTRACTOR SHALL PLACE DEMARCATION BARRIER OVER ALL PULVERIZED (MILLED) ASPHALT.
5. REMOVE SILT FENCING PLACED DURING INSTALLATION OF SANITARY SEWER AND WITHIN SURCHARGE STOCKPILE AREA PRIOR TO PLACING SURCHARGE STOCKPILE MATERIAL.
6. ALL ROLLED EROSION CONTROL PRODUCT (RECP) INSTALLED ON SURCHARGE SLOPES SHALL OVERLAP THE TOP AND BOTTOM OF SLOPE BY 10 LF, LAPPED AND BURIED BY 18" AN STACKED TO AVOID LOSS OF RECP AND SLOUGHING.



SLEEPY HOLLOW
LOCAL DEVELOPMENT CORPORATION

WSP USA INC.
555 Pleasantville Road
Briarcliff Manor, NY 10510
(914) 747-1120

ENGINEER OF RECORD:

STATE OF NEW YORK · DANIEL P BRIAR · 091621 · LICENSED PROFESSIONAL ENGINEER

NEW YORK STATE LICENSED
PROFESSIONAL ENGINEER

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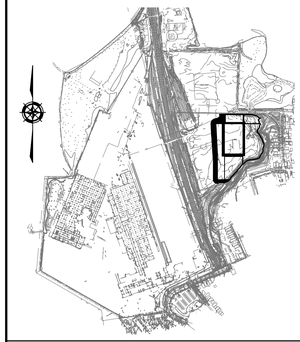

REVISIONS:

PROJECT NAME:

SLEEPY HOLLOW COMMONS PROJECT - PHASE IB

VILLAGE OF SLEEPY HOLLOW
WESTCHESTER COUNTY, NEW YORK

ISSUE DATE: 9/19/2019	
PROJECT NUMBER: 188137D	SCALE: AS SHOWN
DRAWING NAME: **EROSION AND SEDIMENT CONTROL PLAN - 1**	
DRAWING NUMBER: ESC-01	SHEET NUMBER: 11 OF 28

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EROSION AND SEDIMENT CONTROL NOTES:

1. SEE NOTES ON ESC-01.

WEST-EAST ALIGNMENT
SEE SCS-01 FOR PROFILE

PROPOSED SURCHARGE LIMITS (TYP.)
SEE WSP-02 AND WSD PLANS FOR
PAY ITEMS AND DETAILS

TEMPORARY 5' DRAINAGE DITCH
EMBED 12 INCHES OF LIGHT
STONE FILL AT BASE OF SLOPE
ITEM 203.51990006

ROLLED EROSION CONTROL FABRIC TO
BE PLACED ON STOCKPILE SLOPES (TYP.)
PAID UNDER ITEM 209.190201

3:1 SLOPE

TEMPORARY SILT FENCE
ITEM 209.13

NORTH-SOUTH ALIGNMENT
SEE SCS-01 FOR PROFILE

16+02

16+00

15+00

14+00

13+00

25.00

HIGH POINT
ELEV. 25'

HIGH POINT
ELEV. 33'

ELEV. 24

ELEV. 32

ELEV. 22

GRADE TO DRAIN

2+00

23+00

24+00

25+00

26+00

27+00

27+33

MATCH LINE ESC-01

MATCH LINE ESC-04

GRAPHIC SCALE (IN FEET)
30 0 15 30 60

SLEEPY HOLLOW
LOCAL DEVELOPMENT CORPORATION

WSP USA INC.
555 Pleasantville Road
Briarcliff Manor, NY 10510
(914) 747-1120

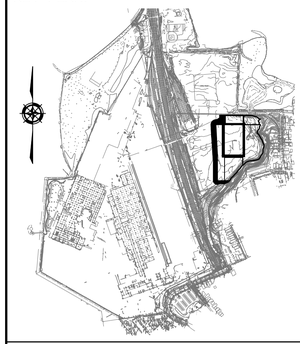
ENGINEER OF RECORD:

STATE OF NEW YORK
DANIEL P BRUNO
LICENSED PROFESSIONAL ENGINEER
091621

NEW YORK STATE LICENSED
PROFESSIONAL ENGINEER

UNAUTHORIZED ALTERATIONS AND ADDITIONS TO THIS DRAWING IS A VIOLATION OF SECTION 7209 (2) OF THE NEW YORK STATE EDUCATION LAW

KEY PLAN:



REVISIONS:

PROJECT NAME:

SLEEPY HOLLOW COMMONS PROJECT - PHASE IB

VILLAGE OF SLEEPY HOLLOW
WESTCHESTER COUNTY, NEW YORK

ISSUE DATE: 9/19/2019

PROJECT NUMBER: 188137D

SCALE: AS SHOWN

DRAWING NAME: **EROSION AND SEDIMENT CONTROL PLAN - 2**

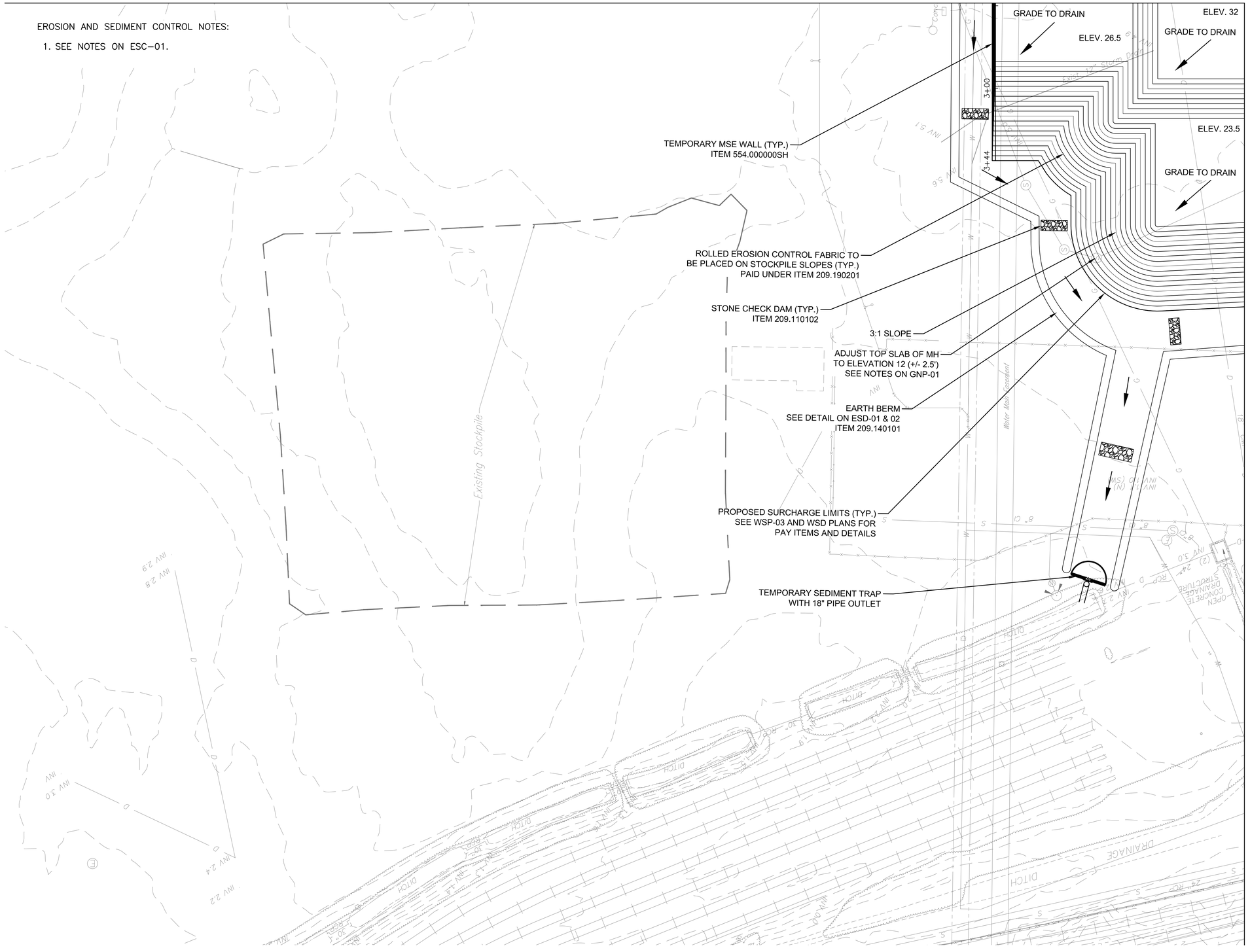
DRAWING NUMBER: ESC-02

SHEET NUMBER: 12 OF 28

MATCH LINE ESC-01

EROSION AND SEDIMENT CONTROL NOTES:

1. SEE NOTES ON ESC–01.



30 0 15 30 60

GRAPHIC SCALE (IN FEET)

SLEEPY HOLLOW
LOCAL DEVELOPMENT CORPORATION

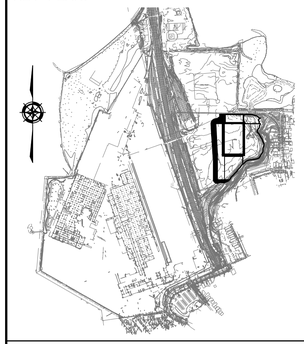
WSP USA INC.
555 Pleasantville Road
Briarcliff Manor, NY 10510
(914) 747-1120

ENGINEER OF RECORD:

STATE OF NEW YORK · DANIEL P. BRIAN · 091821 · LICENSED PROFESSIONAL ENGINEER

NEW YORK STATE LICENSED
PROFESSIONAL ENGINEER

KEY PLAN:



REVISIONS:

PROJECT NAME:

SLEEPY HOLLOW COMMONS PROJECT - PHASE IB

VILLAGE OF SLEEPY HOLLOW
WESTCHESTER COUNTY, NEW YORK

ISSUE DATE: 9/19/2019

PROJECT NUMBER:	SCALE:
188137D	AS SHOWN

DRAWING NAME: **EROSION AND SEDIMENT CONTROL PLAN - 3**

DRAWING NUMBER:	SHEET NUMBER:
ESC-03	13 OF 28

MATCH LINE ESC-02

GRADE TO DRAIN

ELEV. 32

ADJUST TOP SLAB OF MH TO ELEVATION 27 (+/- 18') SEE NOTES ON GNP-01

GRADE TO DRAIN

GRADE TO DRAIN

GRADE TO DRAIN

TEMPORARY SILT FENCE ITEM 209.13

GRADE TO DRAIN

ELEV. 23.5

GRADE TO DRAIN

ADJUST TOP SLAB OF MH TO ELEVATION 27 (+/- 18') SEE NOTES ON GNP-01

12+00

11+00

10+00

25.00

23.00

20.00

20.00

20.00

16.00

15.00

15.00

15.00

10.00

10.00

3:1 SLOPE

ADJUST TOP SLAB OF MH TO ELEVATION 27 (+/- 18') SEE NOTES ON GNP-01

STONE CHECK DAM (TYP.) ITEM 209.110102

ADJUST TOP SLAB OF MH TO ELEVATION 13 (+/- 3.5') SEE NOTES ON GNP-01

EARTH BERM SEE DETAIL ON ESD-01 & 02 ITEM 209.140101

PROPOSED SURCHARGE LIMITS (TYP.) SEE WSP-04 AND WSD PLANS FOR PAY ITEMS AND DETAILS

ROLLED EROSION CONTROL FABRIC TO BE PLACED ON STOCKPILE SLOPES (TYP.) PAID UNDER ITEM 209.190201

WEST-EAST ALIGNMENT SEE SCS-01 FOR PROFILE

MATCH LINE ESC-03

12" Westchester County Sanitary Sewer Easement

40' Drainage Easement

EROSION AND SEDIMENT CONTROL NOTES:

1. SEE NOTES ON ESC-01.

30 0 15 30 60

GRAPHIC SCALE (IN FEET)

Drawing Path\Name: L:\Proj\188103A-Continental\3_CAD\AutoCAD\1_Working\Wick&Drain and Surcharge Plans\ESC Plans_.dwg Printed: Sep 19, 2019, 1:33pm Layout: ESC-04

SLEEPY HOLLOW
LOCAL DEVELOPMENT CORPORATION

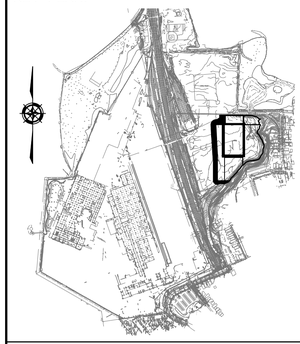
WSP USA INC.
555 Pleasantville Road
Briarcliff Manor, NY 10510
(914) 747-1120

ENGINEER OF RECORD:

STATE OF NEW YORK
DANIEL P BRIAR
LICENSED PROFESSIONAL ENGINEER
091621

NEW YORK STATE LICENSED PROFESSIONAL ENGINEER

KEY PLAN:



REVISIONS:

PROJECT NAME:

SLEEPY HOLLOW COMMONS PROJECT - PHASE IB

VILLAGE OF SLEEPY HOLLOW WESTCHESTER COUNTY, NEW YORK

ISSUE DATE: 9/19/2019

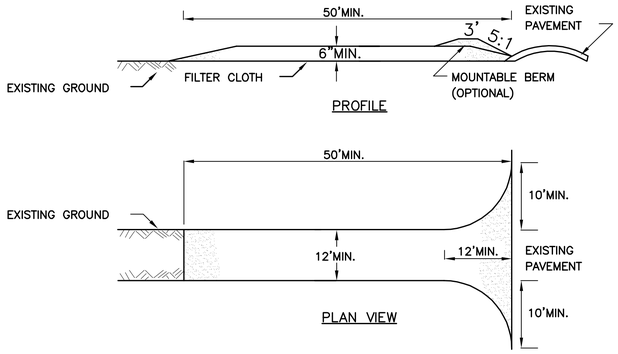
PROJECT NUMBER: 188137D

SCALE: AS SHOWN

DRAWING NAME: **EROSION AND SEDIMENT CONTROL PLAN - 4**

DRAWING NUMBER: ESC-04

SHEET NUMBER: 14 OF 28

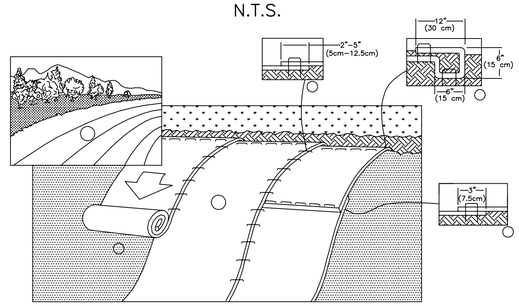


CONSTRUCTION SPECIFICATIONS

1. STONE SIZE – USE 2" STONE, OR RECLAIMED OR RECYCLED CONCRETE EQUIVALENT.
2. LENGTH – NOT LESS THAN 50 FEET
3. THICKNESS – NOT LESS THAN SIX (6) INCHES.
4. WIDTH – TWELVE (12) FOOT MINIMUM, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS. TWENTY–FOUR (24) FOOT IF SINGLE ENTRANCE TO SITE.
5. FILTER CLOTH – WILL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING OF STONE.
6. SURFACE WATER – ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CON–STRUCTION ENTRANCES SHALL BE PIPED ACROSS THE ENTRANCE. IF PIPING IS IMPRACTICAL, A MOUNTABLE BERM WITH 5:1 SLOPES WILL BE PERMITTED.
7. MAINTENANCE – THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS–OF–WAY, ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACTED ONTO PUBLIC RIGHTS–OF–WAY MUST BE REMOVED IMMEDIATELY.
8. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON A AREA STABILIZED WITH STONE AND WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.
9. PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED AFTER EACH RAIN.

STABILIZED CONSTRUCTION ENTRANCE DETAIL (ITEM 209.22)

N.T.S.

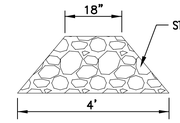


SLOPE INSTALLATION

1. PREPARE SOIL BEFORE INSTALLING ROLLED EROSION CONTROL PRODUCTS (RECP's), INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED.
   NOTE: WHEN USING CELL–O–SEE DO NOT SEED PREPARED AREA. CELL–O–SEED MUST BE INSTALLED WITH PAPER SIDE DOWN.
2. BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE RECP's IN A 6" (15 CM) DEEP X 6" (15 CM) WIDE TRENCH WITH APPROXIMATELY 12" (30 CM) OF RECP's EXTENDED BEYOND THE UP–SLOPE PORTION OF THE TRENCH. ANCHOR THE RECP's WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" (30 CM) APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACT SOIL AND FOLD REMAINING 12" (30 CM) PORTION OF RECP's BACK OVER SEED AND COMPACTED SOIL. SECURE RECP's OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" (30 CM) APART ACROSS THE WIDTH OF THE RECP's.
3. ROLL THE RECP's (A.) DOWN OR (B.) HORIZONTALLY ACROSS THE SLOPE. RECP's WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL RECP's MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLE PATTERN GUIDE. WHEN USING THE DOT SYSTEM™ , STAPLES/STAKES SHOULD BE PLACE THROUGH EACH OF THE COLORED DOTS CORRESPONDING THE THE APPROPRIATE STAPLE PATTERN.
4. THE EDGES OF PARALLEL RECP's MUST BE STAPLED WITH APPROXIMATELY 2" – 5" (5 CM – 12.5 CM) OVERLAP DEPENDING ON RECP's TYPE.
5. CONSECUTIVE RECP's SPLICED DOWN THE SLOPE MUST BE PLACED END OVER END (SHINGLE STYLE) WITH AN APPROXIMATE 3" (7.5 CM) OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12" (30 CM) APART ACROSS ENTIRE RECP's WIDTH.
   NOTE:
   *IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" (15 CM) MAY BE NECESSARY TO PROPERLY SECURE THE RECP's.
6. FOR AREAS WHERE PROPOSED SLOPE IS 1:3 OR GREATER.

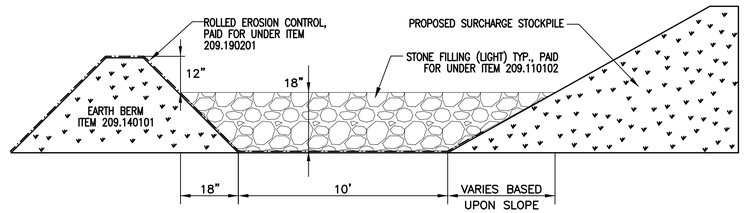
ROLLED EROSION CONTROL BLANKET DETAIL (ITEM 209.190201)

N.T.S.



SECTION VIEW

N.T.S.

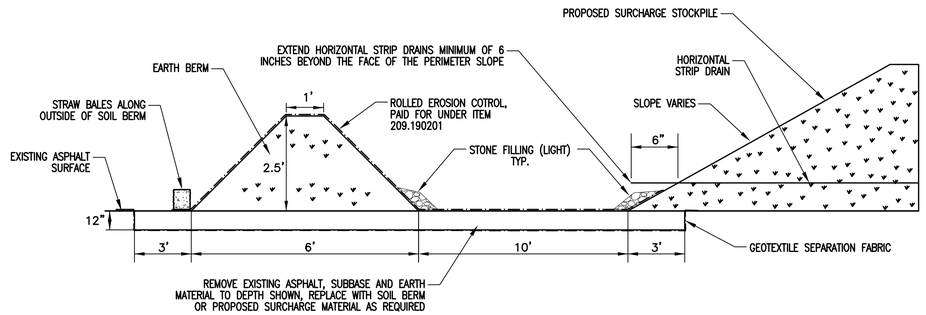


NOTES:

1. CONTRACTOR SHALL MAINTAIN DRAINAGE WHEN CROSSING BERMS TO ACCESS STOCKPILE AND SURCHARGE EQUIPMENT.

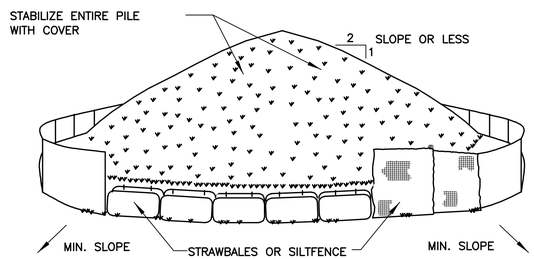
STONE CHECK DAM DETAIL (ITEM 209.110102)

N.T.S.



EARTHEN BERM SEDIMENT TRAP DETAIL @ STOCKPILE PERIMETER
(ALL WORK PAID UNDER ITEM 209.140101 UNLESS OTHERWISE NOTED)

N.T.S.

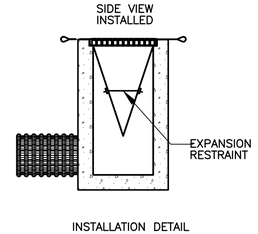


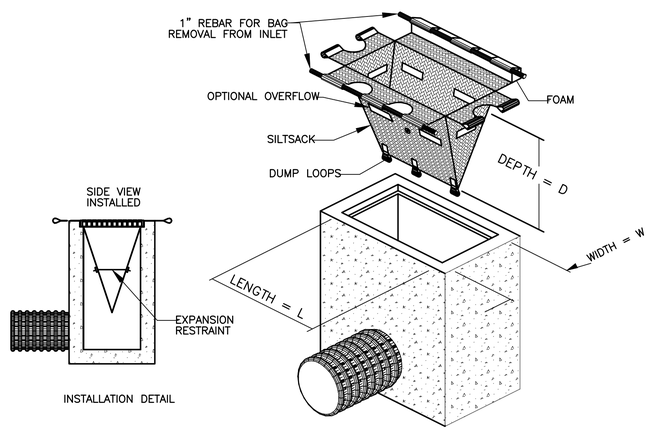
INSTALLATION NOTES:

1. AREA CHOSEN FOR STOCKPILING OPERATIONS SHALL BE DRY AND STABLE.
2. MAXIMUM SLOPE OF STOCKPILE SHALL BE 1:2.
3. UPON COMPLETION OF SOIL STOCKPILING, EACH PILE SHALL BE SURROUNDED WITH EITHER SILT FENCING OR STRAWBALES, THEN STABILIZED WITH VEGETATION OR COVERED. ALL WORK PAID FOR UNDER ITEM 203.010000SH.

SOIL STOCKPILING DETAIL
(PAID FOR UNDER ITEM 203.010000SH)

N.T.S.





INLET SEDIMENT CONTROL DEVICE

("SILTSACK" PER ETG, KNOXVILLE, TN 865–938–7157 OR APPROVED EQUAL)

N.T.S.

REVISED DETAIL TO ADD HORIZONTAL STRIP DRAIN

THIS SHEET SUPERCEDES SHEET 15

SLEEPY HOLLOW
LOCAL DEVELOPMENT CORPORATION

WSP USA INC.
555 Pleasantville Road
Briarcliff Manor, NY 10510
(914) 747-1120

ENGINEER OF RECORD:

STATE OF NEW YORK · DANIEL P BRIAR · 091621 · LICENSED PROFESSIONAL ENGINEER

NEW YORK STATE LICENSED PROFESSIONAL ENGINEER

KEY PLAN:

REVISIONS:

NO.	DESCRIPTION	DATE
1	ADDENDUM #2	1/7/20

PROJECT NAME:

SLEEPY HOLLOW COMMONS PROJECT - PHASE IB

VILLAGE OF SLEEPY HOLLOW WESTCHESTER COUNTY, NEW YORK

ISSUE DATE: 9/19/2019

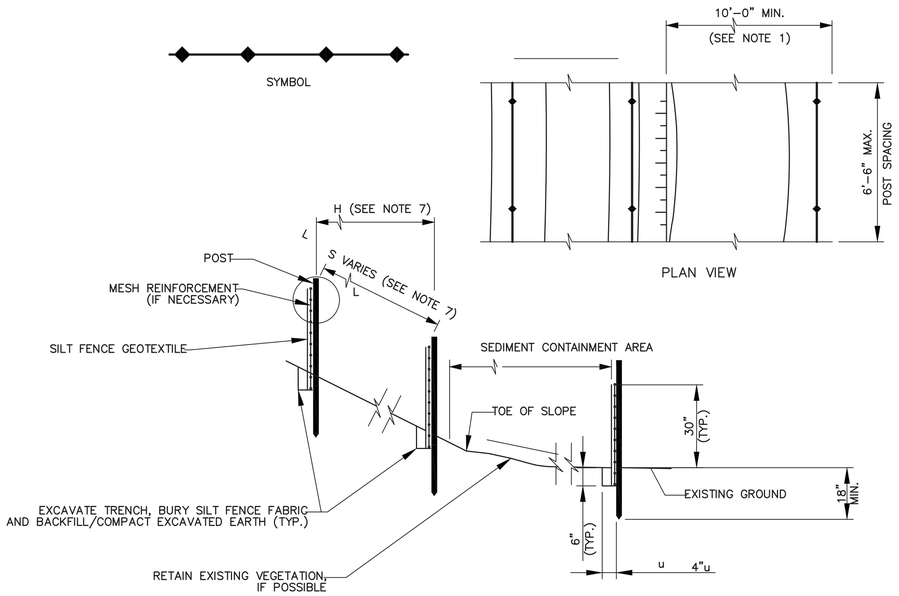
PROJECT NUMBER: 188137D

SCALE: AS SHOWN

DRAWING NAME: **EROSION & SEDIMENT CONTROL DETAILS - 1**

DRAWING NUMBER: ESD-01

SHEET NUMBER: 15A1 OF 28



APPLICATION NOTES (SILT FENCE):

1. THE PRIMARY PURPOSE OF A SILT FENCE IS TO REDUCE RUNOFF VELOCITY AND TRAP SEDIMENT. VELOCITY IS REDUCED, WATER IS IMPOUNDED BEHIND THE MEASURE, AND SEDIMENT FALLS OUT OF SUSPENSION.
2. SILT FENCE SHALL BE INSTALLED ON A LINE OF EQUAL ELEVATION (CONTOUR). IT MAY BE INSTALLED AT INTERMEDIATE POINTS UP SLOPES AS WELL AS AT THE BOTTOM, AS SHOWN IN THE DETAIL.
3. SILT FENCE SHALL NOT BE USED IN OR ACROSS A FLOWING NATURAL CHANNEL, OR AREAS OF CONCENTRATED FLOW.

GENERAL NOTES (SILT FENCE):

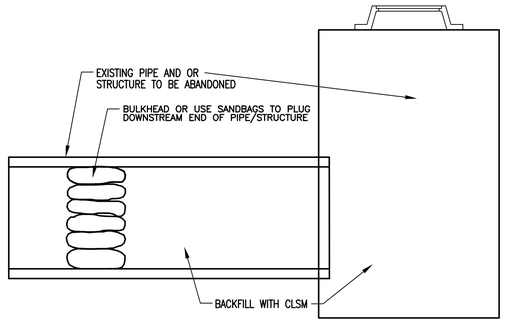
1. PLACEMENT OF SILT FENCE SHALL PROVIDE ADEQUATE AREA FOR SEDIMENT STORAGE AND FACILITATE MAINTENANCE OF SEDIMENT CONTAINMENT AREA.
2. POSTS MAY BE 1." X 1." (MIN.) HARDWOOD, 1" X 3" (MIN.) SOFTWOOD, OR 1.3 LB/FT (MIN.) STEEL. SPACING FOR THE PROVIDED SILT FENCE SHALL BE AS DESIGNATED ON THE DEPARTMENT APPROVED LIST FOR SILT FENCE.
3. THE BOTTOM EDGE OF SILT FENCE SHALL BE BURIED A MINIMUM OF 6" BELOW GROUND. THE FENCE SHALL BE INSTALLED WITH THE POSTS ON THE DOWNSTREAM SIDE OF THE FABRIC.
4. MEASURES SHALL BE INSPECTED EVERY SEVEN (7) CALENDAR DAYS OR AFTER EACH RAINFALL OF " OR MORE WITHIN A 24 HOUR PERIOD. MEASURES SHALL BE CLEANED AND REPAIRED AS REQUIRED.
5. SEDIMENT SHALL BE REMOVED WHEN ACCUMULATION REACHES ONE-HALF OF THE MEASURE HEIGHT. SEDIMENT SHALL BE DISPOSED OF AS UNSUITABLE MATERIAL.
6. DRAINAGE AREAS:
   MAXIMUM DRAINAGE AREA TRIBUTARY TO 100'-0" OF SILT FENCE SHALL BE . ACRE.
7. THE FOLLOWING ARE MAXIMUM SLOPE LENGTHS TO THESE MEASURES:

SLOPE	(L)SLOPE LENGTH (FT)	(H)HORIZ LENGTH(FT)
2:1	25	22
3:1	50	47
4:1	75	73
5:1	100	98

8. SILT FENCE INSTALLATION, INCLUDING EXCAVATION, BACKFILL, COMPACTION, MAINTENANCE & REMOVAL OF SILT FENCE SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 209.13.

