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:	Village of Sleepy Hollow
2. Contact Person:	Anthony Giaccio
3. Street Address:	28 Beekman Avenue, 2nd Floor
4. City/State/Zip:	Sleepy Hollow, NY 10591
II. Project Site Information	
5. Project/Site Name:	East Parcel Redevelopment (Sleepy Hollow Commons) - Phase 2
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:	
9. Title/Position:	
10. Date Final SWPPP Reviewed and Accepted:	
IV. Regulated MS4 Information	
11. Name of MS4:	Sleepy Hollow
12. MS4 SPDES Permit Identification Number: NYR20A	
13. Contact Person:	Anthony Giaccio
14. Street Address:	28 Beekman Avenue, 2nd Floor
15. City/State/Zip:	Sleepy Hollow, NY 10591
16. Telephone Number:	914-366-5100

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:

Title/Position:

Signature:

Date:

VI. Additional Information

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

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 Redevelopment (Sleepy Hollow Commons) - Phase 2

Owner/Operator Information

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

Village of Sleepy Hollow

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.

Shaun		Suehr
First name	MI	Last Name

Signature

9/12/23

Date

Revised: January 2020

EAST PARCEL REDEVELOPMENT
SLEEPY HOLLOW COMMONS - PHASE 2

STORMWATER POLLUTION PREVENTION PLAN (SWPPP)

Prepared for:

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

December 2022
rev. June 2023

PREPARED BY:

500 Summit Lake Drive
Suite 450
Valhalla, NY 10595
Tel: (914) 747-1120

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Introduction

This document, a Stormwater Pollution Prevention Plan (SWPPP), is prepared for the East Parcel Redevelopment (Sleepy Hollow Commons) - Phase 2 (Project) is the next phase in the redevelopment of the former GM Assembly Plant parking lot by the Sleepy Hollow Local Development Corporation (LDC), in the Village of Sleepy Hollow.

This phase includes the extensions of Clinton Street and Continental Street into the East Parcel and utility (stormwater drainage and water) construction, construction of retaining walls, relocating surcharge fill material, and site drainage including a new vegetated swale. Additional milling and capping of existing impervious areas to be disturbed during this phase will be done throughout the site using the excess surcharge material. In order to achieve the proper soil compaction for the proposed DPW, the existing pavement was milled and removed and imported fill surcharge material was brought on-site during Phase 1B. Future phases have yet to be funded and are still in the conceptual stages but will include a recreational area with athletic fields, a program area with a meandering park and shared-use path and a parking area for overflow parking during Historic Hudson Valley (HHV) events. Some areas across the site will not be affected due to this work because they will continue to be used for DPW storage and overflow HHV event parking. The work associated with those areas will be completed in a later phase. 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). 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).

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 vegetated swales (BMP-1 and BMP-2) along the west side of site. Due to the significant reduction in impervious area from the existing parking lot being redeveloped into different areas of grasses and meadows and other areas set aside for different program activities, water quality is not a controlling variable in design, however water volume was taken into account in calculating the stormwater runoff and will be reduced for all storm events, as mentioned above. As proposed, the existing vegetated swales will be removed and another, continuous vegetated swale will be constructed along west side of the site (adjacent to the MNR tracks). Stormwater will be collected from the DPW site and the newly constructed roadways via a closed drainage system that will discharge to the newly constructed swale where it will be conveyed to the north of the site and ultimately discharge to the Pocantico River (as it does currently). The existing BMP's will remain in place until the new vegetated swale is established and the closed drainage system is constructed. During Phase 2, impervious areas to be disturbed will have the existing pavement milled and removed, these areas will be capped using the surcharge material and erosion control measures will be installed until those areas are adequately

established. The capacity of the BMP will not only be maintained but improved because this project provides a reduction in flow and velocity of storm water for all storm events. Calculations supporting the proposed BMP's (vegetated swale) performance and pre- vs post- comparisons are discussed within the Proposed Conditions section of this Report. The capacity of the existing BMPs will be maintained until the new vegetated swale has been constructed. Erosion and sediment control measures will be maintained during construction as well and will only be removed once drainage structures have been construction and turf has been established. Additional soil erosion and sediment control measures may be added to the Plans during final design.

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

Figure 1: Project Location Map

Required Project Timeline

The timing of work in the Phase 2 portion of the overall master site plan is driven largely by settling/compaction of the surcharge material over the DPW site location. Once appropriate compaction has been achieved and the existing viaduct by Beekman

Avenue has been removed, Phase 2 work can begin. The final design of the master site plan (including Phase 3 and beyond work) for the East Parcel site has not yet been finalized by the LDC and has not been approved by the Village of Sleepy Hollow. Additionally, funding for future phases (beyond Phase 2) has not been obligated or secured. As such, the continuation/extent of work beyond this phase is unknown. However, conceptual plans and layouts for program areas of the East Parcel site have been developed and generally agreed upon. Therefore, this document has been specifically prepared for the guaranteed work with funding that can be performed at the site (ie. the roadway, utility and DPW work) while taking into consideration the overall future build-out of the site and being generally conservative with impervious areas for final conditions beyond Phase 2. The intent of this SWPPP would be to include the post-construction stormwater management control practices for the entire proposed project site for the future layout as anticipated currently, but if these program areas change resulting in major changes to the land use, this SWPPP will be updated.

During Phase 2, work will begin with installing erosion control measures around areas that will be used for rough grading. Those areas will have the existing pavement milled and stored elsewhere on the site. Surcharge fill material will be relocated to these areas for rough grading and general storage for future phase work. Once the appropriate elevation has been reached for the DPW site, Roadway A and the extensions of Clinton Street and Continental Street will be constructed. At the same time, construction will begin for the DPW site and the Community Center. Rough graded areas around the site will have erosion control measures in place until the slopes are stabilized. Future phase work will be completed at a later date.

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 A** for the SPDES General Permit for Stormwater Discharges (Phase 1B) and **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 Railroad (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 Railroad (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. Since Phase 1B's completion, the future DPW site (located to the east of the site) has been undergoing settling from

imported fill material to achieve the appropriate soil compaction ratings. Areas to the north of the site are currently used (and will remain) for DPW equipment and material storage and HHV event overflow parking.

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.

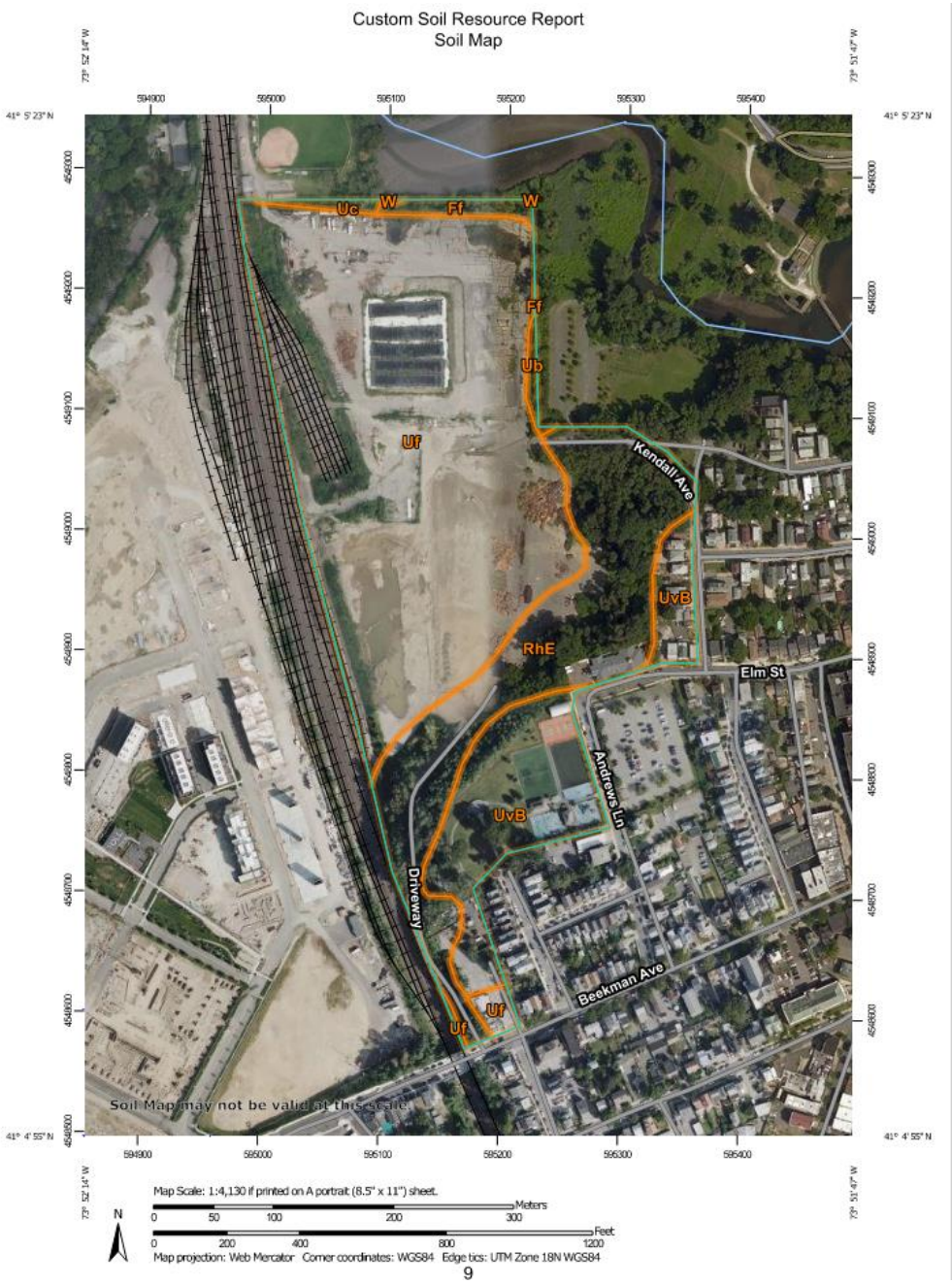
Table 1: NRCS Site Soil Units

Soil Unit Symbol	Soil Unit Name	Hydrologic Soil Group (HSG)	Acres of Project Area	Percentage of Project Area
Ff	Fluvaquents-Udifluvents complex, frequently flooded	A/D	0.4	1.2%
RhE	Riverhead loam, 25 to 50 percent slopes	A	8.3	23.3%
Ub	Udorthents, smoothed	B	0.2	0.5%
Uc	Udorthents, wet substratum	A/D	0.2	0.5%
Uf	Urban Land	N/A	21.4	59.8%
UvB	Urban land-Riverhead complex, 2 to 8 percent slopes	A	5.3	14.7%
W	Water	N/A	0.0	0.0%
Totals for Area of Interest			**35.8**	**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 Group A have a low runoff potential and high infiltration rates even when saturated and consist of well drained sands and gravels with high rate of water transmission. Group B soils have a moderate infiltration rate when saturated and consist of moderately well to well drained soils. Group C soils have low infiltration rates when saturated and consist of more fine materials such as sandy clay loam. Group D soils have the highest runoff potential and the lowest infiltration rates when saturated. These soils consist of clay, silty clay, sandy clay, clay, etc. Soils within the Project area typically belong to the "Urban Land" soils group and is classified by NRCS as impervious area, which in this case is the existing parking lot. The next largest soil group was "Riverhead Loam, 25 to 50 percent slopes", which in this case would be the eastern and southern portion of the site where the backside of the DPW facility would be placed and the slope along the Clinton Street extension. As proposed, the majority of these soils will remain undisturbed. Surcharge material brought on-site from Phase 1B is disturbed soil and therefore does not have an NRCS Hydrologic Soils Group, however, based on field

inspection and soil specification requirements, the surcharge material will be classified within this report as Group D, therefore being conservative in its runoff and infiltration potential. The soil surcharge material will be relocated around the site and be used as a “cap” material in areas where the existing parking lot asphalt is to be removed.

Figure 2: NRCS Soil Map



Proposed Conditions

Overview

The primary feature of the Project is the construction of Roadway A, including the extension of Continental Street and Clinton Street with associated stormwater drainage, electrical and water utilities, relocation of surcharge fill material around the site to construct the proposed DPW facility and Community Center, and the construction of the vegetated swale. Areas of the existing parking lot will be rubblized and capped and other areas, as described on the Contract Plans will remain parking areas for DPW storage and HHV event overflow parking. In the interim, the existing on-site stormwater BMPs (vegetated swale system, EX BMP-2 in particular) from Phase 1B will remain in place. Erosion and sediment controls will be implemented to mitigate migration of sediment from the fill import and placement operations to the existing onsite BMPs during construction. Once the proposed vegetated swale and stormwater drainage structures and pipes have been constructed with appropriate turf established, then temporary stormwater BMP's can be removed from the site.

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 Phase 1A Literature Review and Sensitivity Analysis was prepared as part of the East Parcel Re-development Draft EIS. A revised version of this Literature Review and Sensitivity Analysis was not completed for Phase 2. 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, March 2017) 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 27.2 acres of land, majority of which is predominantly 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. 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. During Phase 1B the surcharge stockpile area used the existing on-site BMPs. As proposed with Phase 2, the existing vegetated swales will be removed and replaced with a new vegetated swale along the west side of the site and collect stormwater from the south of the site to the north where it will discharge through the existing closed drainage system (with improvements) to the Pocantico River. See **Appendix H** for the Pre-Development and Post-Development Plans that depicts the total

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

project area, proposed roadways, future DPW site and Community Center and the stormwater drainage network with vegetated swale. Any future program areas in subsequent phases are not yet finalized, however conceptual design plans are being finalized once funding is established.

The maximum amount of disturbance at any one time will be beyond the initial 5-acre threshold until the first section of stockpile equaling 3.8 acres is stabilized (see Overall Site Plan in **Appendix F** 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.
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 50 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

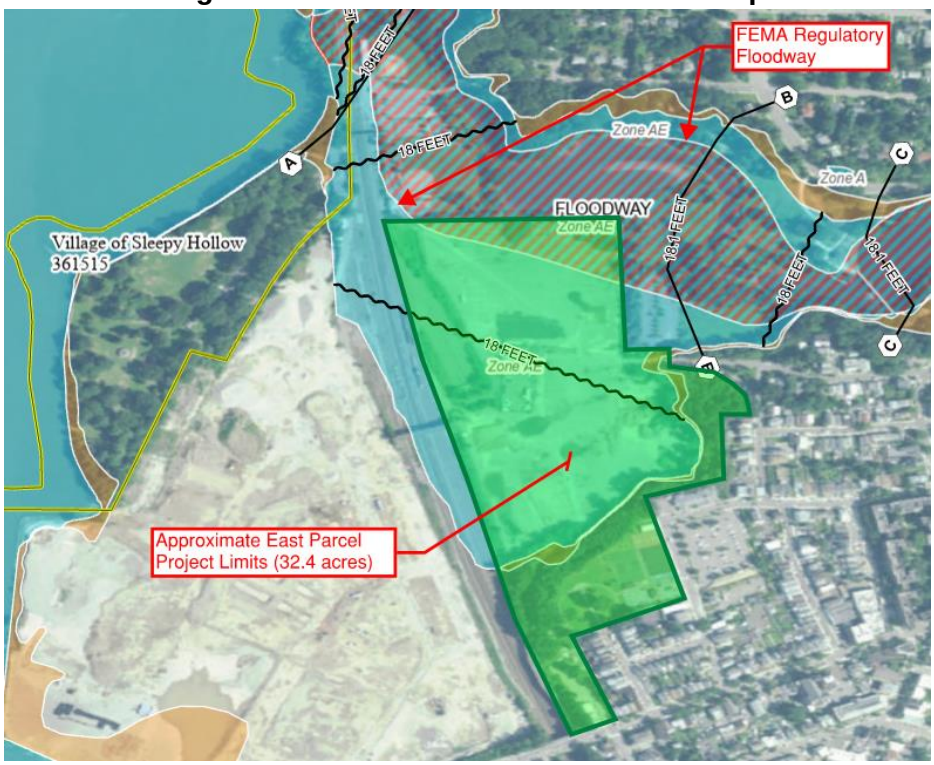
The project site is subject to tidally-influenced flooding from the Pocantico River (via the Hudson River) which has an associated regulatory floodway. On streams with a regulatory floodway, no new construction, substantial improvements or other development in the floodway (including fill) shall be permitted 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. 36119C0253F) at the project site, see **Appendix L** for a more detailed FEMA Flood Insurance Rate Map. 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 predominantly of an impervious asphalt parking lot that has a corresponding runoff coefficient (c-value) of 0.98. Some areas have broken up asphalt with gravel piles with a runoff coefficient of 0.60. Other areas across the site have some wooded and grassed areas with runoff coefficients of 0.30 and 0.20, respectfully. 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 runoff coefficient. For analysis purposes, the surcharge material was considered to have fair drainage infiltration qualities. In the full build-out condition, this material will be spread across the site to raise the grade and then appropriate topsoil and seed would be installed to the final grades for turf establishment. Please note that extensive soil testing was performed during Phase 1b, including multiple soil borings and testing across the entire project site and can be found in Appendix D.

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 2a and Table 2b** below for a summary of the pre-construction versus post-construction offsite discharge flow rates for the 1-, 2-, 10- and 100-year storm events (See **Appendix I** for the NOAA Precipitation Frequency Estimates used for the East Parcel)).

Table 2a: Existing Conditions (Pre-Development)

WATERSHED	UNIT	AREA								PERCENT IMPERVIOUS (%)	RUNOFF COEFFICIENT, C	Tc (hrs)	DESIGN POINT
		IMPERVIOUS			PERVIOUS				TOTAL AREA				
		PAVEMENT/ CONCRETE	STRUCTURE	TOTAL IMPERVIOUS	GRAVEL	GRASS	MEADOW	WOODS					
East Parcel	SF	865,759	4,445	870,204	178,977	84,129	0	277,771	1,411,081	62%	0.75	24.40	1.00
East Parcel	AC	19.88	0.11	19.98	4.11	1.94	0.00	6.38	32.40	62%	0.75	24.40	1.00

Table 2b: Proposed Conditions (Post-Development)

WATERSHED	UNIT	AREA								PERCENT IMPERVIOUS (%)	RUNOFF COEFFICIENT, C	Tc (min)	DESIGN POINT
		IMPERVIOUS			PERVIOUS				TOTAL AREA				
		PAVEMENT/ CONCRETE	STRUCTURE	TOTAL IMPERVIOUS	GRAVEL	GRASS	MEADOW	WOODS					
East Parcel	SF	443,275	70,377	513,652	70,613	353,875	340,346	132,596	1,411,082	36%	0.55	27.90	1.00
East Parcel	AC	10.18	1.62	11.80	1.63	8.13	7.82	3.05	32.40	36%	0.55	27.90	1.00

Table 3: Pre- vs. Post-Offsite Storm Event Summary

DESIGN POINT	AREA (AC)	1-YEAR STORM EVENT FLOW (CFS)			2-YEAR STORM EVENT FLOW (CFS)			10-YEAR STORM EVENT FLOW (CFS)			100-YEAR STORM EVENT FLOW (CFS)		
		INTENSITY - 1.70 IN/HR			INTENSITY - 1.99 IN/HR			INTENSITY - 2.84 IN/HR			INTENSITY - 4.19 IN/HR		
		PRE-	POST-	CHANGE	PRE	POST	CHANGE	PRE	POST	CHANGE	PRE	POST	CHANGE
1	32.39	41.30	30.28	(11.01)	48.34	35.45	(12.89)	68.99	50.59	(18.40)	101.79	74.64	(27.14)

Due to the reduction in offsite flow, stormwater quantity control for the 1-, 2-, 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

Due to the nearly 26% reduction in impervious area, Water Quality Volumes (WQv) for this site will be achieved through green infrastructure techniques. The redevelopment of the existing parking lot will be constructed into predominantly athletic fields, recreational/programs areas. Parking lots will be constructed to meet the minimum required amount for the site and additional parking for events will use green techniques and permeable pavers to minimize any impervious areas. Stormwater will be routed and treated via the vegetated swale at the western side of the site. The swale, as currently designed will be 10' wide and 2' deep with 2:1 side slopes and will run 1,325' from the south of the site to the north. Stormwater on the DPW and Community Center site will be self-contained before discharging to the vegetated swale. Runoff from Kendall Avenue will be captured via a perimeter swale around the DPW facility. All stormwater runoff will eventually discharge to the Pocantico River, as it currently does.