TEMPORARY SILT FENCE DETAIL (ITEM 209.13)

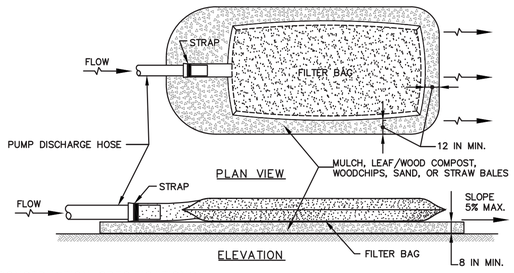
N.T.S.



NOTE: ALL WORK NECESSARY TO PLUG PIPE INCLUDED UNDER ITEM 204.01

ABANDONING STRUCTURES/PLUGGING PIPES – PAID FOR UNDER ITEM 204.01

N.T.S.



CONSTRUCTION SPECIFICATIONS

1. FILTER BAG SHALL BE PLACED IN AN AREA THAT IS ACCESSIBLE BY EQUIPEMENT CAPABLE OF LIFTING A FULL BAG WITHOUT DRAGGING OR DAMAGING IT.
2. WITH TIGHTLY SEAL SLEEVE AROUND THE PUMP DISCHARGE HOSE WITH A STRAP OR SIMILAR DEVICE.
3. PLACE FILTER BAG ON SUITABLE BASE (E.G., MULCH, LEAF/WOOD COMPOST, WOODCHIPS, SAND, OR STRAW BALES) LOCATED ON A LEVEL OR 5% MAXIMUM SLOPING SURFACE. DISCHARGE TO A STABILIZED AREA. EXTEND BASE A MINIMUM OF 12 INCHES FROM EDGES OF BAG.
4. CONTROL PUMPING RATE TO PREVENT EXCESSIVE PRESSURE WITHIN THE FILTER BAG IN ACCORDANCE WITH THE MANUFACTURER RECOMMENDATIONS. AS THE BAG FILLS WITH SEDIMENT, REDUCE PUMPING RATE.
5. REMOVE AND PROPERLY DISPOSE OF FILTER BAG UPON COMPLETION OF PUMPING OPERATIONS OR AFTER BAG HAS REACHED CAPACITY, WHICHEVER OCCURS FIRST. SPREAD THE DEWATERED SEDIMENT FROM THE BAG IN AN APPROVED UPLAND AREA AND STABILIZE WITH SEED AND MULCH BY THE END OF THE WORK DAY. RESTORE THE SURFACE AREA BENEATH THE BAG TO ORIGINAL CONDITION UPON REMOVAL OF THE DEVICE.
6. USE NONWOVEN GEOTEXTILE WITH DOUBLE STITCHED SEAMS USING HIGH STRENGTH THREAD. SIZE SLEEVE TO ACCOMMODATE A MAXIMUM 4 INCH DIAMETER PUMP DISCHARGE HOSE. THE BAG MUST BE MANUFACTURED FROM A NONWOVEN GEOTEXTILE THAT MEETS OR EXCEEDS MINIMUM AVERAGE ROLL VALUES (MARV) FOR THE FOLLOWING:

GRAB TENSILE	250 LB	ASTM D-4632
PUNCTURE	150 LB	ASTM D-4833
FLOW RATE	70 GAL/MIN/FT^2	ASTM D-4491
PERMITTIVITY (SEC^{-1})	1.2 SEC^{-1}	ASTM D-4491
UV RESISTANCE	70% STRENGTH @ 500 HOURS	ASTM D-4355
APPARENT OPENING SIZE (AOS)	0.15-0.18 MM	ASTM D-4751
SEAM STRENGTH	90%	ASTM D-4632

7. REPLACE FILTER BAG IF BAG CLOGS OR HAS RIPS, TEARS, OR PUNCTURES. DURING OPERATION KEEP CONNECTION BETWEEN PUMP HOSE AND FILTER BAG WATER TIGHT. REPLACE BEDDING IF IT BECOMES DISPLACED.

GEOTEXTILE FABRIC SEDIMENT COLLECTION BAG (FILTER BAG) DETAIL (ITEM 209.11000001)

N.T.S.

REVISED PIPE PLUGGING DETAIL

THIS SHEET SUPERCEDES SHEET 16

SLEEPY HOLLOW
LOCAL DEVELOPMENT CORPORATION

WSP USA INC.
555 Pleasantville Road
Briarcliff Manor, NY 10510
(914) 747-1120

ENGINEER OF RECORD:

STATE OF NEW YORK
DANIEL P BRAM
LICENSED PROFESSIONAL ENGINEER
091621

NEW YORK STATE LICENSED
PROFESSIONAL ENGINEER

KEY PLAN:

REVISIONS:

PROJECT NAME:

SLEEPY HOLLOW COMMONS PROJECT - PHASE IB

VILLAGE OF SLEEPY HOLLOW
WESTCHESTER COUNTY, NEW YORK

ISSUE DATE: 9/19/2019

PROJECT NUMBER:	SCALE:
188137D	AS SHOWN

DRAWING NAME: **EROSION & SEDIMENT CONTROL DETAILS - 2**

DRAWING NUMBER:	SHEET NUMBER:
ESD-02	**16-A1** OF 28

GENERAL FILL AND SURCHARGE NOTES:

1. CONSTRUCTION REQUIRED INCLUDES PREPARATION OF EXISTING GRADE BY MILLING AND RUBBLIZATION OF THE EXISTING CONCRETE AND ASPHALT PAVEMENT, INSTALLATION OF PREFABRICATED VERTICAL DRAINS (WICK DRAINS), INSTALLATION OF PREFABRICATED HORIZONTAL STRIP DRAINS, INSTALLATION OF INSTRUMENTATION (SETTLEMENT PLATES, SURFACE SETTLEMENT POINTS, OBSERVATION WELLS, VIBRATING WIRE PIEZOMETERS, MAGNETIC EXTENSOMETERS, AND INCLINOMETERS), PLACEMENT AND COMPACTION OF SURCHARGE AND PRELOAD FILL, IMPLEMENTATION OF EROSION AND SEDIMENT CONTROL ITEMS AND PROCEDURES, AND INSTRUMENTATION AND MONITORING.

2. PRIOR TO CONSTRUCTION, CONTRACTOR SHALL PERFORM THE FOLLOWING:

   a. SUBMIT ALL REQUIRED SUBMITTALS PROVIDED IN THE SPECIFICATIONS TO THE ENGINEER FOR APPROVAL.

   b. SUBMIT A SCHEDULE FOR CONSTRUCTION TO THE ENGINEER FOR REVIEW FOLLOWING THE GENERAL SEQUENCE OF CONSTRUCTION DESCRIBED IN NOTE 3 OF THIS SHEET. SEQUENCE OF CONSTRUCTION SHALL INCLUDE BUT MAY NOT BE LIMITED TO THE ITEMS IN NOTE 3 OF THIS SHEET.

   c. PROVIDE A PLAN LAYOUT SHOWING LOCATIONS OF THE VERTICAL DRAINS AND THEIR NUMBERING FOR APPROVAL. THE PATTERN AND SPACING OF THE VERTICAL DRAINS SHALL BE IN ACCORDANCE WITH THOSE SHOWN IN DRAWING VDD–01.

3. GENERAL SEQUENCE OF CONSTRUCTION SHALL BE AS FOLLOWS:

   a. CLEAN, GRUB, AND REMOVE AND DISPOSE OF ALL EXISTING VEGETATION, TREES, STUMPS, ROOTS, UTILITIES, CATCH BASINS, AND MANHOLES TO BE ABANDONED AS SHOWN ON THE CIVIL DRAWINGS, WITHIN THE LIMITS OF THE SURCHARGE AND PRELOAD FILL PLACEMENT INCLUDING THE SIDE SLOPES. SEE CIVIL DRAWINGS FOR LOCATIONS AND EXTENTS OF EXISTING UTILITIES TO BE ABANDONED IN PLACE.

   b. MILL AND RUBBLIZE THE FULL THICKNESS OF THE EXISTING CONCRETE AND ASPHALT PAVEMENT TO ALLOW FOR INSTALLATION OF VERTICAL DRAINS THROUGH THE RUBBLIZED GROUND. GRADE GROUND SURFACE TO CREATE A SMOOTH SURFACE TO ALLOW FOR INSTALLATION OF VERTICAL AND HORIZONTAL STRIP DRAINS AND A WORKING PLATFORM FOR EQUIPMENT. BACKFILL EXISTING DEPRESSIONS AND OTHER LOW SPOTS OR THOSE RESULTING FROM CLEARING AND GRUBBING. DEWATER SUBMERGED GROUND BEFORE PERFORMING THIS WORK. DEWATER THE EXISTING DEPRESSIONS AND LOW SPOTS IF NECESSARY WITHIN THE SURCHARGE AND PRELOAD AREA TO BRING THE WATER/GROUNDWATER LEVEL BELOW THE BOTTOM OF THE PAVEMENT, BASE AND SUBBASE TO ENABLE MILLING/RUBBLIZATION OF THE PAVEMENT AND LOOSENING OF THE SUBBASE FOR INSTALLATION OF VERTICAL DRAINS. IF COMPACTION IS NOT POSSIBLE AT LOCATIONS WHERE THE SUBGRADE IS SATURATED, DEPRESSIONS AND LOW SPOTS CAN BE BACKFILLED WITH MODERATE COMPACTING EFFORT. FILL SHALL BE PLACED IN 12 INCH MAXIMUM LIFTS AND COMPACTED WITH SIX (6) PASSES OF A VIBRATORY COMPACTOR HAVING A MINIMUM STATIC DRUM WEIGHT OF 25000 LBS. PLACE SIX (6) INCHES OF PRELOAD FILL MATERIAL OVER THE MILLED AND RUBBLIZED ASPHALT SURFACE PRIOR TO INSTALLATION OF VERTICAL AND HORIZONTAL STRIP DRAINS. VERTICAL AND HORIZONTAL STRIP DRAINS SHALL NOT BE PLACED DIRECTLY OVER MILLED AND RUBBLIZED ASPHALT SURFACE. THE CONTRACTOR SHALL USE EXISTING ON–SITE STOCKPILED PRELOAD FILL MATERIAL (INCLUDING FILL MATERIAL BROUGHT AND STOCKPILED ON–SITE BY OTHERS) TO BACKFILL EXISTING DEPRESSIONS AND LOW SPOTS AND PLACE WORKING PLATFORM PRIOR TO INSTALLATION OF VERTICAL AND HORIZONTAL STRIP DRAINS.

   c. MAINTAIN THE WORKING PLATFORM ABOVE STANDING WATER OR GROUNDWATER LEVELS, WHICHEVER IS HIGHER, TO ALLOW FOR INSTALLATION OF THE VERTICAL AND HORIZONTAL STRIP DRAINS AND GEOTECHNICAL INSTRUMENTATION. MONITOR SETTLEMENT DURING FILL PLACEMENT OPERATIONS USING SETTLEMENT PLATES.

   d. INSTALL VERTICAL DRAINS TO THE TIP ELEVATIONS SHOWN IN SHEET VDD–01 WITHIN THE LIMITS OF SURCHARGE AND PRELOAD FILL PLACEMENT AND AS PER THE APPROVED VERTICAL DRAIN LAYOUT. PRE–AUGER OR PRE–DRILL AS NEEDED THROUGH THE EXISTING IN–SITU MISCELLANEOUS FILL STRATUM BELOW THE PREPARED EXISTING GROUND. INSTALL HORIZONTAL STRIP DRAINS AT EVERY ROW OF VERTICAL DRAINS TO ALLOW FOR WATER DRAINAGE IN THE EAST–WEST DIRECTION.

   e. INSTALL SETTLEMENT PLATES AFTER PLACEMENT OF VERTICAL DRAINS AND HORIZONTAL STRIP DRAINS. THE CONTRACTOR SHALL OBTAIN SETTLEMENT PLATE READINGS AFTER COMPLETION OF PLACEMENT OF SURCHARGE AND PRELOAD FILL IN ACCORDANCE WITH THE REQUIREMENTS IN SPECIFICATION SECTION 634.XX0000SH. AVOID DISPLACING OR DAMAGING THE SETTLEMENT PLATES DURING PLACEMENT AND COMPACTION OF SURCHARGE AND PRELOAD FILL. ANY DISPLACED OR DAMAGED SETTLEMENT PLATE SHALL BE REINSTALLED AT ITS ORIGINAL INTENDED LEVEL AND LOCATION AT NO ADDITIONAL COST TO THE OWNER.

   f. INSTALL SURFACE SETTLEMENT POINTS, OBSERVATION WELLS, VIBRATING WIRE PIEZOMETERS, PROBE EXTENSOMETERS, AND INCLINOMETERS IN ACCORDANCE WITH THE REQUIREMENTS OF SPECIFICATION SECTION 634.XX0000SH AND DRAWINGS VDI–01 THROUGH VDI–04, IND–01 THROUGH IND–04, AND IMN–01. AVOID DISPLACING OR DAMAGING THE INSTRUMENTATION DURING PLACEMENT AND COMPACTION OF SURCHARGE AND PRELOAD FILL. ANY DISPLACED OR DAMAGED INSTRUMENTATION SHALL BE REINSTALLED AT ITS ORIGINAL INTENDED LEVEL AND LOCATION AT NO ADDITIONAL COST TO THE OWNER. OBTAIN INITIAL INSTRUMENTATION MONITORING READINGS.

   g. PLACE AND COMPACT SURCHARGE AND PRELOAD FILL IN ACCORDANCE WITH SPECIFICATION SECTION 203.XX0000SH. AFTER COMPLETION OF SURCHARGE AND PRELOAD FILL PLACEMENT AND COMPACTION IN EACH GRID AREA FOR EACH STAGE OF SURCHARGE AND PRELOAD FILL PLACEMENT, PERFORM A SURVEY TO VERIFY THAT THE SURFACE ELEVATIONS FOR THE SURCHARGE AND PRELOAD FILL ARE AS SHOWN ON THE CONTRACT DRAWINGS. THE MINIMUM SURCHARGE HOLD DURATIONS ARE PROVIDED ON THIS DRAWING.

   h. INSTALL TEMPORARY MECHANICALLY STABILIZED EARTH (MSE) WALL AT THE LOCATION INDICATED ON THE CONTRACT DRAWINGS TO MAINTAIN ACCESS TO THE SITE. SUBMIT TO THE ENGINEER FOR REVIEW AND APPROVAL SHOP DRAWINGS AND DESIGN CALCULATIONS CONFORMING TO SECTION 554.000000SH.

   i. DUST SUPPRESSION SHALL BE IMPLEMENTED FOR ALL SURCHARGE AND PRELOAD FILL BROUGHT TO THE SITE AND STORED TEMPORARILY OUTSIDE THE LIMITS OF SURCHARGE AND PRELOAD FILL AREA AS SHOWN ON THE DRAWINGS.

   j. PLACE SEDIMENT BARRIERS AT THE BOTTOM OF THE SLOPE OF THE SURCHARGE AND PRELOAD FILL AS REQUIRED BY CONTRACT SPECIFICATIONS AND DRAWINGS.

4. USE SURCHARGE AND PRELOAD FILL MATERIAL CONFORMING TO THE REQUIREMENTS OF SECTION 203.XX0000SH. CONTRACTOR SHALL USE EXISTING APPROVED STOCKPILES OF SURCHARGE AND PRELOAD FILL MATERIAL ON SITE. LOCATIONS OF EXISTING STOCKPILES ARE SHOWN ON THE CONTRACT DRAWINGS. SURCHARGE TO REMAIN IN PLACE AND WILL NOT BE REMOVED UNDER THIS CONTRACT.

5. CONTRACTOR SHALL CONFORM TO ALL TESTING REQUIREMENTS AND FREQUENCIES FOR STOCKPILED AND IN–PLACE COMPACTED SURCHARGE AND PRELOAD FILL MATERIAL FOLLOWING SECTIONS 203.XX0000SH AND 733.000000SH.

6. THE ENGINEER WILL CONDUCT SITE INSPECTIONS DURING THE DURATION OF CONSTRUCTION AND AFTER COMPLETION OF EACH STAGE OF SURCHARGE AND PRELOAD FILL PLACEMENT. THE CONTRACTOR IS RESPONSIBLE FOR MAKING THE SITE ACCESSIBLE TO THE ENGINEER TO CONDUCT THE INSPECTION IN A SAFE CONDITION.

TABLE 1: SURCHARGE ELEVATION AND SURVEY CONTROL POINTS

CONTROL POINT	NORTHING (FT)	EASTING (FT)	MAX. SURCHARGE AND PRELOAD FILL EL. (FT)	MINIMUM DURATION OF HOLD
CP1-1	821649	666671	26.5	6 MONTHS
CP1-2	821649	666854	26.5	6 MONTHS
CP1-3	821649	GRADE TO EXIST.	22.0	6 MONTHS
CP2-1	821531	666571	23.5	6 MONTHS
CP2-2	821531	666659	32.0	6 MONTHS
CP2-3	821531	666671	32.0	6 MONTHS
CP2-4	821531	666854	32.0	6 MONTHS
CP2-5	821531	GRADE TO EXIST.	24.0	6 MONTHS
CP3-1	821213	666587	23.5	6 MONTHS
CP3-2	821213	666659	32.0	6 MONTHS
CP3-3	821213	666854	32.0	6 MONTHS
CP4-1	GRADE TO EXIST.	666854	24.0	6 MONTHS
CP5-1	820943	666587	23.5	6 MONTHS
CP5-2	820943	666659	23.5	6 MONTHS
CP5-3	820943	GRADE TO EXIST.	22.0	6 MONTHS

NOTES:

1. GRADE TO EXIST – GRADE SURCHARGE AND PRELOAD HEIGHT TO MEET THE EXISTING GRADE ALONG FULL LENGTH OF THE SURCHARGE BOUNDARY.
2. THE MINIMUM HOLD DURATION SHALL APPLY PROVIDED ALL CONTROL POINTS ARE AT THE MAXIMUM SURCHARGE AND PRELOAD ELEVATION SHOWN.

REVISED NOTES

THIS SHEET SUPERCEDES SHEET 17

SLEEPY HOLLOW
LOCAL DEVELOPMENT CORPORATION

WSP USA INC.
555 Pleasantville Road
Briarcliff Manor, NY 10510
(914) 747-1120

ENGINEER OF RECORD:
STATE OF NEW YORK · DANIEL P BRIAR · LICENSED PROFESSIONAL ENGINEER · 091621
NEW YORK STATE LICENSED PROFESSIONAL ENGINEER

KEY PLAN:

REVISIONS:

NO.	DESCRIPTION	DATE
1	ADDENDUM #2	1/7/20

PROJECT NAME:

SLEEPY HOLLOW COMMONS PROJECT - PHASE IB

VILLAGE OF SLEEPY HOLLOW WESTCHESTER COUNTY, NEW YORK

ISSUE DATE: 9/19/2019

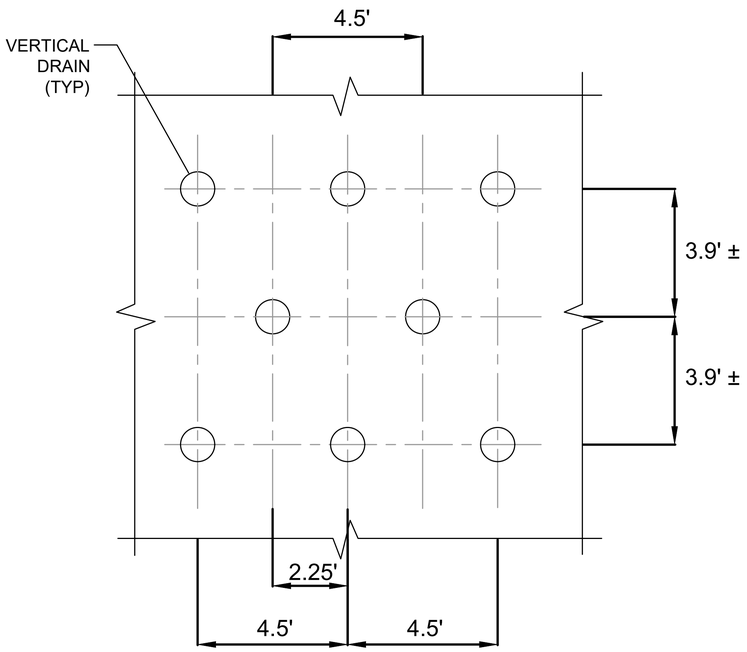
PROJECT NUMBER: 188137D

SCALE: AS SHOWN

DRAWING NAME: **GENERAL SURCHARGE AND PRELOAD FILL NOTES**

DRAWING NUMBER: SCN-01

SHEET NUMBER: 17A1 OF 28



1 **DETAIL**
VERTICAL DRAIN LAYOUT 4.5' SPACING
NTS

VERTICAL DRAIN NOTES:

1. PRIOR TO THE INSTALLATION OF VERTICAL DRAINS IN EACH CONTIGUOUS AREA, STAKES WITH FLAGGING SHALL BE INSTALLED FOR MARKOUT OF LOCATIONS OF THE PROPOSED VERTICAL DRAINS.
2. FOR EACH SEPARATE CONTIGUOUS AREA, VERTICAL DRAINS SHALL BE LAID OUT REFERENCING THE WESTERNMOST AND NORTHERNMOST LIMITS OF GRID CELLS WITHIN THAT AREA.
3. VERTICAL DRAINS MAY BE TERMINATED AT THE MINIMUM (SHALLOWEST) PENETRATION ELEVATION, PROVIDED THAT THERE IS INCREASED RESISTANCE TO DRAIN PENETRATION AT THAT ELEVATION. OTHERWISE, CONTINUE ADVANCING THE DRAINS TO THE MAXIMUM (DEEPEST) PENETRATION ELEVATION, OR TO REFUSAL (FULL STATIC DOWNWARD CROWD), WHICHEVER OCCURS FIRST. THE ENGINEER MAY ACCEPT TIP ELEVATIONS OUTSIDE THE LIMITS SHOWN ON THESE DRAWINGS BASED ON CONDITIONS ENCOUNTERED DURING INSTALLATION OF THE DRAINS.
4. SEE TABLE ON THIS SHEET VDD–01 FOR MAXIMUM AND MINIMUM TIP ELEVATIONS FOR VERTICAL DRAINS WITHIN EACH GRID CELL.
5. HORIZONTAL STRIP DRAINS SHALL BE INSTALLED AT EVERY ROW OF VERTICAL DRAINS IN THE EAST–WEST DIRECTION. VERTICAL DRAINS SHALL BE WRAPPED AROUND COMPLETELY AND NAILED OR STAPLED TO THE HORIZONTAL STRIP DRAINS AT EVERY ROW.
6. CONTRACTOR SHALL TAKE ALL NECESSARY MEASURES TO PROTECT AND PREVENT DAMAGE TO THE STRIP DRAINS AT ALL TIMES DURING PLACEMENT AND COMPACTION OF PRELOAD FILL AND OTHER EARTHWORKS. CONTRACTOR SHALL NOT PLACE EARTHWORK EQUIPMENT DIRECTLY ONTO THE STRIP DRAINS. PRELOAD FILL MATERIAL SHALL BE PUSHED OUT IN FRONT OF THE EARTHWORKS EQUIPMENT FOR THE FIRST ONE (1) FEET OF PRELOAD FILL.
7. CONTRACTOR SHOULD SHALL PROVIDE SUFFICIENT STICKUP OF THE VERTICAL DRAIN TO EXTEND AND BE CONNECTED TO THE STRIP DRAIN FOLLOWING THE REQUIRED DRAIN SPACING SHOWN ON DETAIL 1 ON THIS SHEET VDD–01.
8. HORIZONTAL STRIP DRAINS SHALL BE WRAPPED AROUND AND FITTED TO CONNECT TO PERIMETER PIPE DRAINS ALONG THE SURCHARGE LIMITS.
9. SEE SHEET SCN–01 FOR GENERAL SURCHARGE AND PRELOAD FILL NOTES.

TABLE 2: VERTICAL DRAIN TIP ELEVATIONS		
GRID NO.	MIN TIP EL. (FT.)	MAX TIP EL. (FT.)
D4	-50	-55
D5	-45	-50
D6	-25	-30
E4	-50	-55
E5	-40	-45
E6	-30	-35
F4	-50	-55
F5	-45	-50
F6	-30	-35
G4	-35	-40
G5	-30	-35
G6	-25	-30
H4	-25	-30
H5	-20	-25

SLEEPY HOLLOW
LOCAL DEVELOPMENT CORPORATION

WSP USA INC.
555 Pleasantville Road
Briarcliff Manor, NY 10510
(914) 747-1120

ENGINEER OF RECORD:

STATE OF NEW YORK · DANIEL P BRIAN · 091621 · LICENSED PROFESSIONAL ENGINEER

NEW YORK STATE LICENSED
PROFESSIONAL ENGINEER

KEY PLAN:

REVISIONS:

PROJECT NAME:

SLEEPY HOLLOW COMMONS PROJECT - PHASE IB

**VILLAGE OF SLEEPY HOLLOW
WESTCHESTER COUNTY, NEW YORK**

ISSUE DATE: 9/19/2019

PROJECT NUMBER: 188137D

SCALE: AS SHOWN

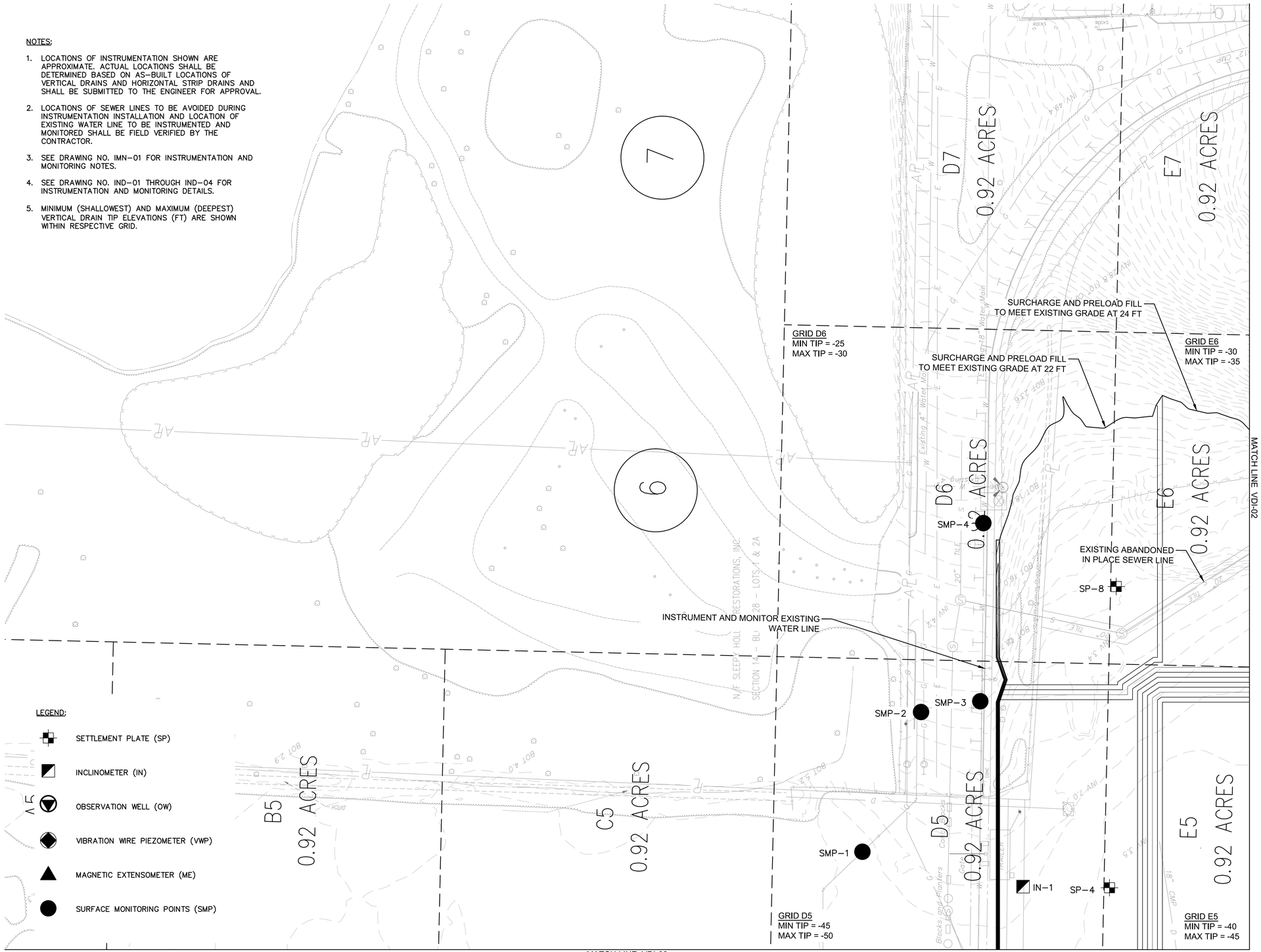
DRAWING NAME: **VERTICAL DRAIN DETAILS**

DRAWING NUMBER: VDD-01

SHEET NUMBER: 18 OF 28

NOTES:

1. LOCATIONS OF INSTRUMENTATION SHOWN ARE APPROXIMATE. ACTUAL LOCATIONS SHALL BE DETERMINED BASED ON AS–BUILT LOCATIONS OF VERTICAL DRAINS AND HORIZONTAL STRIP DRAINS AND SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.
2. LOCATIONS OF SEWER LINES TO BE AVOIDED DURING INSTRUMENTATION INSTALLATION AND LOCATION OF EXISTING WATER LINE TO BE INSTRUMENTED AND MONITORED SHALL BE FIELD VERIFIED BY THE CONTRACTOR.
3. SEE DRAWING NO. IMN–01 FOR INSTRUMENTATION AND MONITORING NOTES.
4. SEE DRAWING NO. IND–01 THROUGH IND–04 FOR INSTRUMENTATION AND MONITORING DETAILS.
5. MINIMUM (SHALLOWEST) AND MAXIMUM (DEEPEST) VERTICAL DRAIN TIP ELEVATIONS (FT) ARE SHOWN WITHIN RESPECTIVE GRID.



LEGEND;

- SETTLEMENT PLATE (SP)
- INCLINOMETER (IN)
- OBSERVATION WELL (OW)
- VIBRATION WIRE PIEZOMETER (VWP)
- MAGNETIC EXTENSOMETER (ME)
- SURFACE MONITORING POINTS (SMP)

30 0 15 30 60
GRAPHIC SCALE (IN FEET)

SLEEPY HOLLOW
LOCAL DEVELOPMENT CORPORATION

WSP USA INC.
555 Pleasantville Road
Briarcliff Manor, NY 10510
(914) 747-1120

ENGINEER OF RECORD:

STATE OF NEW YORK · DANIEL P BRIAR · 091621 · LICENSED PROFESSIONAL ENGINEER

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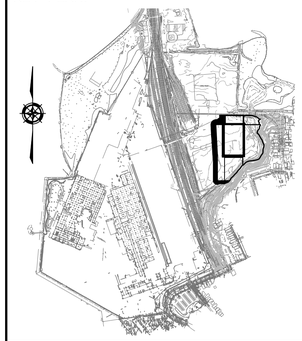
KEY PLAN:



REVISIONS:

PROJECT NAME:

SLEEPY HOLLOW COMMONS PROJECT - PHASE IB

VILLAGE OF SLEEPY HOLLOW WESTCHESTER COUNTY, NEW YORK

ISSUE DATE: 9/19/2019

PROJECT NUMBER: 188137D

SCALE: AS SHOWN

DRAWING NAME: **VERTICAL DRAIN AND INSTRUMENTATION PLANS - 1**

DRAWING NUMBER: VDI-01

SHEET NUMBER: 19 OF 28

NOTES:

1. REFER TO DRAWING VDI-01 FOR NOTES.

LEGEND:

- SETTLEMENT PLATE (SP)
- INCLINOMETER (IN)
- OBSERVATION WELL (OW)
- VIBRATION WIRE PIEZOMETER (VWP)
- MAGNETIC EXTENSOMETER (ME)
- SURFACE MONITORING POINTS (SMP)

SMP-5 SMP-6 SMP-7 SMP-8 SMP-9

SURCHARGE AND PRELOAD FILL TO MEET EXISTING GRADE AT 24 FT

EXISTING BUILDING (NOT SHOWN) AT PARKING LOT TO BE INSTRUMENTED AND MONITORED

EXISTING ABANDONED IN PLACE SEWER LINE

GRID E6
MIN TIP = -30
MAX TIP = -35

GRID F6
MIN TIP = -30
MAX TIP = -35

GRID G6
MIN TIP = -25
MAX TIP = -20

GRID G5
MIN TIP = -30
MAX TIP = -35

GRID H5
MIN TIP = -20
MAX TIP = -25

SURCHARGE AND PRELOAD FILL TO MEET EXISTING GRADE AT 22 FT

GRID E5
MIN TIP = -40
MAX TIP = -45

GRID F5
MIN TIP = -45
MAX TIP = -50

SP-9 SP-11 ME-3 VWP-3 SP-10 SP-5 OW-1 VWP-1 ME-1 SP-6 SP-7 ME-2 VWP-2

E7 0.92 ACRES · F7 0.92 ACRES · G7 0.92 ACRES · E6 0.92 ACRES · F6 0.92 ACRES · G6 0.92 ACRES · E5 0.92 ACRES · F5 0.92 ACRES · G5 0.92 ACRES · H5 0.92 ACRES · I5 0.92 ACRES

MATCH LINE VDI-01

MATCH LINE VDI-04

GRAPHIC SCALE (IN FEET): 30 0 15 30 60

SLEEPY HOLLOW
LOCAL DEVELOPMENT CORPORATION

WSP USA INC.
555 Pleasantville Road
Briarcliff Manor, NY 10510
(914) 747-1120

ENGINEER OF RECORD:

STATE OF NEW YORK · DANIEL P BRIAN · 081621 · LICENSED PROFESSIONAL ENGINEER

NEW YORK STATE LICENSED PROFESSIONAL ENGINEER

KEY PLAN:

REVISIONS:

PROJECT NAME:

SLEEPY HOLLOW COMMONS PROJECT - PHASE IB

VILLAGE OF SLEEPY HOLLOW WESTCHESTER COUNTY, NEW YORK

ISSUE DATE: 9/19/2019

PROJECT NUMBER: 188137D

SCALE: AS SHOWN

DRAWING NAME: **VERTICAL DRAIN AND INSTRUMENTATION PLANS - 2**

DRAWING NUMBER: VDI-02

SHEET NUMBER: 20 OF 28

Drawing Path\Name: L:\Proj\188810\A-Continental\3_CADD\AutoCAD\1_Working\Wick&Drain and Surcharge Plans\Instumentation Plans_.dwg Printed: Sep 19, 2019, 1:37pm Layout: VDI-02

MATCH LINE VDI-01

NOTES:

1. REFER TO DRAWING VDI-01 FOR NOTES.

EXISTING GEOTUBE DEWATERING AND STOCKPILE AREA

EXISTING PILE SUPPORTED SEWER LINE

GRID D5
MIN TIP = -45
MAX TIP = -50

GRID E5
MIN TIP = -40
MAX TIP = -45

GRID D4
MIN TIP = -50
MAX TIP = -55

GRID E4
MIN TIP = -50
MAX TIP = -55

A5 B5 C5 D5 E5

A4 0.92 ACRES | B4 0.92 ACRES | C4 0.92 ACRES | D4 0.92 ACRES | E4 0.92 ACRES

A3 0.92 ACRES | B3 0.92 ACRES | C3 0.92 ACRES | D3 0.92 ACRES | E3 0.92 ACRES

A2 | B2 0.92 ACRES | C2 0.92 ACRES | D2 0.92 ACRES | E2 0.92 ACRES

IN-2 SP-1

LEGEND:

- SETTLEMENT PLATE (SP)
- INCLINOMETER (IN)
- OBSERVATION WELL (OW)
- VIBRATION WIRE PIEZOMETER (VWP)
- MAGNETIC EXTENSOMETER (ME)
- SURFACE MONITORING POINTS (SMP)

MATCH LINE VDI-04

30 0 15 30 60
GRAPHIC SCALE (IN FEET)

SLEEPY HOLLOW
LOCAL DEVELOPMENT CORPORATION

VILLAGE OF SLEEPY HOLLOW 1874

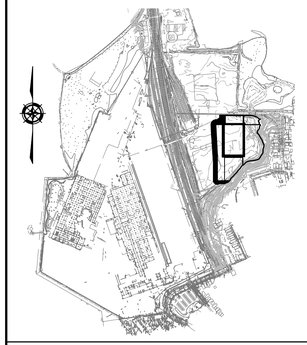
WSP USA INC.
555 Pleasantville Road
Briarcliff Manor, NY 10510
(914) 747-1120

ENGINEER OF RECORD:

STATE OF NEW YORK DANIEL P BRAR LICENSED PROFESSIONAL ENGINEER 091621

NEW YORK STATE LICENSED PROFESSIONAL ENGINEER

KEY PLAN:



REVISIONS:

PROJECT NAME:

SLEEPY HOLLOW COMMONS PROJECT - PHASE IB

VILLAGE OF SLEEPY HOLLOW WESTCHESTER COUNTY, NEW YORK

ISSUE DATE: 9/19/2019

PROJECT NUMBER: 188137D

SCALE: AS SHOWN

DRAWING NAME: **VERTICAL DRAIN AND INSTRUMENTATION PLANS - 3**

DRAWING NUMBER: VDI-03

SHEET NUMBER: 21 OF 28

MATCH LINE VDI-02

MATCH LINE VDI-03

GRID E5
MIN TIP = -40
MAX TIP = -45

GRID F5
MIN TIP = -45
MAX TIP = -50

GRID G5
MIN TIP = -30
MAX TIP = -35

GRID H5
MIN TIP = -20
MAX TIP = -25

GRID E4
MIN TIP = -50
MAX TIP = -55

GRID F4
MIN TIP = -50
MAX TIP = -55

GRID G4
MIN TIP = -35
MAX TIP = -40

GRID H4
MIN TIP = -25
MAX TIP = -30

E5 F5 G5 H5 I5

E4 0.92 ACRES | F4 0.92 ACRES | G4 0.92 ACRES | H4 0.92 ACRES | 14 0.92 ACRES

E3 0.92 ACRES | F3 0.92 ACRES | G3 0.92 ACRES | H3 0.92 ACRES | 13 0.92 ACRES

E2 0.92 ACRES | F2 0.92 ACRES | G | H

IN-3

SP-2

SP-3

IN-4

EXISTING PILE SUPPORTED SEWER LINE

EXISTING ABANDONED IN PLACE SEWER LINE

MONITOR EXISTING HIGH PRECISION OPTICAL PRISMS MOUNTED ON RAIL ROAD. LOCATIONS SHOWN ARE APPROXIMATE AND SHALL BE FIELD VERIFIED BY CONTRACTOR.

12' Westchester County Sanitary Sewer Easement

10' Drainage Easement

NOTES:

1. REFER TO DRAWING VDI-01 FOR NOTES.

LEGEND:

- SETTLEMENT PLATE (SP)
- INCLINOMETER (IN)
- OBSERVATION WELL (OW)
- VIBRATION WIRE PIEZOMETER (VWP)
- MAGNETIC EXTENSOMETER (ME)
- SURFACE MONITORING POINTS (SMP)

30 0 15 30 60
GRAPHIC SCALE (IN FEET)

SLEEPY HOLLOW
LOCAL DEVELOPMENT CORPORATION

VILLAGE OF SLEEPY HOLLOW 1874

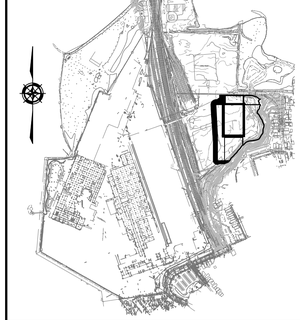
WSP USA INC.
555 Pleasantville Road
Briarcliff Manor, NY 10510
(914) 747-1120

ENGINEER OF RECORD:

STATE OF NEW YORK DANIEL P BRIAR LICENSED PROFESSIONAL ENGINEER 091621

NEW YORK STATE LICENSED PROFESSIONAL ENGINEER

KEY PLAN:



REVISIONS:

PROJECT NAME:

SLEEPY HOLLOW COMMONS PROJECT - PHASE IB

VILLAGE OF SLEEPY HOLLOW WESTCHESTER COUNTY, NEW YORK

ISSUE DATE: 9/19/2019

PROJECT NUMBER: 188137D

SCALE: AS SHOWN

DRAWING NAME: **VERTICAL DRAIN AND INSTRUMENTATION PLANS - 4**

DRAWING NUMBER: VDI-04

SHEET NUMBER: 22 OF 28

INSTRUMENTATION AND MONITORING NOTES:

1. THE INSTRUMENTATION SHALL BE INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF SPECIFICATION SECTION 634.XX0000SH – GEOTECHNICAL INSTRUMENTATION AND MONITORING AND THE DETAILS SHOWN ON SHEETS IND-01 THROUGH IND-04.
2. THE CONTRACTOR SHALL PREPARE AN INSTRUMENTATION INSTALLATION PLAN INCLUDING ALL SUBMITTAL REQUIREMENTS DEFINED IN SECTION 634.XX0000SH FOR REVIEW AND APPROVAL BY THE ENGINEER PRIOR TO COMMENCEMENT OF ANY WORK.
3. THE LOCATIONS OF INSTRUMENTATION CLUSTERS, SETTLEMENT PLATES, AND INCLINOMETERS SHOWN ON SHEETS IND-01 THROUGH IND-04 ARE APPROXIMATE. THE ACTUAL LOCATIONS OF INSTRUMENTATION SHALL BE BASED ON PROPOSED AND AS-BUILT LOCATIONS OF THE VERTICAL DRAINS AND HORIZONTAL STRIP DRAINS. ACTUAL LOCATIONS OF INSTRUMENTATION SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.
4. THE INSTALLATION AND MONITORING OF INSTRUMENTATION SHALL BE PERFORMED IN ACCORDANCE WITH ALL REQUIREMENTS OF SPECIFICATION SECTION 634.XX0000SH AND THE FOLLOWING GENERAL SCHEDULE:
   a. THE LOCATIONS OF EACH PLANNED INSTRUMENT SHALL BE MARKED OUT AFTER INSTALLATION OF THE VERTICAL DRAINS AND THE HORIZONTAL STRIP DRAINS FOR EACH GRID AREA.
   b. SETTLEMENT PLATES SHALL BE INSTALLED AFTER THE INSTALLATION OF THE VERTICAL DRAINS AND THE HORIZONTAL STRIP DRAINS AT THE LOCATION OF THE SETTLEMENT PLATES. THE RISER PIPE AT EACH SETTLEMENT PLATE SHALL BE EXTENDED AS THE SURCHARGE AND PRELOAD FILL LEVEL INCREASES.
   c. INCLINOMETERS SHALL BE INSTALLED AFTER THE COMPLETION OF THE INSTALLATION OF THE VERTICAL DRAINS AND THE HORIZONTAL STRIP DRAINS AT THE LOCATION OF THE INCLINOMETERS.
   d. THE INSTRUMENTS INCLUDED IN THE INSTRUMENTATION CLUSTERS SHALL BE INSTALLED AFTER THE COMPLETION OF THE INSTALLATION OF THE VERTICAL DRAINS AND THE HORIZONTAL STRIP DRAINS AT THE LOCATION OF THE INSTRUMENT CLUSTER.
   e. MONITORING OF INSTRUMENTATION SHALL COMMENCE AFTER THE COMPLETION OF EACH INSTRUMENT INSTALLATION. INITIAL READINGS SHALL BE COLLECTED AS PER SPECIFICATION SECTION 634.XX0000SH. DATA SHALL CONTINUE TO BE COLLECTED AT THE INSTRUMENT AT A FREQUENCY OF ONCE PER WEEK. THE ENGINEER MAY DIRECT THE CONTRACTOR TO COLLECT INSTRUMENTATION DATA MORE FREQUENTLY OR LESS FREQUENTLY, BASED ON HIS EVALUATION OF THE INSTRUMENTATION DATA AND THE RATE OF PLACEMENT OF THE SURCHARGE AND PRELOAD FILL.
5. INSTRUMENTATION SHALL BE EXTENDED INCREMENTALLY AS SURCHARGE AND PRELOAD FILL IS PLACED AND COMPACTED IN LIFTS. DURING SURCHARGE AND PRELOAD FILL PLACEMENT, RISER PIPES SHALL BE ADDED IN INCREMENTS SO THE TOPS SHALL BE ONE (1) FOOT TO FOUR (4) FEET ABOVE TEMPORARY GRADE TO BE VISIBLE AND ACCESSIBLE ABOVE GRADE AT ALL TIMES IN ORDER TO MONITOR EACH INSTRUMENT DURING THE DURATION OF THE WORK.
6. THE CONTRACTOR SHALL INSTALL AND MAINTAIN A MINIMUM OF FOUR (4) WOODEN STAKES WITH FLAGGING (PLASTIC RIBBON) AROUND EACH INDIVIDUAL INSTRUMENT. THIS WILL NECESSITATE THE REINSTALLATION OF STAKES AS SURCHARGE AND PRELOAD FILL IS PLACED, COMPACTED, AND GRADED. WHEN REMOVED FOR EARTHWORK, STAKES SHALL BE REINSTALLED NO LATER THAN THE END OF THE WORK DAY.
7. ALL INSTRUMENTATION SHALL BE MAINTAINED AND MONITORED UNTIL SUBSTANTIAL COMPLETION OF THE WORK OF THIS CONTRACT AS DETERMINED BY THE ENGINEER.
8. THE CONTRACTOR SHALL PROTECT AT ALL TIMES THE INTEGRITY OF ALL INSTRUMENTATION INCLUDING ALL CONNECTING WIRES AND THE DATA ACQUISITION AND STORAGE MODULES. NO INSTRUMENTATION SHALL BE REMOVED, DEMOLISHED, OR RENDERED INACCESSIBLE AT ANY TIME WITHOUT PRIOR APPROVAL OR DIRECTION BY THE ENGINEER.
9. ALL DIMENSIONS, LOCATIONS, AND ELEVATIONS OF EXISTING UTILITIES AND STRUCTURES AT AND IN THE VICINITY OF THE SURCHARGE AND PRELOAD FILL ARE APPROXIMATE AND SHALL BE VERIFIED BY THE CONTRACTOR IN THE FIELD.
10. THE CONTRACTOR SHALL SUBMIT INSTRUMENTATION DOCUMENTATION AND RECORDS IN ACCORDANCE WITH SPECIFICATION SECTION 634.XX0000SH.
11. PRE- AND POST-CONSTRUCTION CONDITION SURVEYS SHALL BE PERFORMED FOR EXISTING RAILROAD AND BUILDING PROPERTIES WITHIN 100 FEET OF THE SURCHARGE LIMITS OR AS DIRECTED BY THE ENGINEER. REPORTS FOR THE EXISTING BUILDING STRUCTURES AND RAILROAD SHALL BE SUBMITTED FOR APPROVAL BY THE ENGINEER PRIOR TO BEGINNING OF CONSTRUCTION. AS A RESULT OF PRE-CONSTRUCTION SURVEY, GRID CRACK GAGES SHALL BE INSTALLED AS NEEDED AND AS DIRECTED BY THE ENGINEER ON EXISTING CRACKS.
12. IN THE EVENT OF REACHING OR EXCEEDING A THRESHOLD RESPONSE LEVEL OF 0.75 INCH FOR SETTLEMENT OR HEAVE OF SURFACE MONITORING POINTS AT THE EXISTING WATER LINE AND BUILDING STRUCTURES, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY. THE CONTRACTOR SHALL ASSESS THE NATURE OF THE EXCEEDANCE AND IMMEDIATELY FOLLOW THE APPROVED CONTINGENCY PLAN TO LIMIT FURTHER STRUCTURE AND GROUND MOVEMENT, AND MAINTAIN THE STRUCTURAL INTEGRITY OF ADJACENT EXISTING STRUCTURES AND UTILITIES.
13. INSTRUMENTATION AND MONITORING ARE NOT REQUIRED IF THE EXISTING UTILITIES WITHIN THE LIMIT OF MONITORING AREA ARE NO LONGER IN SERVICE DURING THE VERTICAL DRAIN AND SURCHARGING WORK.
14. IF REQUIRED BY THE ENGINEER, FURNISH AND INSTALL DEEP BENCHMARKS IN ACCORDANCE WITH REQUIREMENTS SHOWN IN SECTION 634.XX0000SH.

STEEL SHEET PILES NOTES:

1. MATERIALS:
   a. PERMANENT STEEL SHEETING WITH A MINIMUM SECTION MODULUS OF 18 IN3//FT SHALL BE INSTALLED TO A MINIMUM TIP ELEVATION OF -20 FT. AT THE LOCATION AND LIMITS SHOWN ON THE CONTRACT DRAWINGS.
   b. PROVIDE HOT ROLLED STEEL SHEET PILES CONFORMING TO ASTM A572, GRADE 50.
   c. PROVIDE STEEL SHEET PILES WITH CONTINUOUS INTERLOCK HAVING A MAXIMUM ALLOWABLE ROTATION OF THREE (3) DEGREES.
   d. PROVIDE SHEET PILE TIP REINFORCEMENT CONFIRMING TO ASTM A 148, GRADE 90-60, OR BETTER.
   e. PROVIDE STRUCTURAL AND MISCELLANEOUS STEEL CONFORMING TO ASTM A36.
   f. WELDING SHALL CONFORM TO THE REQUIREMENTS OF AMERICAN WELDING SOCIETY D1.1.
2. SPLICES:
   a. AVOID SPLICES WHEREVER POSSIBLE. IF SPLICES ARE REQUIRED, PROVIDE FULL-PENETRATION BUTT-WELDED SPLICES IN SHEET PILING. NO MORE THAN ONE (1) SPLICE PER SHEET IS ALLOWED, UNLESS APPROVED BY THE ENGINEER. WHEN ADJACENT SHEET PILES ARE TO BE SPLICED, STAGGER SPLICES NOT LESS THAN TEN (10) FEET APART IN ELEVATION.
   b. FABRICATE SPLICES TO ASSURE ALIGNMENT OF THE SPLICED PARTS. LIMIT CHANGE IN SLOPE BETWEEN PARTS SPLICED NOT TO EXCEED 1/500.
   c. PROVIDE INSPECTION OF WELDING. SUBMIT QUALIFICATION RECORDS OF WELDERS AND WELDING PROCEDURES.
3. ALIGNMENT AND TOLERANCES:
   a. INSTALL SHEET PILING PLUMB AND DO NOT DEVIATE FROM THE VERTICAL BY MORE THAN ONE-EIGHTH (1/8) INCH PER FOOT AND FROM THE HORIZONTAL BY MORE THAN THREE (3) INCHES FROM THE LOCATION INDICATED ON THE APPROVED SHOP DRAWINGS. IF AT ANY TIME THE SHEET PILES ARE FOUND TO BE OUT OF PLUMB, TAKE CORRECTIVE MEASURES TO BRING THE PILES WITHIN THE SPECIFIED TOLERANCE AND TO ENSURE PLUMBNESS OF THE SUCCEEDING PILES. DO NOT COMPROMISE THE CAPABILITY OF THE INTERLOCKS. SUBMIT THE PROPOSED CORRECTIVE MEASURES ACCEPTANCE BY THE ENGINEER.
   b. PROVIDE SUITABLE GUIDE STRUCTURES TO ENSURE THAT SHEET PILES AND INSTALLATION EQUIPMENT ARE PROPERLY ALIGNED DURING INSTALLATION.
4. EXECUTION:
   a. SELECT THE INSTALLATION EQUIPMENT TO LIMIT THE INDUCED STRESSES IN THE SHEET PILES TO LESS THAN 90% OF THE YIELD STRESS OF THE PILE MATERIAL.
   b. INSTALL SHEET PILES IN SECTIONS AND SEQUENCE AS INDICATED ON THE APPROVED SHOP DRAWINGS.
   c. SELECT THE PILE INSTALLATION METHOD AND EQUIPMENT SUCH THAT EXISTING UTILITIES AND STRUCTURES ARE PROTECTED AGAINST DAMAGE DUE TO VIBRATION AND SETTLEMENT THAT MAY BE CAUSED BY THE PILE INSTALLATION OPERATION.
   d. STORE STEEL SHEETS TO AVOID SAGGING, WHICH COULD PRODUCE PERMANENT DEFORMATION. LIMIT THE CONCENTRATED LOADS DURING STACKING OR LIFTING TO LESS THAN THOSE THAT COULD PRODUCE PERMANENT DEFORMATION OF THE MATERIAL.
   e. AFTER THE SHEET PILING IS INSTALLED TO THE REQUIRED DEPTH, TRIM OFF THE TOP OF THE SHEET PILE TO ONE FOOT BELOW THE GROUND ELEVATION INDICATED ON THE APPROVED SHOP DRAWINGS. TRIM THE TOPS OF SHEET PILES DAMAGED TO AN EXTENT THAT WOULD PREVENT ADVANCING THE PILE.
   f. THE AVAILABLE BORING LOGS FOR THE SUBSURFACE CONDITIONS AT THE SITE ARE PROVIDED IN THE GEOTECHNICAL DATA REPORT (GDR). BE AWARE THAT THE SUBSURFACE CONDITIONS THAT MUST BE PENETRATED BY THE PILES MAY INCLUDE THE PRESENCE OF BOULDERS, COBBLES, CONCRETE DEBRIS, WOOD, AND OTHER OBSTRUCTIONS. THESE CONDITIONS MAY NOT BE INDICATED ON THE AVAILABLE BORING LOGS.
5. SUBMITTALS: THE FOLLOWING SHALL BE PROVIDED TO THE ENGINEER FOR APPROVAL PRIOR TO COMMENCING WORK.
   a. QUALIFICATIONS OF CONTRACTOR/SUBCONTRACTOR: DEMONSTRATE THAT THE CONTRACTOR OR SUBCONTRACTOR PERFORMING THE WORK IS QUALIFIED TO PERFORM THE WORK REQUIRED TO INSTALL THE SPECIFIED SHEET PILE SYSTEM.
   b. STEEL SHEET PILE INSTALLATION PLAN: INCLUDE COMPLETE DESCRIPTION OF THE PROPOSED EQUIPMENT AND METHODS OF STEEL SHEET PILE INSTALLATION, SIGNED AND SEALED BY THE CONTRACTOR. INCLUDE THE FOLLOWING, AS A MINIMUM:
      b.a. DESCRIPTION OF TEMPORARY SITE GRADING, CONSTRUCTION PLATFORMS AND PROCEDURES FOR WORKING CLOSE TO UTILITIES AND STRUCTURES AND OTHER OVERHEAD, SURFACE AND BURIED INFRASTRUCTURE.
      b.b. INSTALLATION EQUIPMENT, CRANES, TEMPLATES, DRILLS, AUGERS, DRILLED FLUIDS, AND CASINGS.
      b.c. EQUIPMENT AND PROCEDURES FOR ADVANCING THROUGH BOULDERS, CONSTRUCTION DEBRIS, STEEL, ABANDONED FOUNDATIONS AND UTILITIES, AND OTHER OBSTRUCTIONS IF RELEVANT.
      b.d. LAYOUT DRAWINGS SHOWING THE PROPOSED SEQUENCE OF STEEL PILE INSTALLATION AND SHOWING THE REQUIRED WORKING AREAS AS SITE CONDITIONS WARRANT FOR INSTALLING THE STEEL SHEET PILES.
      b.e. DETAILS OF LIFTING, RIGGING, SETTING AND BRACING, METHODS FOR PLUMBNESS AND ALIGNMENT, DETAILS AND TYPE OF SPACING DEVICES AS REQUIRED HEREIN BELOW, AND DRAWINGS AND CATALOG CUTS OF ALL SHOES.
      b.f. WELDING PROCEDURES AND QUALIFICATIONS OF WELDERS AND TACKERS.
      b.g. METHODS TO BE USED TO CONTROL AND VERIFY STEEL SHEET PILE POSITION AND ALIGNMENT AND METHODS TO CORRECT IF STEEL PILE IS NOT WITHIN SPECIFIED TOLERANCES.
   c. SHOP DRAWINGS. A MINIMUM OF THIRTY (30) DAYS BEFORE COMMENCING WITH INSTALLATION OF STEEL SHEET PILES, SUBMIT FOR REVIEW AND APPROVAL BY THE ENGINEER SEPARATE SHOP DRAWINGS, SIGNED AND SEALED BY THE CONTRACTOR INCLUDING, BUT NOT LIMITED TO, THE FOLLOWING:
      c.a. PLAN LOCATIONS AND LAYOUT OF THE STEEL SHEET PILES.
      c.b. PILE NUMBER DESIGNATIONS.
      c.c. SIZE AND STEEL GRADE OF SHEET PILES.
      c.d. LENGTH, AND TOP AND BOTTOM ELEVATION OF STEEL SHEET PILES ALONG THE LENGTH OF THE SHEET PILE WALL.
      c.e. DETAILS OF CORNERS, WYES AND CONNECTIONS.
      c.f. WELDING PROCEDURES AND QUALIFICATIONS OF WELDERS AND TACKERS.
   d. PROVIDE CERTIFIED MILL TEST REPORTS CLEARLY LABELED, FOR THE STEEL. INCLUDE ULTIMATE STRENGTH, YIELD STRENGTH, ELONGATION, AND MATERIAL PROPERTIES COMPOSITION.
   e. INSTALLATION RECORDS. SUBMIT INSTALLATION RECORDS WITHIN 24 HOURS AFTER INSTALLATION OF THE SHEET PILE WALL. INCLUDE THE FOLLOWING AS A MINIMUM:
      e.a. WALL LOCATION.
      e.b. SHEET PILE NUMBER DESIGNATIONS.
      e.c. DATES AND TIMES FOR START AND COMPLETION TIME FOR EACH PILE OR PAIR OF PILES
      e.d. INSTALLED.
      e.e. NAME OF INSPECTOR(S) FOR SHEET PILE INSTALLATION.
      e.f. SHEET PILE SIZE, LENGTH, AND STRENGTH.
      e.g. ELEVATION OF GROUND SURFACE.
      e.h. METHOD AND EQUIPMENT USED TO INSTALL THE STEEL SHEET PILES.
      e.i. DESCRIPTION OF UNUSUAL INSTALLATION BEHAVIOR OR CONDITIONS SUCH AS OBSTRUCTIONS ENCOUNTERED, DAMAGED SHEET PILES AND DAMAGED INTERLOCKS, AND THE LOCATION AND ELEVATIONS OF THESE CONDITIONS.
   f. PROVIDE CERTIFICATION SIGNED AND SEALED BY THE CONTRACTOR CONFIRMING THAT INSTALLED SHEET PILES MEETS ALL DESIGN AND STRUCTURAL INTEGRITY REQUIREMENTS.