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*
- *Installation and maintenance of specified concrete washout areas (potential pollution: concrete)*

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 2 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 2 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 previous NOI was completed and submitted for Phase 1B work. An eNOI was completed online for work on Phase 2. A copy of the completed NOI for Phase 1b can be found in **Appendix J**. 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. SPDES General Permit for Stormwater Discharges (Permit No. GP-0-20-001)
B. SWPPP Preparer Certification Form, MS4 SWPPP 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. Construction Plans (Phase 2)
G. Notice of Termination (NOT)
H. Drainage Area Maps
I. NOAA Point Precipitation Frequency Estimates & FEMA Flood Insurance Rate Map
J. NYSDEC Notice of Intent (NOI) – Phase 1B
K. Adopted Final Environmental Impact Statement Report and Site Management Plan (under separate cover/digital)

Appendix A

SPDES General Permit for Stormwater Discharge

(Permit No. GP-0-20-001)

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SPDES GENERAL PERMIT
FOR STORMWATER DISCHARGES

From

CONSTRUCTION ACTIVITY

Permit No. GP- 0-20-001

Issued Pursuant to Article 17, Titles 7, 8 and Article 70

of the Environmental Conservation Law

Effective Date: January 29, 2020

Expiration Date: January 28, 2025

John J. Ferguson

Chief Permit Administrator

1-23-20

Authorized Signature

Date

Address: NYS DEC
Division of Environmental Permits
625 Broadway, 4th Floor
Albany, N.Y. 12233-1750

PREFACE

Pursuant to Section 402 of the Clean Water Act ("CWA"), stormwater *discharges* from certain *construction activities* are unlawful unless they are authorized by a *National Pollutant Discharge Elimination System ("NPDES")* permit or by a state permit program. New York administers the approved State Pollutant Discharge Elimination System (SPDES) program with permits issued in accordance with the New York State Environmental Conservation Law (ECL) Article 17, Titles 7, 8 and Article 70.

An *owner or operator* of a *construction activity* that is eligible for coverage under this permit must obtain coverage prior to the *commencement of construction activity*. Activities that fit the definition of "*construction activity*", as defined under 40 CFR 122.26(b)(14)(x), (15)(i), and (15)(ii), constitute construction of a *point source* and therefore, pursuant to ECL section 17-0505 and 17-0701, the *owner or operator* must have coverage under a SPDES permit prior to *commencing construction activity*. The *owner or operator* cannot wait until there is an actual *discharge* from the *construction site* to obtain permit coverage.

***Note: The italicized words/phrases within this permit are defined in Appendix A.**

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
SPDES GENERAL PERMIT FOR STORMWATER DISCHARGES FROM CONSTRUCTION ACTIVITIES

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Part 1. PERMIT COVERAGE AND LIMITATIONS

A. Permit Application

This permit authorizes stormwater *discharges* to *surface waters of the State* from the following *construction activities* identified within 40 CFR Parts 122.26(b)(14)(x), 122.26(b)(15)(i) and 122.26(b)(15)(ii), provided all of the eligibility provisions of this permit are met:

1. *Construction activities* involving soil disturbances of one (1) or more acres; including disturbances of less than one acre that are part of a *larger common plan of development or sale* that will ultimately disturb one or more acres of land; excluding *routine maintenance activity* that is performed to maintain the original line and grade, hydraulic capacity or original purpose of a facility;

2. *Construction activities* involving soil disturbances of less than one (1) acre where the Department has determined that a *SPDES* permit is required for stormwater *discharges* based on the potential for contribution to a violation of a *water quality standard* or for significant contribution of *pollutants* to *surface waters of the State.*

3. *Construction activities* located in the watershed(s) identified in Appendix D that involve soil disturbances between five thousand (5,000) square feet and one (1) acre of land.

B. Effluent Limitations Applicable to Discharges from Construction Activities

*Discharge*s authorized by this permit must achieve, at a minimum, the effluent limitations in Part I.B.1. (a) – (f) of this permit. These limitations represent the degree of effluent reduction attainable by the application of best practicable technology currently available.

1. Erosion and Sediment Control Requirements - The *owner or operator* must select, design, install, implement and maintain control measures to *minimize* the *discharge* of *pollutants* and prevent a violation of the *water quality standards*. The selection, design, installation, implementation, and maintenance of these control measures must meet the non-numeric effluent limitations in Part I.B.1.(a) – (f) of this permit and be in accordance with the New York State Standards and Specifications for Erosion and Sediment Control, dated November 2016, using sound engineering judgment. Where control measures are not designed in conformance with the design criteria included in the technical standard, the *owner or operator* must include in the *Stormwater Pollution Prevention Plan* (“SWPPP”) the reason(s) for the

deviation or alternative design and provide information which demonstrates that the deviation or alternative design is *equivalent* to the technical standard.

a. **Erosion and Sediment Controls.** Design, install and maintain effective erosion and sediment controls to *minimize* the *discharge* of *pollutants* and prevent a violation of the *water quality standards*. At a minimum, such controls must be designed, installed and maintained to:

   (i) *Minimize* soil erosion through application of runoff control and soil stabilization control measure to *minimize pollutant discharge*s;

   (ii) Control stormwater *discharge*s, including both peak flowrates and total stormwater volume, to *minimize* channel and *streambank* erosion and scour in the immediate vicinity of the *discharge* points;

   (iii) *Minimize* the amount of soil exposed during *construction activity*;

   (iv) *Minimize* the disturbance of *steep slopes*;

   (v) *Minimize* sediment *discharge*s from the site;

   (vi) Provide and maintain *natural buffer*s around surface waters, direct stormwater to vegetated areas and maximize stormwater infiltration to reduce *pollutant discharge*s, unless *infeasible*;

   (vii) *Minimize* soil compaction. Minimizing soil compaction is not required where the intended function of a specific area of the site dictates that it be compacted;

   (viii) Unless *infeasible*, preserve a sufficient amount of topsoil to complete soil restoration and establish a uniform, dense vegetative cover; and

   (ix) *Minimize* dust. On areas of exposed soil, *minimize* dust through the appropriate application of water or other dust suppression techniques to control the generation of pollutants that could be discharged from the site.

b. **Soil Stabilization**. 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 fourteen (14) days from the date the current soil disturbance activity ceased. For construction sites that *directly discharge* to one of the 303(d) segments

listed in Appendix E or is located in one of the watersheds listed in Appendix C, 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. See Appendix A for definition of *Temporarily Ceased*.

c. **Dewatering**. *Discharge*s from *dewatering* activities, including *discharge*s from *dewatering* of trenches and excavations, must be managed by appropriate control measures.

d. **Pollution Prevention Measures**. Design, install, implement, and maintain effective pollution prevention measures to *minimize* the *discharge* of *pollutants* and prevent a violation of the *water quality standards*. At a minimum, such measures must be designed, installed, implemented and maintained to:

(i) *Minimize* the *discharge* of *pollutants* from equipment and vehicle washing, wheel wash water, and other wash waters. This applies to washing operations that use clean water only. Soaps, detergents and solvents cannot be used;

(ii) *Minimize* the exposure of building materials, building products, construction wastes, trash, landscape materials, fertilizers, pesticides, herbicides, detergents, sanitary waste, hazardous and toxic waste, and other materials present on the site to precipitation and to stormwater. Minimization of exposure is not required in cases where the exposure to precipitation and to stormwater will not result in a *discharge* of *pollutants*, or where exposure of a specific material or product poses little risk of stormwater contamination (such as final products and materials intended for outdoor use) ; and

(iii) Prevent the *discharge* of *pollutants* from spills and leaks and implement chemical spill and leak prevention and response procedures.

e. **Prohibited *Discharges*.** The following *discharge*s are prohibited:

(i) Wastewater from washout of concrete;

(ii) Wastewater from washout and cleanout of stucco, paint, form release oils, curing compounds and other construction materials;

(iii) Fuels, oils, or other *pollutants* used in vehicle and equipment operation and maintenance;

(iv) Soaps or solvents used in vehicle and equipment washing; and

(v) Toxic or hazardous substances from a spill or other release.

f. Surface Outlets. When discharging from basins and impoundments, the outlets shall be designed, constructed and maintained in such a manner that sediment does not leave the basin or impoundment and that erosion at or below the outlet does not occur.

C. Post-construction Stormwater Management Practice Requirements

1. The *owner or operator* of a *construction activity* that requires post-construction stormwater management practices pursuant to Part III.C. of this permit must select, design, install, and maintain the practices to meet the *performance criteria* in the New York State Stormwater Management Design Manual ("Design Manual"), dated January 2015, using sound engineering judgment. Where post-construction stormwater management practices ("SMPs") are not designed in conformance with the *performance criteria* in the Design Manual, the *owner or operator* must include in the SWPPP the reason(s) for the deviation or alternative design and provide information which demonstrates that the deviation or alternative design is *equivalent* to the technical standard.

2. The *owner or operator* of a *construction activity* that requires post-construction stormwater management practices pursuant to Part III.C. of this permit must design the practices to meet the applicable *sizing criteria* in Part I.C.2.a., b., c. or d. of this permit.

a. Sizing Criteria for New Development

(i) Runoff Reduction Volume ("RRv"): Reduce the total Water Quality Volume ("WQv") by application of RR techniques and standard SMPs with RRv capacity. The total WQv shall be calculated in accordance with the criteria in Section 4.2 of the Design Manual.

(ii) Minimum RRv and Treatment of Remaining Total WQv: Construction activities that cannot meet the criteria in Part I.C.2.a.(i) of this permit due to site limitations shall direct runoff from all newly constructed impervious areas to a RR technique or standard SMP with RRv capacity unless infeasible. The specific site limitations that prevent the reduction of 100% of the WQv shall be documented in the SWPPP.

For each impervious area that is not directed to a RR technique or standard SMP with RRv capacity, the SWPPP must include documentation which demonstrates that all options were considered and for each option explains why it is considered infeasible.

In no case shall the runoff reduction achieved from the newly constructed impervious areas be less than the Minimum RRv as calculated using the criteria in Section 4.3 of the Design Manual. The remaining portion of the total WQv that cannot be reduced shall be treated by application of standard SMPs.

(iii) Channel Protection Volume ("Cpv"): Provide 24 hour extended detention of the post-developed 1-year, 24-hour storm event; remaining after runoff reduction. The Cpv requirement does not apply when:
(1) Reduction of the entire Cpv is achieved by application of runoff reduction techniques or infiltration systems, or
(2) The site discharges directly to tidal waters, or fifth order or larger streams.

(iv) *Overbank* Flood Control Criteria ("Qp"): Requires storage to attenuate the post-development 10-year, 24-hour peak discharge rate (Qp) to predevelopment rates. The Qp requirement does not apply when:
(1) the site discharges directly to tidal waters or fifth order or larger streams, or
(2) A downstream analysis reveals that *overbank* control is not required.

(v) Extreme Flood Control Criteria ("Qf"): Requires storage to attenuate the post-development 100-year, 24-hour peak discharge rate (Qf) to predevelopment rates. The Qf requirement does not apply when:
(1) the site discharges directly to tidal waters or fifth order or larger streams, or
(2) A downstream analysis reveals that *overbank* control is not required.

b. *Sizing Criteria* for *New Development* in Enhanced Phosphorus Removal Watershed

(i) Runoff Reduction Volume (RRv): Reduce the total Water Quality Volume (WQv) by application of RR techniques and standard SMPs with RRv capacity. The total WQv is the runoff volume from the 1-year, 24 hour design storm over the post-developed watershed and shall be

calculated in accordance with the criteria in Section 10.3 of the Design Manual.

(ii) Minimum RRv and Treatment of Remaining Total WQv: *Construction activities* that cannot meet the criteria in Part I.C.2.b.(i) of this permit due to *site limitations* shall direct runoff from all newly constructed *impervious areas* to a RR technique or standard SMP with RRv capacity unless *infeasible*. The specific *site limitations* that prevent the reduction of 100% of the WQv shall be documented in the SWPPP. For each *impervious area* that is not directed to a RR technique or standard SMP with RRv capacity, the SWPPP must include documentation which demonstrates that all options were considered and for each option explains why it is considered *infeasible.*

In no case shall the runoff reduction achieved from the newly constructed *impervious areas* be less than the Minimum RRv as calculated using the criteria in Section 10.3 of the Design Manual. The remaining portion of the total WQv that cannot be reduced shall be treated by application of standard SMPs.

(iii) Channel Protection Volume (Cpv): Provide 24 hour extended detention of the post-developed 1-year, 24-hour storm event; remaining after runoff reduction. The Cpv requirement does not apply when:
(1) Reduction of the entire Cpv is achieved by application of runoff reduction techniques or infiltration systems, or
(2) The site *discharge*s directly to tidal waters, or fifth order or larger streams.

(iv) *Overbank* Flood Control Criteria (Qp): Requires storage to attenuate the post-development 10-year, 24-hour peak *discharge* rate (Qp) to predevelopment rates. The Qp requirement does not apply when:
(1) the site *discharge*s directly to tidal waters or fifth order or larger streams, or
(2) A downstream analysis reveals that *overbank* control is not required.

(v) Extreme Flood Control Criteria (Qf): Requires storage to attenuate the post-development 100-year, 24-hour peak *discharge* rate (Qf) to predevelopment rates. The Qf requirement does not apply when:
(1) the site *discharge*s directly to tidal waters or fifth order or larger streams, or
(2) A downstream analysis reveals that *overbank* control is not required.

c. Sizing Criteria for Redevelopment Activity

(i) Water Quality Volume (WQv): The WQv treatment objective for *redevelopment activity* shall be addressed by one of the following options. *Redevelopment activities* located in an Enhanced Phosphorus Removal Watershed (see Part III.B.3. and Appendix C of this permit) shall calculate the WQv in accordance with Section 10.3 of the Design Manual. All other *redevelopment activities* shall calculate the WQv in accordance with Section 4.2 of the Design Manual.

(1) Reduce the existing *impervious cover* by a minimum of 25% of the total disturbed, *impervious area*. The Soil Restoration criteria in Section 5.1.6 of the Design Manual must be applied to all newly created pervious areas, or

(2) Capture and treat a minimum of 25% of the WQv from the disturbed, *impervious area* by the application of standard SMPs; or reduce 25% of the WQv from the disturbed, *impervious area* by the application of RR techniques or standard SMPs with RRv capacity., or

(3) Capture and treat a minimum of 75% of the WQv from the disturbed, *impervious area* as well as any additional runoff from tributary areas by application of the alternative practices discussed in Sections 9.3 and 9.4 of the Design Manual., or

(4) Application of a combination of 1, 2 and 3 above that provide a weighted average of at least two of the above methods. Application of this method shall be in accordance with the criteria in Section 9.2.1(B) (IV) of the Design Manual.

If there is an existing post-construction stormwater management practice located on the site that captures and treats runoff from the *impervious area* that is being disturbed, the WQv treatment option selected must, at a minimum, provide treatment equal to the treatment that was being provided by the existing practice(s) if that treatment is greater than the treatment required by options 1 – 4 above.

(ii) Channel Protection Volume (Cpv): Not required if there are no changes to hydrology that increase the *discharge* rate from the project site.

(iii) *Overbank* Flood Control Criteria (Qp): Not required if there are no changes to hydrology that increase the *discharge* rate from the project site.

(iv) Extreme Flood Control Criteria (Qf): Not required if there are no changes to hydrology that increase the *discharge* rate from the project site

d. Sizing Criteria for Combination of Redevelopment Activity and New Development

Construction projects that include both New Development and Redevelopment Activity shall provide post-construction stormwater management controls that meet the sizing criteria calculated as an aggregate of the Sizing Criteria in Part I.C.2.a. or b. of this permit for the New Development portion of the project and Part I.C.2.c of this permit for Redevelopment Activity portion of the project.

D. Maintaining Water Quality

The Department expects that compliance with the conditions of this permit will control *discharge*s necessary to meet applicable *water quality standards*. It shall be a violation of the *ECL* for any discharge to either cause or contribute to a violation of *water quality standards* as contained in Parts 700 through 705 of Title 6 of the Official Compilation of Codes, Rules and Regulations of the State of New York, such as:

1. There shall be no increase in turbidity that will cause a substantial visible contrast to natural conditions;

2. There shall be no increase in suspended, colloidal or settleable solids that will cause deposition or impair the waters for their best usages; and

3. There shall be no residue from oil and floating substances, nor visible oil film, nor globules of grease.

If there is evidence indicating that the stormwater *discharge*s authorized by this permit are causing, have the reasonable potential to cause, or are contributing to a violation of the *water quality standards*; the *owner or operator* must take appropriate corrective action in accordance with Part IV.C.5. of this general permit and document in accordance with Part IV.C.4. of this general permit. To address the *water quality standard* violation the *owner or operator* may need to provide additional information, include and implement appropriate controls in the SWPPP to correct the problem, or obtain an individual SPDES permit.

If there is evidence indicating that despite compliance with the terms and conditions of this general permit it is demonstrated that the stormwater *discharge*s authorized by this permit are causing or contributing to a violation of *water quality standards*, or if the Department determines that a modification of the permit is necessary to prevent a violation of *water quality standards*, the authorized *discharge*s will no longer be eligible for coverage under this permit. The Department may require the *owner or operator* to obtain an individual SPDES permit to continue discharging.

E. Eligibility Under This General Permit

1. This permit may authorize all *discharges* of stormwater from *construction activity* to *surface waters of the State* and *groundwaters* except for ineligible *discharges* identified under subparagraph F. of this Part.

2. Except for non-stormwater *discharges* explicitly listed in the next paragraph, this permit only authorizes stormwater *discharge*s; including stormwater runoff, snowmelt runoff, and surface runoff and drainage, from *construction activities*.

3. Notwithstanding paragraphs E.1 and E.2 above, the following non-stormwater discharges are authorized by this permit: those listed in 6 NYCRR 750-1.2(a)(29)(vi), with the following exception: "Discharges from firefighting activities are authorized only when the firefighting activities are emergencies/unplanned"; waters to which other components have not been added that are used to control dust in accordance with the SWPPP; and uncontaminated *discharge*s from *construction site* de-watering operations. All non-stormwater discharges must be identified in the SWPPP. Under all circumstances, the *owner or operator* must still comply with *water quality standards* in Part I.D of this permit.

4. The *owner or operator* must maintain permit eligibility to *discharge* under this permit. Any *discharges* that are not compliant with the eligibility conditions of this permit are not authorized by the permit and the *owner or operator* must either apply for a separate permit to cover those ineligible *discharges* or take steps necessary to make the *discharge* eligible for coverage.

F. Activities Which Are Ineligible for Coverage Under This General Permit

All of the following are **not** authorized by this permit:

1. *Discharge*s after *construction activities* have been completed and the site has undergone *final stabilization*;

2. *Discharge*s that are mixed with sources of non-stormwater other than those expressly authorized under subsection E.3. of this Part and identified in the SWPPP required by this permit;

3. *Discharges* that are required to obtain an individual SPDES permit or another SPDES general permit pursuant to Part VII.K. of this permit;

4. *Construction activities* or *discharges* from *construction activities* that may adversely affect an *endangered or threatened species* unless the *owner or*

operator has obtained a permit issued pursuant to 6 NYCRR Part 182 for the project or the Department has issued a letter of non-jurisdiction for the project. All documentation necessary to demonstrate eligibility shall be maintained on site in accordance with Part II.D.2 of this permit;

5. *Discharges* which either cause or contribute to a violation of *water quality standards* adopted pursuant to the *ECL* and its accompanying regulations;

6. *Construction activities* for residential, commercial and institutional projects:

   a. Where the *discharge*s from the *construction activities* are tributary to waters of the state classified as AA or AA-s; and

   b. Which are undertaken on land with no existing *impervious cover*; and

   c. Which disturb one (1) or more acres of land designated on the current United States Department of Agriculture ("USDA") Soil Survey as Soil Slope Phase "D", (provided the map unit name is inclusive of slopes greater than 25%), or Soil Slope Phase "E" or "F" (regardless of the map unit name), or a combination of the three designations.

7. *Construction activities* for linear transportation projects and linear utility projects:

   a. Where the *discharge*s from the *construction activities* are tributary to waters of the state classified as AA or AA-s; and

   b. Which are undertaken on land with no existing *impervious cover*; and

   c. Which disturb two (2) or more acres of land designated on the current USDA Soil Survey as Soil Slope Phase "D" (provided the map unit name is inclusive of slopes greater than 25%), or Soil Slope Phase "E" or "F" (regardless of the map unit name), or a combination of the three designations.

8. *Construction activities* that have the potential to affect an *historic property*, unless there is documentation that such impacts have been resolved. The following documentation necessary to demonstrate eligibility with this requirement shall be maintained on site in accordance with Part II.D.2 of this permit and made available to the Department in accordance with Part VII.F of this permit:

   a. Documentation that the *construction activity* is not within an archeologically sensitive area indicated on the sensitivity map, and that the *construction activity* is not located on or immediately adjacent to a property listed or determined to be eligible for listing on the National or State Registers of Historic Places, and that there is no new permanent building on the *construction site* within the following distances from a building, structure, or object that is more than 50 years old, or if there is such a new permanent building on the *construction site* within those parameters that NYS Office of Parks, Recreation and Historic Preservation (OPRHP), a Historic Preservation Commission of a Certified Local Government, or a qualified preservation professional has determined that the building, structure, or object more than 50 years old is not historically/archeologically significant.