SLEEPY HOLLOW
LOCAL DEVELOPMENT CORPORATION

WSP USA INC.
555 Pleasantville Road
Briarcliff Manor, NY 10510
(914) 747-1120

ENGINEER OF RECORD:

STATE OF NEW YORK · DANIEL P BRIAN · LICENSED PROFESSIONAL ENGINEER · 091621

NEW YORK STATE LICENSED PROFESSIONAL ENGINEER

KEY PLAN:

REVISIONS:

PROJECT NAME:

SLEEPY HOLLOW COMMONS PROJECT - PHASE IB

VILLAGE OF SLEEPY HOLLOW WESTCHESTER COUNTY, NEW YORK

ISSUE DATE: 9/19/2019

PROJECT NUMBER: 188137D

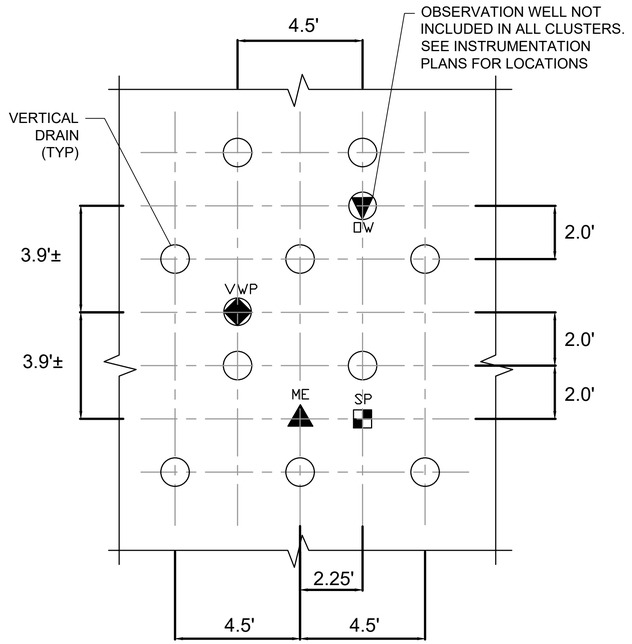
SCALE: AS SHOWN

DRAWING NAME: **INSTRUMENTATION AND MONITORING NOTES**

DRAWING NUMBER: IMN-01

SHEET NUMBER: 23 OF 28

Drawing Path\Name: L:\Proj\188105A-Continental\3_CADD\AutoCAD\1_Working\WickDrain and Surcharge Plans\Surcharge-VerticalDrain-Instrumentation N-D_.dwg Printed: Sep 30, 2019, 9:55am Layout: IMN-1



1

DETAIL

INSTRUMENTATION CLUSTER LAYOUT

NTS

INSTRUMENTATION LEGEND:

- MAGNETIC EXTENSOMETER (ME)
- GROUNDWATER OBSERVATION WELL (OW)
- VIBRATING WIRE PIEZOMETER (VWP)
- SETTLEMENT PLATE (SP)

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LOCAL DEVELOPMENT CORPORATION

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555 Pleasantville Road
Briarcliff Manor, NY 10510
(914) 747-1120

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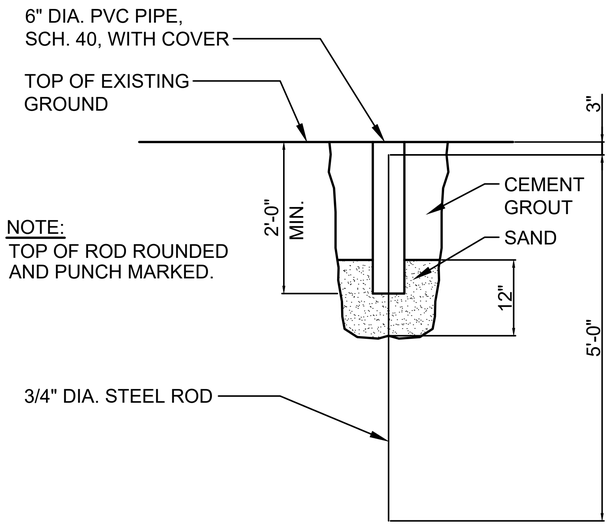
SCALE: AS SHOWN

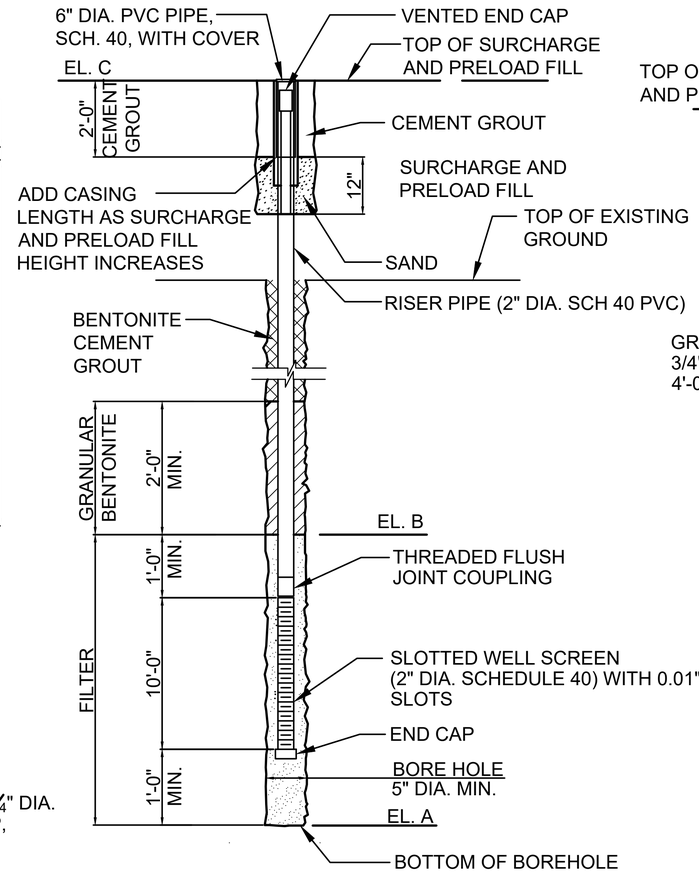
DRAWING NAME: **INSTRUMENTATION DETAILS - 1**

DRAWING NUMBER: IND-01

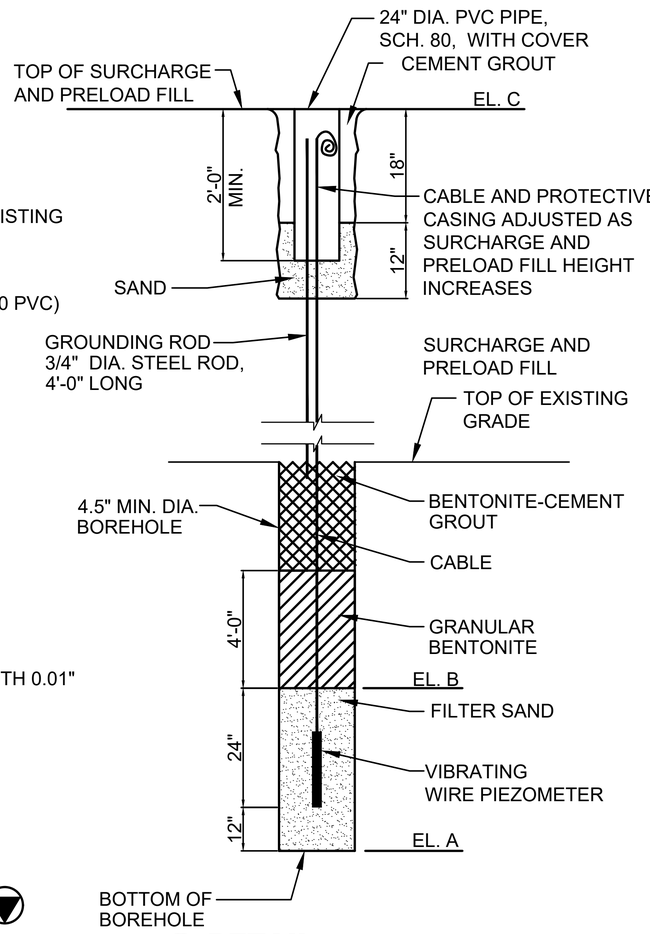
SHEET NUMBER: 24 OF 28



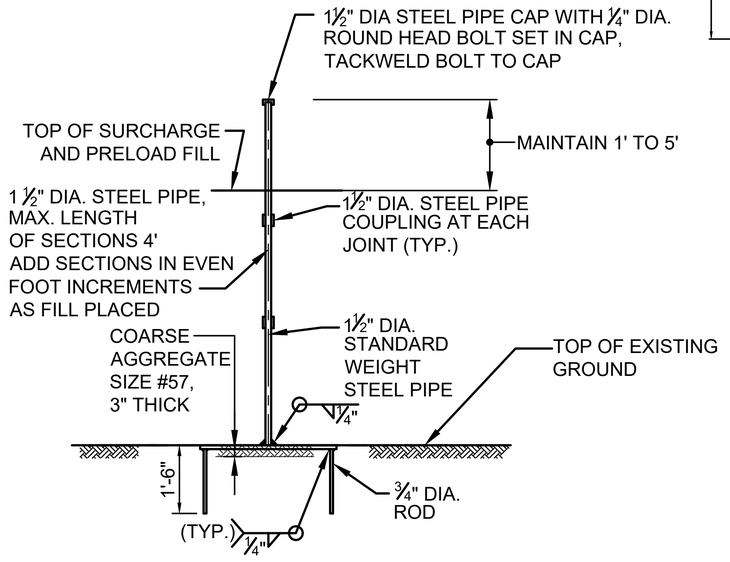
1 **DETAIL**
SURFACE MONITORING POINT (SMP)
NTS



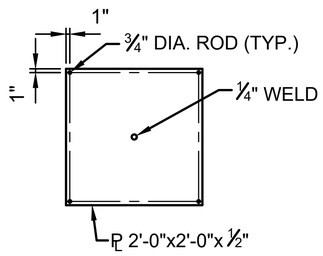
2 **DETAIL**
OBSERVATION WELL (OW)
NTS



3 **DETAIL**
VIBRATING WIRE PIEZOMETER (VWP)
NTS



4 **DETAIL**
SETTLEMENT PLATE (SP)
NTS



NOTE:

1. SETTLEMENT PLATES SHALL BE LOCATED AT MIDPOINT OF TRIANGLE FORMED BY CLOSEST VERTICAL DRAINS; SEE DETAIL FOR LOCATIONS OF INSTRUMENTS WITHIN INSTRUMENTATION CLUSTERS ON SHEETS VDI-01 THROUGH VDI-04.

4.1 **DETAIL**
SETTLEMENT PLATE BOTTOM DETAIL
NTS

NOTES:

1. FOR GENERAL NOTES FOR INSTRUMENTATION AND DETAIL FOR INSTRUMENTATION CLUSTER, SEE SHEET IMN-01 AND IND-01.
2. FOR ESTIMATED ELEVATIONS OF INSTRUMENT COMPONENTS, SEE TABLES ON SHEET IND-04.

SLEEPY HOLLOW
LOCAL DEVELOPMENT CORPORATION

WSP USA INC.
555 Pleasantville Road
Briarcliff Manor, NY 10510
(914) 747-1120

ENGINEER OF RECORD:

STATE OF NEW YORK · DANIEL P BRIAN · LICENSED PROFESSIONAL ENGINEER · 091621

NEW YORK STATE LICENSED
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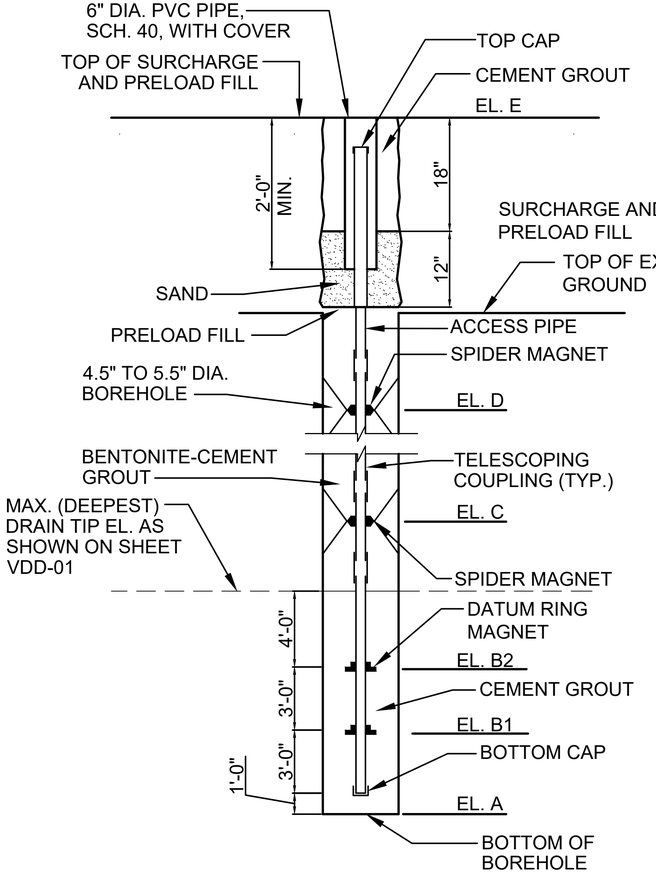
DRAWING NAME: **INSTRUMENTATION DETAILS - 2**

DRAWING NUMBER: IND–02

SHEET NUMBER: 25 OF 28

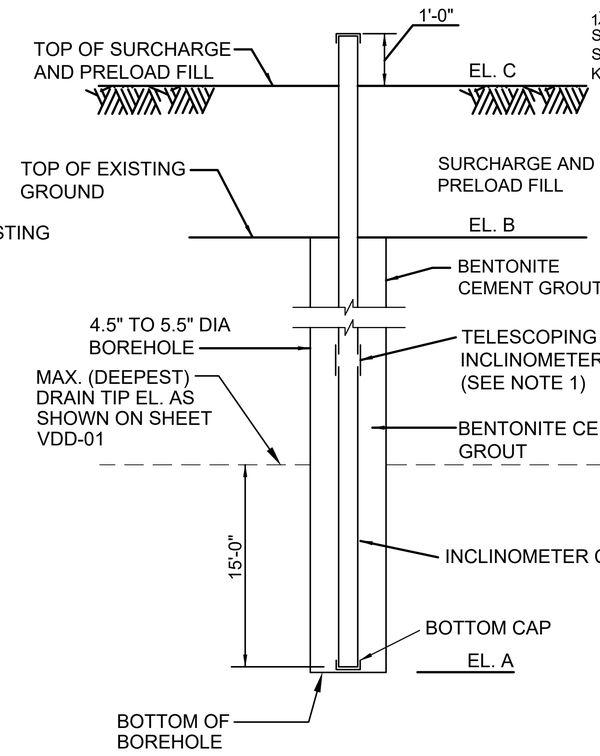


5 **DETAIL**
MAGNETIC EXTENSOMETER (ME)
NTS

NOTES:

1. TELESCOPING CASING AND COUPLINGS TO ACCOMMODATE NOT LESS THAN NINE (9) FEET OF SETTLEMENT (COMPRESSION WITHIN SOFT CLAY) WITH AT LEAST ONE TELESCOPING COUPLING BELOW AND ABOVE EACH SPIDER MAGNET. NO TELESCOPING COUPLINGS ALLOWED BELOW THE MAXIMUM DRAIN TIP ELEVATION PROVIDED ON SHEET VDD-01.

2. EACH MAGNETIC EXTENSOMETER SHALL CONTAIN A TOTAL OF FOUR (4) SPIDER MAGNETS, TO BE SPACED EVENLY FROM THE TOP SPIDER MAGNET (EL. D) TO THE BOTTOM SPIDER MAGNET (EL. C) .

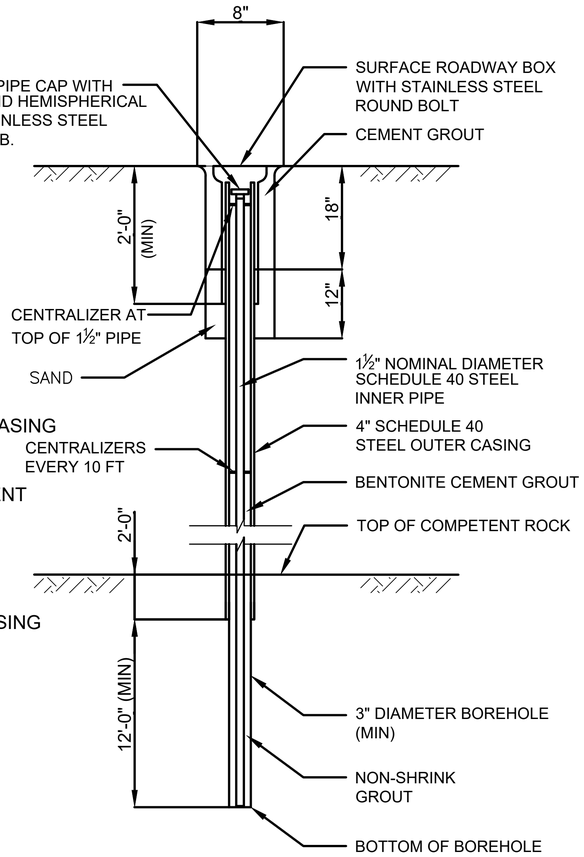


NOTES:

1. TELESCOPING CASING AND COUPLINGS TO ACCOMMODATE NOT LESS THAN NINE (9) FEET OF SETTLEMENT (COMPRESSION WITHIN SOFT CLAY)

2. INCLINOMETERS SHALL BE LOCATED AT MIDPOINT OF TRIANGLE FORMED BY CLOSEST VERTICAL DRAINS; SEE DETAIL FOR LOCATIONS OF INSTRUMENTS WITHIN INSTRUMENTATION CLUSTERS ON SHEETS VDI-01 THROUGH VDI-04.

6 **DETAIL**
INCLINOMETER (IN)
NTS



7 **DETAIL**
DEEP BENCHMARK (DB)
NTS

NOTES:

1. FOR GENERAL NOTES AND DETAIL FOR INSTRUMENTATION CLUSTER, SEE SHEETS IMN-01 AND IND-01.

2. FOR ESTIMATED ELEVATIONS OF INSTRUMENT COMPONENTS, SEE TABLES ON SHEET IND-04.

SLEEPY HOLLOW
LOCAL DEVELOPMENT CORPORATION

WSP USA INC.
555 Pleasantville Road
Briarcliff Manor, NY 10510
(914) 747-1120

ENGINEER OF RECORD:

STATE OF NEW YORK · DANIEL P BRIAR · 091621 · LICENSED PROFESSIONAL ENGINEER

NEW YORK STATE LICENSED PROFESSIONAL ENGINEER

KEY PLAN:

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VILLAGE OF SLEEPY HOLLOW WESTCHESTER COUNTY, NEW YORK

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DRAWING NAME: **INSTRUMENTATION DETAILS - 3**

DRAWING NUMBER: IND–03

SHEET NUMBER: 26 OF 28

TABLE 3: OBSERVATION WELLS (OW)

OBSERVATION WEL NO.	GRID NO.	BOTTOM OF BOREHOLE, EL. A (FT)	TOP OF FILTER SAND, EL. B (FT)	TOP OF SURCHARGE AND PRELOAD FILL, EL. C (FT)
OW-1	F5	-4	8	32

TABLE 4: VIBRATING WIRE PIEZOMETER (VWP)

PIEZOMETER NO.	GRID NO.	BOTTOM OF BOREHOLE, EL. A (FT)	TOP OF FILTER SAND, EL. B (FT)	TOP OF SURCHARGE AND PRELOAD FILL, EL. C (FT)
VWP-1	E5	-27	-24	32
VWP-2	G5	-20	-17	22
VWP-3	F6	-21	-18	24

TABLE 5: MAGNETIC EXTENSOMETERS (ME)

MAGNETIC EXTENSOMETER NO.	GRID NO.	BOTTOM OF BOREHOLE, EL. A (FT)	BOTTOM DATUM RING MAGNET EL. B1 (FT)	TOP DATUM RING MAGNET EL. B2 (FT)	BOTTOM SPIDER MAGNET EL. C (FT)	TOP SPIDER MAGNET EL. D (FT)	TOP OF SURCHARGE AND PRELOAD FILL, EL. E (FT)
ME-1	E5	-56	-52	-49	-40	-10	32
ME-2	G5	-46	-42	-39	-30	-10	22
ME-3	F6	-46	-42	-39	-30	-10	24

TABLE 6: INCLINOMETERS (IN)

INCLINOMETER NO.	GRID NO.	BOTTOM OF BOREHOLE, EL. A (FT)	TOP OF EXISTING GROUND, EL. B (FT)	TOP OF SURCHARGE AND PRELOAD FILL, EL. C (FT)
IN-1	D5	-65	9	26.5
IN-2	E4	-70	6	23.5
IN-3	F4	-70	7	23.5
IN-4	H4	-45	9	23.5

NOTES:

1. THE ELEVATIONS OF INSTRUMENTS SHOWN ON THE TABLES ON THIS SHEET ARE APPROXIMATE. THE ENGINEER MAY ADJUST ELEVATIONS AND/OR DEPTHS FOR THE INSTRUMENTATION TO BE INSTALLED AT THAT LOCATION.
2. INSTRUMENTATION SHALL BE INSTALLED IN ACCORDANCE WITH THE SCHEDULING PROVIDED ON THE CONTRACT DRAWINGS AND AS PRESENTED IN THE APPROVED INSTRUMENTATION INSTALLATION PLAN.

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LOCAL DEVELOPMENT CORPORATION

WSP USA INC.
555 Pleasantville Road
Briarcliff Manor, NY 10510
(914) 747-1120

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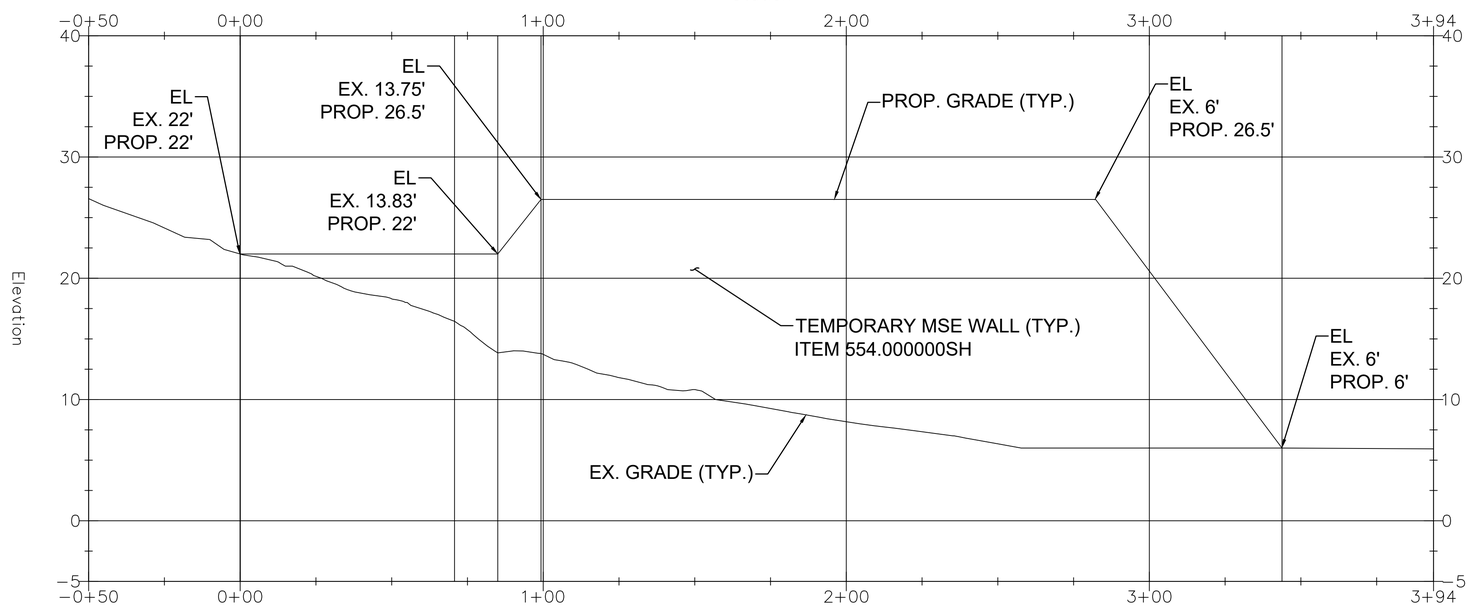
DRAWING NAME: **INSTRUMENTATION DETAILS - 4**

DRAWING NUMBER: IND-04

SHEET NUMBER: 27 OF 28

MSE Wall PROFILE



NOTES:

1. SEE OVW-01 AND ESC-01 & 03 FOR WALL LOCATION AND ALIGNMENT.
2. TEMPORARY MECHANICALLY STABILIZED EARTH (MSE) WALLS SHALL BE DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH THE REQUIREMENTS OF SPECIFICATION SECTION 554.000000SH AND THESE DRAWINGS. THE WALL REINFORCEMENT MAY BE GEOTEXTILE, GEOGRID, OR GALVANIZED WIRE MESH. THE DESIGN SHALL CONSIDER THE STABILITY AT EACH STAGE OF CONSTRUCTION, INCLUDING TOTAL AND DIFFERENTIAL SETTLEMENT.
3. THE CONTRACTOR SHALL RETAIN A QUALIFIED PROFESSIONAL ENGINEER LICENSED IN THE STATE OF NEW YORK TO PERFORM THE DESIGN OF THE MSE WALLS. THE MSE WALLS SHALL BE DESIGNED AND CONSTRUCTED TO SUCCESSFULLY PERFORM FOR A PERIOD OF NOT LESS THAN THREE (3) YEARS.
4. THE CONTRACTOR SHALL ENGAGE A PROPRIETARY WALL MANUFACTURER, WHO HAS AT LEAST TEN (10) YEARS EXPERIENCE, TO FABRICATE, AND SUPPLY MATERIALS FOR THE WALL.
5. THE CONTRACTOR SHALL SUBMIT THE NAME AND QUALIFICATIONS OF THE PROPRIETARY WALL MANUFACTURER, THE DESIGN ENGINEER, AND THEIR EXPERIENCE FOR THE APPROVAL OF THE ENGINEER IN ACCORDANCE WITH THE REQUIREMENTS OF SECTION 554.000000SH.
6. THIS DRAWING AND SPECIFICATIONS SPECIFY GENERAL REQUIREMENTS FOR DESIGN AND INSTALLATION OF MSE WALLS. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS AND DESIGN CALCULATIONS, SIGNED AND SEALED BY THE CONTRACTOR'S DESIGN ENGINEER FOR REVIEW AND APPROVAL BY THE ENGINEER. CALCULATIONS SHALL ACCOUNT FOR STRENGTH, EXTREME, AND SERVICE LOADS IN ACCORDANCE WITH THE SECTION 554.000000SH.
7. SUBMIT SHOP DRAWINGS PRIOR TO PLANNED START OF THE MSE WALL CONSTRUCTION. THE MSE WALL CONSTRUCTION SHALL NOT COMMENCE WITHOUT APPROVAL BY THE ENGINEER.
8. THE MSE WALLS SHALL BE CONSTRUCTED TO THE FOLLOWING TOLERANCES:
   - A. THE HORIZONTAL ALIGNMENT OF THE WALL SHALL NOT DEVIATE BY MORE THAN THREE (3) INCHES OVER A DISTANCE OF TEN (10) FEET AND SHALL NOT DEVIATE MORE THAN SIX (6) INCHES FROM THE LOCATION SHOWN ON THE CONTRACT DRAWINGS.
   - B. THE FACE ANGLE OF THE WALL SHALL NOT DEVIATE BY MORE THAN TWO (2) INCHES OVER TEN (10) FEET FROM THE FACE ANGLE SHOWN ON THE SHOP DRAWINGS. THE OVERALL VERTICAL DEVIATION OF THE WALL FACE FROM VERTICAL ANGLE SHOWN ON THE APPROVED SHOP DRAWINGS SHALL NOT EXCEED ONE (1) INCH PER TEN (10) FEET OF VERTICAL HEIGHT (TOP TO BOTTOM).
9. THE CONTRACTOR'S DESIGN ENGINEER SHALL DESIGN AND DETAIL THE MSE WALL IN ACCORDANCE WITH THE FOLLOWING:
   - A. AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO) LRFD BRIDGE DESIGN SPECIFICATIONS, 8TH EDITION, 2017; LOAD AND RESISTANCE FACTOR DESIGN (LRFD) METHOD.
   - B. THE DESIGN PARAMETERS FOR SURCHARGE AND PRELOAD BACKFILL MATERIAL FOR THE REINFORCED ZONE SHALL BE DEVELOPED BASED ON THE RESULTS OF LABORATORY TESTING OF THE BUT SHALL NOT BE ASSUMED TO BE HIGHER THAN:
     - a. ANGLE OF INTERNAL FRICTION = 36 DEG.
     - b. MOIST UNIT WEIGHT = 125 POUND PER CUBIC FOOT
   - C. THE SURCHARGE AND PRELOAD BACKFILL MATERIAL PROPERTIES BEHIND THE REINFORCED EARTH MASS SHALL NOT BE ASSUMED TO BE HIGHER THAN:
     - a. ANGLE OF INTERNAL FRICTION = 33 DEG.
     - b. MOIST UNIT WEIGHT = 125 POUND PER CUBIC FOOT
   - D. SEISMIC DESIGN OF THE WALL SHALL BE BASED ON HORIZONTAL SEISMIC COEFFICIENT OF 0.06.
   - E. THE LENGTH OF REINFORCEMENT WITHIN THE EARTH MASS SHALL NOT BE LESS THAN 0.75 OF THE TOTAL HEIGHT OF THE WALL, INCLUDING THE WALL EMBEDMENT.
   - F. THE MSE WALL SHALL BE DESIGNED FOR A NOMINAL BEARING RESISTANCE OF SEVEN (7) KIPS PER SQUARE FOOT.
   - G. THE MSE WALL SHALL BE DESIGNED TO ACCOMMODATE ESTIMATED SETTLEMENTS DURING THE SURCHARGING PROGRAM:
     - a. DIFFERENTIAL SETTLEMENT: 2.5 FEET SETTLEMENT OVER A 40 FEET LENGTH ALONG THE WALL.
     - b. DIFFERENTIAL SETTLEMENT: 1 FEET OF SETTLEMENT FROM THE FACE OF THE WALL TO THE BACK OF THE REINFORCEMENT.
     - c. TOTAL SETTLEMENT: 5 FEET.
10. REFER TO SPECIFICATION SECTION 733.000000SH FOR MATERIAL REQUIREMENTS FOR THE SURCHARGE AND PRELOAD BACKFILL MATERIAL FOR REINFORCED EARTH MASS.

SLEEPY HOLLOW
LOCAL DEVELOPMENT CORPORATION

WSP USA INC.
555 Pleasantville Road
Briarcliff Manor, NY 10510
(914) 747-1120

ENGINEER OF RECORD:

STATE OF NEW YORK · DANIEL P BRIA · 091621 · LICENSED PROFESSIONAL ENGINEER

NEW YORK STATE LICENSED PROFESSIONAL ENGINEER

KEY PLAN:

REVISIONS:

PROJECT NAME:

SLEEPY HOLLOW COMMONS PROJECT - PHASE IB

VILLAGE OF SLEEPY HOLLOW
WESTCHESTER COUNTY, NEW YORK

ISSUE DATE: 9/19/2019

PROJECT NUMBER:	SCALE:
188137D	AS SHOWN

DRAWING NAME: **TEMPORARY MSE WALL NOTES AND DETAILS**

DRAWING NUMBER:	SHEET NUMBER:
WND-01	28 OF 28

Appendix G

Notice of Termination (NOT)

New York State Department of Environmental Conservation
Division of Water
625 Broadway, 4th Floor
Albany, New York 12233-3505
(NOTE: Submit completed form to address above)

NOTICE OF TERMINATION for Storm Water Discharges Authorized under the SPDES General Permit for Construction Activity

Please indicate your permit identification number: NYR ___ ___ ___ ___ ___ ___

I. Owner or Operator Information

1. Owner/Operator Name:

2. Street Address:

3. City/State/Zip:

4. Contact Person: | 4a.Telephone:

4b. Contact Person E-Mail:

II. Project Site Information

5. Project/Site Name:

6. Street Address:

7. City/Zip:

8. County:

III. Reason for Termination

9a. □ All disturbed areas have achieved final stabilization in accordance with the general permit and SWPPP. ***Date final stabilization completed** (month/year): _____

9b. □ Permit coverage has been transferred to new owner/operator. Indicate new owner/operator's permit identification number: NYR ___ ___ ___ ___ ___ ___
(Note: Permit coverage can not be terminated by owner identified in I.1. above until new owner/operator obtains coverage under the general permit)

9c. □ Other (Explain on Page 2)

IV. Final Site Information:

10a. Did this construction activity require the development of a SWPPP that includes post-construction stormwater management practices? □ yes □ no (If no, go to question 10f.)

10b. Have all post-construction stormwater management practices included in the final SWPPP been constructed? □ yes □ no (If no, explain on Page 2)

10c. Identify the entity responsible for long-term operation and maintenance of practice(s)?

_____

NOTICE OF TERMINATION for Storm Water Discharges Authorized under the SPDES General Permit for Construction Activity - continued

10d. Has the entity responsible for long-term operation and maintenance been given a copy of the operation and maintenance plan required by the general permit? □ yes □ no

10e. Indicate the method used to ensure long-term operation and maintenance of the post-construction stormwater management practice(s):

□ Post-construction stormwater management practice(s) and any right-of-way(s) needed to maintain practice(s) have been deeded to the municipality.

□ Executed maintenance agreement is in place with the municipality that will maintain the post-construction stormwater management practice(s).

□ For post-construction stormwater management practices that are privately owned, a mechanism is in place that requires operation and maintenance of the practice(s) in accordance with the operation and maintenance plan, such as a deed covenant in the owner or operator's deed of record.

□ For post-construction stormwater management practices that are owned by a public or private institution (e.g. school, university or hospital), government agency or authority, or public utility; policy and procedures are in place that ensures operation and maintenance of the practice(s) in accordance with the operation and maintenance plan.

10f. Provide the total area of impervious surface (i.e. roof, pavement, concrete, gravel, etc.) constructed within the disturbance area? _____ (acres)

11. Is this project subject to the requirements of a regulated, traditional land use control MS4? □ yes □ no

(If Yes, complete section VI - "MS4 Acceptance" statement

V. Additional Information/Explanation:

(Use this section to answer questions 9c. and 10b., if applicable)

VI. MS4 Acceptance - MS4 Official (principal executive officer or ranking elected official) or Duly Authorized Representative (Note: Not required when 9b. is checked -transfer of coverage)

I have determined that it is acceptable for the owner or operator of the construction project identified in question 5 to submit the Notice of Termination at this time.

Printed Name:	
Title/Position:	
Signature:	Date:

NOTICE OF TERMINATION for Storm Water Discharges Authorized under the SPDES General Permit for Construction Activity - continued

VII. Qualified Inspector Certification - Final Stabilization:

I hereby certify that all disturbed areas have achieved final stabilization as defined in the current version of the general permit, and that all temporary, structural erosion and sediment control measures have been removed. Furthermore, I understand that certifying false, incorrect or inaccurate information is a violation of the referenced permit and the laws of the State of New York and could subject me to criminal, civil and/or administrative proceedings.

Printed Name:	
Title/Position:	
Signature:	Date:

VIII. Qualified Inspector Certification - Post-construction Stormwater Management Practice(s):

I hereby certify that all post-construction stormwater management practices have been constructed in conformance with the SWPPP. Furthermore, I understand that certifying false, incorrect or inaccurate information is a violation of the referenced permit and the laws of the State of New York and could subject me to criminal, civil and/or administrative proceedings.

Printed Name:	
Title/Position:	
Signature:	Date:

IX. Owner or Operator Certification

I hereby certify that this document was prepared by me or under my direction or supervision. My determination, based upon my inquiry of the person(s) who managed the construction activity, or those persons directly responsible for gathering the information, is that the information provided in this document is true, accurate and complete. Furthermore, I understand that certifying false, incorrect or inaccurate information is a violation of the referenced permit and the laws of the State of New York and could subject me to criminal, civil and/or administrative proceedings.

Printed Name:	
Title/Position:	
Signature:	Date:

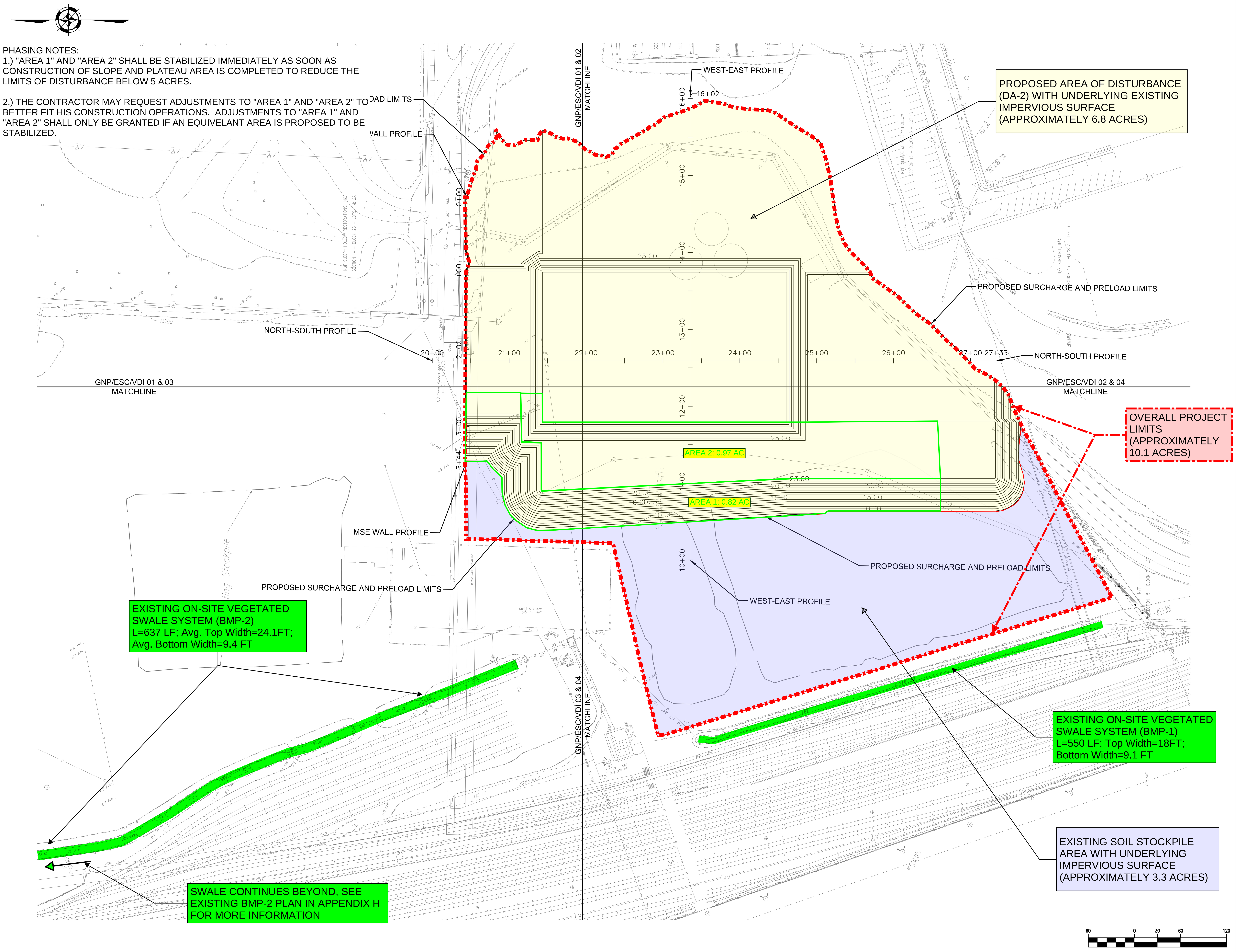
(NYS DEC Notice of Termination - January 2015)

Appendix H

Site and Existing BMP
Diagrams

PHASING NOTES:
1.) "AREA 1" AND "AREA 2" SHALL BE STABILIZED IMMEDIATELY AS SOON AS CONSTRUCTION OF SLOPE AND PLATEAU AREA IS COMPLETED TO REDUCE THE LIMITS OF DISTURBANCE BELOW 5 ACRES.

2.) THE CONTRACTOR MAY REQUEST ADJUSTMENTS TO "AREA 1" AND "AREA 2" TO BETTER FIT HIS CONSTRUCTION OPERATIONS. ADJUSTMENTS TO "AREA 1" AND "AREA 2" SHALL ONLY BE GRANTED IF AN EQUIVELANT AREA IS PROPOSED TO BE STABILIZED.



SLEEPY HOLLOW
LOCAL DEVELOPMENT CORPORATION

VILLAGE OF SLEEPY HOLLOW 1874

WSP USA INC.
555 Pleasantville Road
Briarcliff Manor, NY 10510
(914) 747-1120

ENGINEER OF RECORD:

NEW YORK STATE LICENSED PROFESSIONAL ENGINEER

UNAUTHORIZED ALTERATIONS AND ADDITIONS TO THIS DRAWING IS A VIOLATION OF SECTION 7209 (2) OF THE NEW YORK STATE EDUCATION LAW

KEY PLAN:

REVISIONS:

PROJECT NAME:

SLEEPY HOLLOW COMMONS PROJECT - PHASE IB

VILLAGE OF SLEEPY HOLLOW WESTCHESTER COUNTY, NEW YORK

ISSUE DATE: 8/5/20

PROJECT NUMBER: 188137D	SCALE: AS SHOWN
DRAWING NAME:	**GENERAL SITE PLAN - PHASE 1B 1**
DRAWING NUMBER:	SHEET NUMBER: 1 OF 2

PROPOSED SURCHARGE AND PRELOAD LIMITS

MSE WALL PROFILE

APPROXIMATE LIMIT OF FLOOD WAY

POCANTICO RIVER

FLOOD PLAIN (AE)

FLOOD WAY

700 Feet +/-

SITE DISCHARGE POINT

PROPOSED AREA OF DISTURBANCE (DA-2) WITH UNDERLYING EXISTING IMPERVIOUS SURFACE (APPROXIMATELY 6.8 ACRES)

PROPOSED SURCHARGE AND PRELOAD LIMITS

OVERALL PROJECT LIMITS (APPROXIMATELY 10.1 ACRES)

MSE WALL PROFILE

PROPOSED SURCHARGE AND PRELOAD LIMITS

PROPOSED SURCHARGE AND PRELOAD LIMITS

EXISTING ON-SITE VEGETATED SWALE SYSTEM (BMP-2)
L=637 LF; Avg. Top Width=24.1FT;
Avg. Bottom Width=9.4 FT

EXISTING ON-SITE VEGETATED SWALE SYSTEM (BMP-1)
L=550 LF; Top Width=18FT;
Bottom Width=9.1 FT

Contractor Staging Area

EXISTING SOIL STOCKPILE AREA WITH UNDERLYING IMPERVIOUS SURFACE (APPROXIMATELY 3.3 ACRES)

GRAPHIC SCALE (IN FEET)
60 0 30 60 120

Drawing Path\Name: L:\Proj\188810\A-Continental\3_CAD\AutoCAD\1_Working\Wick2Drain and Surcharge Plans\Overview Plans_for SWPPP.dwg Printed: Aug 13, 2020, 5:43pm Layout: GVW-01

SLEEPY HOLLOW
LOCAL DEVELOPMENT CORPORATION

WSP USA INC.
555 Pleasantville Road
Briarcliff Manor, NY 10510
(914) 747-1120

ENGINEER OF RECORD:

..\WSP-SEAL_DW.tif

NEW YORK STATE LICENSED PROFESSIONAL ENGINEER

KEY PLAN:

REVISIONS:

PROJECT NAME:

SLEEPY HOLLOW COMMONS PROJECT - PHASE IB

VILLAGE OF SLEEPY HOLLOW WESTCHESTER COUNTY, NEW YORK

ISSUE DATE: 8/5/20

PROJECT NUMBER:	SCALE:
188137D	AS SHOWN

DRAWING NAME: **GENERAL SITE PLAN - 2 PHASE 1B**

DRAWING NUMBER:	SHEET NUMBER:
	2 OF 2

NORTH

24" RCP INFLOW
FROM UPSTREAM BMP
(EX BMP-1)

30" RCP CONNECTING
SWALE BAYS

30" RCP CONNECTING
SWALE BAYS

1

118.13 ft

30.34 ft

2

58.58 ft

21.58 ft

3

80.89 ft

21.72 ft

4

81.72 ft

25.31 ft

5

83.32 ft

24.47 ft

6

215.41 ft

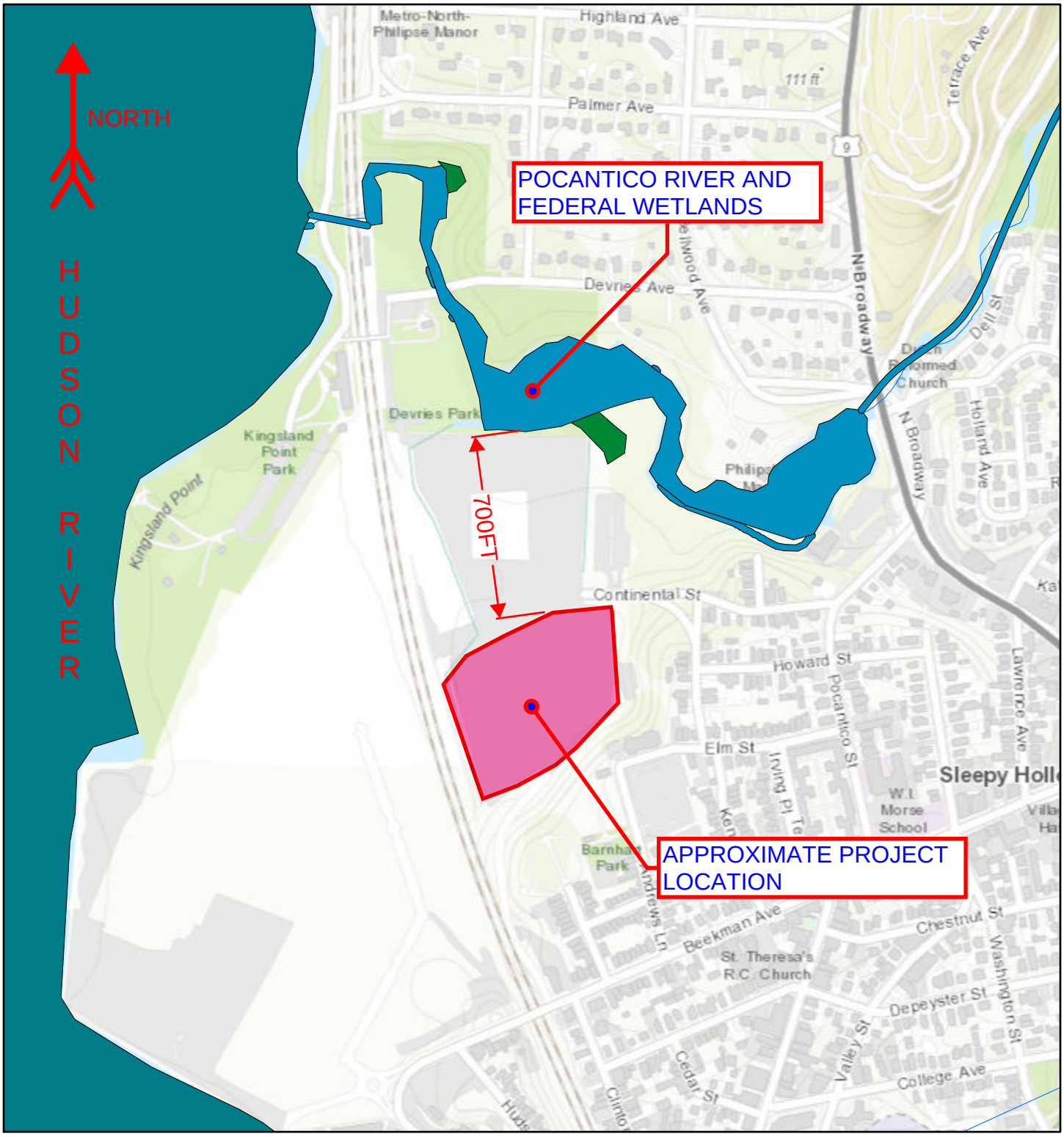
21.79 ft

HARD PIPED OUTFALL
TO POCANTICO

EXISTING EX BMP-2 SWALE DIAGRAM

50 ft
SCALE

Environmental Resource Mapper



August 13, 2020

1:9,028

0 0.05 0.1 0.2 mi

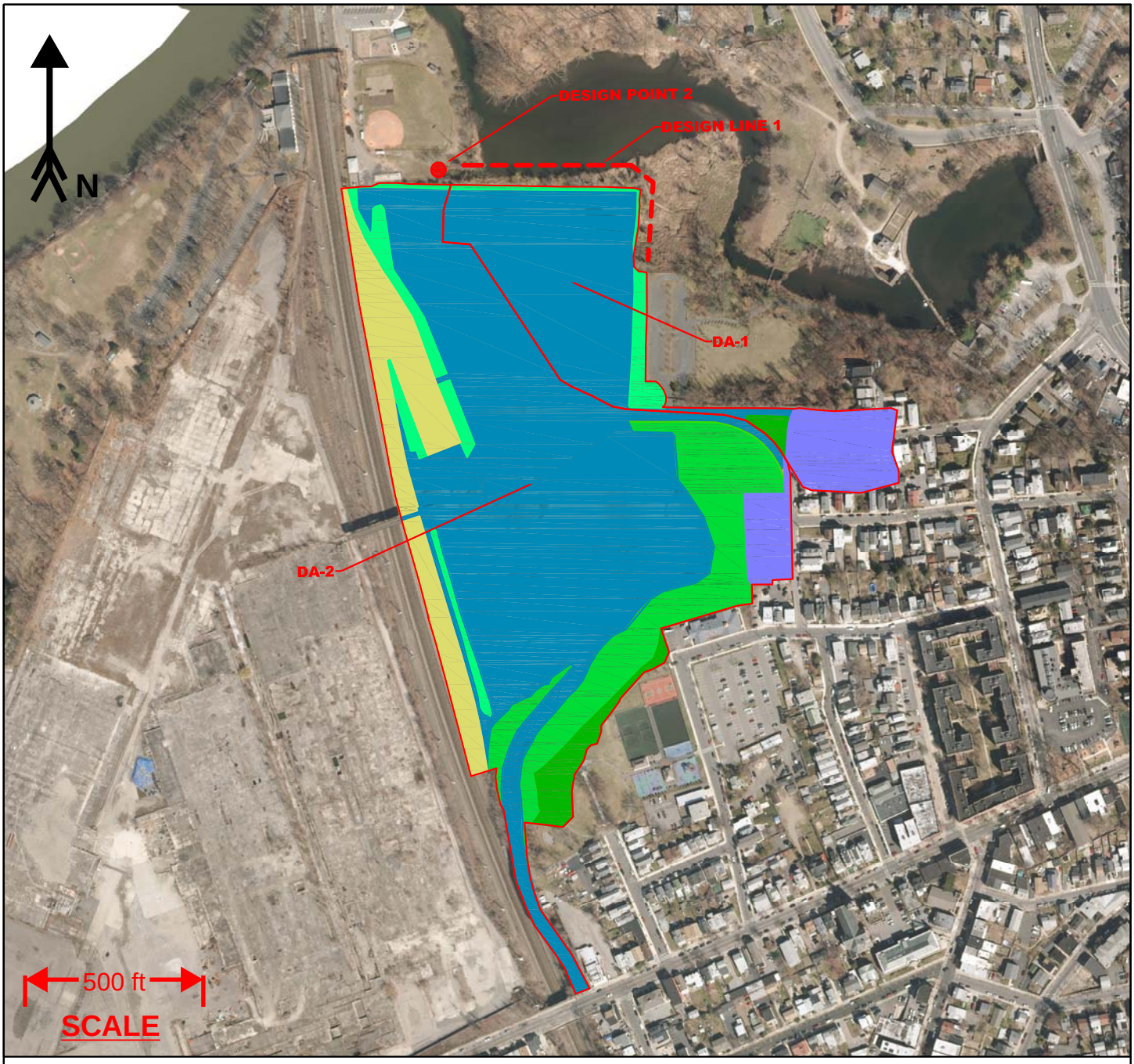
0 0.07 0.15 0.3 km

Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

NYS Department of Environmental Conservation
Not a legal document

Appendix I

Stormwater Calculations



Legend

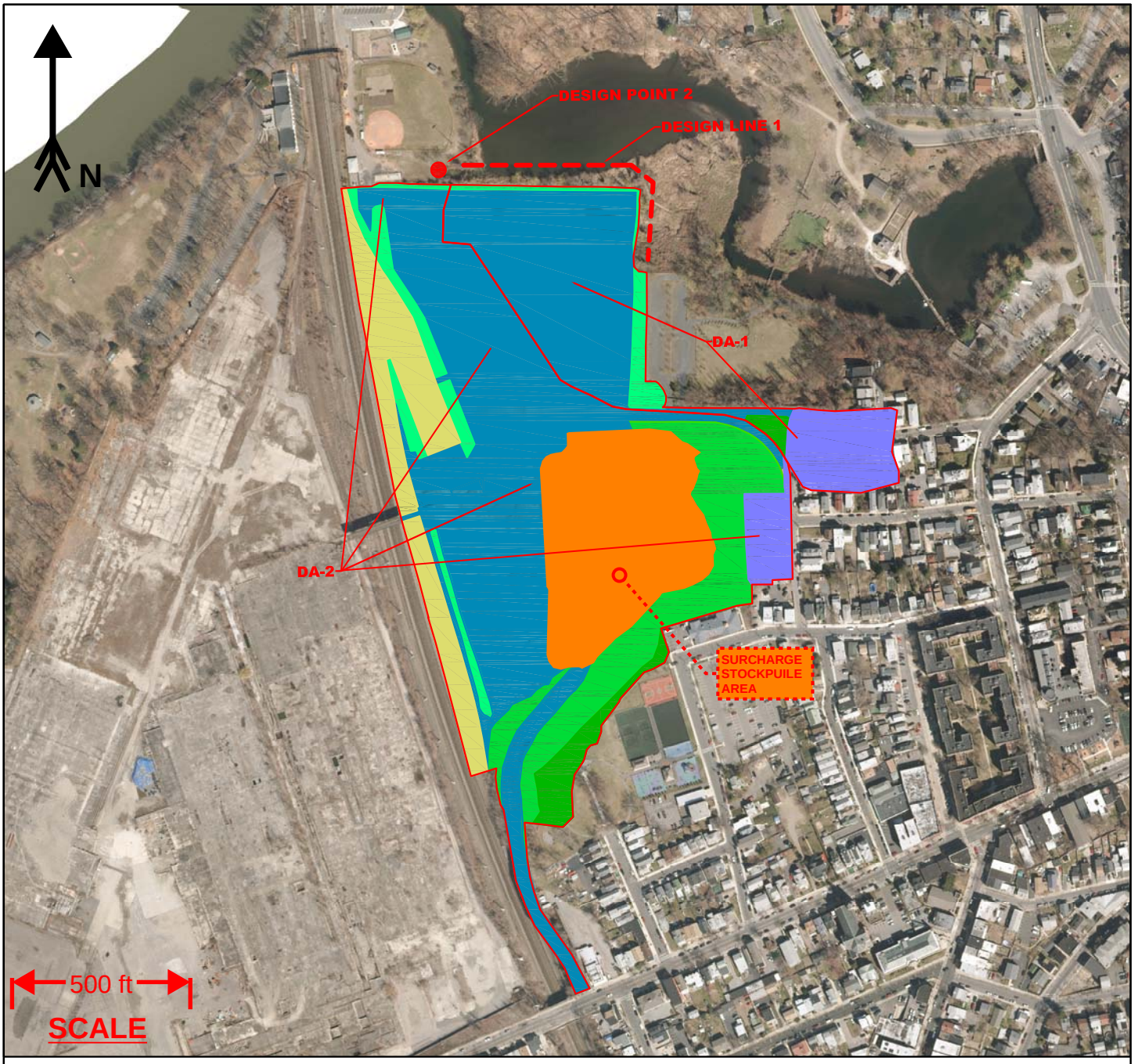
- Impervious Surfaces
- Grass/Open Space
- 1/4-Acre Residential
- Meadow
- Gravel ROW
- Woods