      - 1-5 acres of disturbance - 20 feet
      - 5-20 acres of disturbance - 50 feet
      - 20+ acres of disturbance - 100 feet, or

   b. DEC consultation form sent to OPRHP, and copied to the NYS DEC Agency Historic Preservation Officer (APO), and
      (i) the State Environmental Quality Review (SEQR) Environmental Assessment Form (EAF) with a negative declaration or the Findings Statement, with documentation of OPRHP's agreement with the resolution; or
      (ii) documentation from OPRHP that the *construction activity* will result in No Impact; or
      (iii) documentation from OPRHP providing a determination of No Adverse Impact; or
      (iv) a Letter of Resolution signed by the owner/operator, OPRHP and the DEC APO which allows for this *construction activity* to be eligible for coverage under the general permit in terms of the State Historic Preservation Act (SHPA); or

   c. Documentation of satisfactory compliance with Section 106 of the National Historic Preservation Act for a coterminous project area:

(i) No Affect
(ii) No Adverse Affect
(iii) Executed Memorandum of Agreement, or

d. Documentation that:

(i) SHPA Section 14.09 has been completed by NYS DEC or another state agency.

9. *Discharge*s from *construction activities* that are subject to an existing SPDES individual or general permit where a SPDES permit for *construction activity* has been terminated or denied; or where the *owner or operator* has failed to renew an expired individual permit.

Part II. PERMIT COVERAGE

A. How to Obtain Coverage

1. An *owner or operator* of a *construction activity* that is not subject to the requirements of a regulated, traditional land use control MS4 must first prepare a SWPPP in accordance with all applicable requirements of this permit and then submit a completed Notice of Intent (NOI) to the Department to be authorized to discharge under this permit.

2. An *owner or operator* of a *construction activity* that is subject to the requirements of a *regulated, traditional land use control MS4* must first prepare a SWPPP in accordance with all applicable requirements of this permit and then have the SWPPP reviewed and accepted by the *regulated, traditional land use control MS4* prior to submitting the NOI to the Department. The *owner or operator* shall have the “MS4 SWPPP Acceptance” form signed in accordance with Part VII.H., and then submit that form along with a completed NOI to the Department.

3. The requirement for an *owner or operator* to have its SWPPP reviewed and accepted by the *regulated, traditional land use control MS4* prior to submitting the NOI to the Department does not apply to an *owner or operator* that is obtaining permit coverage in accordance with the requirements in Part II.F. (Change of *Owner or Operator*) or where the *owner or operator* of the *construction activity* is the *regulated, traditional land use control MS4* . This exemption does not apply to *construction activities* subject to the New York City Administrative Code.

B. Notice of Intent (NOI) Submittal

1. Prior to December 21, 2020, an owner or operator shall use either the electronic (eNOI) or paper version of the NOI that the Department prepared. Both versions of the NOI are located on the Department's website (http://www.dec.ny.gov/). The paper version of the NOI shall be signed in accordance with Part VII.H. of this permit and submitted to the following address:

   NOTICE OF INTENT
   NYS DEC, Bureau of Water Permits
   625 Broadway, 4th Floor
   Albany, New York 12233-3505

2. Beginning December 21, 2020 and in accordance with EPA's 2015 NPDES Electronic Reporting Rule (40 CFR Part 127), the *owner or operator* must submit the NOI electronically using the *Department's* online NOI.

3. The *owner or operator* shall have the SWPPP preparer sign the "SWPPP Preparer Certification" statement on the NOI prior to submitting the form to the Department.

4. As of the date the NOI is submitted to the Department, the *owner or operator* shall make the NOI and SWPPP available for review and copying in accordance with the requirements in Part VII.F. of this permit.

C. Permit Authorization

1. An *owner or operator* shall not *commence construction activity* until their authorization to *discharge* under this permit goes into effect.

2. Authorization to *discharge* under this permit will be effective when the *owner or operator* has satisfied all of the following criteria:

   a. project review pursuant to the State Environmental Quality Review Act ("SEQRA") have been satisfied, when SEQRA is applicable. See the Department's website (http://www.dec.ny.gov/) for more information,

   b. where required, all necessary Department permits subject to the *Uniform Procedures Act ("UPA")* (see 6 NYCRR Part 621), or the equivalent from another New York State agency, have been obtained, unless otherwise notified by the Department pursuant to 6 NYCRR 621.3(a)(4). *Owners or operators* of *construction activities* that are required to obtain *UPA* permits

must submit a preliminary SWPPP to the appropriate DEC Permit Administrator at the Regional Office listed in Appendix F at the time all other necessary *UPA* permit applications are submitted. The preliminary SWPPP must include sufficient information to demonstrate that the *construction activity* qualifies for authorization under this permit,

c. the final SWPPP has been prepared, and

d. a complete NOI has been submitted to the Department in accordance with the requirements of this permit.

3. An *owner or operator* that has satisfied the requirements of Part II.C.2 above will be authorized to *discharge* stormwater from their *construction activity* in accordance with the following schedule:

   a. For *construction activities* that are <u>not</u> subject to the requirements of a *regulated, traditional land use control MS4*:

      (i) Five (5) business days from the date the Department receives a complete electronic version of the NOI (eNOI) for *construction activities* with a SWPPP that has been prepared in conformance with the design criteria in the technical standard referenced in Part III.B.1 and the *performance criteria* in the technical standard referenced in Parts III.B., 2 or 3, for *construction activities* that require post-construction stormwater management practices pursuant to Part III.C.; or

      (ii) Sixty (60) business days from the date the Department receives a complete NOI (electronic or paper version) for *construction activities* with a SWPPP that has <u>not</u> been prepared in conformance with the design criteria in technical standard referenced in Part III.B.1. or, for *construction activities* that require post-construction stormwater management practices pursuant to Part III.C., the *performance criteria* in the technical standard referenced in Parts III.B., 2 or 3, or;

      (iii) Ten (10) business days from the date the Department receives a complete paper version of the NOI for *construction activities* with a SWPPP that has been prepared in conformance with the design criteria in the technical standard referenced in Part III.B.1 and the *performance criteria* in the technical standard referenced in Parts III.B., 2 or 3, for *construction activities* that require post-construction stormwater management practices pursuant to Part III.C.

b. For *construction activities* that are subject to the requirements of a *regulated, traditional land use control MS4*:

(i) Five (5) business days from the date the Department receives both a complete electronic version of the NOI (eNOI) and signed "*MS4* SWPPP Acceptance" form, or

(ii) Ten (10) business days from the date the Department receives both a complete paper version of the NOI and signed "MS4 SWPPP Acceptance" form.

4. Coverage under this permit authorizes stormwater *discharges* from only those areas of disturbance that are identified in the NOI. If an *owner or operator* wishes to have stormwater *discharges* from future or additional areas of disturbance authorized, they must submit a new NOI that addresses that phase of the development, unless otherwise notified by the Department. The *owner or operator* shall not *commence construction activity* on the future or additional areas until their authorization to *discharge* under this permit goes into effect in accordance with Part II.C. of this permit.

D. General Requirements For Owners or Operators With Permit Coverage

1. The *owner or operator* shall ensure that the provisions of the SWPPP are implemented from the *commencement of construction activity* until all areas of disturbance have achieved *final stabilization* and the Notice of Termination ("NOT") has been submitted to the Department in accordance with Part V. of this permit. This includes any changes made to the SWPPP pursuant to Part III.A.4. of this permit.

2. The *owner or operator* shall maintain a copy of the General Permit (GP-0-20-001), NOI, *NOI Acknowledgment Letter*, SWPPP, MS4 SWPPP Acceptance form, inspection reports, responsible contractor's or subcontractor's certification statement (see Part III.A.6.), and all documentation necessary to demonstrate eligibility with this permit at the *construction site* until all disturbed areas have achieved *final stabilization* and the NOT has been submitted to the Department. The documents must be maintained in a secure location, such as a job trailer, on-site construction office, or mailbox with lock. The secure location must be accessible during normal business hours to an individual performing a compliance inspection.

3. The *owner or operator* of a *construction activity* shall not disturb greater than five (5) acres of soil at any one time without prior written authorization from the Department or, in areas under the jurisdiction of a *regulated, traditional land*

use control MS4, the *regulated, traditional land use control MS4* (provided the *regulated, traditional land use control MS4* is not the *owner or operator* of the *construction activity*). At a minimum, the *owner or operator* must comply with the following requirements in order to be authorized to disturb greater than five (5) acres of soil at any one time:

a. 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.

b. 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.

c. The *owner or operator* shall prepare a phasing plan that defines maximum disturbed area per phase and shows required cuts and fills.

d. The *owner or operator* shall install any additional site-specific practices needed to protect water quality.

e. The *owner or operator* shall include the requirements above in their SWPPP.

4. In accordance with statute, regulations, and the terms and conditions of this permit, the Department may suspend or revoke an *owner's or operator's* coverage under this permit at any time if the Department determines that the SWPPP does not meet the permit requirements or consistent with Part VII.K..

5. Upon a finding of significant non-compliance with the practices described in the SWPPP or violation of this permit, the Department may order an immediate stop to all activity at the site until the non-compliance is remedied. The stop work order shall be in writing, describe the non-compliance in detail, and be sent to the *owner or operator*.

6. For *construction activities* that are subject to the requirements of a *regulated, traditional land use control MS4*, the *owner or operator* shall notify the

regulated, traditional land use control MS4 in writing of any planned amendments or modifications to the post-construction stormwater management practice component of the SWPPP required by Part III.A. 4. and 5. of this permit. Unless otherwise notified by the *regulated, traditional land use control MS4*, the *owner or operator* shall have the SWPPP amendments or modifications reviewed and accepted by the *regulated, traditional land use control MS4* prior to commencing construction of the post-construction stormwater management practice.

E. Permit Coverage for Discharges Authorized Under GP-0-15-002

1. Upon renewal of SPDES General Permit for Stormwater Discharges from *Construction Activity* (Permit No. GP-0-15-002), an *owner or operator* of *a construction activity* with coverage under GP-0-15-002, as of the effective date of GP- 0-20-001, shall be authorized to *discharge* in accordance with GP- 0-20-001, unless otherwise notified by the Department.

   An *owner or operator* may continue to implement the technical/design components of the post-construction stormwater management controls provided that such design was done in conformance with the technical standards in place at the time of initial project authorization. However, they must comply with the other, non-design provisions of GP-0-20-001.

F. Change of Owner or Operator

1. When property ownership changes or when there is a change in operational control over the construction plans and specifications, the original *owner or operator* must notify the new *owner or operator*, in writing, of the requirement to obtain permit coverage by submitting a NOI with the Department. For *construction activities* subject to the requirements of a *regulated, traditional land use control MS4,* the original *owner or operator* must also notify the MS4, in writing, of the change in ownership at least 30 calendar days prior to the change in ownership.

2. Once the new *owner or operator* obtains permit coverage, the original *owner or operator* shall then submit a completed NOT with the name and permit identification number of the new *owner or operator* to the Department at the address in Part II.B.1. of this permit. If the original *owner or operator* maintains ownership of a portion of the *construction activity* and will disturb soil, they must maintain their coverage under the permit.

3. Permit coverage for the new *owner or operator* will be effective as of the date the Department receives a complete NOI, provided the original *owner or*

operator was not subject to a sixty (60) business day authorization period that has not expired as of the date the Department receives the NOI from the new *owner or operator*.

Part III. STORMWATER POLLUTION PREVENTION PLAN (SWPPP)

A. General SWPPP Requirements

1. A SWPPP shall be prepared and implemented by the *owner or operator* of each *construction activity* covered by this permit. The SWPPP must document the selection, design, installation, implementation and maintenance of the control measures and practices that will be used to meet the effluent limitations in Part I.B. of this permit and where applicable, the post-construction stormwater management practice requirements in Part I.C. of this permit. The SWPPP shall be prepared prior to the submittal of the NOI. The NOI shall be submitted to the Department prior to the *commencement of construction activity*. A copy of the completed, final NOI shall be included in the SWPPP.

2. The SWPPP shall describe the erosion and sediment control practices and where required, post-construction stormwater management practices that will be used and/or constructed to reduce the *pollutants* in stormwater *discharges* and to assure compliance with the terms and conditions of this permit. In addition, the SWPPP shall identify potential sources of pollution which may reasonably be expected to affect the quality of stormwater *discharges*.

3. All SWPPPs that require the post-construction stormwater management practice component shall be prepared by a *qualified professional* that is knowledgeable in the principles and practices of stormwater management and treatment.

4. The *owner or operator* must keep the SWPPP current so that it at all times accurately documents the erosion and sediment controls practices that are being used or will be used during construction, and all post-construction stormwater management practices that will be constructed on the site. At a minimum, the *owner or operator* shall amend the SWPPP, including construction drawings:

    a. whenever the current provisions prove to be ineffective in minimizing *pollutants* in stormwater *discharges* from the site;

b. whenever there is a change in design, construction, or operation at the *construction site* that has or could have an effect on the *discharge* of *pollutants*;

c. to address issues or deficiencies identified during an inspection by the *qualified inspector,* the Department or other regulatory authority; and

d. to document the final construction conditions.

5. The Department may notify the *owner or operator* at any time that the SWPPP does not meet one or more of the minimum requirements of this permit. The notification shall be in writing and identify the provisions of the SWPPP that require modification. Within fourteen (14) calendar days of such notification, or as otherwise indicated by the Department, the *owner or operator* shall make the required changes to the SWPPP and submit written notification to the Department that the changes have been made. If the *owner or operator* does not respond to the Department's comments in the specified time frame, the Department may suspend the *owner's or operator's* coverage under this permit or require the *owner or operator* to obtain coverage under an individual SPDES permit in accordance with Part II.D.4. of this permit.

6. Prior to the *commencement of construction activity*, the *owner or operator* must identify the contractor(s) and subcontractor(s) that will be responsible for installing, constructing, repairing, replacing, inspecting and maintaining the erosion and sediment control practices included in the SWPPP; and the contractor(s) and subcontractor(s) that will be responsible for constructing the post-construction stormwater management practices included in the SWPPP. The *owner or operator* shall have each of the contractors and subcontractors identify at least one person from their company that will be responsible for implementation of the SWPPP. This person shall be known as the *trained contractor.* The *owner or operator* shall ensure that at least one *trained contractor* is on site on a daily basis when soil disturbance activities are being performed.

   The *owner or operator* shall have each of the contractors and subcontractors identified above sign a copy of the following certification statement below before they commence any *construction activity*:

   "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 *discharge*s 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"

In addition to providing the certification statement above, the certification page must also identify the specific elements of the SWPPP that each contractor and subcontractor will be responsible for and include the name and title of the person providing the signature; the name and title of the *trained contractor* responsible for SWPPP implementation; the name, address and telephone number of the contracting firm; the address (or other identifying description) of the site; and the date the certification statement is signed. The *owner or operator* shall attach the certification statement(s) to the copy of the SWPPP that is maintained at the *construction site*. If new or additional contractors are hired to implement measures identified in the SWPPP after construction has commenced, they must also sign the certification statement and provide the information listed above.

7. For projects where the Department requests a copy of the SWPPP or inspection reports, the *owner or operator* shall submit the documents in both electronic (PDF only) and paper format within five (5) business days, unless otherwise notified by the Department.

B. Required SWPPP Contents

1. Erosion and sediment control component - All SWPPPs prepared pursuant to this permit shall include erosion and sediment control practices designed in conformance with the technical standard, New York State Standards and Specifications for Erosion and Sediment Control, dated November 2016. Where erosion and sediment control practices are not designed in conformance with the design criteria included in the technical standard, the *owner or operator* must demonstrate *equivalence* to the technical standard. At a minimum, the erosion and sediment control component of the SWPPP shall include the following:

    a. Background information about the scope of the project, including the location, type and size of project

b. A site map/construction drawing(s) for the project, including a general location map. At a minimum, the site map shall show the total site area; all improvements; areas of disturbance; areas that will not be disturbed; existing vegetation; on-site and adjacent off-site surface water(s); floodplain/floodway boundaries; wetlands and drainage patterns that could be affected by the *construction activity*; existing and final contours ; locations of different soil types with boundaries; material, waste, borrow or equipment storage areas located on adjacent properties; and location(s) of the stormwater *discharge*(s);

c. A description of the soil(s) present at the site, including an identification of the Hydrologic Soil Group (HSG);

d. A construction phasing plan and sequence of operations describing the intended order of *construction activities*, including clearing and grubbing, excavation and grading, utility and infrastructure installation and any other activity at the site that results in soil disturbance;

e. A description of the minimum erosion and sediment control practices to be installed or implemented for each *construction activity* that will result in soil disturbance. Include a schedule that identifies the timing of initial placement or implementation of each erosion and sediment control practice and the minimum time frames that each practice should remain in place or be implemented;

f. A temporary and permanent soil stabilization plan that meets the requirements of this general permit and the technical standard, New York State Standards and Specifications for Erosion and Sediment Control, dated November 2016, for each stage of the project, including initial land clearing and grubbing to project completion and achievement of *final stabilization*;

g. A site map/construction drawing(s) showing the specific location(s), size(s), and length(s) of each erosion and sediment control practice;

h. The dimensions, material specifications, installation details, and operation and maintenance requirements for all erosion and sediment control practices. Include the location and sizing of any temporary sediment basins and structural practices that will be used to divert flows from exposed soils;

i. A maintenance inspection schedule for the contractor(s) identified in Part III.A.6. of this permit, to ensure continuous and effective operation of the erosion and sediment control practices. The maintenance inspection

schedule shall be in accordance with the requirements in the technical standard, New York State Standards and Specifications for Erosion and Sediment Control, dated November 2016;

j. A description of the pollution prevention measures that will be used to control litter, construction chemicals and construction debris from becoming a *pollutant* source in the stormwater *discharges*;

k. A description and location of any stormwater *discharges* associated with industrial activity other than construction at the site, including, but not limited to, stormwater *discharges* from asphalt plants and concrete plants located on the *construction site*; and

l. Identification of any elements of the design that are not in conformance with the design criteria in the technical standard, New York State Standards and Specifications for Erosion and Sediment Control, dated November 2016. Include the reason for the deviation or alternative design and provide information which demonstrates that the deviation or alternative design is *equivalent* to the technical standard.

2. Post-construction stormwater management practice component – The *owner or operator* of any construction project identified in Table 2 of Appendix B as needing post-construction stormwater management practices shall prepare a SWPPP that includes practices designed in conformance with the applicable *sizing criteria* in Part I.C.2.a., c. or d. of this permit and the *performance criteria* in the technical standard, New York State Stormwater Management Design Manual dated January 2015

   Where post-construction stormwater management practices are not designed in conformance with the *performance criteria* in the technical standard, the *owner or operator* must include in the SWPPP the reason(s) for the deviation or alternative design and provide information which demonstrates that the deviation or alternative design is *equivalent* to the technical standard.

   The post-construction stormwater management practice component of the SWPPP shall include the following:

   a. Identification of all post-construction stormwater management practices to be constructed as part of the project. Include the dimensions, material specifications and installation details for each post-construction stormwater management practice;

b. A site map/construction drawing(s) showing the specific location and size of each post-construction stormwater management practice;

c. A Stormwater Modeling and Analysis Report that includes:
   (i) Map(s) showing pre-development conditions, including watershed/subcatchments boundaries, flow paths/routing, and design points;

   (ii) Map(s) showing post-development conditions, including watershed/subcatchments boundaries, flow paths/routing, design points and post-construction stormwater management practices;

   (iii) Results of stormwater modeling (i.e. hydrology and hydraulic analysis) for the required storm events. Include supporting calculations (model runs), methodology, and a summary table that compares pre and post-development runoff rates and volumes for the different storm events;

   (iv) Summary table, with supporting calculations, which demonstrates that each post-construction stormwater management practice has been designed in conformance with the *sizing criteria* included in the Design Manual;

   (v) Identification of any *sizing criteria* that is not required based on the requirements included in Part I.C. of this permit; and

   (vi) Identification of any elements of the design that are not in conformance with the *performance criteria* in the Design Manual. Include the reason(s) for the deviation or alternative design and provide information which demonstrates that the deviation or alternative design is *equivalent* to the Design Manual;

d. Soil testing results and locations (test pits, borings);

e. Infiltration test results, when required; and

f. An operations and maintenance plan that includes inspection and maintenance schedules and actions to ensure continuous and effective operation of each post-construction stormwater management practice. The plan shall identify the entity that will be responsible for the long term operation and maintenance of each practice.

3. Enhanced Phosphorus Removal Standards - All construction projects identified in Table 2 of Appendix B that are located in the watersheds identified in Appendix C shall prepare a SWPPP that includes post-construction stormwater management practices designed in conformance with the applicable *sizing criteria* in Part I.C.2. b., c. or d. of this permit and the *performance criteria,* Enhanced Phosphorus Removal Standards included in the Design Manual. At a minimum, the post-construction stormwater management practice component of the SWPPP shall include items 2.a - 2.f. above.