Figure 1
Pre-Development Drainage

Project: East Parcel Redevelopment

Prepared For: Sleepy Hollow Local Development Corporation

wsp



Legend

- Impervious Surfaces
- Grass/Open Space
- 1/4-Acre Residential
- Meadow
- Gravel ROW
- Woods
- Surcharge Stockpile Area

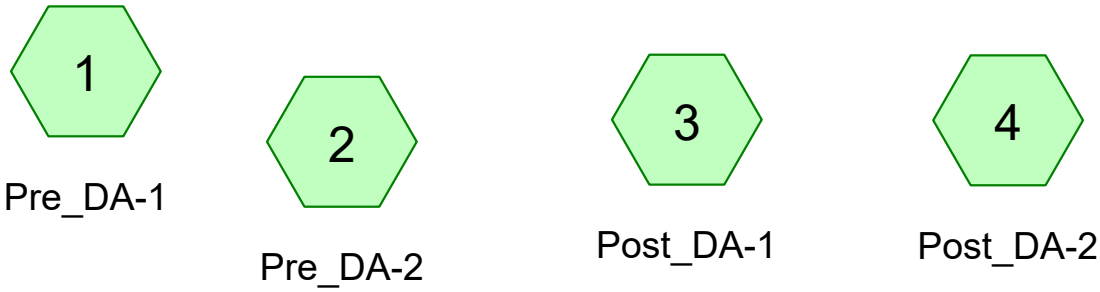
Figure 2
Post-Development Drainage

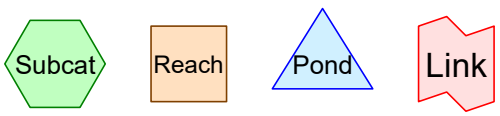
Project: East Parcel Redevelopment

Prepared For: Sleepy Hollow Local Development Corporation

wsp

Water Quantity





Project Notes

Rainfall events imported from "NRCS-Rain.txt" for 7139 NY Westchester

Area Listing (selected nodes)

Area (acres)	CN	Description (subcatchment-numbers)
4.600	83	1/4 acre lots, 38% imp, HSG C (1, 2, 3, 4)
6.800	89	<50% Grass cover, Poor, HSG D (4)
2.000	74	>75% Grass cover, Good, HSG C (1, 2, 3, 4)
6.000	89	Gravel roads, HSG C (2, 4)
7.120	71	Meadow, non-grazed, HSG C (1, 2, 3, 4)
36.400	98	Paved parking, HSG C (1, 2, 3, 4)
8.600	55	Woods, Good, HSG B (2, 4)
71.520	**87**	**TOTAL AREA**

Soil Listing (selected nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
8.600	HSG B	2, 4
56.120	HSG C	1, 2, 3, 4
6.800	HSG D	4
0.000	Other	
71.520		**TOTAL AREA**

Ground Covers (selected nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	0.000	4.600	0.000	0.000	4.600	1/4 acre lots, 38% imp	1, 2, 3, 4
0.000	0.000	0.000	6.800	0.000	6.800	<50% Grass cover, Poor	4
0.000	0.000	2.000	0.000	0.000	2.000	>75% Grass cover, Good	1, 2, 3, 4
0.000	0.000	6.000	0.000	0.000	6.000	Gravel roads	2, 4
0.000	0.000	7.120	0.000	0.000	7.120	Meadow, non-grazed	1, 2, 3, 4
0.000	0.000	36.400	0.000	0.000	36.400	Paved parking	1, 2, 3, 4
0.000	8.600	0.000	0.000	0.000	8.600	Woods, Good	2, 4
0.000	**8.600**	**56.120**	**6.800**	**0.000**	**71.520**	**TOTAL AREA**	

Time span=0.00-24.00 hrs, dt=0.01 hrs, 2401 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment1: Pre_DA-1 Runoff Area=7.500 ac 76.93% Impervious Runoff Depth>1.95"
Tc=6.0 min CN=92 Runoff=18.02 cfs 1.220 af

Subcatchment2: Pre_DA-2 Runoff Area=28.260 ac 59.11% Impervious Runoff Depth>1.54"
Tc=15.0 min CN=87 Runoff=40.19 cfs 3.633 af

Subcatchment3: Post_DA-1 Runoff Area=7.500 ac 76.93% Impervious Runoff Depth>1.95"
Tc=6.0 min CN=92 Runoff=18.02 cfs 1.220 af

Subcatchment4: Post_DA-2 Runoff Area=28.260 ac 35.05% Impervious Runoff Depth>1.33"
Tc=15.0 min CN=84 Runoff=34.63 cfs 3.136 af

Total Runoff Area = 71.520 ac Runoff Volume = 9.208 af Average Runoff Depth = 1.54"
46.66% Pervious = 33.372 ac 53.34% Impervious = 38.148 ac

Summary for Subcatchment 1: Pre_DA-1

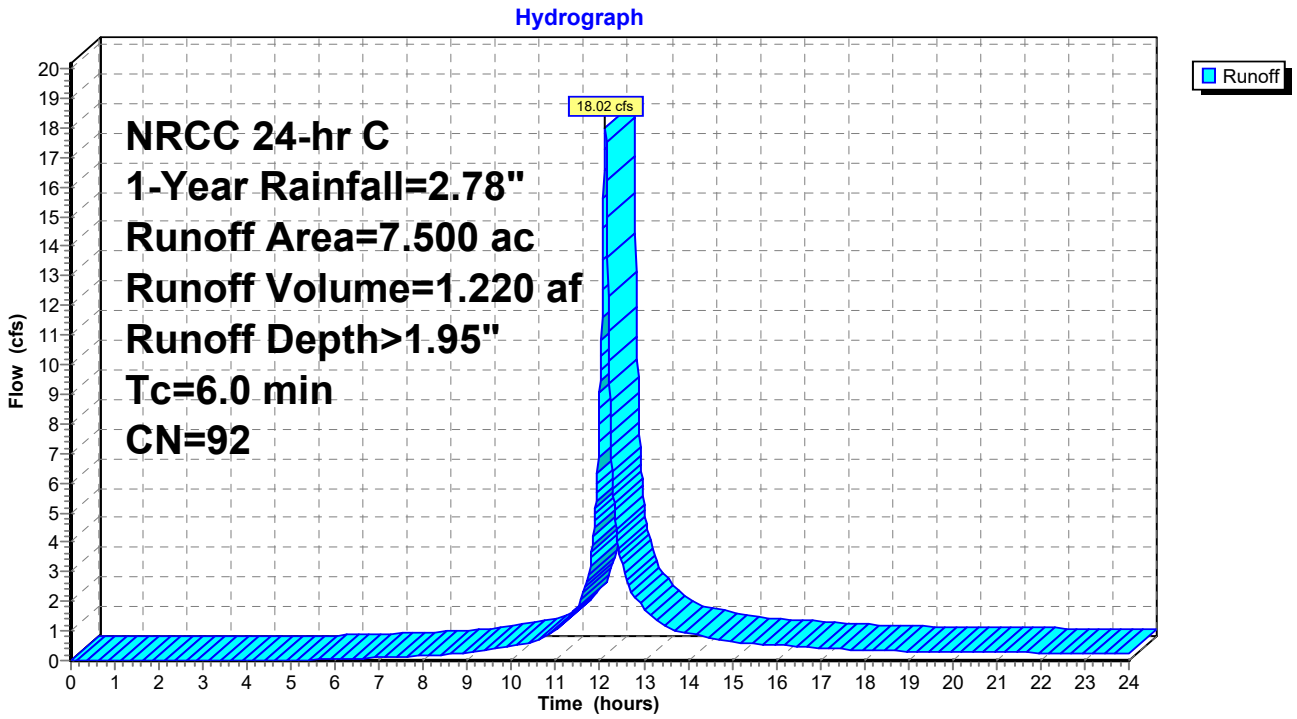
Runoff = 18.02 cfs @ 12.13 hrs, Volume= 1.220 af, Depth> 1.95"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
NRCC 24-hr C 1-Year Rainfall=2.78"

Area (ac)	CN	Description
5.200	98	Paved parking, HSG C
0.200	74	>75% Grass cover, Good, HSG C
0.600	71	Meadow, non-grazed, HSG C
1.500	83	1/4 acre lots, 38% imp, HSG C
7.500	92	Weighted Average
1.730		23.07% Pervious Area
5.770		76.93% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 1: Pre_DA-1



Summary for Subcatchment 2: Pre_DA-2

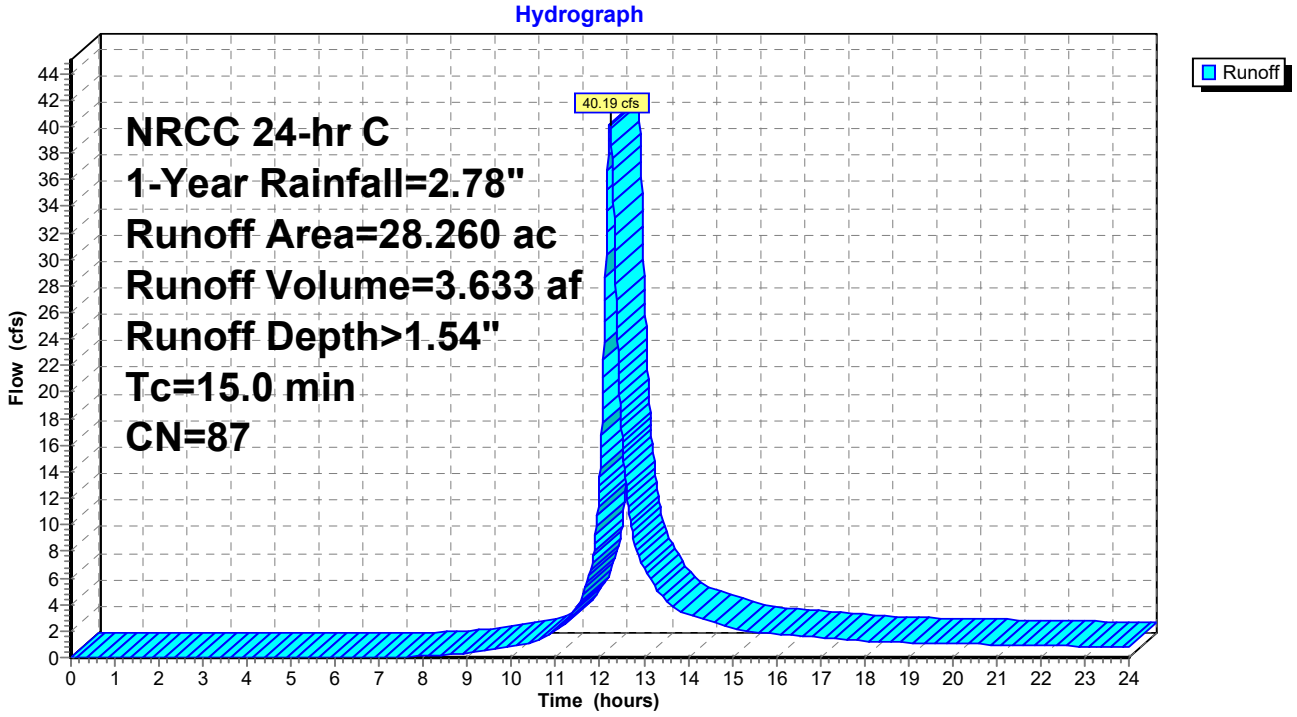
Runoff = 40.19 cfs @ 12.23 hrs, Volume= 3.633 af, Depth> 1.54"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
NRCC 24-hr C 1-Year Rainfall=2.78"

Area (ac)	CN	Description
16.400	98	Paved parking, HSG C
0.800	74	>75% Grass cover, Good, HSG C
0.800	83	1/4 acre lots, 38% imp, HSG C
2.960	71	Meadow, non-grazed, HSG C
3.000	89	Gravel roads, HSG C
4.300	55	Woods, Good, HSG B
28.260	87	Weighted Average
11.556		40.89% Pervious Area
16.704		59.11% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.0					**Direct Entry,**

Subcatchment 2: Pre_DA-2



Summary for Subcatchment 3: Post_DA-1

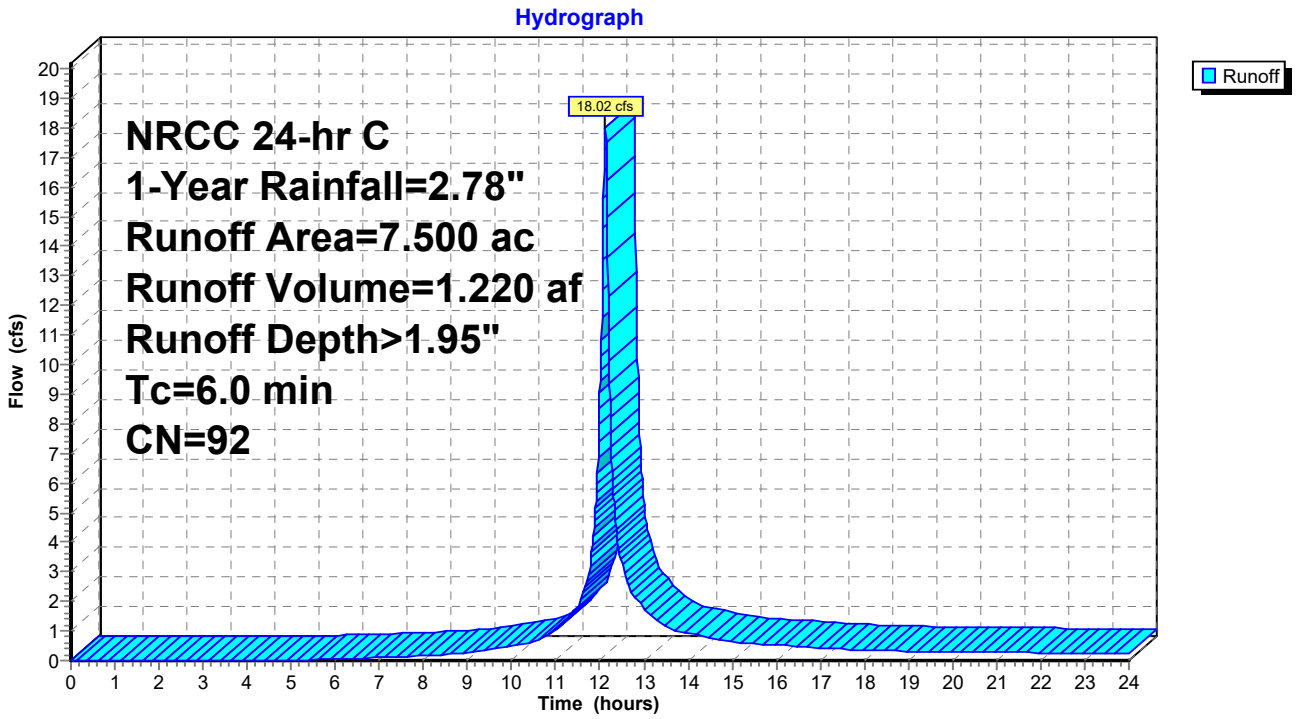
Runoff = 18.02 cfs @ 12.13 hrs, Volume= 1.220 af, Depth> 1.95"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
NRCC 24-hr C 1-Year Rainfall=2.78"

Area (ac)	CN	Description
5.200	98	Paved parking, HSG C
0.200	74	>75% Grass cover, Good, HSG C
0.600	71	Meadow, non-grazed, HSG C
1.500	83	1/4 acre lots, 38% imp, HSG C
7.500	92	Weighted Average
1.730		23.07% Pervious Area
5.770		76.93% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 3: Post_DA-1



Summary for Subcatchment 4: Post_DA-2

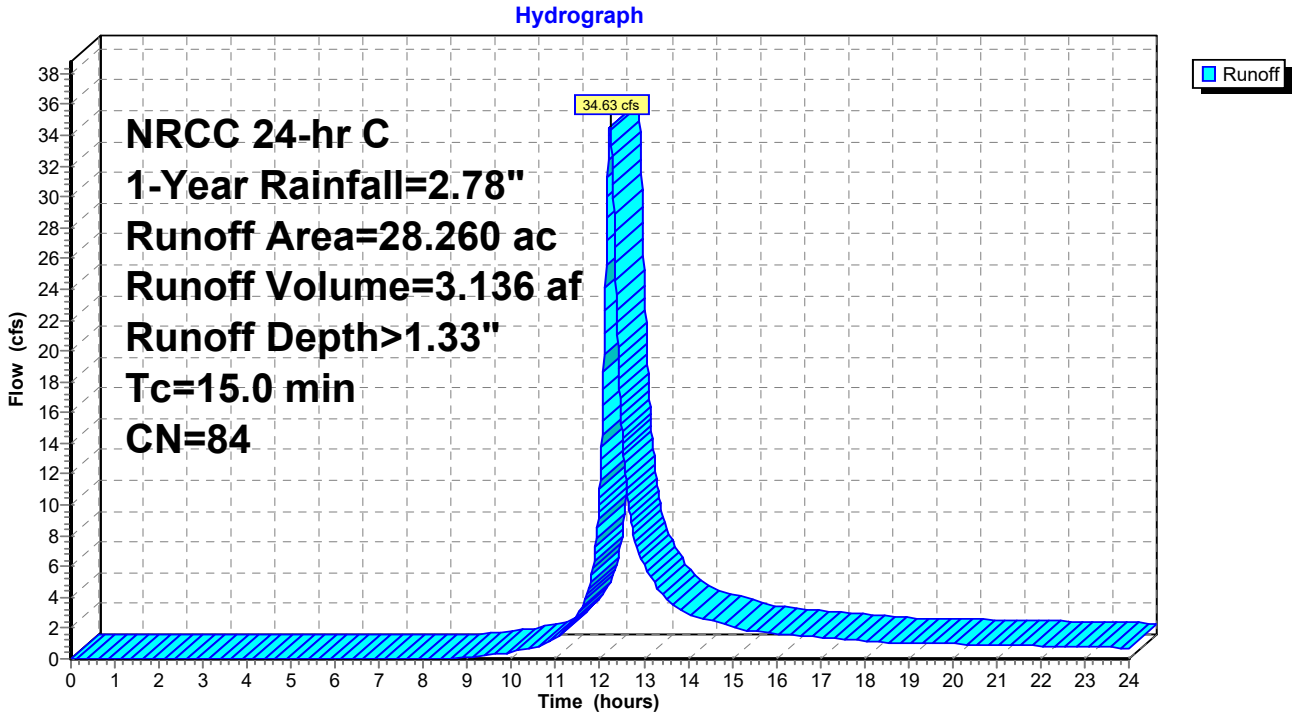
Runoff = 34.63 cfs @ 12.23 hrs, Volume= 3.136 af, Depth> 1.33"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
NRCC 24-hr C 1-Year Rainfall=2.78"

Area (ac)	CN	Description
9.600	98	Paved parking, HSG C
0.800	74	>75% Grass cover, Good, HSG C
0.800	83	1/4 acre lots, 38% imp, HSG C
2.960	71	Meadow, non-grazed, HSG C
3.000	89	Gravel roads, HSG C
4.300	55	Woods, Good, HSG B
6.800	89	<50% Grass cover, Poor, HSG D
28.260	84	Weighted Average
18.356		64.95% Pervious Area
9.904		35.05% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.0					**Direct Entry,**

Subcatchment 4: Post_DA-2



Time span=0.00-24.00 hrs, dt=0.01 hrs, 2401 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment1: Pre_DA-1 Runoff Area=7.500 ac 76.93% Impervious Runoff Depth>4.21"
Tc=6.0 min CN=92 Runoff=37.13 cfs 2.632 af

Subcatchment2: Pre_DA-2 Runoff Area=28.260 ac 59.11% Impervious Runoff Depth>3.68"
Tc=15.0 min CN=87 Runoff=93.72 cfs 8.661 af

Subcatchment3: Post_DA-1 Runoff Area=7.500 ac 76.93% Impervious Runoff Depth>4.21"
Tc=6.0 min CN=92 Runoff=37.13 cfs 2.632 af

Subcatchment4: Post_DA-2 Runoff Area=28.260 ac 35.05% Impervious Runoff Depth>3.38"
Tc=15.0 min CN=84 Runoff=87.10 cfs 7.954 af

Total Runoff Area = 71.520 ac Runoff Volume = 21.879 af Average Runoff Depth = 3.67"
46.66% Pervious = 33.372 ac 53.34% Impervious = 38.148 ac

Summary for Subcatchment 1: Pre_DA-1

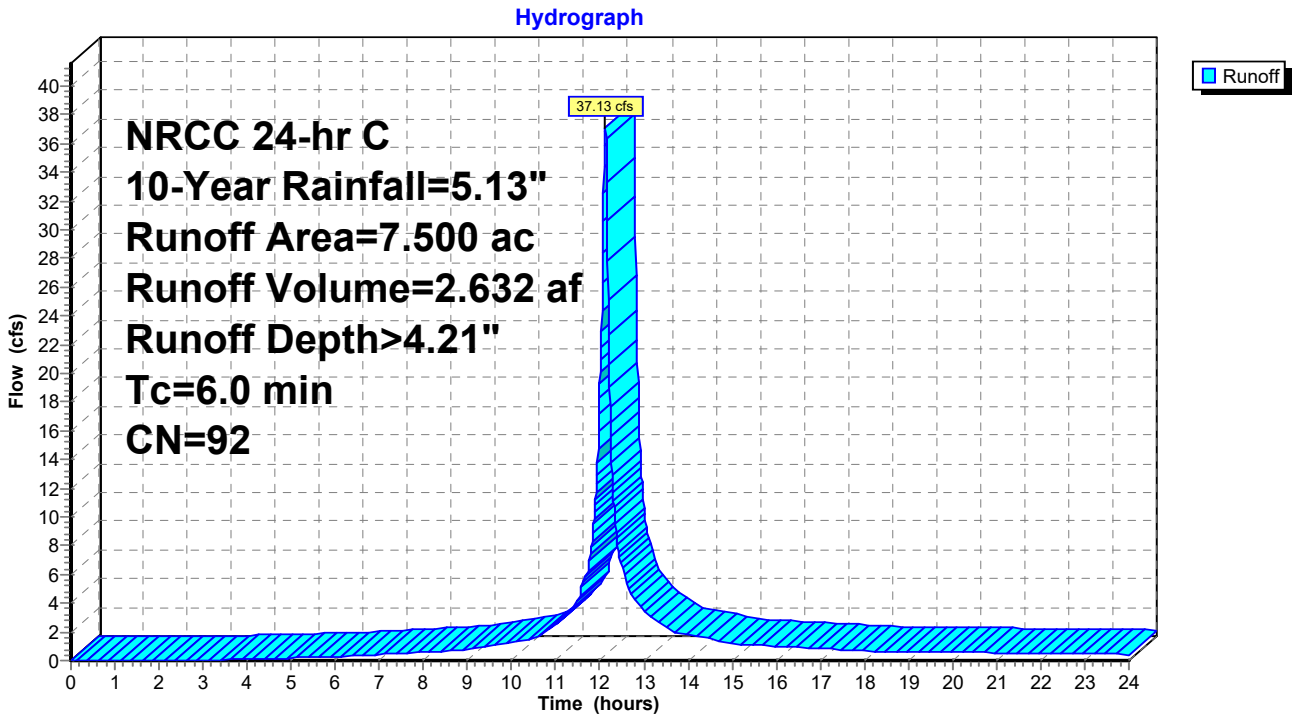
Runoff = 37.13 cfs @ 12.13 hrs, Volume= 2.632 af, Depth> 4.21"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
NRCC 24-hr C 10-Year Rainfall=5.13"

Area (ac)	CN	Description
5.200	98	Paved parking, HSG C
0.200	74	>75% Grass cover, Good, HSG C
0.600	71	Meadow, non-grazed, HSG C
1.500	83	1/4 acre lots, 38% imp, HSG C
7.500	92	Weighted Average
1.730		23.07% Pervious Area
5.770		76.93% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 1: Pre_DA-1



Summary for Subcatchment 2: Pre_DA-2

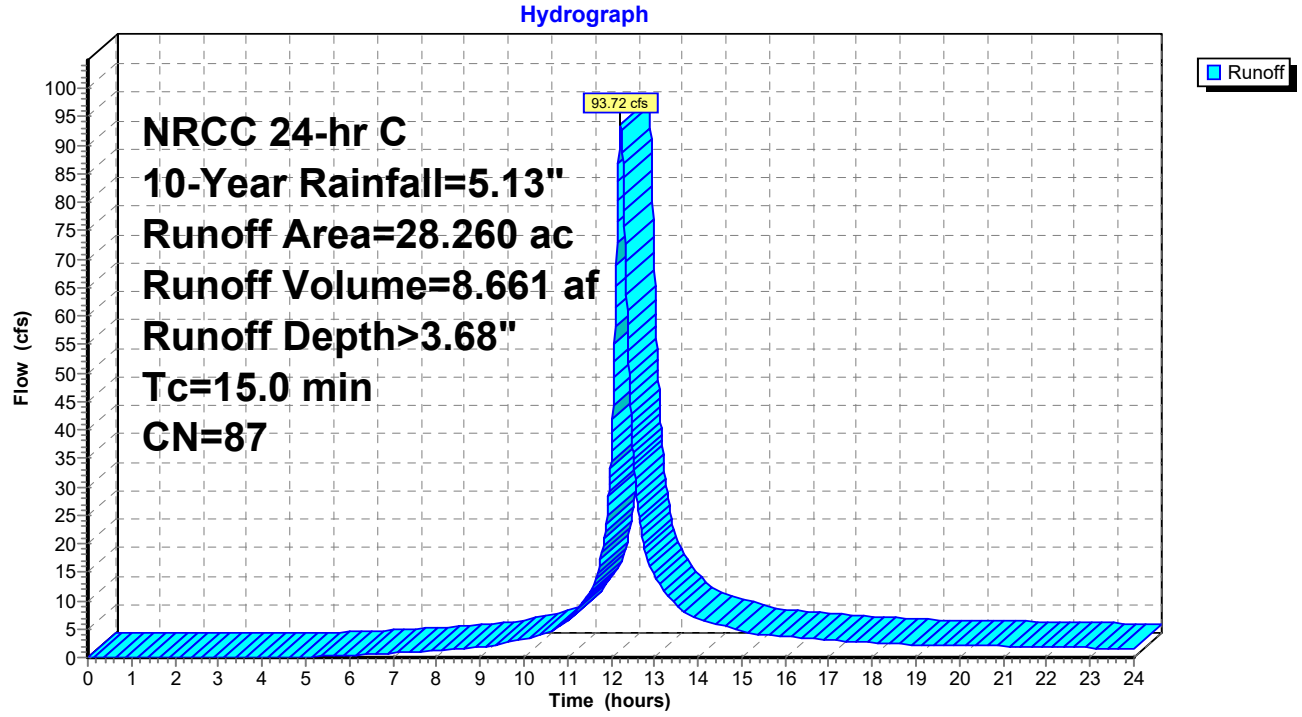
Runoff = 93.72 cfs @ 12.22 hrs, Volume= 8.661 af, Depth> 3.68"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
NRCC 24-hr C 10-Year Rainfall=5.13"

Area (ac)	CN	Description
16.400	98	Paved parking, HSG C
0.800	74	>75% Grass cover, Good, HSG C
0.800	83	1/4 acre lots, 38% imp, HSG C
2.960	71	Meadow, non-grazed, HSG C
3.000	89	Gravel roads, HSG C
4.300	55	Woods, Good, HSG B
28.260	87	Weighted Average
11.556		40.89% Pervious Area
16.704		59.11% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.0					**Direct Entry,**