C. Required SWPPP Components by Project Type

Unless otherwise notified by the Department, *owners or operators* of *construction activities* identified in Table 1 of Appendix B are required to prepare a SWPPP that only includes erosion and sediment control practices designed in conformance with Part III.B.1 of this permit. *Owners or operators* of the *construction activities* identified in Table 2 of Appendix B shall prepare a SWPPP that also includes post-construction stormwater management practices designed in conformance with Part III.B.2 or 3 of this permit.

Part IV. INSPECTION AND MAINTENANCE REQUIREMENTS

A. General Construction Site Inspection and Maintenance Requirements

1. The *owner or operator* must ensure that all erosion and sediment control practices (including pollution prevention measures) and all post-construction stormwater management practices identified in the SWPPP are inspected and maintained in accordance with Part IV.B. and C. of this permit.

2. The terms of this permit shall not be construed to prohibit the State of New York from exercising any authority pursuant to the ECL, common law or federal law, or prohibit New York State from taking any measures, whether civil or criminal, to prevent violations of the laws of the State of New York or protect the public health and safety and/or the environment.

B. Contractor Maintenance Inspection Requirements

1. The *owner or operator* of each *construction activity* identified in Tables 1 and 2 of Appendix B shall have a *trained contractor* inspect the erosion and sediment control practices and pollution prevention measures being implemented within the active work area daily to ensure that they are being maintained in effective operating condition at all times. If deficiencies are identified, the contractor shall

begin implementing corrective actions within one business day and shall complete the corrective actions in a reasonable time frame.

2. For construction sites where soil disturbance activities have been temporarily suspended (e.g. winter shutdown) and *temporary stabilization* measures have been applied to all disturbed areas, the *trained contractor* can stop conducting the maintenance inspections. The *trained contractor* shall begin conducting the maintenance inspections in accordance with Part IV.B.1. of this permit as soon as soil disturbance activities resume.

3. For construction sites where soil disturbance activities have been shut down with partial project completion, the *trained contractor* can stop conducting the maintenance inspections if all areas disturbed as of the project shutdown date have achieved *final stabilization* and all post-construction stormwater management practices required for the completed portion of the project have been constructed in conformance with the SWPPP and are operational.

C. Qualified Inspector Inspection Requirements

The *owner or operator* shall have a *qualified inspector* conduct site inspections in conformance with the following requirements:

[Note: The *trained contractor* identified in Part III.A.6. and IV.B. of this permit **cannot** conduct the *qualified inspector* site inspections unless they meet the *qualified inspector* qualifications included in Appendix A. In order to perform these inspections, the *trained contractor* would have to be a:

- licensed Professional Engineer,
- Certified Professional in Erosion and Sediment Control (CPESC),
- New York State Erosion and Sediment Control Certificate Program holder
- Registered Landscape Architect, or
- someone working under the direct supervision of, and at the same company as, the licensed Professional Engineer or Registered Landscape Architect, provided they have received four (4) hours of Department endorsed training in proper erosion and sediment control principles from a Soil and Water Conservation District, or other Department endorsed entity].

1. A *qualified inspector* shall conduct site inspections for all *construction activities* identified in Tables 1 and 2 of Appendix B, with the exception of:

   a. the construction of a single family residential subdivision with 25% or less *impervious cover* at total site build-out that involves a soil disturbance of one (1) or more acres of land but less than five (5) acres and is not located

in one of the watersheds listed in Appendix C and not directly discharging to one of the 303(d) segments listed in Appendix E;

b. the construction of a single family home that involves a soil disturbance of one (1) or more acres of land but less than five (5) acres and is not located in one of the watersheds listed in Appendix C and not directly discharging to one of the 303(d) segments listed in Appendix E;

c. construction on agricultural property that involves a soil disturbance of one (1) or more acres of land but less than five (5) acres; and

d. *construction activities* located in the watersheds identified in Appendix D that involve soil disturbances between five thousand (5,000) square feet and one (1) acre of land.

2. Unless otherwise notified by the Department, the *qualified inspector* shall conduct site inspections in accordance with the following timetable:

a. For construction sites where soil disturbance activities are on-going, the *qualified inspector* shall conduct a site inspection at least once every seven (7) calendar days.

b. For construction sites where soil disturbance activities are on-going and the *owner or operator* has received authorization in accordance with Part II.D.3 to disturb greater than five (5) acres of soil at any one time, the *qualified inspector* shall conduct at least two (2) site inspections every seven (7) calendar days. The two (2) inspections shall be separated by a minimum of two (2) full calendar days.

c. For construction sites where soil disturbance activities have been temporarily suspended (e.g. winter shutdown) and *temporary stabilization* measures have been applied to all disturbed areas, the *qualified inspector* shall conduct a site inspection at least once every thirty (30) calendar days. The *owner or operator* shall notify the DOW Water (SPDES) Program contact at the Regional Office (see contact information in Appendix F) or, in areas under the jurisdiction of a *regulated, traditional land use control MS4,* the *regulated, traditional land use control MS4* (provided the *regulated, traditional land use control MS4* is not the *owner or operator* of the *construction activity*) in writing prior to reducing the frequency of inspections.

d. For construction sites where soil disturbance activities have been shut down with partial project completion, the *qualified inspector* can stop conducting inspections if all areas disturbed as of the project shutdown date have achieved *final stabilization* and all post-construction stormwater management practices required for the completed portion of the project have been constructed in conformance with the SWPPP and are operational. The *owner or operator* shall notify the DOW Water (SPDES) Program contact at the Regional Office (see contact information in Appendix F) or, in areas under the jurisdiction of a *regulated, traditional land use control MS4,* the *regulated, traditional land use control MS4* (provided the *regulated, traditional land use control MS4* is not the *owner or operator* of the *construction activity*) in writing prior to the shutdown. If soil disturbance activities are not resumed within 2 years from the date of shutdown, the *owner or operator* shall have the *qualified inspector* perform a final inspection and certify that all disturbed areas have achieved *final stabilization,* and all temporary, structural erosion and sediment control measures have been removed*;* and that all post-construction stormwater management practices have been constructed in conformance with the SWPPP by signing the "*Final Stabilization*" and "Post-Construction Stormwater Management Practice" certification statements on the NOT. The *owner or operator* shall then submit the completed NOT form to the address in Part II.B.1 of this permit.

e. For construction sites that directly *discharge* to one of the 303(d) segments listed in Appendix E or is located in one of the watersheds listed in Appendix C, the *qualified inspector* shall conduct at least two (2) site inspections every seven (7) calendar days. The two (2) inspections shall be separated by a minimum of two (2) full calendar days.

3. At a minimum, the *qualified inspector* shall inspect all erosion and sediment control practices and pollution prevention measures to ensure integrity and effectiveness, all post-construction stormwater management practices under construction to ensure that they are constructed in conformance with the SWPPP, all areas of disturbance that have not achieved *final stabilization,* all points of *discharge* to natural surface waterbodies located within, or immediately adjacent to, the property boundaries of the *construction site*, and all points of *discharge* from the *construction site*.

4. The *qualified inspector* shall prepare an inspection report subsequent to each and every inspection. At a minimum, the inspection report shall include and/or address the following:

a. Date and time of inspection;

b. Name and title of person(s) performing inspection;

c. A description of the weather and soil conditions (e.g. dry, wet, saturated) at the time of the inspection;

d. A description of the condition of the runoff at all points of *discharge* from the *construction site*. This shall include identification of any *discharges* of sediment from the *construction site*. Include *discharges* from conveyance systems (i.e. pipes, culverts, ditches, etc.) and overland flow;

e. A description of the condition of all natural surface waterbodies located within, or immediately adjacent to, the property boundaries of the *construction site* which receive runoff from disturbed areas. This shall include identification of any *discharges* of sediment to the surface waterbody;

f. Identification of all erosion and sediment control practices and pollution prevention measures that need repair or maintenance;

g. Identification of all erosion and sediment control practices and pollution prevention measures that were not installed properly or are not functioning as designed and need to be reinstalled or replaced;

h. Description and sketch of areas with active soil disturbance activity, areas that have been disturbed but are inactive at the time of the inspection, and areas that have been stabilized (temporary and/or final) since the last inspection;

i. Current phase of construction of all post-construction stormwater management practices and identification of all construction that is not in conformance with the SWPPP and technical standards;

j. Corrective action(s) that must be taken to install, repair, replace or maintain erosion and sediment control practices and pollution prevention measures; and to correct deficiencies identified with the construction of the post-construction stormwater management practice(s);

k. Identification and status of all corrective actions that were required by previous inspection; and

l. Digital photographs, with date stamp, that clearly show the condition of all practices that have been identified as needing corrective actions. The *qualified inspector* shall attach paper color copies of the digital photographs to the inspection report being maintained onsite within seven (7) calendar days of the date of the inspection. The *qualified inspector* shall also take digital photographs, with date stamp, that clearly show the condition of the practice(s) after the corrective action has been completed. The *qualified inspector* shall attach paper color copies of the digital photographs to the inspection report that documents the completion of the corrective action work within seven (7) calendar days of that inspection.

5. Within one business day of the completion of an inspection, the *qualified inspector* shall notify the *owner or operator* and appropriate contractor or subcontractor identified in Part III.A.6. of this permit of any corrective actions that need to be taken. The contractor or subcontractor shall begin implementing the corrective actions within one business day of this notification and shall complete the corrective actions in a reasonable time frame.

6. All inspection reports shall be signed by the *qualified inspector.* Pursuant to Part II.D.2. of this permit, the inspection reports shall be maintained on site with the SWPPP.

Part V. TERMINATION OF PERMIT COVERAGE

A. Termination of Permit Coverage

1. An *owner or operator* that is eligible to terminate coverage under this permit must submit a completed NOT form to the address in Part II.B.1 of this permit. The NOT form shall be one which is associated with this permit, signed in accordance with Part VII.H of this permit.

2. An *owner or operator* may terminate coverage when one or more the following conditions have been met:

   a. Total project completion - All *construction activity* identified in the SWPPP has been completed; and all areas of disturbance have achieved *final stabilization*; and all temporary, structural erosion and sediment control measures have been removed; and all post-construction stormwater management practices have been constructed in conformance with the SWPPP and are operational;

b. Planned shutdown with partial project completion - All soil disturbance activities have ceased; and all areas disturbed as of the project shutdown date have achieved *final stabilization*; and all temporary, structural erosion and sediment control measures have been removed; and all post-construction stormwater management practices required for the completed portion of the project have been constructed in conformance with the SWPPP and are operational;

c. A new *owner or operator* has obtained coverage under this permit in accordance with Part II.F. of this permit.

d. The *owner or operator* obtains coverage under an alternative SPDES general permit or an individual SPDES permit.

3. For *construction activities* meeting subdivision 2a. or 2b. of this Part, the *owner or operator* shall have the *qualified inspector* perform a final site inspection prior to submitting the NOT. The *qualified inspector* shall, by signing the "*Final Stabilization*" and "Post-Construction Stormwater Management Practice certification statements on the NOT, certify that all the requirements in Part V.A.2.a. or b. of this permit have been achieved.

4. For *construction activities* that are subject to the requirements of a *regulated, traditional land use control MS4* and meet subdivision 2a. or 2b. of this Part, the *owner or operator* shall have the *regulated, traditional land use control MS4* sign the "MS4 Acceptance" statement on the NOT in accordance with the requirements in Part VII.H. of this permit. The *regulated, traditional land use control MS4* official, by signing this statement, has determined that it is acceptable for the *owner or operator* to submit the NOT in accordance with the requirements of this Part. The *regulated, traditional land use control MS4* can make this determination by performing a final site inspection themselves or by accepting the *qualified inspector*'s final site inspection certification(s) required in Part V.A.3. of this permit.

5. For *construction activities* that require post-construction stormwater management practices and meet subdivision 2a. of this Part, the *owner or operator* must, prior to submitting the NOT, ensure one of the following:

   a. the post-construction stormwater management practice(s) and any right-of-way(s) needed to maintain such practice(s) have been deeded to the municipality in which the practice(s) is located,

b. an executed maintenance agreement is in place with the municipality that will maintain the post-construction stormwater management practice(s),

c. for post-construction stormwater management practices that are privately owned, the *owner or operator* has a mechanism 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,

d. for post-construction stormwater management practices that are owned by a public or private institution (e.g. school, university, hospital), government agency or authority, or public utility; the *owner or operator* has policy and procedures in place that ensures operation and maintenance of the practices in accordance with the operation and maintenance plan.

Part VI. REPORTING AND RETENTION RECORDS

A. Record Retention

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 this general permit.

B. Addresses

With the exception of the NOI, NOT, and MS4 SWPPP Acceptance form (which must be submitted to the address referenced in Part II.B.1 of this permit), all written correspondence requested by the Department, including individual permit applications, shall be sent to the address of the appropriate DOW Water (SPDES) Program contact at the Regional Office listed in Appendix F.

Part VII. STANDARD PERMIT CONDITIONS

A. Duty to Comply

The *owner or operator* must comply with all conditions of this permit. All contractors and subcontractors associated with the project must comply with the terms of the SWPPP. Any non-compliance with this permit constitutes a violation of the Clean Water

Act (CWA) and the ECL and is grounds for an enforcement action against the *owner or operator* and/or the contractor/subcontractor; permit revocation, suspension or modification; or denial of a permit renewal application. Upon a finding of significant non-compliance with this permit or the applicable SWPPP, the Department may order an immediate stop to all *construction activity* at the site until the non-compliance is remedied. The stop work order shall be in writing, shall describe the non-compliance in detail, and shall be sent to the *owner or operator*.

If any human remains or archaeological remains are encountered during excavation, the *owner or operator* must immediately cease, or cause to cease, all *construction activity* in the area of the remains and notify the appropriate Regional Water Engineer (RWE). *Construction activity* shall not resume until written permission to do so has been received from the RWE.

B. Continuation of the Expired General Permit

This permit expires five (5) years from the effective date. If a new general permit is not issued prior to the expiration of this general permit, an *owner or operator* with coverage under this permit may continue to operate and *discharge* in accordance with the terms and conditions of this general permit, if it is extended pursuant to the State Administrative Procedure Act and 6 NYCRR Part 621, until a new general permit is issued.

C. Enforcement

Failure of the *owner or operator,* its contractors, subcontractors, agents and/or assigns to strictly adhere to any of the permit requirements contained herein shall constitute a violation of this permit. There are substantial criminal, civil, and administrative penalties associated with violating the provisions of this permit. Fines of up to $37,500 per day for each violation and imprisonment for up to fifteen (15) years may be assessed depending upon the nature and degree of the offense.

D. Need to Halt or Reduce Activity Not a Defense

It shall not be a defense for an *owner or operator* in an enforcement action that it would have been necessary to halt or reduce the *construction activity* in order to maintain compliance with the conditions of this permit.

E. Duty to Mitigate

The *owner or operator* and its contractors and subcontractors shall take all reasonable steps to *minimize* or prevent any *discharge* in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.

F. Duty to Provide Information

The *owner or operator* shall furnish to the Department, within a reasonable specified time period of a written request, all documentation necessary to demonstrate eligibility and any information to determine compliance with this permit or to determine whether cause exists for modifying or revoking this permit, or suspending or denying coverage under this permit, in accordance with the terms and conditions of this permit. The NOI, SWPPP and inspection reports required by this permit are public documents that the *owner or operator* must make available for review and copying by any person within five (5) business days of the *owner or operator* receiving a written request by any such person to review these documents. Copying of documents will be done at the requester's expense.

G. Other Information

When the *owner or operator* becomes aware that they failed to submit any relevant facts, or submitted incorrect information in the NOI or in any of the documents required by this permit , or have made substantive revisions to the SWPPP (e.g. the scope of the project changes significantly, the type of post-construction stormwater management practice(s) changes, there is a reduction in the sizing of the post-construction stormwater management practice, or there is an increase in the disturbance area or *impervious area*), which were not reflected in the original NOI submitted to the Department, they shall promptly submit such facts or information to the Department using the contact information in Part II.A. of this permit. Failure of the *owner or operator* to correct or supplement any relevant facts within five (5) business days of becoming aware of the deficiency shall constitute a violation of this permit.

H. Signatory Requirements

1. All NOIs and NOTs shall be signed as follows:

    a. For a corporation these forms shall be signed by a responsible corporate officer. For the purpose of this section, a responsible corporate officer means:

(i) a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation; or

(ii) the manager of one or more manufacturing, production or operating facilities, provided the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures;

b. For a partnership or sole proprietorship these forms shall be signed by a general partner or the proprietor, respectively; or

c. For a municipality, State, Federal, or other public agency these forms shall be signed by either a principal executive officer or ranking elected official. For purposes of this section, a principal executive officer of a Federal agency includes:

(i) the chief executive officer of the agency, or

(ii) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of EPA).

2. The SWPPP and other information requested by the Department shall be signed by a person described in Part VII.H.1. of this permit or by a duly authorized representative of that person. A person is a duly authorized representative only if:

a. The authorization is made in writing by a person described in Part VII.H.1. of this permit;

b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, operator of a well or a well field,

superintendent, position of *equivalent* responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position) and,

c. The written authorization shall include the name, title and signature of the authorized representative and be attached to the SWPPP.

3. All inspection reports shall be signed by the *qualified inspector* that performs the inspection.

4. The MS4 SWPPP Acceptance form shall be signed by the principal executive officer or ranking elected official from the *regulated, traditional land use control MS4,* or by a duly authorized representative of that person.

   It shall constitute a permit violation if an incorrect and/or improper signatory authorizes any required forms, SWPPP and/or inspection reports.

I. Property Rights

The issuance of this permit does not convey any property rights of any sort, nor any exclusive privileges, nor does it authorize any injury to private property nor any invasion of personal rights, nor any infringement of Federal, State or local laws or regulations. *Owners or operators* must obtain any applicable conveyances, easements, licenses and/or access to real property prior to *commencing construction activity*.

J. Severability

The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit shall not be affected thereby.

K. Requirement to Obtain Coverage Under an Alternative Permit

1. The Department may require any owner or operator authorized by this permit to apply for and/or obtain either an individual SPDES permit or another SPDES general permit. When the Department requires any discharger authorized by a general permit to apply for an individual SPDES permit, it shall notify the discharger in writing that a permit application is required. This notice shall

include a brief statement of the reasons for this decision, an application form, a statement setting a time frame for the owner or operator to file the application for an individual SPDES permit, and a deadline, not sooner than 180 days from owner or operator receipt of the notification letter, whereby the authorization to discharge under this general permit shall be terminated. Applications must be submitted to the appropriate Permit Administrator at the Regional Office. The Department may grant additional time upon demonstration, to the satisfaction of the Department, that additional time to apply for an alternative authorization is necessary or where the Department has not provided a permit determination in accordance with Part 621 of this Title.

2. When an individual SPDES permit is issued to a discharger authorized to *discharge* under a general SPDES permit for the same *discharge*(s), the general permit authorization for outfalls authorized under the individual SPDES permit is automatically terminated on the effective date of the individual permit unless termination is earlier in accordance with 6 NYCRR Part 750.

L. Proper Operation and Maintenance

The *owner or operator* shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the *owner or operator* to achieve compliance with the conditions of this permit and with the requirements of the SWPPP.

M. Inspection and Entry

The *owner or operator* shall allow an authorized representative of the Department, EPA, applicable county health department, or, in the case of a *construction site* which *discharges* through an *MS4*, an authorized representative of the *MS4* receiving the discharge, upon the presentation of credentials and other documents as may be required by law, to:

1. Enter upon the owner’s or operator's premises where a regulated facility or activity is located or conducted or where records must be kept under the conditions of this permit;

2. Have access to and copy at reasonable times, any records that must be kept under the conditions of this permit; and

3. Inspect at reasonable times any facilities or equipment (including monitoring and control equipment), practices or operations regulated or required by this permit.

4. Sample or monitor at reasonable times, for purposes of assuring permit compliance or as otherwise authorized by the Act or ECL, any substances or parameters at any location.

N. Permit Actions

This permit may, at any time, be modified, suspended, revoked, or renewed by the Department in accordance with 6 NYCRR Part 621. The filing of a request by the *owner or operator* for a permit modification, revocation and reissuance, termination, a notification of planned changes or anticipated noncompliance does not limit, diminish and/or stay compliance with any terms of this permit.

O. Definitions

Definitions of key terms are included in Appendix A of this permit.

P. Re-Opener Clause

1. If there is evidence indicating potential or realized impacts on water quality due to any stormwater discharge associated with construction activity covered by this permit, the owner or operator of such discharge may be required to obtain an individual permit or alternative general permit in accordance with Part VII.K. of this permit or the permit may be modified to include different limitations and/or requirements.

2. Any Department initiated permit modification, suspension or revocation will be conducted in accordance with 6 NYCRR Part 621, 6 NYCRR 750-1.18, and 6 NYCRR 750-1.20.