Subcatchment 2: Pre_DA-2



Summary for Subcatchment 3: Post_DA-1

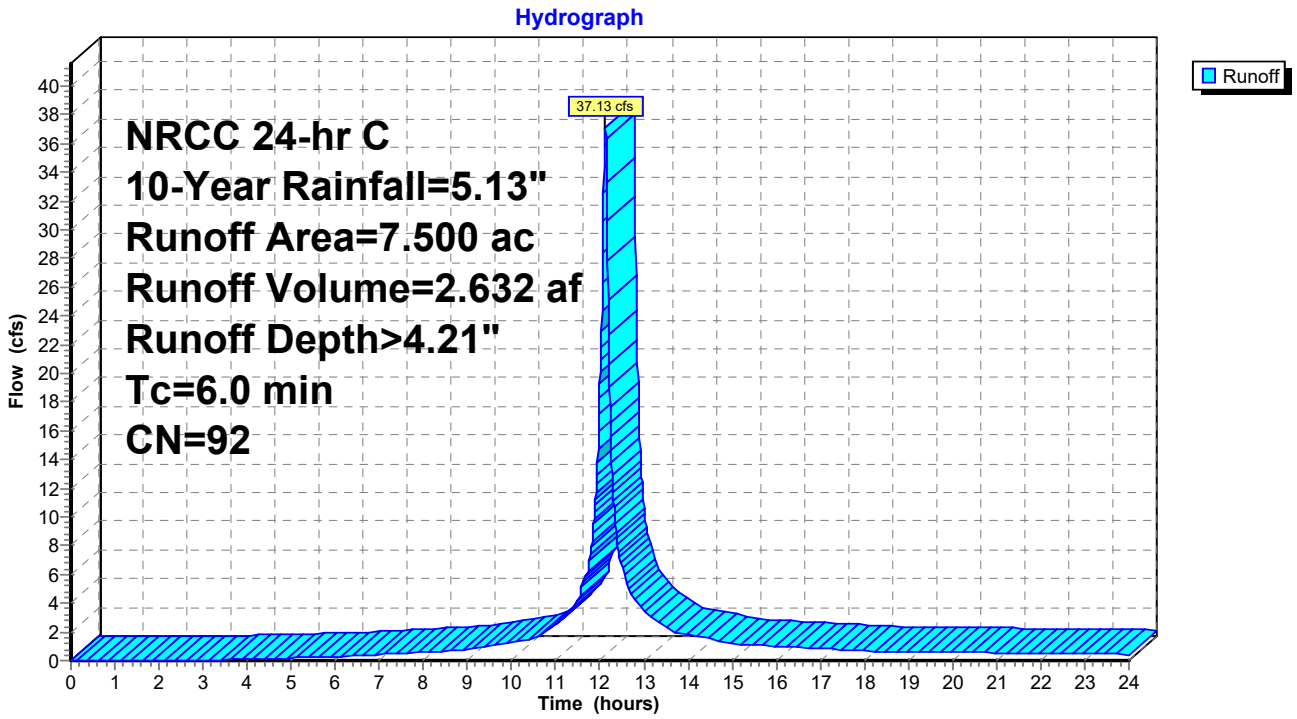
Runoff = 37.13 cfs @ 12.13 hrs, Volume= 2.632 af, Depth> 4.21"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
NRCC 24-hr C 10-Year Rainfall=5.13"

Area (ac)	CN	Description
5.200	98	Paved parking, HSG C
0.200	74	>75% Grass cover, Good, HSG C
0.600	71	Meadow, non-grazed, HSG C
1.500	83	1/4 acre lots, 38% imp, HSG C
7.500	92	Weighted Average
1.730		23.07% Pervious Area
5.770		76.93% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 3: Post_DA-1



Summary for Subcatchment 4: Post_DA-2

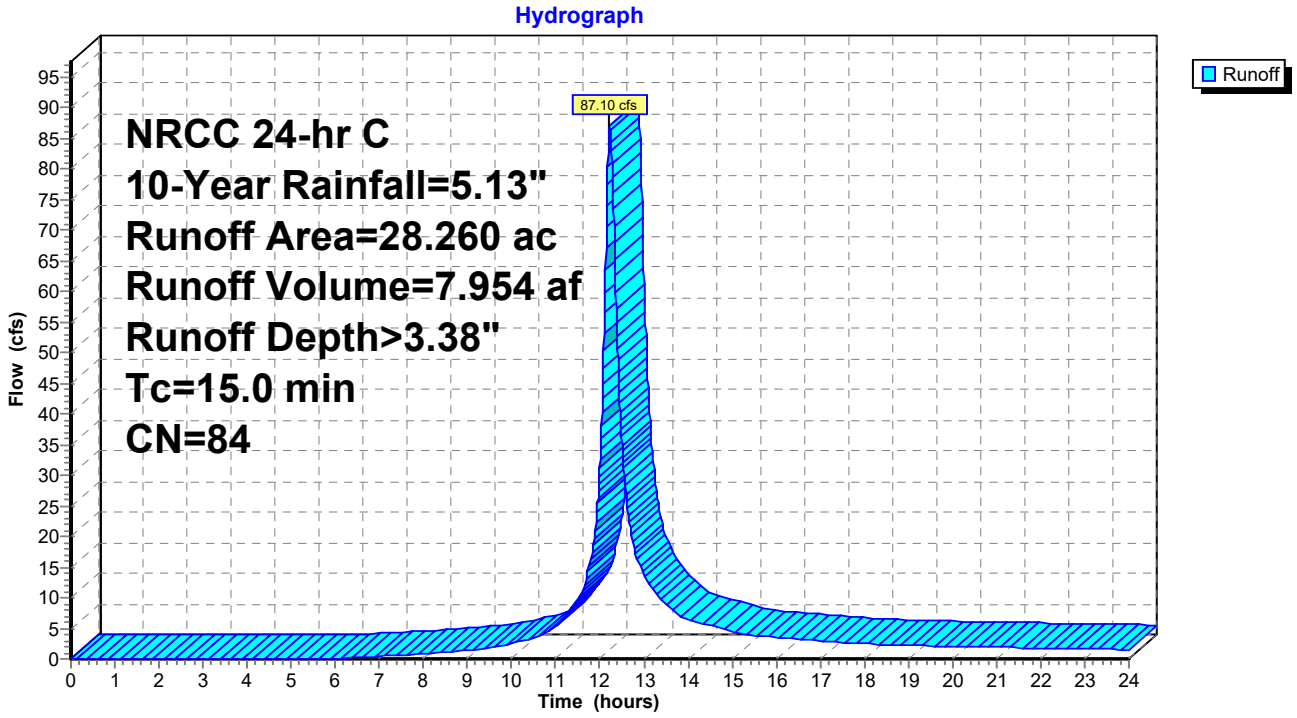
Runoff = 87.10 cfs @ 12.23 hrs, Volume= 7.954 af, Depth> 3.38"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
NRCC 24-hr C 10-Year Rainfall=5.13"

Area (ac)	CN	Description
9.600	98	Paved parking, HSG C
0.800	74	>75% Grass cover, Good, HSG C
0.800	83	1/4 acre lots, 38% imp, HSG C
2.960	71	Meadow, non-grazed, HSG C
3.000	89	Gravel roads, HSG C
4.300	55	Woods, Good, HSG B
6.800	89	<50% Grass cover, Poor, HSG D
28.260	84	Weighted Average
18.356		64.95% Pervious Area
9.904		35.05% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.0					**Direct Entry,**

Subcatchment 4: Post_DA-2



Time span=0.00-24.00 hrs, dt=0.01 hrs, 2401 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment1: Pre_DA-1 Runoff Area=7.500 ac 76.93% Impervious Runoff Depth>8.30"
Tc=6.0 min CN=92 Runoff=70.17 cfs 5.190 af

Subcatchment2: Pre_DA-2 Runoff Area=28.260 ac 59.11% Impervious Runoff Depth>7.68"
Tc=15.0 min CN=87 Runoff=188.19 cfs 18.079 af

Subcatchment3: Post_DA-1 Runoff Area=7.500 ac 76.93% Impervious Runoff Depth>8.30"
Tc=6.0 min CN=92 Runoff=70.17 cfs 5.190 af

Subcatchment4: Post_DA-2 Runoff Area=28.260 ac 35.05% Impervious Runoff Depth>7.31"
Tc=15.0 min CN=84 Runoff=182.13 cfs 17.208 af

Total Runoff Area = 71.520 ac Runoff Volume = 45.667 af Average Runoff Depth = 7.66"
46.66% Pervious = 33.372 ac 53.34% Impervious = 38.148 ac

Summary for Subcatchment 1: Pre_DA-1

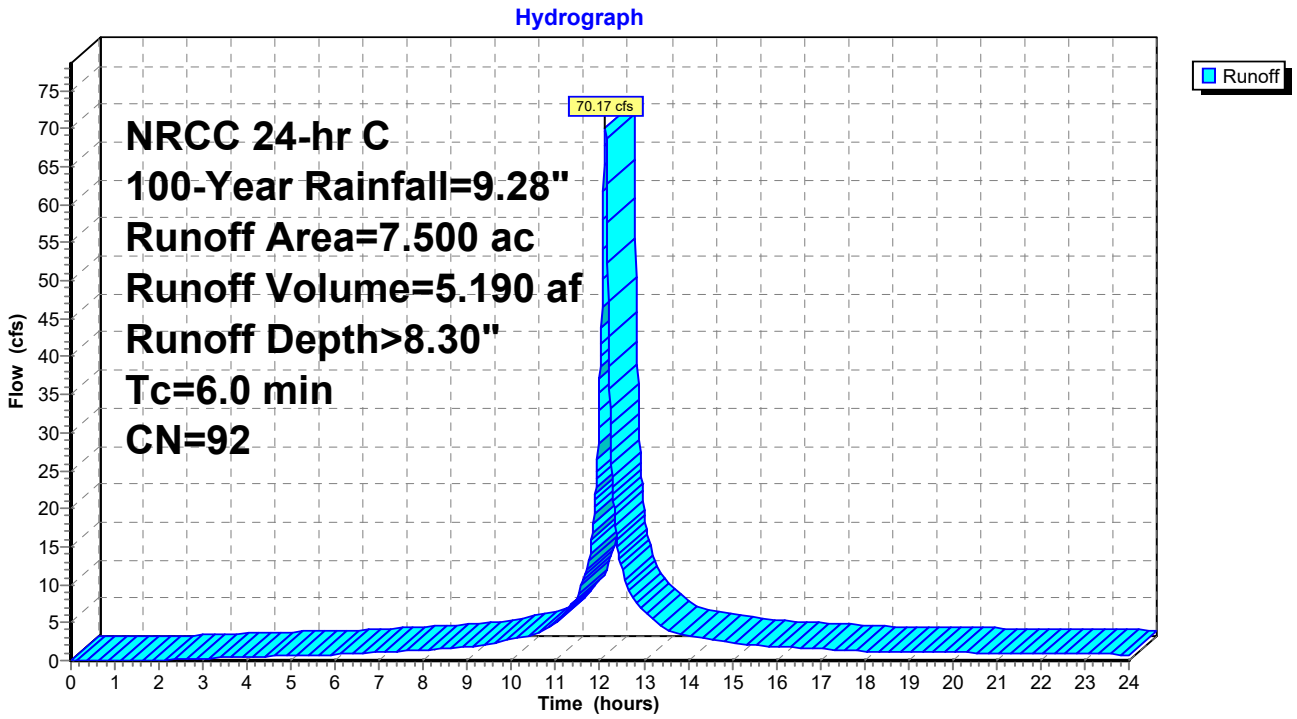
Runoff = 70.17 cfs @ 12.13 hrs, Volume= 5.190 af, Depth> 8.30"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
NRCC 24-hr C 100-Year Rainfall=9.28"

Area (ac)	CN	Description
5.200	98	Paved parking, HSG C
0.200	74	>75% Grass cover, Good, HSG C
0.600	71	Meadow, non-grazed, HSG C
1.500	83	1/4 acre lots, 38% imp, HSG C
7.500	92	Weighted Average
1.730		23.07% Pervious Area
5.770		76.93% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 1: Pre_DA-1



Summary for Subcatchment 2: Pre_DA-2

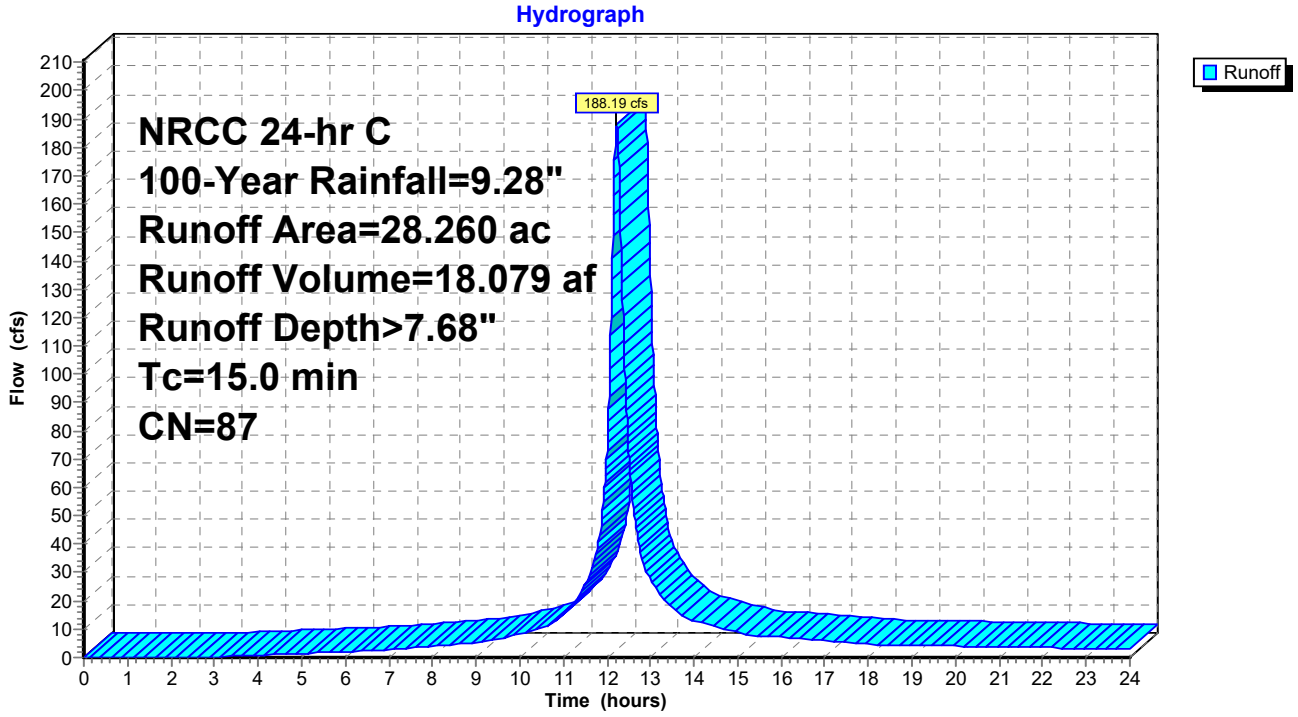
Runoff = 188.19 cfs @ 12.22 hrs, Volume= 18.079 af, Depth> 7.68"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
NRCC 24-hr C 100-Year Rainfall=9.28"

Area (ac)	CN	Description
16.400	98	Paved parking, HSG C
0.800	74	>75% Grass cover, Good, HSG C
0.800	83	1/4 acre lots, 38% imp, HSG C
2.960	71	Meadow, non-grazed, HSG C
3.000	89	Gravel roads, HSG C
4.300	55	Woods, Good, HSG B
28.260	87	Weighted Average
11.556		40.89% Pervious Area
16.704		59.11% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.0					**Direct Entry,**

Subcatchment 2: Pre_DA-2



Summary for Subcatchment 3: Post_DA-1

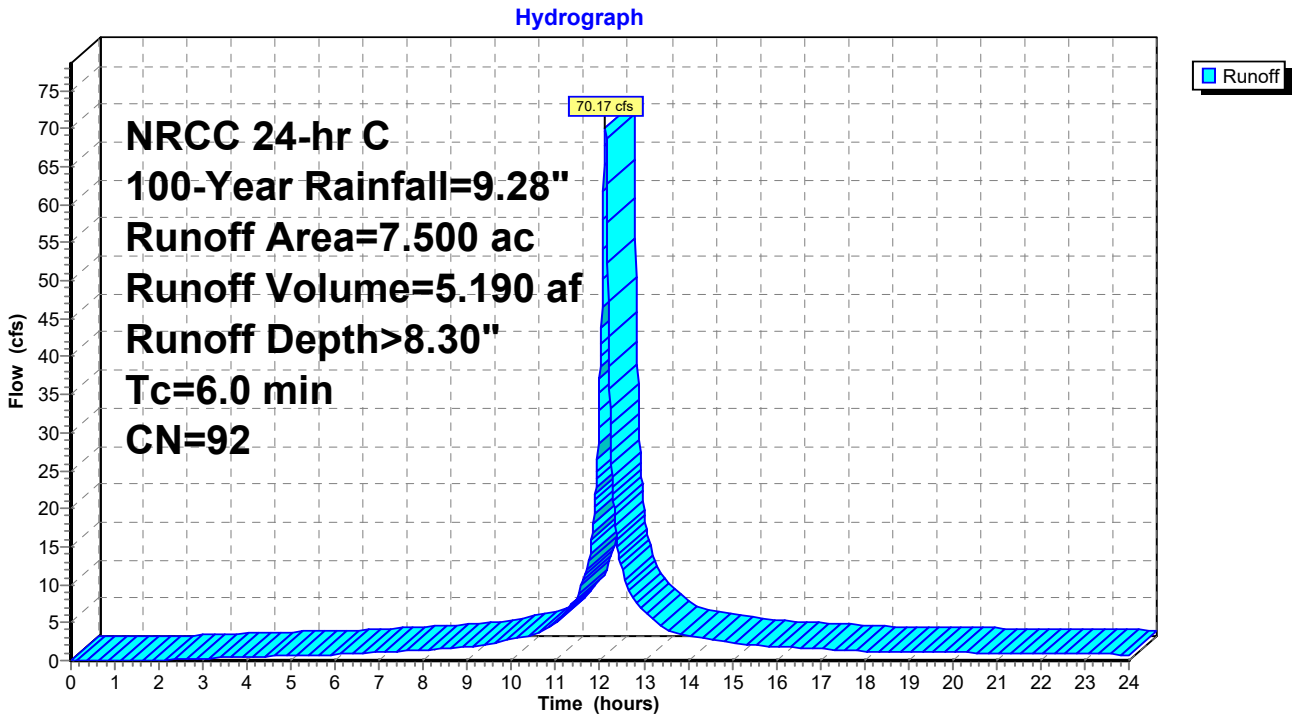
Runoff = 70.17 cfs @ 12.13 hrs, Volume= 5.190 af, Depth> 8.30"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
NRCC 24-hr C 100-Year Rainfall=9.28"

Area (ac)	CN	Description
5.200	98	Paved parking, HSG C
0.200	74	>75% Grass cover, Good, HSG C
0.600	71	Meadow, non-grazed, HSG C
1.500	83	1/4 acre lots, 38% imp, HSG C
7.500	92	Weighted Average
1.730		23.07% Pervious Area
5.770		76.93% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 3: Post_DA-1



Summary for Subcatchment 4: Post_DA-2

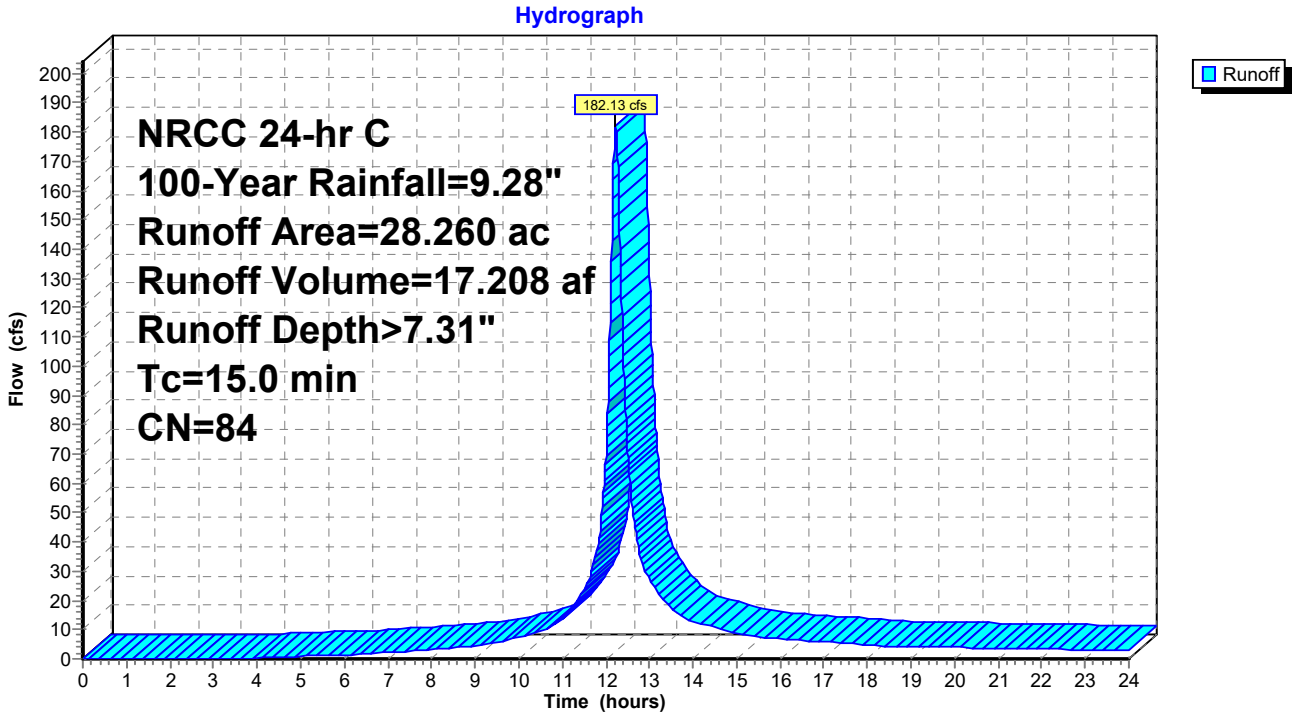
Runoff = 182.13 cfs @ 12.22 hrs, Volume= 17.208 af, Depth> 7.31"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
NRCC 24-hr C 100-Year Rainfall=9.28"

Area (ac)	CN	Description
9.600	98	Paved parking, HSG C
0.800	74	>75% Grass cover, Good, HSG C
0.800	83	1/4 acre lots, 38% imp, HSG C
2.960	71	Meadow, non-grazed, HSG C
3.000	89	Gravel roads, HSG C
4.300	55	Woods, Good, HSG B
6.800	89	<50% Grass cover, Poor, HSG D
28.260	84	Weighted Average
18.356		64.95% Pervious Area
9.904		35.05% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.0					**Direct Entry,**

Subcatchment 4: Post_DA-2



EX BMP-2

Sleepy Hollow Commons - Phase 1B
Existing Swale Calculations

Swale Segment	Length (FT)	Top Width (FT)	Bottom Width (FT)	Top of Swale Elevation (Elev.)	U/S Invert (Elev.)	D/S Invert (Elev.)	U/S Depth (FT)	D/S Depth (FT)	C/S Area (SF)	Swale Volume (CF)	Swale Volume (Ac-Ft)
1	118.1	30.3	9.36	4.0	2.6	2.0	1.4	2.0	33.7	3,986	0.0915
2	58.6	21.6	9.24	4.0	2.2	1.9	1.8	2.1	30.0	1,760	0.0404
3	80.9	21.7	9.26	4.0	1.5	1.5	2.5	2.5	38.7	3,132	0.0719
4	81.7	25.3	9.33	4.0	1.6	1.3	2.4	2.7	44.2	3,609	0.0829
5	83.3	24.5	9.28	4.0	1.4	1.2	2.6	2.8	45.6	3,796	0.0872
6	215.0	21.8	9.65	4.0	1.0	-0.1	3.0	4.1	55.8	11,998	0.2754
Total/Avg	**637.6**	**24.1**	**9.4**	**4.0**	**-**	**-**	**2.4**	**3.0**	**44.4**	**28,283**	**0.6493**
	Total	*Avg*	*Avg*	*Avg*	-	-	*Avg*	*Avg*	*Avg*	*Total*	*Total*

Water Quality

Water Quality Volume (WQv) Calculations

Location: *Existing Area @ Surcharge Location*

WQv = [(P) (Rv) (A)] / 12

WQv =	water quality volume (in acre-feet)	***0.8075***	ac-ft
P =	90% Rainfall Event Number (see Figure 4.1) =	1.5	IN
Rv =	0.05 + 0.009 (I), where I is percent impervious cover =	0.950	*Use 0.2 min per Ch 4 SWDM*
	where I =	100.000	%
A =	site area in acres (Contributing area)	6.8000	ac

Contributing Area =	**296,208.00**	sf
=	**6.8000**	ac
Proposed Impervious Area =	**296,208**	sf
=	**6.8000**	ac

WQv Required =	***0.8075***	ac-ft
WQv Required =	***35,175***	CF

555 Pleasantville Road
South Building, P.O. Box 2650, Suite 201
Briarcliff Manor, NY 10510
T: 914.747.1120 F: 914.747.1956

Water Quality Volume (WQv) Calculations

Location: *Proposed Disturbed Area*

WQv = [(P) (Rv) (A)] / 12

WQv =	water quality volume (in acre-feet)	***0.1955***	ac-ft
P =	90% Rainfall Event Number (see Figure 4.1) =	1.5	IN
Rv =	0.05 + 0.009 (I), where I is percent impervious cover =	0.230	*Use 0.2 min per Ch 4 SWDM*
	where I =	20.000	%
A =	site area in acres (Contributing area)	6.8000	ac

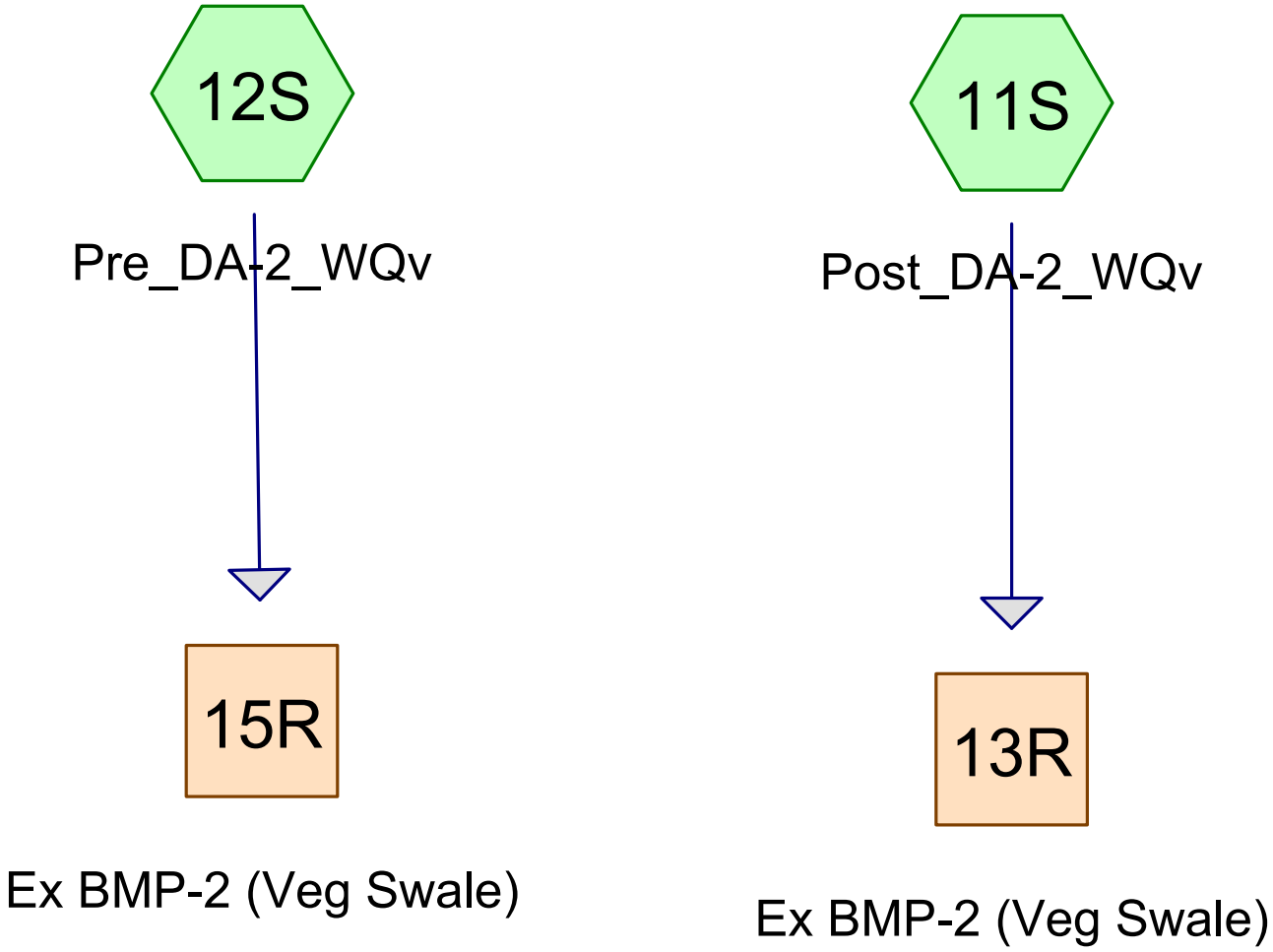
Contributing Area =	**296,208.00**	sf
=	**6.8000**	ac
Proposed Impervious Area =	**-**	sf
=	**0.0000**	ac