Q. Penalties for Falsification of Forms and Reports

In accordance with 6NYCRR Part 750-2.4 and 750-2.5, any person who knowingly makes any false material statement, representation, or certification in any application, record, report or other document filed or required to be maintained under this permit, including reports of compliance or noncompliance shall, upon conviction, be punished in accordance with ECL §71-1933 and or Articles 175 and 210 of the New York State Penal Law.

R. Other Permits

Nothing in this permit relieves the *owner or operator* from a requirement to obtain any other permits required by law.

APPENDIX A – Acronyms and Definitions

Acronyms

APO – Agency Preservation Officer
BMP – Best Management Practice
CPESC – Certified Professional in Erosion and Sediment Control
Cpv – Channel Protection Volume
CWA – Clean Water Act (or the Federal Water Pollution Control Act, 33 U.S.C. §1251 et seq)
DOW – Division of Water
EAF – Environmental Assessment Form
ECL - Environmental Conservation Law
EPA – U. S. Environmental Protection Agency
HSG – Hydrologic Soil Group
MS4 – Municipal Separate Storm Sewer System
NOI – Notice of Intent
NOT – Notice of Termination
NPDES – National Pollutant Discharge Elimination System
OPRHP – Office of Parks, Recreation and Historic Places
Qf – Extreme Flood
Qp – Overbank Flood
RRv – Runoff Reduction Volume
RWE – Regional Water Engineer
SEQR – State Environmental Quality Review
SEQRA - State Environmental Quality Review Act
SHPA – State Historic Preservation Act
SPDES – State Pollutant Discharge Elimination System
SWPPP – Stormwater Pollution Prevention Plan
TMDL – Total Maximum Daily Load
UPA – Uniform Procedures Act
USDA – United States Department of Agriculture
WQv – Water Quality Volume

Definitions

All definitions in this section are solely for the purposes of this permit.

Agricultural Building – a structure designed and constructed to house farm implements, hay, grain, poultry, livestock or other horticultural products; excluding any structure designed, constructed or used, in whole or in part, for human habitation, as a place of employment where agricultural products are processed, treated or packaged, or as a place used by the public.

Agricultural Property –means the land for construction of a barn, *agricultural building*, silo, stockyard, pen or other structural practices identified in Table II in the "Agricultural Management Practices Catalog for Nonpoint Source Pollution in New York State" prepared by the Department in cooperation with agencies of New York Nonpoint Source Coordinating Committee (dated June 2007).

Alter Hydrology from Pre to Post-Development Conditions - means the post-development peak flow rate(s) has increased by more than 5% of the pre-developed condition for the design storm of interest (e.g. 10 yr and 100 yr).

Combined Sewer - means a sewer that is designed to collect and convey both "sewage" and "stormwater".

Commence (Commencement of) Construction Activities - means the initial disturbance of soils associated with clearing, grading or excavation activities; or other construction related activities that disturb or expose soils such as demolition, stockpiling of fill material, and the initial installation of erosion and sediment control practices required in the SWPPP. See definition for "*Construction Activity(ies)*" also.

Construction Activity(ies) - means any clearing, grading, excavation, filling, demolition or stockpiling activities that result in soil disturbance. Clearing activities can include, but are not limited to, logging equipment operation, the cutting and skidding of trees, stump removal and/or brush root removal. Construction activity does not include routine maintenance that is performed to maintain the original line and grade, hydraulic capacity, or original purpose of a facility.

Construction Site – means the land area where *construction activity(ies)* will occur. See definition for "*Commence (Commencement of) Construction Activities"* and "*Larger Common Plan of Development or Sale" also.*

Dewatering – means the act of draining rainwater and/or groundwater from building foundations, vaults or excavations/trenches.

Direct Discharge (to a specific surface waterbody) - means that runoff flows from a *construction site* by overland flow and the first point of discharge is the specific surface waterbody, or runoff flows from a *construction site* to a separate storm sewer system

and the first point of discharge from the separate storm sewer system is the specific surface waterbody.

Discharge(s) - means any addition of any pollutant to waters of the State through an outlet or *point source*.

Embankment –means an earthen or rock slope that supports a road/highway.

Endangered or Threatened Species – see 6 NYCRR Part 182 of the Department's rules and regulations for definition of terms and requirements.

Environmental Conservation Law (ECL) - means chapter 43-B of the Consolidated Laws of the State of New York, entitled the Environmental Conservation Law.

Equivalent (Equivalence) – means that the practice or measure meets all the performance, longevity, maintenance, and safety objectives of the technical standard and will provide an equal or greater degree of water quality protection.

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, such as permanent landscape mulches, rock rip-rap or washed/crushed stone have been applied on all disturbed areas that are not covered by permanent structures, concrete or pavement.

General SPDES permit - means a SPDES permit issued pursuant to 6 NYCRR Part 750-1.21 and Section 70-0117 of the ECL authorizing a category of discharges.

Groundwater(s) - means waters in the saturated zone. The saturated zone is a subsurface zone in which all the interstices are filled with water under pressure greater than that of the atmosphere. Although the zone may contain gas-filled interstices or interstices filled with fluids other than water, it is still considered saturated.

Historic Property – means any building, structure, site, object or district that is listed on the State or National Registers of Historic Places or is determined to be eligible for listing on the State or National Registers of Historic Places.

Impervious Area (Cover) - means all impermeable surfaces that cannot effectively infiltrate rainfall. This includes paved, concrete and gravel surfaces (i.e. parking lots, driveways, roads, runways and sidewalks); building rooftops and miscellaneous impermeable structures such as patios, pools, and sheds.

Infeasible – means not technologically possible, or not economically practicable and achievable in light of best industry practices.

Larger Common Plan of Development or Sale - means a contiguous area where multiple separate and distinct *construction activities* are occurring, or will occur, under one plan. The term “plan” in “larger common plan of development or sale” is broadly defined as any announcement or piece of documentation (including a sign, public notice or hearing, marketing plan, advertisement, drawing, permit application, State Environmental Quality Review Act (SEQRA) environmental assessment form or other documents, zoning request, computer design, etc.) or physical demarcation (including boundary signs, lot stakes, surveyor markings, etc.) indicating that *construction activities* may occur on a specific plot.

For discrete construction projects that are located within a larger common plan of development or sale that are at least 1/4 mile apart, each project can be treated as a separate plan of development or sale provided any interconnecting road, pipeline or utility project that is part of the same “common plan” is not concurrently being disturbed.

Minimize – means reduce and/or eliminate to the extent achievable using control measures (including best management practices) that are technologically available and economically practicable and achievable in light of best industry practices.

Municipal Separate Storm Sewer (MS4) - a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains):

(i) Owned or operated by a State, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to State law) having jurisdiction over disposal of sewage, industrial wastes, stormwater, or other wastes, including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under section 208 of the CWA that discharges to surface waters of the State*;*
(ii) Designed or used for collecting or conveying stormwater;
(iii) Which is not a *combined sewer*; and
(iv) Which is not part of a Publicly Owned Treatment Works (POTW) as defined at 40 CFR 122.2.

National Pollutant Discharge Elimination System (NPDES) - means the national system for the issuance of wastewater and stormwater permits under the Federal Water Pollution Control Act (Clean Water Act).

Natural Buffer –means an undisturbed area with natural cover running along a surface water (e.g. wetland, stream, river, lake, etc.).

New Development – means any land disturbance that does not meet the definition of Redevelopment Activity included in this appendix.

New York State Erosion and Sediment Control Certificate Program – a certificate program that establishes and maintains a process to identify and recognize individuals who are capable of developing, designing, inspecting and maintaining erosion and sediment control plans on projects that disturb soils in New York State. The certificate program is administered by the New York State Conservation District Employees Association.

NOI Acknowledgment Letter - means the letter that the Department sends to an owner or operator to acknowledge the Department's receipt and acceptance of a complete Notice of Intent. This letter documents the owner's or operator's authorization to discharge in accordance with the general permit for stormwater discharges from *construction activity*.

Nonpoint Source - means any source of water pollution or pollutants which is not a discrete conveyance or *point source* permitted pursuant to Title 7 or 8 of Article 17 of the Environmental Conservation Law (see ECL Section 17-1403).

Overbank –means flow events that exceed the capacity of the stream channel and spill out into the adjacent floodplain.

Owner or Operator - means the person, persons or legal entity which owns or leases the property on which the *construction activity* is occurring; an entity that has operational control over the construction plans and specifications, including the ability to make modifications to the plans and specifications; and/or an entity that has day-to-day operational control of those activities at a project that are necessary to ensure compliance with the permit conditions.

Performance Criteria – means the design criteria listed under the "Required Elements" sections in Chapters 5, 6 and 10 of the technical standard, New York State Stormwater Management Design Manual, dated January 2015. It does not include the Sizing Criteria (i.e. WQv, RRv, Cpv, Qp and Qf) in Part I.C.2. of the permit.

Point Source - means any discernible, confined and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, vessel or other floating craft, or landfill leachate collection system from which *pollutants* are or may be discharged.

Pollutant - means dredged spoil, filter backwash, solid waste, incinerator residue, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand and industrial, municipal, agricultural waste and ballast discharged into water; which may cause or might reasonably be expected to cause pollution of the waters of the state in contravention of the standards or guidance values adopted as provided in 6 NYCRR Parts 700 et seq .

Qualified Inspector - means a person that is knowledgeable in the principles and practices of erosion and sediment control, such as a licensed Professional Engineer, Certified Professional in Erosion and Sediment Control (CPESC), Registered Landscape Architect, New York State Erosion and Sediment Control Certificate Program holder or other Department endorsed individual(s).

It can also mean someone working under the direct supervision of, and at the same company as, the licensed Professional Engineer or Registered Landscape Architect, provided that person has training in the principles and practices of erosion and sediment control. Training in the principles and practices of erosion and sediment control means that the individual working under the direct supervision of the licensed Professional Engineer or Registered Landscape Architect has received four (4) hours of Department endorsed training in proper erosion and sediment control principles from a Soil and Water Conservation District, or other Department endorsed entity. After receiving the initial training, the individual working under the direct supervision of the licensed Professional Engineer or Registered Landscape Architect shall receive four (4) hours of training every three (3) years.

It can also mean a person that meets the *Qualified Professional* qualifications in addition to the *Qualified Inspector* qualifications.

Note: Inspections of any post-construction stormwater management practices that include structural components, such as a dam for an impoundment, shall be performed by a licensed Professional Engineer.

Qualified Professional - means a person that is knowledgeable in the principles and practices of stormwater management and treatment, such as a licensed Professional Engineer, Registered Landscape Architect or other Department endorsed individual(s). Individuals preparing SWPPPs that require the post-construction stormwater management practice component must have an understanding of the principles of hydrology, water quality management practice design, water quantity control design, and, in many cases, the principles of hydraulics. All components of the SWPPP that involve the practice of engineering, as defined by the NYS Education Law (see Article 145), shall be prepared by, or under the direct supervision of, a professional engineer licensed to practice in the State of New York.

Redevelopment Activity(ies) – means the disturbance and reconstruction of existing impervious area, including impervious areas that were removed from a project site within five (5) years of preliminary project plan submission to the local government (i.e. site plan, subdivision, etc.).

Regulated, Traditional Land Use Control MS4 - means a city, town or village with land use control authority that is authorized to discharge under New York State DEC's

SPDES General Permit For Stormwater Discharges from Municipal Separate Stormwater Sewer Systems (MS4s) or the City of New York's Individual SPDES Permit for their Municipal Separate Storm Sewer Systems (NY-0287890).

Routine Maintenance Activity - means *construction activity* that is performed to maintain the original line and grade, hydraulic capacity, or original purpose of a facility, including, but not limited to:

- Re-grading of gravel roads or parking lots,
- Cleaning and shaping of existing roadside ditches and culverts that maintains the approximate original line and grade, and hydraulic capacity of the ditch,
- Cleaning and shaping of existing roadside ditches that does not maintain the approximate original grade, hydraulic capacity and purpose of the ditch if the changes to the line and grade, hydraulic capacity or purpose of the ditch are installed to improve water quality and quantity controls (e.g. installing grass lined ditch),
- Placement of aggregate shoulder backing that stabilizes the transition between the road shoulder and the ditch or *embankment*,
- Full depth milling and filling of existing asphalt pavements, replacement of concrete pavement slabs, and similar work that does not expose soil or disturb the bottom six (6) inches of subbase material,
- Long-term use of equipment storage areas at or near highway maintenance facilities,
- Removal of sediment from the edge of the highway to restore a previously existing sheet-flow drainage connection from the highway surface to the highway ditch or *embankment*,
- Existing use of Canal Corp owned upland disposal sites for the canal, and
- Replacement of curbs, gutters, sidewalks and guide rail posts.

Site limitations – means site conditions that prevent the use of an infiltration technique and or infiltration of the total WQv. Typical site limitations include: seasonal high groundwater, shallow depth to bedrock, and soils with an infiltration rate less than 0.5 inches/hour. The existence of site limitations shall be confirmed and documented using actual field testing (i.e. test pits, soil borings, and infiltration test) or using information from the most current United States Department of Agriculture (USDA) Soil Survey for the County where the project is located.

Sizing Criteria – means the criteria included in Part I.C.2 of the permit that are used to size post-construction stormwater management control practices. The criteria include; Water Quality Volume (WQv), Runoff Reduction Volume (RRv), Channel Protection Volume (Cpv), *Overbank* Flood (Qp), and Extreme Flood (Qf).

State Pollutant Discharge Elimination System (SPDES) - means the system established pursuant to Article 17 of the ECL and 6 NYCRR Part 750 for issuance of permits authorizing discharges to the waters of the state.

Steep Slope – means land area designated on the current United States Department of Agriculture ("USDA") Soil Survey as Soil Slope Phase "D", (provided the map unit name is inclusive of slopes greater than 25%) , or Soil Slope Phase E or F, (regardless of the map unit name), or a combination of the three designations.

Streambank – as used in this permit, means the terrain alongside the bed of a creek or stream. The bank consists of the sides of the channel, between which the flow is confined.

Stormwater Pollution Prevention Plan (SWPPP) – means a project specific report, including construction drawings, that among other things: describes the construction activity(ies), identifies the potential sources of pollution at the *construction site*; describes and shows the stormwater controls that will be used to control the pollutants (i.e. erosion and sediment controls; for many projects, includes post-construction stormwater management controls); and identifies procedures the *owner or operator* will implement to comply with the terms and conditions of the permit. See Part III of the permit for a complete description of the information that must be included in the SWPPP.

Surface Waters of the State - shall be construed to include lakes, bays, sounds, ponds, impounding reservoirs, springs, rivers, streams, creeks, estuaries, marshes, inlets, canals, the Atlantic ocean within the territorial seas of the state of New York and all other bodies of surface water, natural or artificial, inland or coastal, fresh or salt, public or private (except those private waters that do not combine or effect a junction with natural surface waters), which are wholly or partially within or bordering the state or within its jurisdiction. Waters of the state are further defined in 6 NYCRR Parts 800 to 941.

Temporarily Ceased – means that an existing disturbed area will not be disturbed again within 14 calendar days of the previous soil disturbance.

Temporary Stabilization - means that exposed soil has been covered with material(s) as set forth in the technical standard, New York Standards and Specifications for Erosion and Sediment Control, to prevent the exposed soil from eroding. The materials can include, but are not limited to, mulch, seed and mulch, and erosion control mats (e.g. jute twisted yarn, excelsior wood fiber mats).

Total Maximum Daily Loads (TMDLs) - A TMDL is the sum of the allowable loads of a single pollutant from all contributing point and *nonpoint source*s. It is a calculation of the maximum amount of a pollutant that a waterbody can receive on a daily basis and still meet *water quality standards*, and an allocation of that amount to the pollutant's sources. A TMDL stipulates wasteload allocations (WLAs) for *point source* discharges, load allocations (LAs) for *nonpoint source*s, and a margin of safety (MOS).

Trained Contractor - means an employee from the contracting (construction) company, identified in Part III.A.6., that has received four (4) hours of Department endorsed

training in proper erosion and sediment control principles from a Soil and Water Conservation District, or other Department endorsed entity. After receiving the initial training, the *trained contractor* shall receive four (4) hours of training every three (3) years.

It can also mean an employee from the contracting (construction) company, identified in Part III.A.6., that meets the *qualified inspector* qualifications (e.g. licensed Professional Engineer, Certified Professional in Erosion and Sediment Control (CPESC), Registered Landscape Architect, New York State Erosion and Sediment Control Certificate Program holder, or someone working under the direct supervision of, and at the same company as, the licensed Professional Engineer or Registered Landscape Architect, provided they have received four (4) hours of Department endorsed training in proper erosion and sediment control principles from a Soil and Water Conservation District, or other Department endorsed entity).

The *trained contractor* is responsible for the day to day implementation of the SWPPP.

Uniform Procedures Act (UPA) Permit - means a permit required under 6 NYCRR Part 621 of the Environmental Conservation Law (ECL), Article 70.

Water Quality Standard - means such measures of purity or quality for any waters in relation to their reasonable and necessary use as promulgated in 6 NYCRR Part 700 et seq.

APPENDIX B – Required SWPPP Components by Project Type

Table 1
Construction Activities that Require the Preparation of a SWPPP That Only Includes Erosion and Sediment Controls

The following construction activities that involve soil disturbances of one (1) or more acres of land, but less than five (5) acres:

- Single family home not located in one of the watersheds listed in Appendix C or not *directly discharging* to one of the 303(d) segments listed in Appendix E
- Single family residential subdivisions with 25% or less impervious cover at total site build-out and not located in one of the watersheds listed in Appendix C and not directly discharging to one of the 303(d) segments listed in Appendix E
- Construction of a barn or other *agricultural building*, silo, stock yard or pen.

The following construction activities that involve soil disturbances between five thousand (5000) square feet and one (1) acre of land:

All construction activities located in the watersheds identified in Appendix D that involve soil disturbances between five thousand (5,000) square feet and one (1) acre of land.

The following construction activities that involve soil disturbances of one (1) or more acres of land:

- Installation of underground, linear utilities; such as gas lines, fiber-optic cable, cable TV, electric, telephone, sewer mains, and water mains
- Environmental enhancement projects, such as wetland mitigation projects, stormwater retrofits and stream restoration projects
- Pond construction
- Linear bike paths running through areas with vegetative cover, including bike paths surfaced with an impervious cover
- Cross-country ski trails and walking/hiking trails
- Sidewalk, bike path or walking path projects, surfaced with an impervious cover, that are not part of residential, commercial or institutional development;
- Sidewalk, bike path or walking path projects, surfaced with an impervious cover, that include incidental shoulder or curb work along an existing highway to support construction of the sidewalk, bike path or walking path.
- Slope stabilization projects
- Slope flattening that changes the grade of the site, but does not significantly change the runoff characteristics

Table 1 (Continued) CONSTRUCTION ACTIVITIES THAT REQUIRE THE PREPARATION OF A SWPPP THAT ONLY INCLUDES EROSION AND SEDIMENT CONTROLS

The following construction activities that involve soil disturbances of one (1) or more acres of land:

- Spoil areas that will be covered with vegetation
- Vegetated open space projects (i.e. recreational parks, lawns, meadows, fields, downhill ski trails) excluding projects that *alter hydrology from pre to post development* conditions,
- Athletic fields (natural grass) that do not include the construction or reconstruction of *impervious area* and do not *alter hydrology from pre to post development* conditions
- Demolition project where vegetation will be established, and no redevelopment is planned
- Overhead electric transmission line project that does not include the construction of permanent access roads or parking areas surfaced with *impervious cover*
- Structural practices as identified in Table II in the "Agricultural Management Practices Catalog for Nonpoint Source Pollution in New York State", excluding projects that involve soil disturbances of greater than five acres and construction activities that include the construction or reconstruction of impervious area
- Temporary access roads, median crossovers, detour roads, lanes, or other temporary impervious areas that will be restored to pre-construction conditions once the construction activity is complete

Table 2

CONSTRUCTION ACTIVITIES THAT REQUIRE THE PREPARATION OF A SWPPP THAT INCLUDES POST-CONSTRUCTION STORMWATER MANAGEMENT PRACTICES

The following construction activities that involve soil disturbances of one (1) or more acres of land:

- Single family home located in one of the watersheds listed in Appendix C or *directly discharging* to one of the 303(d) segments listed in Appendix E
- Single family home that disturbs five (5) or more acres of land
- Single family residential subdivisions located in one of the watersheds listed in Appendix C or *directly discharging* to one of the 303(d) segments listed in Appendix E
- Single family residential subdivisions that involve soil disturbances of between one (1) and five (5) acres of land with greater than 25% impervious cover at total site build-out
- Single family residential subdivisions that involve soil disturbances of five (5) or more acres of land, and single family residential subdivisions that involve soil disturbances of less than five (5) acres that are part of a larger common plan of development or sale that will ultimately disturb five or more acres of land
- Multi-family residential developments; includes duplexes, townhomes, condominiums, senior housing complexes, apartment complexes, and mobile home parks
- Airports
- Amusement parks
- Breweries, cideries, and wineries, including establishments constructed on agricultural land
- Campgrounds
- Cemeteries that include the construction or reconstruction of impervious area (>5% of disturbed area) or *alter the hydrology from pre to post development* conditions
- Commercial developments
- Churches and other places of worship
- Construction of a barn or other *agricultural building* (e.g. silo) and structural practices as identified in Table II in the "Agricultural Management Practices Catalog for Nonpoint Source Pollution in New York State" that include the construction or reconstruction of *impervious area*, excluding projects that involve soil disturbances of less than five acres.
- Golf courses
- Institutional development; includes hospitals, prisons, schools and colleges
- Industrial facilities; includes industrial parks
- Landfills
- Municipal facilities; includes highway garages, transfer stations, office buildings, POTW's, water treatment plants, and water storage tanks
- Office complexes
- Playgrounds that include the construction or reconstruction of impervious area
- Sports complexes
- Racetracks; includes racetracks with earthen (dirt) surface
- Road construction or reconstruction, including roads constructed as part of the construction activities listed in Table 1

Table 2 (Continued)

CONSTRUCTION ACTIVITIES THAT REQUIRE THE PREPARATION OF A SWPPP THAT INCLUDES POST-CONSTRUCTION STORMWATER MANAGEMENT PRACTICES

The following construction activities that involve soil disturbances of one (1) or more acres of land:

- Parking lot construction or reconstruction, including parking lots constructed as part of the construction activities listed in Table 1
- Athletic fields (natural grass) that include the construction or reconstruction of impervious area (>5% of disturbed area) or *alter the hydrology from pre to post development* conditions
- Athletic fields with artificial turf
- Permanent access roads, parking areas, substations, compressor stations and well drilling pads, surfaced with *impervious cover,* and constructed as part of an over-head electric transmission line project, wind-power project, cell tower project, oil or gas well drilling project, sewer or water main project or other linear utility project
- Sidewalk, bike path or walking path projects, surfaced with an impervious cover, that are part of a residential, commercial or institutional development
- Sidewalk, bike path or walking path projects, surfaced with an impervious cover, that are part of a highway construction or reconstruction project
- All other construction activities that include the construction or reconstruction of *impervious area* or *alter the hydrology from pre to post development* conditions, and are not listed in Table 1

APPENDIX C – Watersheds Requiring Enhanced Phosphorus Removal

Watersheds where *owners or operators* of construction activities identified in Table 2 of Appendix B must prepare a SWPPP that includes post-construction stormwater management practices designed in conformance with the Enhanced Phosphorus Removal Standards included in the technical standard, New York State Stormwater Management Design Manual ("Design Manual").

- Entire New York City Watershed located east of the Hudson River **-** Figure 1
- Onondaga Lake Watershed **-** Figure 2
- Greenwood Lake Watershed **-**Figure 3
- Oscawana Lake Watershed – Figure 4
- Kinderhook Lake Watershed – Figure 5

Figure 1 - New York City Watershed East of the Hudson

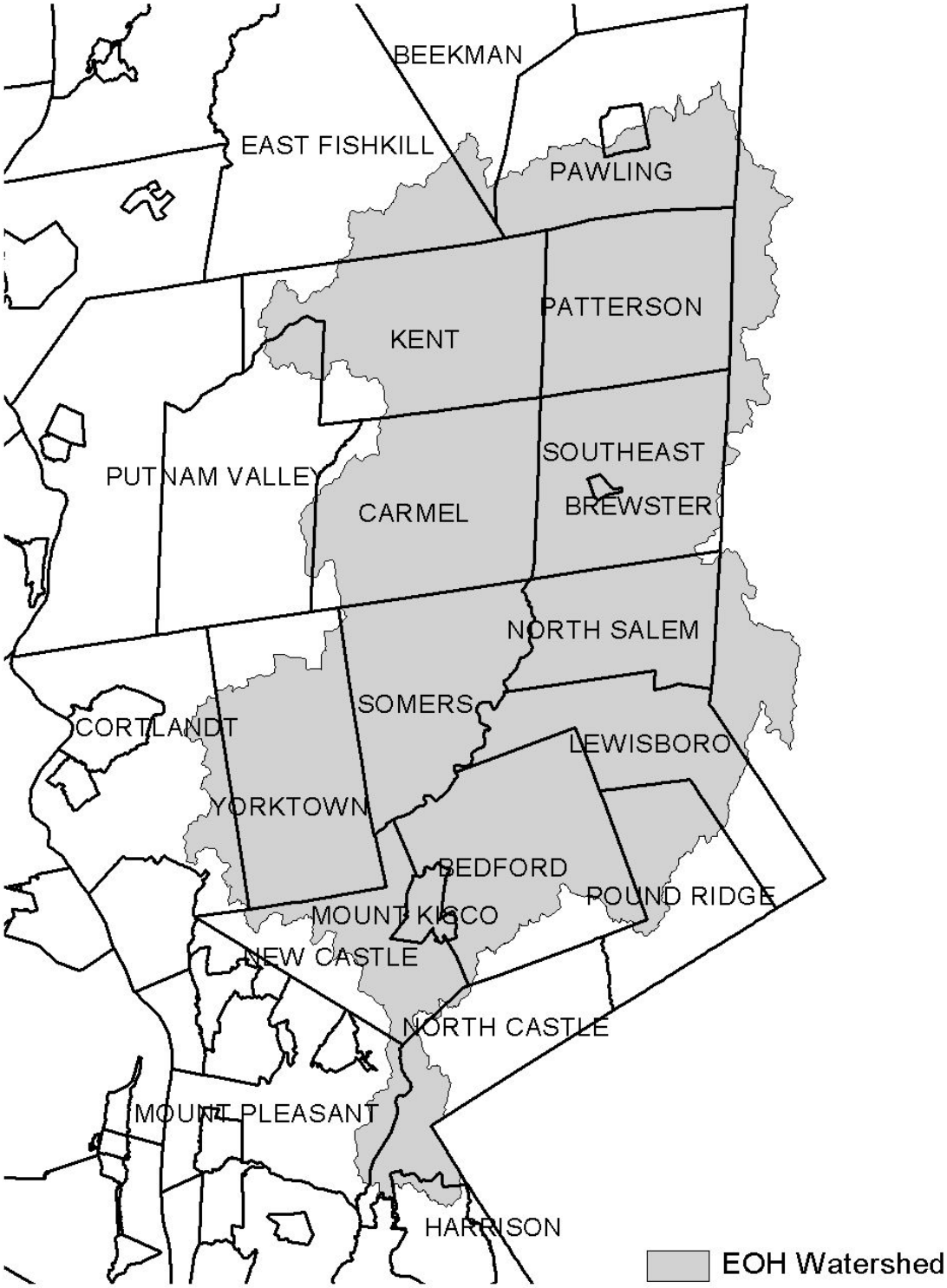


Figure 2 - Onondaga Lake Watershed

Figure 3 - Greenwood Lake Watershed

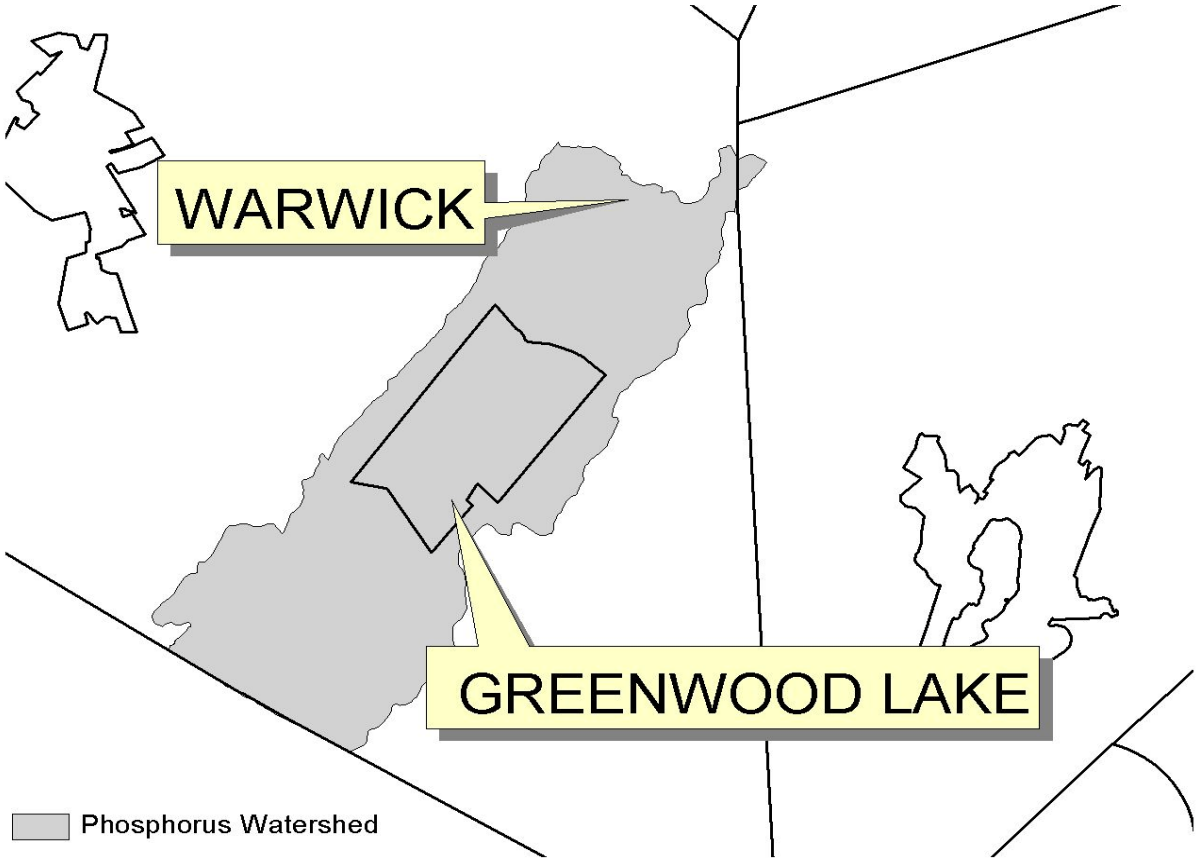


Figure 4 - Oscawana Lake Watershed

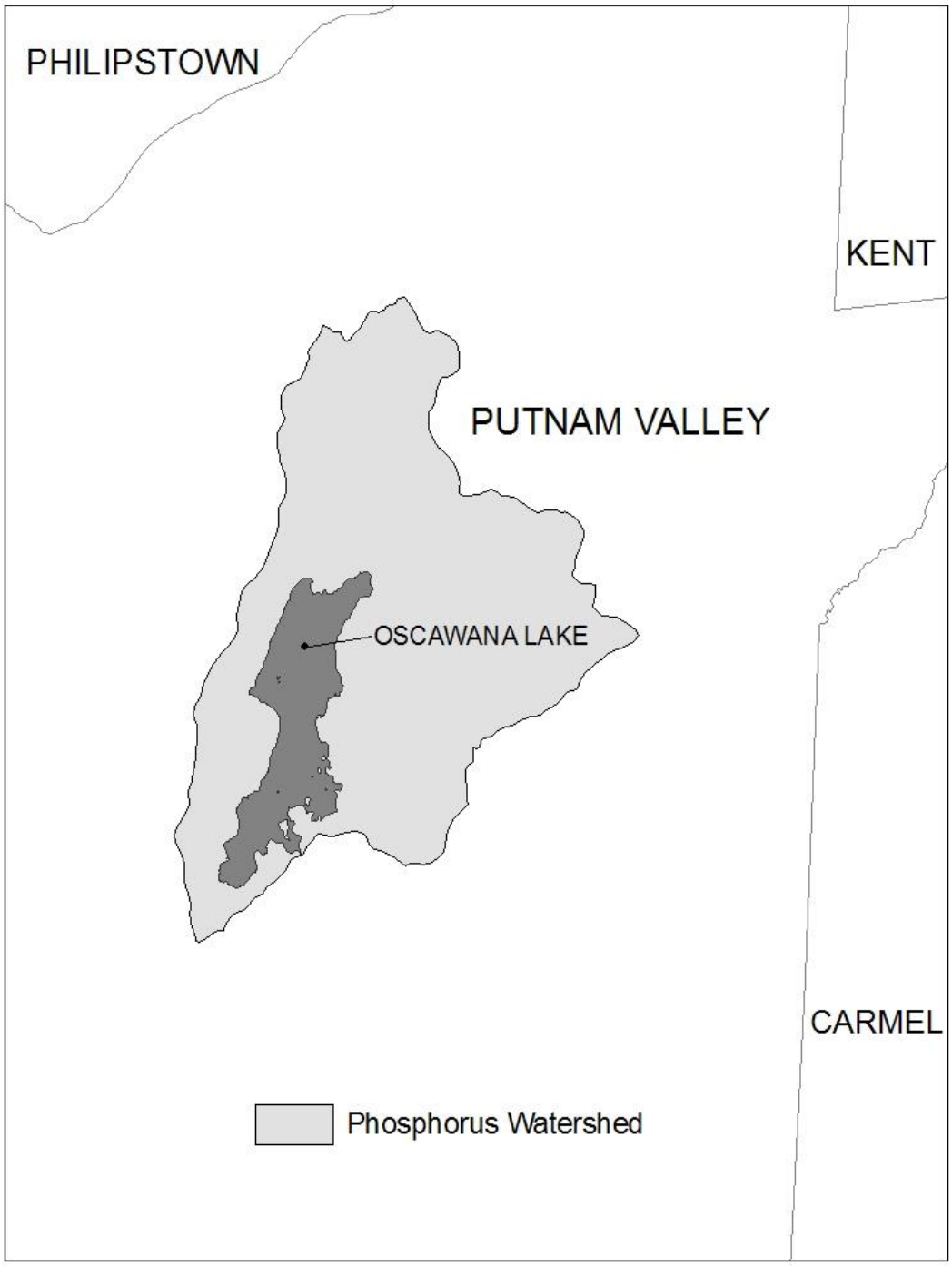
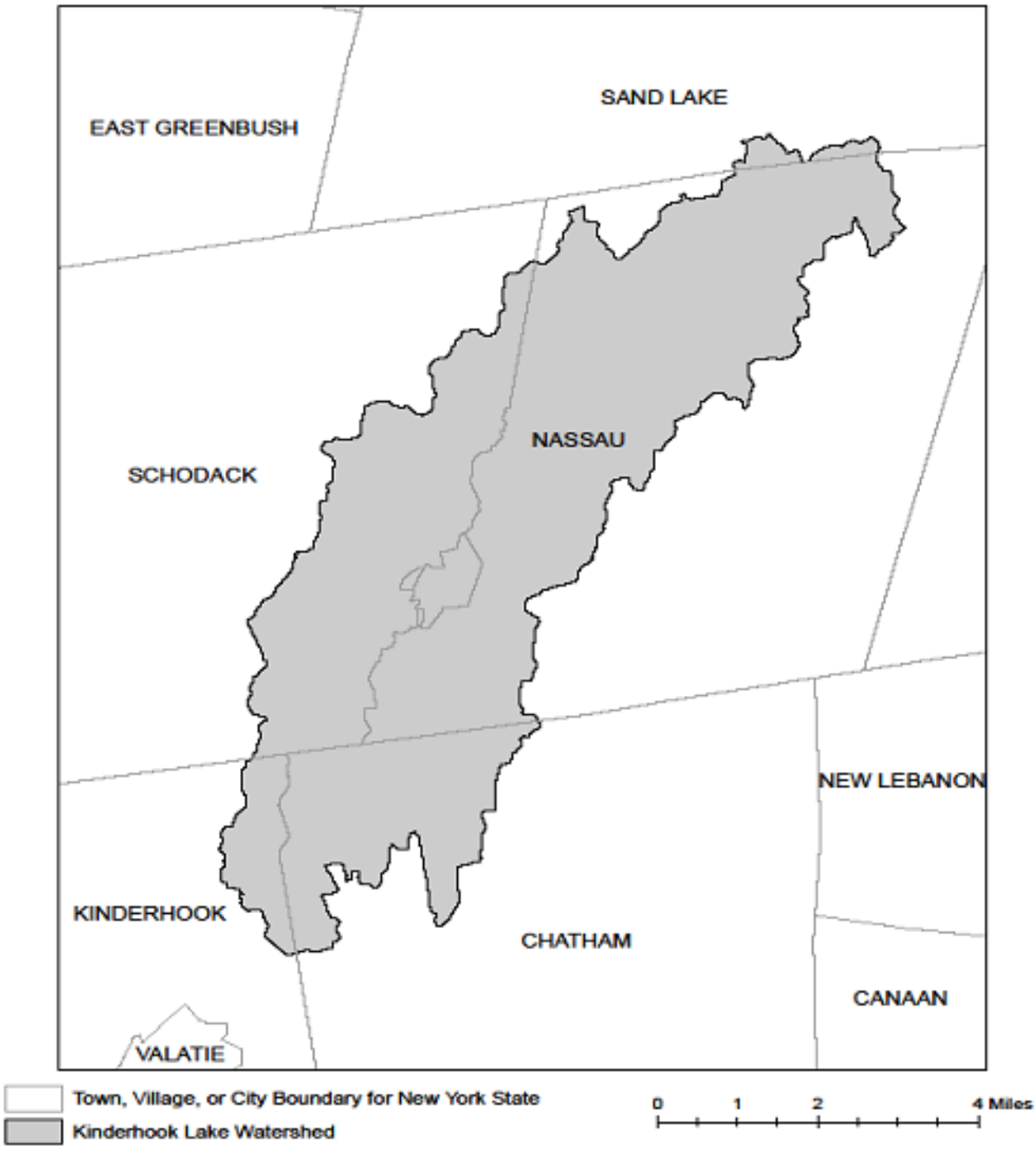


Figure 5 - Kinderhook Lake Watershed



APPENDIX D – Watersheds with Lower Disturbance Threshold

Watersheds where *owners or operators* of construction activities that involve soil disturbances between five thousand (5000) square feet and one (1) acre of land must obtain coverage under this permit.

Entire New York City Watershed that is located east of the Hudson River **-** See Figure 1 in Appendix C

APPENDIX E – 303(d) Segments Impaired by Construction Related Pollutant(s)

List of 303(d) segments impaired by pollutants related to *construction activity* (e.g. silt, sediment or nutrients). The list was developed using "The Final New York State 2016 Section 303(d) List of Impaired Waters Requiring a TMDL/Other Strategy" dated November 2016. *Owners or operators* of single family home and single family residential subdivisions with 25% or less total impervious cover at total site build-out that involve soil disturbances of one or more acres of land, but less than 5 acres, and *directly discharge* to one of the listed segments below shall prepare a SWPPP that includes post-construction stormwater management practices designed in conformance with the New York State Stormwater Management Design Manual ("Design Manual"), dated January 2015.