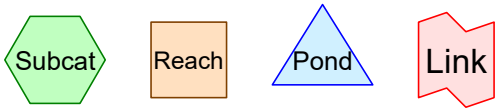
WQv Required =	***0.1955***	ac-ft
WQv Required =	***8,516***	CF

555 Pleasantville Road
South Building, P.O. Box 2650, Suite 201
Briarcliff Manor, NY 10510
T: 914.747.1120 F: 914.747.1956

Water Quality

First to page after cover sheet are the Small Storm Hydrology CN Translation Per NYS SWDM (Flow Rate for storms less than 2" depth). These calculations are from Excel





Small Storm Hydrology CN Translation Per NYS SWDM (Flow Rate for storms less than 2" depth)

Water Quality (90%) Event Peak Flow Calculations

Contributing Area:	*DA2 Entire Pre*			
Size (SF):	***1,231,006***			
Size (Ac):	***28.2600***			
Size (Sq-Mi):	***0.0442***			
WQv Required (CF):	***88,062***			
WQv Required (Ac-Ft):	***2.0216***			
Precipitation (P, IN):	***1.50***			
Q_a (Rain fall depth, IN):		$Q_a = WQ_v / D.A. =$	***0.86 IN***	
Curve Number Calculations (CN):		$CN = 1000/[10+5P+10Qa-10(Q_a^2 + 1.25xQ_a xP)^{1/2}] =$	***92.88 CN***	
Time of Concentration (TR-55 Method):		=	***min***	***See Hydrocad***
		=	***0.00 hr***	***See Hydrocad***
Potential Maximum Retention After Runoff Begins (S):		$S = (1000/CN)-10 =$		***See Hydrocad***
Initial Abstraction (I_a):		$I_a = 0.2 \times S =$	-	***See Hydrocad***
I_a/P:		=	-	***See Hydrocad***
Unit Peak Discharge (q_u): ***(TR-55 Exhibit 4-III)***		=	- ***CFS/mi^2/IN***	***See Hydrocad***
Peak Discharge (Q_p):		$Q_p = q_u \times A \times WQ_V =$	- ***CFS***	***See Hydrocad***
Peak Discharge (Q_p):			- ***Gal/Sec***	***See Hydrocad***

USED FOR CURVE NUMBER TRANSLATION ONLY (Small Storm Hydrology CN Translation)

Small Storm Hydrology CN Translation Per NYS SWDM (Flow Rate for storms less than 2" depth)

Water Quality (90%) Event Peak Flow Calculations

Contributing Area:	*DA2 Entire Post*				
Size (SF):	***1,231,006***				
Size (Ac):	***28.2600***				
Size (Sq-Mi):	***0.0442***				
WQv Required (CF):	***54,739***				
WQv Required (Ac-Ft):	***1.2566***				
Precipitation (P, IN):	***1.50***				
Q_a (Rain fall depth, IN):		$Q_a = WQ_v / D.A. =$	***0.53***	***IN***	
Curve Number Calculations (CN):		$CN = 1000/[10+5P+10Qa-10(Q_a^2 + 1.25xQ_a xP)^{1/2}] =$	***86.96***	***CN***	Use CN=100 (Conservative)
Time of Concentration (TR-55 Method):		=		***min***	***See Hydrocad***
		=		***hr***	***See Hydrocad***
Potential Maximum Retention After Runoff Begins (S):		$S = (1000/CN)-10 =$			***See Hydrocad***
Initial Abstraction (I_a):		$I_a = 0.2 \times S =$	**0.00**		***See Hydrocad***
I_a/P:		=	**0.00**		***See Hydrocad***
Unit Peak Discharge (q_u): ***(TR-55 Exhibit 4-III)***		=		***CFS/mi^2/IN***	***See Hydrocad***
Peak Discharge (Q_p):		$Q_p = q_u \times A \times WQ_V =$	**0.00**	***CFS***	***See Hydrocad***
Peak Discharge (Q_p):			**0.00**	***Gal/Sec***	***See Hydrocad***

USED FOR CURVE NUMBER TRANSLATION ONLY (Small Storm Hydrology CN Translation)

Project Notes

Rainfall events imported from "NRCS-Rain.txt" for 7139 NY Westchester

Area Listing (selected nodes)

Area (acres)	CN	Description (subcatchment-numbers)
28.260	87	See CN Translation per Small Storm Hydrology (11S)
28.260	93	See CN Translation per Small Storm Hydrology (12S)
56.520	**90**	**TOTAL AREA**

Soil Listing (selected nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
0.000	HSG B	
0.000	HSG C	
0.000	HSG D	
56.520	Other	11S, 12S
56.520		**TOTAL AREA**

Ground Covers (selected nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover
0.000	0.000	0.000	0.000	56.520	56.520	See CN Translation per Small Storm Hydrology
0.000	**0.000**	**0.000**	**0.000**	**56.520**	**56.520**	**TOTAL AREA**

Time span=0.00-24.00 hrs, dt=0.01 hrs, 2401 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment11S: Post_DA-2_WQv Runoff Area=28.260 ac 0.00% Impervious Runoff Depth>0.53"
Tc=15.0 min CN=87 Runoff=13.47 cfs 1.254 af

Subcatchment12S: Pre_DA-2_WQv Runoff Area=28.260 ac 0.00% Impervious Runoff Depth>0.86"
Tc=15.0 min CN=93 Runoff=22.47 cfs 2.032 af

Reach 13R: Ex BMP-2 (Veg Swale) Avg. Flow Depth=1.13' Max Vel=0.93 fps Inflow=13.47 cfs 1.254 af
n=0.100 L=637.6' S=0.0042 '/' Capacity=41.38 cfs Outflow=10.41 cfs 1.235 af

Reach 15R: Ex BMP-2 (Veg Swale) Avg. Flow Depth=1.63' Max Vel=1.13 fps Inflow=22.47 cfs 2.032 af
n=0.100 L=637.6' S=0.0042 '/' Capacity=41.38 cfs Outflow=18.54 cfs 2.010 af

Total Runoff Area = 56.520 ac Runoff Volume = 3.287 af Average Runoff Depth = 0.70"
100.00% Pervious = 56.520 ac 0.00% Impervious = 0.000 ac

Summary for Subcatchment 11S: Post_DA-2_WQv

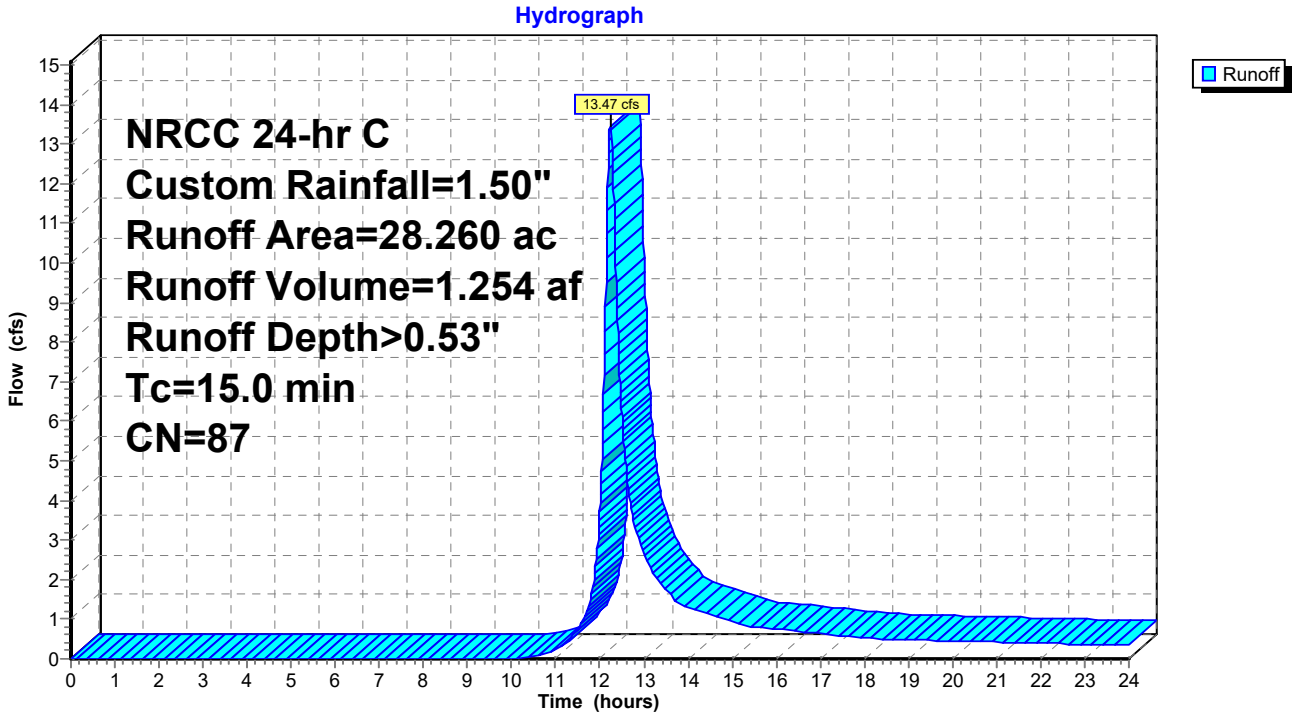
Runoff = 13.47 cfs @ 12.24 hrs, Volume= 1.254 af, Depth> 0.53"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
NRCC 24-hr C Custom Rainfall=1.50"

	Area (ac)	CN	Description
*	28.260	87	See CN Translation per Small Storm Hydrology
	28.260		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.0					**Direct Entry,**

Subcatchment 11S: Post_DA-2_WQv



Summary for Subcatchment 12S: Pre_DA-2_WQv

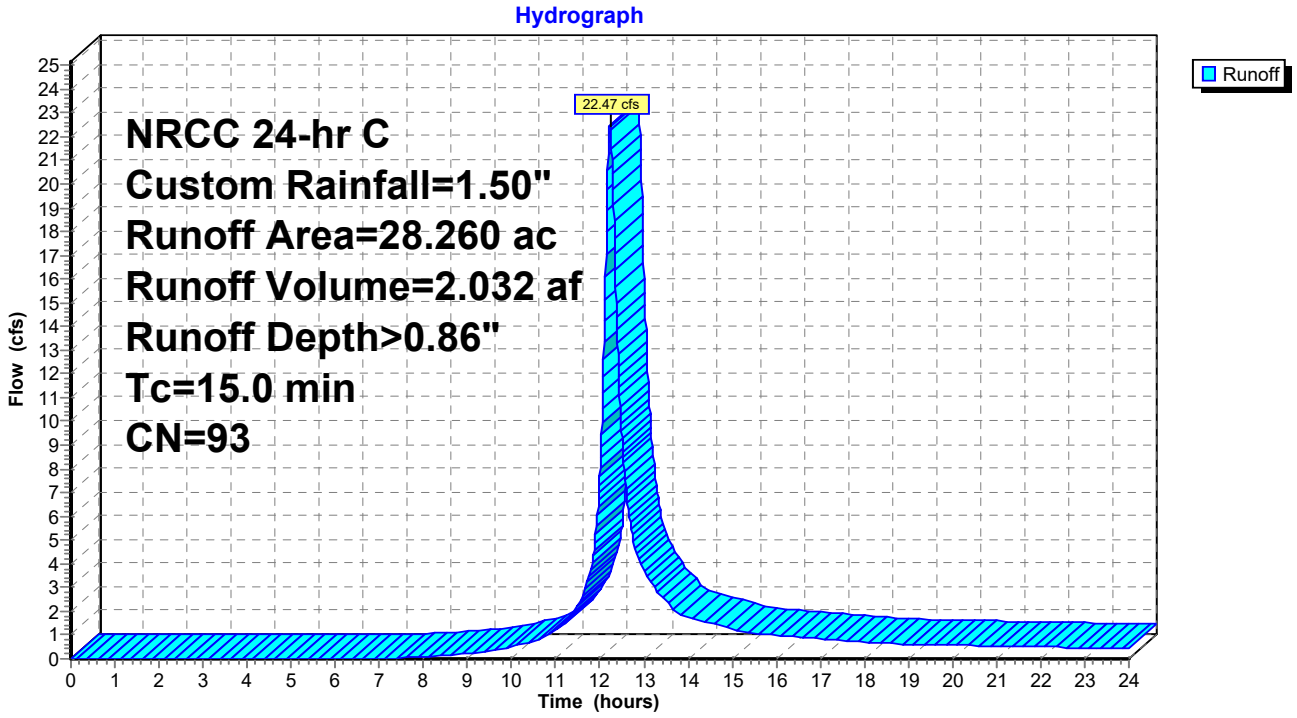
Runoff = 22.47 cfs @ 12.23 hrs, Volume= 2.032 af, Depth> 0.86"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
NRCC 24-hr C Custom Rainfall=1.50"

	Area (ac)	CN	Description
*	28.260	93	See CN Translation per Small Storm Hydrology
	28.260		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.0					**Direct Entry,**

Subcatchment 12S: Pre_DA-2_WQv



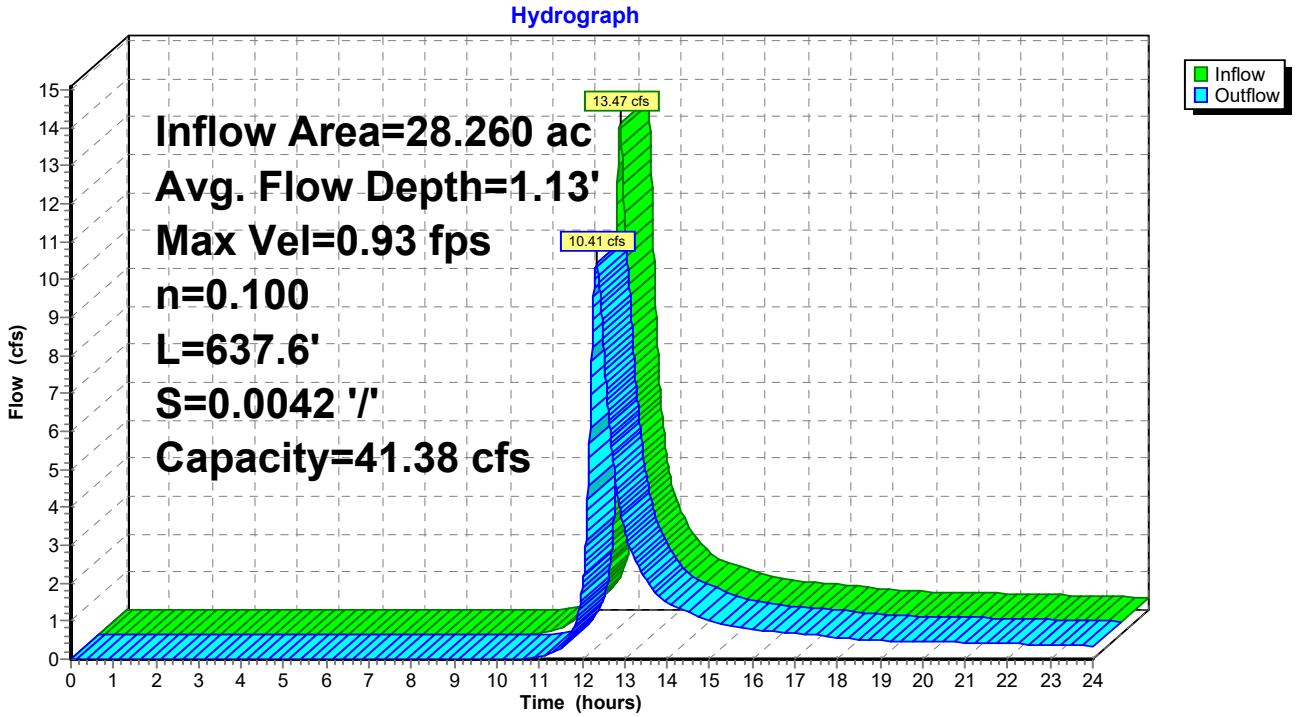
Summary for Reach 13R: Ex BMP-2 (Veg Swale)

Inflow Area = 28.260 ac, 0.00% Impervious, Inflow Depth > 0.53" for Custom event
Inflow = 13.47 cfs @ 12.24 hrs, Volume= 1.254 af
Outflow = 10.41 cfs @ 12.35 hrs, Volume= 1.235 af, Atten= 23%, Lag= 6.4 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Max. Velocity= 0.93 fps, Min. Travel Time= 11.4 min
Avg. Velocity = 0.34 fps, Avg. Travel Time= 30.8 min

Peak Storage= 7,129 cf @ 12.35 hrs
Average Depth at Peak Storage= 1.13'
Bank-Full Depth= 2.70' Flow Area= 28.3 sf, Capacity= 41.38 cfs

9.40' x 2.70' deep channel, n= 0.100 Earth, dense brush, high stage
Side Slope Z-value= 0.4 '/' Top Width= 11.56'
Length= 637.6' Slope= 0.0042 '/'
Inlet Invert= 2.60', Outlet Invert= -0.10'



Summary for Reach 15R: Ex BMP-2 (Veg Swale)

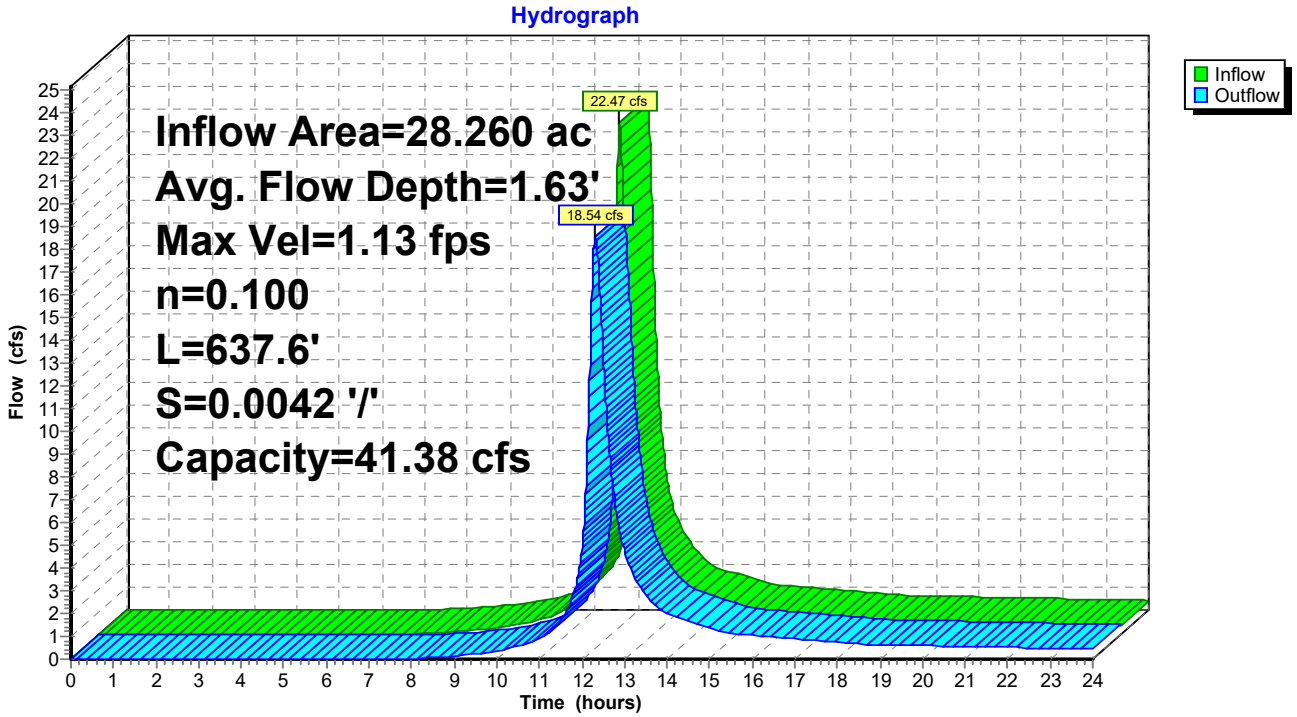
Inflow Area = 28.260 ac, 0.00% Impervious, Inflow Depth > 0.86" for Custom event
Inflow = 22.47 cfs @ 12.23 hrs, Volume= 2.032 af
Outflow = 18.54 cfs @ 12.32 hrs, Volume= 2.010 af, Atten= 17%, Lag= 5.4 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Max. Velocity= 1.13 fps, Min. Travel Time= 9.4 min
Avg. Velocity = 0.37 fps, Avg. Travel Time= 29.1 min

Peak Storage= 10,436 cf @ 12.32 hrs
Average Depth at Peak Storage= 1.63'
Bank-Full Depth= 2.70' Flow Area= 28.3 sf, Capacity= 41.38 cfs

9.40' x 2.70' deep channel, n= 0.100 Earth, dense brush, high stage
Side Slope Z-value= 0.4 '/' Top Width= 11.56'
Length= 637.6' Slope= 0.0042 '/'
Inlet Invert= 2.60', Outlet Invert= -0.10'

Reach 15R: Ex BMP-2 (Veg Swale)



Appendix J

Hudson River Tidal Data and Pocantico River Profile

Sleepy Hollow Tide Times and Heights

United States / NY / Westchester County /

Sleepy Hollow does not have Tides data. Select a nearby location from below.

Tarrytown	Westchester County	0.7 miles away
Hudson River - Kingsland Point	Westchester County	0.8 miles away
Hudson River - Tappan Zee Bridge	Westchester County	2.1 miles away
Nyack	Rockland County	3.1 miles away
South Nyack	Rockland County	3.1 miles away
Irvington	Westchester County	3.2 miles away
Upper Nyack	Rockland County	3.4 miles away
Grand View-On-Hudson	Rockland County	3.5 miles away

Tarrytown NY, 10591

0.9ft Now Rising

Next Low
12hrs 16mins

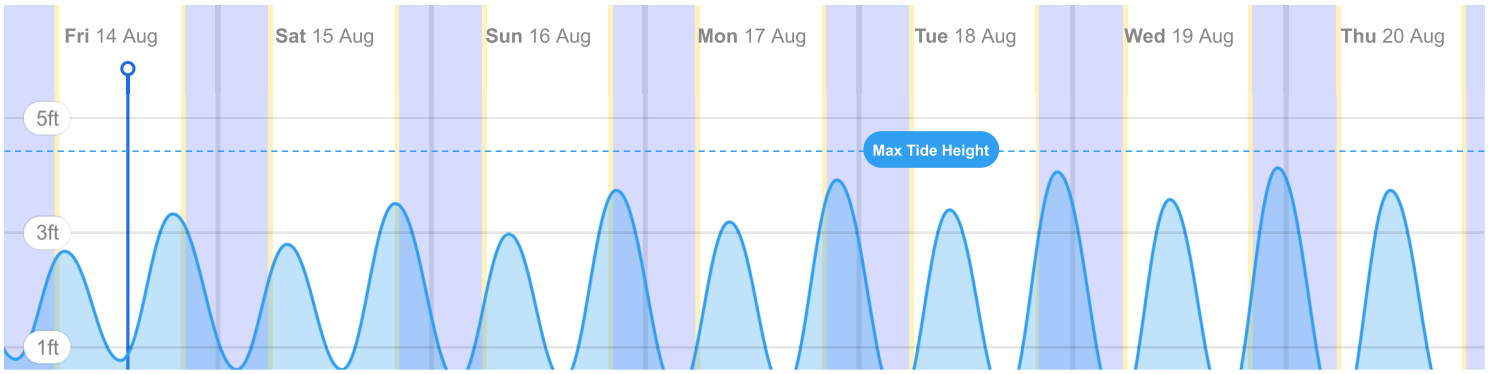
Next High
5hrs 5mins

Weather Wind Rainfall Sun Moon UV Tides Swell More

Tarrytown Tide Times and Heights
United States / NY / Westchester County

1-Day 3-Day

Tide Height



Graph Plots Open in Graphs

Tides

All Tide Points Low Tides

TODAY 14 Aug

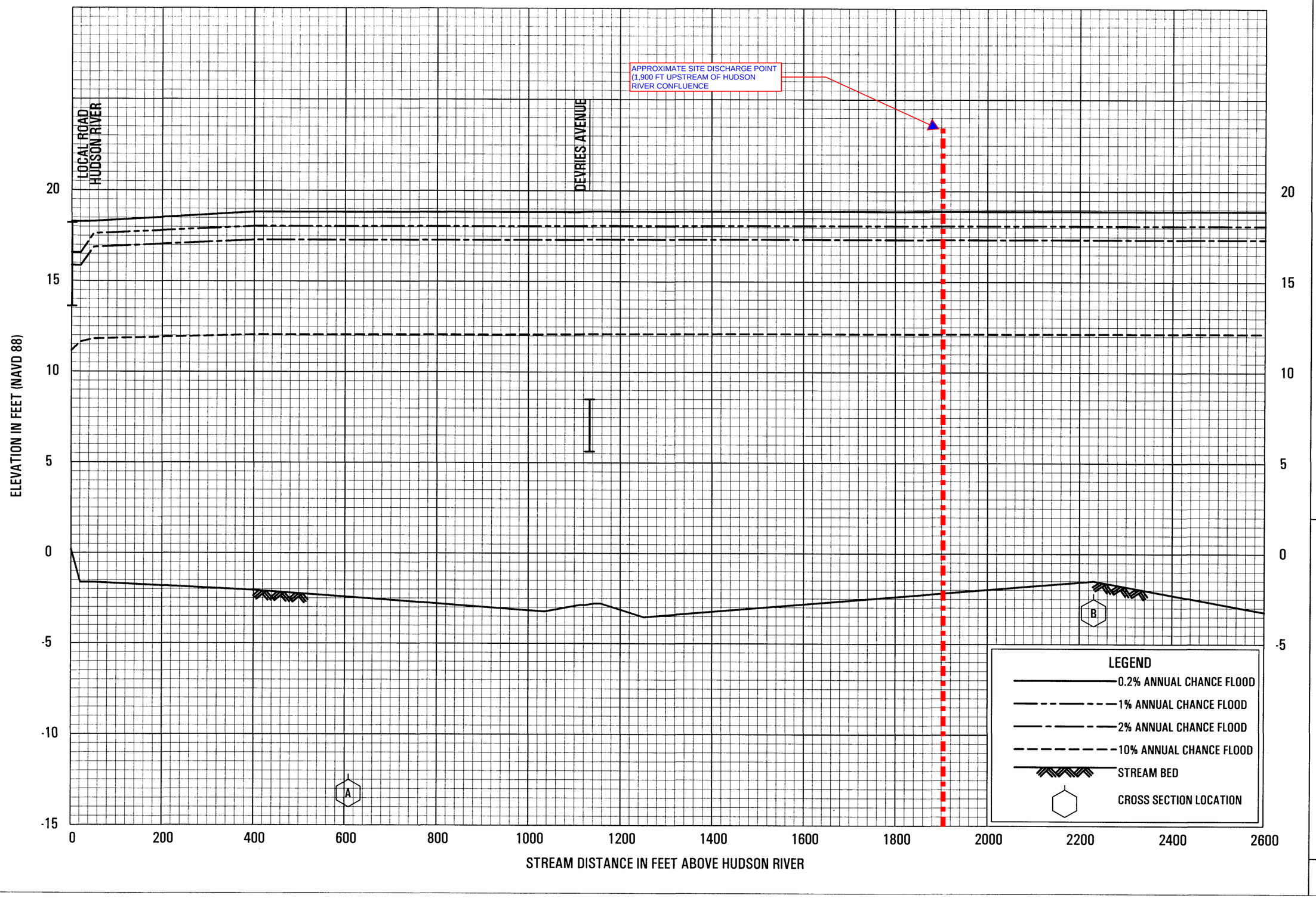
6:47 am	6:56 pm
2.66ft	3.31ft

SAT 15 Aug

7:47 am	7:54 pm
2.78ft	3.49ft

SUN 16 Aug

	8:40 am 2.96ft	8:45 pm 3.72ft
MON 17 Aug		
	9:27 am 3.17ft	9:31 pm 3.9ft
TUE 18 Aug		
	10:11 am 3.38ft	10:16 pm 4.04ft
WED 19 Aug		
	10:55 am 3.56ft	11:01 pm 4.11ft
THU 20 Aug		
	11:41 am 3.72ft	11:49 pm 4.09ft



FLOOD PROFILES

POCANTICO RIVER LOWER REACH

FEDERAL EMERGENCY MANAGEMENT AGENCY

WESTCHESTER COUNTY , NY

(ALL JURISDICTIONS)

213P