COUNTY	WATERBODY	POLLUTANT
Albany	Ann Lee (Shakers) Pond, Stump Pond	Nutrients
Albany	Basic Creek Reservoir	Nutrients
Allegany	Amity Lake, Saunders Pond	Nutrients
Bronx	Long Island Sound, Bronx	Nutrients
Bronx	Van Cortlandt Lake	Nutrients
Broome	Fly Pond, Deer Lake, Sky Lake	Nutrients
Broome	Minor Tribs to Lower Susquehanna (north)	Nutrients
Broome	Whitney Point Lake/Reservoir	Nutrients
Cattaraugus	Allegheny River/Reservoir	Nutrients
Cattaraugus	Beaver (Alma) Lake	Nutrients
Cattaraugus	Case Lake	Nutrients
Cattaraugus	Linlyco/Club Pond	Nutrients
Cayuga	Duck Lake	Nutrients
Cayuga	Little Sodus Bay	Nutrients
Chautauqua	Bear Lake	Nutrients
Chautauqua	Chadakoin River and tribs	Nutrients
Chautauqua	Chautauqua Lake, North	Nutrients
Chautauqua	Chautauqua Lake, South	Nutrients
Chautauqua	Findley Lake	Nutrients
Chautauqua	Hulburt/Clymer Pond	Nutrients
Clinton	Great Chazy River, Lower, Main Stem	Silt/Sediment
Clinton	Lake Champlain, Main Lake, Middle	Nutrients
Clinton	Lake Champlain, Main Lake, North	Nutrients
Columbia	Kinderhook Lake	Nutrients
Columbia	Robinson Pond	Nutrients
Cortland	Dean Pond	Nutrients

303(d) Segments Impaired by Construction Related Pollutant(s)

Dutchess	Fall Kill and tribs	Nutrients
Dutchess	Hillside Lake	Nutrients
Dutchess	Wappingers Lake	Nutrients
Dutchess	Wappingers Lake	Silt/Sediment
Erie	Beeman Creek and tribs	Nutrients
Erie	Ellicott Creek, Lower, and tribs	Silt/Sediment
Erie	Ellicott Creek, Lower, and tribs	Nutrients
Erie	Green Lake	Nutrients
Erie	Little Sister Creek, Lower, and tribs	Nutrients
Erie	Murder Creek, Lower, and tribs	Nutrients
Erie	Rush Creek and tribs	Nutrients
Erie	Scajaquada Creek, Lower, and tribs	Nutrients
Erie	Scajaquada Creek, Middle, and tribs	Nutrients
Erie	Scajaquada Creek, Upper, and tribs	Nutrients
Erie	South Branch Smoke Cr, Lower, and tribs	Silt/Sediment
Erie	South Branch Smoke Cr, Lower, and tribs	Nutrients
Essex	Lake Champlain, Main Lake, South	Nutrients
Essex	Lake Champlain, South Lake	Nutrients
Essex	Willsboro Bay	Nutrients
Genesee	Bigelow Creek and tribs	Nutrients
Genesee	Black Creek, Middle, and minor tribs	Nutrients
Genesee	Black Creek, Upper, and minor tribs	Nutrients
Genesee	Bowen Brook and tribs	Nutrients
Genesee	LeRoy Reservoir	Nutrients
Genesee	Oak Orchard Cr, Upper, and tribs	Nutrients
Genesee	Tonawanda Creek, Middle, Main Stem	Nutrients
Greene	Schoharie Reservoir	Silt/Sediment
Greene	Sleepy Hollow Lake	Silt/Sediment
Herkimer	Steele Creek tribs	Silt/Sediment
Herkimer	Steele Creek tribs	Nutrients
Jefferson	Moon Lake	Nutrients
Kings	Hendrix Creek	Nutrients
Kings	Prospect Park Lake	Nutrients
Lewis	Mill Creek/South Branch, and tribs	Nutrients
Livingston	Christie Creek and tribs	Nutrients
Livingston	Conesus Lake	Nutrients
Livingston	Mill Creek and minor tribs	Silt/Sediment
Monroe	Black Creek, Lower, and minor tribs	Nutrients
Monroe	Buck Pond	Nutrients
Monroe	Cranberry Pond	Nutrients

303(d) Segments Impaired by Construction Related Pollutant(s)

Monroe	Lake Ontario Shoreline, Western	Nutrients
Monroe	Long Pond	Nutrients
Monroe	Mill Creek and tribs	Nutrients
Monroe	Mill Creek/Blue Pond Outlet and tribs	Nutrients
Monroe	Minor Tribs to Irondequoit Bay	Nutrients
Monroe	Rochester Embayment - East	Nutrients
Monroe	Rochester Embayment - West	Nutrients
Monroe	Shipbuilders Creek and tribs	Nutrients
Monroe	Thomas Creek/White Brook and tribs	Nutrients
Nassau	Beaver Lake	Nutrients
Nassau	Camaans Pond	Nutrients
Nassau	East Meadow Brook, Upper, and tribs	Silt/Sediment
Nassau	East Rockaway Channel	Nutrients
Nassau	Grant Park Pond	Nutrients
Nassau	Hempstead Bay	Nutrients
Nassau	Hempstead Lake	Nutrients
Nassau	Hewlett Bay	Nutrients
Nassau	Hog Island Channel	Nutrients
Nassau	Long Island Sound, Nassau County Waters	Nutrients
Nassau	Massapequa Creek and tribs	Nutrients
Nassau	Milburn/Parsonage Creeks, Upp, and tribs	Nutrients
Nassau	Reynolds Channel, west	Nutrients
Nassau	Tidal Tribs to Hempstead Bay	Nutrients
Nassau	Tribs (fresh) to East Bay	Nutrients
Nassau	Tribs (fresh) to East Bay	Silt/Sediment
Nassau	Tribs to Smith/Halls Ponds	Nutrients
Nassau	Woodmere Channel	Nutrients
New York	Harlem Meer	Nutrients
New York	The Lake in Central Park	Nutrients
Niagara	Bergholtz Creek and tribs	Nutrients
Niagara	Hyde Park Lake	Nutrients
Niagara	Lake Ontario Shoreline, Western	Nutrients
Niagara	Lake Ontario Shoreline, Western	Nutrients
Oneida	Ballou, Nail Creeks and tribs	Nutrients
Onondaga	Harbor Brook, Lower, and tribs	Nutrients
Onondaga	Ley Creek and tribs	Nutrients
Onondaga	Minor Tribs to Onondaga Lake	Nutrients
Onondaga	Ninemile Creek, Lower, and tribs	Nutrients
Onondaga	Onondaga Creek, Lower, and tribs	Nutrients
Onondaga	Onondaga Creek, Middle, and tribs	Nutrients

303(d) Segments Impaired by Construction Related Pollutant(s)

Onondaga	Onondaga Lake, northern end	Nutrients
Onondaga	Onondaga Lake, southern end	Nutrients
Ontario	Great Brook and minor tribs	Silt/Sediment
Ontario	Great Brook and minor tribs	Nutrients
Ontario	Hemlock Lake Outlet and minor tribs	Nutrients
Ontario	Honeoye Lake	Nutrients
Orange	Greenwood Lake	Nutrients
Orange	Monhagen Brook and tribs	Nutrients
Orange	Orange Lake	Nutrients
Orleans	Lake Ontario Shoreline, Western	Nutrients
Orleans	Lake Ontario Shoreline, Western	Nutrients
Oswego	Lake Neatahwanta	Nutrients
Oswego	Pleasant Lake	Nutrients
Putnam	Bog Brook Reservoir	Nutrients
Putnam	Boyd Corners Reservoir	Nutrients
Putnam	Croton Falls Reservoir	Nutrients
Putnam	Diverting Reservoir	Nutrients
Putnam	East Branch Reservoir	Nutrients
Putnam	Lake Carmel	Nutrients
Putnam	Middle Branch Reservoir	Nutrients
Putnam	Oscawana Lake	Nutrients
Putnam	Palmer Lake	Nutrients
Putnam	West Branch Reservoir	Nutrients
Queens	Bergen Basin	Nutrients
Queens	Flushing Creek/Bay	Nutrients
Queens	Jamaica Bay, Eastern, and tribs (Queens)	Nutrients
Queens	Kissena Lake	Nutrients
Queens	Meadow Lake	Nutrients
Queens	Willow Lake	Nutrients
Rensselaer	Nassau Lake	Nutrients
Rensselaer	Snyders Lake	Nutrients
Richmond	Grasmere Lake/Bradys Pond	Nutrients
Rockland	Congers Lake, Swartout Lake	Nutrients
Rockland	Rockland Lake	Nutrients
Saratoga	Ballston Lake	Nutrients
Saratoga	Dwaas Kill and tribs	Silt/Sediment
Saratoga	Dwaas Kill and tribs	Nutrients
Saratoga	Lake Lonely	Nutrients
Saratoga	Round Lake	Nutrients
Saratoga	Tribs to Lake Lonely	Nutrients

303(d) Segments Impaired by Construction Related Pollutant(s)

Schenectady	Collins Lake	Nutrients
Schenectady	Duane Lake	Nutrients
Schenectady	Mariaville Lake	Nutrients
Schoharie	Engleville Pond	Nutrients
Schoharie	Summit Lake	Nutrients
Seneca	Reeder Creek and tribs	Nutrients
St.Lawrence	Black Lake Outlet/Black Lake	Nutrients
St.Lawrence	Fish Creek and minor tribs	Nutrients
Steuben	Smith Pond	Nutrients
Suffolk	Agawam Lake	Nutrients
Suffolk	Big/Little Fresh Ponds	Nutrients
Suffolk	Canaan Lake	Silt/Sediment
Suffolk	Canaan Lake	Nutrients
Suffolk	Flanders Bay, West/Lower Sawmill Creek	Nutrients
Suffolk	Fresh Pond	Nutrients
Suffolk	Great South Bay, East	Nutrients
Suffolk	Great South Bay, Middle	Nutrients
Suffolk	Great South Bay, West	Nutrients
Suffolk	Lake Ronkonkoma	Nutrients
Suffolk	Long Island Sound, Suffolk County, West	Nutrients
Suffolk	Mattituck (Marratooka) Pond	Nutrients
Suffolk	Meetinghouse/Terrys Creeks and tribs	Nutrients
Suffolk	Mill and Seven Ponds	Nutrients
Suffolk	Millers Pond	Nutrients
Suffolk	Moriches Bay, East	Nutrients
Suffolk	Moriches Bay, West	Nutrients
Suffolk	Peconic River, Lower, and tidal tribs	Nutrients
Suffolk	Quantuck Bay	Nutrients
Suffolk	Shinnecock Bay and Inlet	Nutrients
Suffolk	Tidal tribs to West Moriches Bay	Nutrients
Sullivan	Bodine, Montgomery Lakes	Nutrients
Sullivan	Davies Lake	Nutrients
Sullivan	Evens Lake	Nutrients
Sullivan	Pleasure Lake	Nutrients
Tompkins	Cayuga Lake, Southern End	Nutrients
Tompkins	Cayuga Lake, Southern End	Silt/Sediment
Tompkins	Owasco Inlet, Upper, and tribs	Nutrients
Ulster	Ashokan Reservoir	Silt/Sediment
Ulster	Esopus Creek, Upper, and minor tribs	Silt/Sediment
Warren	Hague Brook and tribs	Silt/Sediment

303(d) Segments Impaired by Construction Related Pollutant(s)

Warren	Huddle/Finkle Brooks and tribs	Silt/Sediment
Warren	Indian Brook and tribs	Silt/Sediment
Warren	Lake George	Silt/Sediment
Warren	Tribs to L.George, Village of L George	Silt/Sediment
Washington	Cossayuna Lake	Nutrients
Washington	Lake Champlain, South Bay	Nutrients
Washington	Tribs to L.George, East Shore	Silt/Sediment
Washington	Wood Cr/Champlain Canal and minor tribs	Nutrients
Wayne	Port Bay	Nutrients
Westchester	Amawalk Reservoir	Nutrients
Westchester	Blind Brook, Upper, and tribs	Silt/Sediment
Westchester	Cross River Reservoir	Nutrients
Westchester	Lake Katonah	Nutrients
Westchester	Lake Lincolndale	Nutrients
Westchester	Lake Meahagh	Nutrients
Westchester	Lake Mohegan	Nutrients
Westchester	Lake Shenorock	Nutrients
Westchester	Long Island Sound, Westchester (East)	Nutrients
Westchester	Mamaroneck River, Lower	Silt/Sediment
Westchester	Mamaroneck River, Upper, and minor tribs	Silt/Sediment
Westchester	Muscoot/Upper New Croton Reservoir	Nutrients
Westchester	New Croton Reservoir	Nutrients
Westchester	Peach Lake	Nutrients
Westchester	Reservoir No.1 (Lake Isle)	Nutrients
Westchester	Saw Mill River, Lower, and tribs	Nutrients
Westchester	Saw Mill River, Middle, and tribs	Nutrients
Westchester	Sheldrake River and tribs	Silt/Sediment
Westchester	Sheldrake River and tribs	Nutrients
Westchester	Silver Lake	Nutrients
Westchester	Teatown Lake	Nutrients
Westchester	Titicus Reservoir	Nutrients
Westchester	Truesdale Lake	Nutrients
Westchester	Wallace Pond	Nutrients
Wyoming	Java Lake	Nutrients
Wyoming	Silver Lake	Nutrients

APPENDIX F – List of NYS DEC Regional Offices

Region	Covering the following counties:	DIVISION OF ENVIRONMENTAL PERMITS (DEP) Permit Administrators	DIVISION OF WATER (DOW) Water (SPDES) Program
1	Nassau and Suffolk	50 Circle Road Stony Brook, NY 11790 Tel. (631) 444-0365	50 Circle Road Stony Brook, NY 11790-3409 Tel. (631) 444-0405
2	Bronx, Kings, New York, Queens and Richmond	1 Hunters Point Plaza, 47-40 21st St. Long Island City, NY 11101-5407 Tel. (718) 482-4997	1 Hunters Point Plaza, 47-40 21st St. Long Island City, NY 11101-5407 Tel. (718) 482-4933
3	Dutchess, Orange, Putnam, Rockland, Sullivan, Ulster and Westchester	21 South Putt Corners Road New Paltz, NY 12561-1696 Tel. (845) 256-3059	100 Hillside Avenue, Suite 1w White Plains, NY 10603 Tel. (914) 428 - 2505
4	Albany, Columbia, Delaware, Greene, Montgomery, Otsego, Rensselaer, Schenectady and Schoharie	1150 North Westcott Road Schenectady, NY 12306-2014 Tel. (518) 357-2069	1130 North Westcott Road Schenectady, NY 12306-2014 Tel. (518) 357-2045
5	Clinton, Essex, Franklin, Fulton, Hamilton, Saratoga, Warren and Washington	1115 State Route 86, Po Box 296 Ray Brook, NY 12977-0296 Tel. (518) 897-1234	232 Golf Course Road Warrensburg, NY 12885-1172 Tel. (518) 623-1200
6	HERKIMER, JEFFERSON, LEWIS, ONEIDA AND ST. LAWRENCE	STATE OFFICE BUILDING 317 WASHINGTON STREET WATERTOWN, NY 13601-3787 TEL. (315) 785-2245	STATE OFFICE BUILDING 207 GENESEE STREET UTICA, NY 13501-2885 TEL. (315) 793-2554
7	BROOME, CAYUGA, CHENANGO, CORTLAND, MADISON, ONONDAGA, OSWEGO, TIOGA AND TOMPKINS	615 ERIE BLVD. WEST SYRACUSE, NY 13204-2400 TEL. (315) 426-7438	615 ERIE BLVD. WEST SYRACUSE, NY 13204-2400 TEL. (315) 426-7500
8	CHEMUNG, GENESEE, LIVINGSTON, MONROE, ONTARIO, ORLEANS, SCHUYLER, SENECA, STEUBEN, WAYNE AND YATES	6274 EAST AVON-LIMA ROADAVON, NY 14414-9519 TEL. (585) 226-2466	6274 EAST AVON-LIMA RD. AVON, NY 14414-9519 TEL. (585) 226-2466
9	ALLEGANY, CATTARAUGUS, CHAUTAUQUA, ERIE, NIAGARA AND WYOMING	270 MICHIGAN AVENUE BUFFALO, NY 14203-2999 TEL. (716) 851-7165	270 MICHIGAN AVENUE BUFFALO, NY 14203-2999 TEL. (716) 851-7070

Appendix B

SWPPP Preparer Certification Form, MS4 SWPPP Acceptance Form & MS4

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 Redevelopment (Sleepy Hollow Commons) - Phase 2

Owner/Operator Information

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

Village of Sleepy Hollow

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.

Shaun		Suehr
First name	MI	Last Name

Signature

Date

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:
2. Contact Person:
3. Street Address:
4. City/State/Zip:
II. Project Site Information
5. Project/Site Name:
6. Street Address:
7. City/State/Zip:
III. Stormwater Pollution Prevention Plan (SWPPP) Review and Acceptance Information
8. SWPPP Reviewed by:
9. Title/Position:
10. Date Final SWPPP Reviewed and Accepted:
IV. Regulated MS4 Information
11. Name of MS4:
12. MS4 SPDES Permit Identification Number: NYR20A _____
13. Contact Person:
14. Street Address:
15. City/State/Zip:
16. Telephone Number:

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:

Title/Position:

Signature:

Date:

VI. Additional Information

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

Appendix C

Owner/Operator & Contractor Certification Forms

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Owner/Operator Certification Form

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

Project/Site Name: East Parcel Redevelopment (Sleepy Hollow Commons) - Phase 2

eNOI Submission Number: _____

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

_____

Signature

_____

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

September 28, 2021

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.

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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

Map Scale: 1:4,130 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 50 100 200 300

Feet: 0 200 400 800 1200

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—Sep 23, 2020

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

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
Ff	Fluvaquents-Udifluvents complex, frequently flooded	0.4	1.2%
RhE	Riverhead loam, 25 to 50 percent slopes	8.3	23.3%
Ub	Udorthents, smoothed	0.2	0.5%
Uc	Udorthents, wet substratum	0.2	0.5%
Uf	Urban land	21.4	59.8%
UvB	Urban land-Riverhead complex, 2 to 8 percent slopes	5.3	14.7%
W	Water	0.0	0.0%
Totals for Area of Interest		**35.8**	**100.0%**

Map Unit Descriptions

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

Ff—Fluvaquents-Udifluvents complex, frequently flooded

Map Unit Setting

National map unit symbol: bd8k
Elevation: 100 to 3,000 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

Fluvaquents and similar soils: 50 percent
Udifluvents and similar soils: 35 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Fluvaquents

Setting

Landform: Flood plains
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Dip
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Alluvium with highly variable texture

Typical profile

H1 - 0 to 5 inches: gravelly silt loam
H2 - 5 to 70 inches: very gravelly silt loam

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to very high (0.06 to 19.98 in/hr)
Depth to water table: About 0 inches
Frequency of flooding: FrequentNone
Frequency of ponding: Frequent
Calcium carbonate, maximum content: 15 percent
Available water supply, 0 to 60 inches: Moderate (about 6.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 5w
Hydrologic Soil Group: A/D
Hydric soil rating: Yes

Description of Udifluvents

Setting

Landform: Flood plains
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Rise

Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Alluvium with a wide range of texture

Typical profile

H1 - 0 to 4 inches: gravelly silt loam
H2 - 4 to 70 inches: very gravelly loam

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to very high (0.06 to 19.98 in/hr)
Depth to water table: About 24 to 72 inches
Frequency of flooding: FrequentNone
Frequency of ponding: None
Calcium carbonate, maximum content: 15 percent
Available water supply, 0 to 60 inches: Low (about 5.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 5w
Hydrologic Soil Group: A
Hydric soil rating: No

Minor Components

Sun

Percent of map unit: 3 percent
Landform: Depressions
Hydric soil rating: Yes

Knickerbocker

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

Riverhead

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

Ridgebury

Percent of map unit: 2 percent
Landform: Depressions
Hydric soil rating: Yes

Leicester

Percent of map unit: 2 percent
Landform: Depressions
Hydric soil rating: Yes

Hinckley

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

Palms

Percent of map unit: 1 percent
Landform: Swamps, marshes
Hydric soil rating: Yes

Carlisle

Percent of map unit: 1 percent
Landform: Marshes, swamps
Hydric soil rating: Yes

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 supply, 0 to 60 inches: 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

Ub—Udorthents, smoothed

Map Unit Setting
National map unit symbol: bd7f
Elevation: 0 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
Udorthents, smoothed, and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Udorthents, Smoothed

Typical profile
H1 - 0 to 4 inches: gravelly loam
H2 - 4 to 70 inches: very gravelly loam

Properties and qualities
Slope: 0 to 8 percent
Depth to restrictive feature: 40 to 60 inches to lithic bedrock
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high (0.06 to 5.95 in/hr)
Depth to water table: About 18 to 48 inches
Frequency of flooding: None
Frequency of ponding: None

Calcium carbonate, maximum content: 15 percent
Available water supply, 0 to 60 inches: Low (about 4.6 inches)

Minor Components

Urban land
Percent of map unit: 5 percent
Hydric soil rating: Unranked

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

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

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

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

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

Sun
Percent of map unit: 2 percent
Landform: Depressions
Hydric soil rating: Yes

Uc—Udorthents, wet substratum

Map Unit Setting
National map unit symbol: bd7g
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
Udorthents, wet substratum, and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Udorthents, Wet Substratum

Typical profile
H1 - 0 to 4 inches: gravelly loam

H2 - 4 to 72 inches: very gravelly loam

Properties and qualities

Slope: 0 to 5 percent
Depth to restrictive feature: 40 to 60 inches to lithic bedrock
Drainage class: Somewhat poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high (0.06 to 5.95 in/hr)
Depth to water table: About 6 to 24 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 15 percent
Available water supply, 0 to 60 inches: Low (about 4.6 inches)

Minor Components

Udorthents

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

Urban land

Percent of map unit: 5 percent
Hydric soil rating: Unranked

Raynham

Percent of map unit: 2 percent
Hydric soil rating: Yes

Fredon

Percent of map unit: 2 percent
Landform: Depressions
Hydric soil rating: Yes

Paxton

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

Ipswich

Percent of map unit: 2 percent
Landform: Tidal marshes
Hydric soil rating: Yes

Hinckley

Percent of map unit: 2 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

UvB—Urban land-Riverhead complex, 2 to 8 percent slopes

Map Unit Setting
National map unit symbol: bd7w
Elevation: 0 to 660 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: 50 percent
Riverhead and similar soils: 25 percent
Minor components: 25 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Riverhead

Setting
Landform: Terraces, deltas

Landform position (two-dimensional): Summit
Landform position (three-dimensional): Tread
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: 2 to 8 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 supply, 0 to 60 inches: Low (about 4.4 inches)

Minor Components

Knickerbocker

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

Hinckley

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

Udorthents

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

Pompton

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

Charlton

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

Udifluvents

Percent of map unit: 1 percent
Hydric soil rating: No

Fluvaquents

Percent of map unit: 1 percent
Landform: Flood plains
Hydric soil rating: Yes

W—Water

Map Unit Setting

National map unit symbol: bd7z
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

Water: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

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Glossary

Many of the terms relating to landforms, geology, and geomorphology are defined in more detail in the following National Soil Survey Handbook link: “National Soil Survey Handbook.”

ABC soil

A soil having an A, a B, and a C horizon.

Ablation till

Loose, relatively permeable earthy material deposited during the downwasting of nearly static glacial ice, either contained within or accumulated on the surface of the glacier.

AC soil

A soil having only an A and a C horizon. Commonly, such soil formed in recent alluvium or on steep, rocky slopes.

Aeration, soil

The exchange of air in soil with air from the atmosphere. The air in a well aerated soil is similar to that in the atmosphere; the air in a poorly aerated soil is considerably higher in carbon dioxide and lower in oxygen.

Aggregate, soil

Many fine particles held in a single mass or cluster. Natural soil aggregates, such as granules, blocks, or prisms, are called peds. Clods are aggregates produced by tillage or logging.

Alkali (sodic) soil

A soil having so high a degree of alkalinity (pH 8.5 or higher) or so high a percentage of exchangeable sodium (15 percent or more of the total exchangeable bases), or both, that plant growth is restricted.

Alluvial cone

A semiconical type of alluvial fan having very steep slopes. It is higher, narrower, and steeper than a fan and is composed of coarser and thicker layers of material deposited by a combination of alluvial episodes and (to a much lesser degree) landslides (debris flow). The coarsest materials tend to be concentrated at the apex of the cone.

Alluvial fan

A low, outspread mass of loose materials and/or rock material, commonly with gentle slopes. It is shaped like an open fan or a segment of a cone. The material was deposited by a stream at the place where it issues from a narrow mountain valley or upland valley or where a tributary stream is near or at its junction with the main stream. The fan is steepest near its apex, which points upstream, and slopes gently and convexly outward (downstream) with a gradual decrease in gradient.

Alluvium

Unconsolidated material, such as gravel, sand, silt, clay, and various mixtures of these, deposited on land by running water.

Alpha,alpha-dipyridyl

A compound that when dissolved in ammonium acetate is used to detect the presence of reduced iron (Fe II) in the soil. A positive reaction implies reducing conditions and the likely presence of redoximorphic features.

Animal unit month (AUM)

The amount of forage required by one mature cow of approximately 1,000 pounds weight, with or without a calf, for 1 month.

Aquic conditions

Current soil wetness characterized by saturation, reduction, and redoximorphic features.

Argillic horizon

A subsoil horizon characterized by an accumulation of illuvial clay.

Arroyo

The flat-floored channel of an ephemeral stream, commonly with very steep to vertical banks cut in unconsolidated material. It is usually dry but can be transformed into a temporary watercourse or short-lived torrent after heavy rain within the watershed.

Aspect

The direction toward which a slope faces. Also called slope aspect.

Association, soil

A group of soils or miscellaneous areas geographically associated in a characteristic repeating pattern and defined and delineated as a single map unit.

Available water capacity (available moisture capacity)

The capacity of soils to hold water available for use by most plants. It is commonly defined as the difference between the amount of soil water at field moisture capacity and the amount at wilting point. It is commonly expressed as inches of water per inch of soil. The capacity, in inches, in a 60-inch profile or to a limiting layer is expressed as:

Very low: 0 to 3
Low: 3 to 6
Moderate: 6 to 9
High: 9 to 12
Very high: More than 12

Backslope

The position that forms the steepest and generally linear, middle portion of a hillslope. In profile, backslopes are commonly bounded by a convex shoulder above and a concave footslope below.

Backswamp

A flood-plain landform. Extensive, marshy or swampy, depressed areas of flood plains between natural levees and valley sides or terraces.

Badland

A landscape that is intricately dissected and characterized by a very fine drainage network with high drainage densities and short, steep slopes and narrow interfluves. Badlands develop on surfaces that have little or no vegetative cover overlying unconsolidated or poorly cemented materials (clays, silts, or sandstones) with, in some cases, soluble minerals, such as gypsum or halite.

Bajada

A broad, gently inclined alluvial piedmont slope extending from the base of a mountain range out into a basin and formed by the lateral coalescence of a series of alluvial fans. Typically, it has a broadly undulating transverse profile, parallel to the mountain front, resulting from the convexities of component fans. The term is generally restricted to constructional slopes of intermontane basins.

Basal area

The area of a cross section of a tree, generally referring to the section at breast height and measured outside the bark. It is a measure of stand density, commonly expressed in square feet.

Base saturation

The degree to which material having cation-exchange properties is saturated with exchangeable bases (sum of Ca, Mg, Na, and K), expressed as a percentage of the total cation-exchange capacity.

Base slope (geomorphology)

A geomorphic component of hills consisting of the concave to linear (perpendicular to the contour) slope that, regardless of the lateral shape, forms an apron or wedge at the bottom of a hillside dominated by colluvium and slope-wash sediments (for example, slope alluvium).

Bedding plane

A planar or nearly planar bedding surface that visibly separates each successive layer of stratified sediment or rock (of the same or different lithology)

from the preceding or following layer; a plane of deposition. It commonly marks a change in the circumstances of deposition and may show a parting, a color difference, a change in particle size, or various combinations of these. The term is commonly applied to any bedding surface, even one that is conspicuously bent or deformed by folding.

Bedding system

A drainage system made by plowing, grading, or otherwise shaping the surface of a flat field. It consists of a series of low ridges separated by shallow, parallel dead furrows.

Bedrock

The solid rock that underlies the soil and other unconsolidated material or that is exposed at the surface.

Bedrock-controlled topography

A landscape where the configuration and relief of the landforms are determined or strongly influenced by the underlying bedrock.

Bench terrace

A raised, level or nearly level strip of earth constructed on or nearly on a contour, supported by a barrier of rocks or similar material, and designed to make the soil suitable for tillage and to prevent accelerated erosion.

Bisequum

Two sequences of soil horizons, each of which consists of an illuvial horizon and the overlying eluvial horizons.

Blowout (map symbol)

A saucer-, cup-, or trough-shaped depression formed by wind erosion on a preexisting dune or other sand deposit, especially in an area of shifting sand or loose soil or where protective vegetation is disturbed or destroyed. The adjoining accumulation of sand derived from the depression, where recognizable, is commonly included. Blowouts are commonly small.

Borrow pit (map symbol)

An open excavation from which soil and underlying material have been removed, usually for construction purposes.

Bottom land

An informal term loosely applied to various portions of a flood plain.

Boulders

Rock fragments larger than 2 feet (60 centimeters) in diameter.

Breaks

A landscape or tract of steep, rough or broken land dissected by ravines and gullies and marking a sudden change in topography.

Breast height

An average height of 4.5 feet above the ground surface; the point on a tree where diameter measurements are ordinarily taken.

Brush management

Use of mechanical, chemical, or biological methods to make conditions favorable for reseeding or to reduce or eliminate competition from woody vegetation and thus allow understory grasses and forbs to recover. Brush management increases forage production and thus reduces the hazard of erosion. It can improve the habitat for some species of wildlife.

Butte

An isolated, generally flat-topped hill or mountain with relatively steep slopes and talus or precipitous cliffs and characterized by summit width that is less than the height of bounding escarpments; commonly topped by a caprock of resistant material and representing an erosion remnant carved from flat-lying rocks.

Cable yarding

A method of moving felled trees to a nearby central area for transport to a processing facility. Most cable yarding systems involve use of a drum, a pole, and wire cables in an arrangement similar to that of a rod and reel used for fishing. To reduce friction and soil disturbance, felled trees generally are reeled in while one end is lifted or the entire log is suspended.

Calcareous soil

A soil containing enough calcium carbonate (commonly combined with magnesium carbonate) to effervesce visibly when treated with cold, dilute hydrochloric acid.

Caliche

A general term for a prominent zone of secondary carbonate accumulation in surficial materials in warm, subhumid to arid areas. Caliche is formed by both geologic and pedologic processes. Finely crystalline calcium carbonate forms a nearly continuous surface-coating and void-filling medium in geologic (parent) materials. Cementation ranges from weak in nonindurated forms to very strong in indurated forms. Other minerals (e.g., carbonates, silicate, and sulfate) may occur as accessory cements. Most petrocalcic horizons and some calcic horizons are caliche.

California bearing ratio (CBR)

The load-supporting capacity of a soil as compared to that of standard crushed limestone, expressed as a ratio. First standardized in California. A soil having a CBR of 16 supports 16 percent of the load that would be supported by standard crushed limestone, per unit area, with the same degree of distortion.

Canopy

The leafy crown of trees or shrubs. (See Crown.)

Canyon

A long, deep, narrow valley with high, precipitous walls in an area of high local relief.

Capillary water

Water held as a film around soil particles and in tiny spaces between particles. Surface tension is the adhesive force that holds capillary water in the soil.

Catena

A sequence, or “chain,” of soils on a landscape that formed in similar kinds of parent material and under similar climatic conditions but that have different characteristics as a result of differences in relief and drainage.

Cation

An ion carrying a positive charge of electricity. The common soil cations are calcium, potassium, magnesium, sodium, and hydrogen.

Cation-exchange capacity

The total amount of exchangeable cations that can be held by the soil, expressed in terms of milliequivalents per 100 grams of soil at neutrality (pH 7.0) or at some other stated pH value. The term, as applied to soils, is synonymous with base-exchange capacity but is more precise in meaning.

Catsteps

See Terracettes.

Cement rock

Shaly limestone used in the manufacture of cement.

Channery soil material

Soil material that has, by volume, 15 to 35 percent thin, flat fragments of sandstone, shale, slate, limestone, or schist as much as 6 inches (15 centimeters) along the longest axis. A single piece is called a channer.

Chemical treatment

Control of unwanted vegetation through the use of chemicals.

Chiseling

Tillage with an implement having one or more soil-penetrating points that shatter or loosen hard, compacted layers to a depth below normal plow depth.

Cirque

A steep-walled, semicircular or crescent-shaped, half-bowl-like recess or hollow, commonly situated at the head of a glaciated mountain valley or high on the side of a mountain. It was produced by the erosive activity of a mountain glacier. It commonly contains a small round lake (tarn).

Clay

As a soil separate, the mineral soil particles less than 0.002 millimeter in diameter. As a soil textural class, soil material that is 40 percent or more clay, less than 45 percent sand, and less than 40 percent silt.

Clay depletions

See Redoximorphic features.

Clay film

A thin coating of oriented clay on the surface of a soil aggregate or lining pores or root channels. Synonyms: clay coating, clay skin.

Clay spot (map symbol)

A spot where the surface texture is silty clay or clay in areas where the surface layer of the soils in the surrounding map unit is sandy loam, loam, silt loam, or coarser.

Claypan

A dense, compact subsoil layer that contains much more clay than the overlying materials, from which it is separated by a sharply defined boundary. The layer restricts the downward movement of water through the soil. A claypan is commonly hard when dry and plastic and sticky when wet.

Climax plant community

The stabilized plant community on a particular site. The plant cover reproduces itself and does not change so long as the environment remains the same.

Coarse textured soil

Sand or loamy sand.

Cobble (or cobblestone)

A rounded or partly rounded fragment of rock 3 to 10 inches (7.6 to 25 centimeters) in diameter.

Cobbly soil material

Material that has 15 to 35 percent, by volume, rounded or partially rounded rock fragments 3 to 10 inches (7.6 to 25 centimeters) in diameter. Very cobbly soil material has 35 to 60 percent of these rock fragments, and extremely cobbly soil material has more than 60 percent.

COLE (coefficient of linear extensibility)

See Linear extensibility.

Colluvium

Unconsolidated, unsorted earth material being transported or deposited on side slopes and/or at the base of slopes by mass movement (e.g., direct gravitational action) and by local, unconcentrated runoff.

Complex slope

Irregular or variable slope. Planning or establishing terraces, diversions, and other water-control structures on a complex slope is difficult.

Complex, soil

A map unit of two or more kinds of soil or miscellaneous areas in such an intricate pattern or so small in area that it is not practical to map them separately at the selected scale of mapping. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas.

Concretions

See Redoximorphic features.

Conglomerate

A coarse grained, clastic sedimentary rock composed of rounded or subangular rock fragments more than 2 millimeters in diameter. It commonly has a matrix of sand and finer textured material. Conglomerate is the consolidated equivalent of gravel.

Conservation cropping system

Growing crops in combination with needed cultural and management practices. In a good conservation cropping system, the soil-improving crops and practices more than offset the effects of the soil-depleting crops and practices. Cropping systems are needed on all tilled soils. Soil-improving practices in a conservation cropping system include the use of rotations that contain grasses and legumes and the return of crop residue to the soil. Other practices include the use of green manure crops of grasses and legumes, proper tillage, adequate fertilization, and weed and pest control.

Conservation tillage

A tillage system that does not invert the soil and that leaves a protective amount of crop residue on the surface throughout the year.

Consistence, soil

Refers to the degree of cohesion and adhesion of soil material and its resistance to deformation when ruptured. Consistence includes resistance of soil material to rupture and to penetration; plasticity, toughness, and stickiness of puddled soil material; and the manner in which the soil material behaves when subject to compression. Terms describing consistence are defined in the “Soil Survey Manual.”

Contour stripcropping

Growing crops in strips that follow the contour. Strips of grass or close-growing crops are alternated with strips of clean-tilled crops or summer fallow.

Control section

The part of the soil on which classification is based. The thickness varies among different kinds of soil, but for many it is that part of the soil profile between depths of 10 inches and 40 or 80 inches.

Coprogenous earth (sedimentary peat)

A type of limnic layer composed predominantly of fecal material derived from aquatic animals.

Corrosion (geomorphology)

A process of erosion whereby rocks and soil are removed or worn away by natural chemical processes, especially by the solvent action of running water, but also by other reactions, such as hydrolysis, hydration, carbonation, and oxidation.

Corrosion (soil survey interpretations)

Soil-induced electrochemical or chemical action that dissolves or weakens concrete or uncoated steel.

Cover crop

A close-growing crop grown primarily to improve and protect the soil between periods of regular crop production, or a crop grown between trees and vines in orchards and vineyards.

Crop residue management

Returning crop residue to the soil, which helps to maintain soil structure, organic matter content, and fertility and helps to control erosion.

Cropping system

Growing crops according to a planned system of rotation and management practices.

Cross-slope farming

Deliberately conducting farming operations on sloping farmland in such a way that tillage is across the general slope.

Crown

The upper part of a tree or shrub, including the living branches and their foliage.

Cryoturbate

A mass of soil or other unconsolidated earthy material moved or disturbed by frost action. It is typically coarser than the underlying material.

Cuesta

An asymmetric ridge capped by resistant rock layers of slight or moderate dip (commonly less than 15 percent slopes); a type of homocline produced by differential erosion of interbedded resistant and weak rocks. A cuesta has a long, gentle slope on one side (dip slope) that roughly parallels the inclined beds; on the other side, it has a relatively short and steep or clifflike slope (scarp) that cuts through the tilted rocks.

Culmination of the mean annual increment (CMAI)

The average annual increase per acre in the volume of a stand. Computed by dividing the total volume of the stand by its age. As the stand increases in age, the mean annual increment continues to increase until mortality begins to reduce the rate of increase. The point where the stand reaches its maximum annual rate of growth is called the culmination of the mean annual increment.

Cutbanks cave

The walls of excavations tend to cave in or slough.

Decreasers

The most heavily grazed climax range plants. Because they are the most palatable, they are the first to be destroyed by overgrazing.

Deferred grazing

Postponing grazing or resting grazing land for a prescribed period.

Delta

A body of alluvium having a surface that is fan shaped and nearly flat; deposited at or near the mouth of a river or stream where it enters a body of relatively quiet water, generally a sea or lake.

Dense layer

A very firm, massive layer that has a bulk density of more than 1.8 grams per cubic centimeter. Such a layer affects the ease of digging and can affect filling and compacting.

Depression, closed (map symbol)

A shallow, saucer-shaped area that is slightly lower on the landscape than the surrounding area and that does not have a natural outlet for surface drainage.

Depth, soil

Generally, the thickness of the soil over bedrock. Very deep soils are more than 60 inches deep over bedrock; deep soils, 40 to 60 inches; moderately deep, 20 to 40 inches; shallow, 10 to 20 inches; and very shallow, less than 10 inches.

Desert pavement

A natural, residual concentration or layer of wind-polished, closely packed gravel, boulders, and other rock fragments mantling a desert surface. It forms where wind action and sheetwash have removed all smaller particles or where rock fragments have migrated upward through sediments to the surface. It typically protects the finer grained underlying material from further erosion.

Diatomaceous earth

A geologic deposit of fine, grayish siliceous material composed chiefly or entirely of the remains of diatoms.

Dip slope

A slope of the land surface, roughly determined by and approximately conforming to the dip of the underlying bedrock.

Diversion (or diversion terrace)

A ridge of earth, generally a terrace, built to protect downslope areas by diverting runoff from its natural course.

Divided-slope farming

A form of field stripcropping in which crops are grown in a systematic arrangement of two strips, or bands, across the slope to reduce the hazard of water erosion. One strip is in a close-growing crop that provides protection from erosion, and the other strip is in a crop that provides less protection from erosion. This practice is used where slopes are not long enough to permit a full stripcropping pattern to be used.

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.”

Drainage, surface

Runoff, or surface flow of water, from an area.

Drainageway

A general term for a course or channel along which water moves in draining an area. A term restricted to relatively small, linear depressions that at some time move concentrated water and either do not have a defined channel or have only a small defined channel.

Draw

A small stream valley that generally is shallower and more open than a ravine or gulch and that has a broader bottom. The present stream channel may appear inadequate to have cut the drainageway that it occupies.

Drift

A general term applied to all mineral material (clay, silt, sand, gravel, and boulders) transported by a glacier and deposited directly by or from the ice or transported by running water emanating from a glacier. Drift includes unstratified material (till) that forms moraines and stratified deposits that form outwash plains, eskers, kames, varves, and glaciofluvial sediments. The term is generally applied to Pleistocene glacial deposits in areas that no longer contain glaciers.

Drumlin

A low, smooth, elongated oval hill, mound, or ridge of compact till that has a core of bedrock or drift. It commonly has a blunt nose facing the direction from which the ice approached and a gentler slope tapering in the other direction. The longer axis is parallel to the general direction of glacier flow. Drumlins are products of streamline (laminar) flow of glaciers, which molded the subglacial floor through a combination of erosion and deposition.

Duff

A generally firm organic layer on the surface of mineral soils. It consists of fallen plant material that is in the process of decomposition and includes everything from the litter on the surface to underlying pure humus.

Dune

A low mound, ridge, bank, or hill of loose, windblown granular material (generally sand), either barren and capable of movement from place to place or covered and stabilized with vegetation but retaining its characteristic shape.

Earthy fill

See Mine spoil.

Ecological site

An area where climate, soil, and relief are sufficiently uniform to produce a distinct natural plant community. An ecological site is the product of all the environmental factors responsible for its development. It is typified by an association of species that differ from those on other ecological sites in kind and/or proportion of species or in total production.

Eluviation

The movement of material in true solution or colloidal suspension from one place to another within the soil. Soil horizons that have lost material through eluviation are eluvial; those that have received material are illuvial.

Endosaturation

A type of saturation of the soil in which all horizons between the upper boundary of saturation and a depth of 2 meters are saturated.

Eolian deposit

Sand-, silt-, or clay-sized clastic material transported and deposited primarily by wind, commonly in the form of a dune or a sheet of sand or loess.

Ephemeral stream

A stream, or reach of a stream, that flows only in direct response to precipitation. It receives no long-continued supply from melting snow or other source, and its channel is above the water table at all times.

Episaturation

A type of saturation indicating a perched water table in a soil in which saturated layers are underlain by one or more unsaturated layers within 2 meters of the surface.

Erosion

The wearing away of the land surface by water, wind, ice, or other geologic agents and by such processes as gravitational creep.

Erosion (accelerated)

Erosion much more rapid than geologic erosion, mainly as a result of human or animal activities or of a catastrophe in nature, such as a fire, that exposes the surface.

Erosion (geologic)

Erosion caused by geologic processes acting over long geologic periods and resulting in the wearing away of mountains and the building up of such landscape features as flood plains and coastal plains. Synonym: natural erosion.

Erosion pavement

A surficial lag concentration or layer of gravel and other rock fragments that remains on the soil surface after sheet or rill erosion or wind has removed the finer soil particles and that tends to protect the underlying soil from further erosion.

Erosion surface

A land surface shaped by the action of erosion, especially by running water.

Escarpment

A relatively continuous and steep slope or cliff breaking the general continuity of more gently sloping land surfaces and resulting from erosion or faulting. Most commonly applied to cliffs produced by differential erosion. Synonym: scarp.

Escarpment, bedrock (map symbol)

A relatively continuous and steep slope or cliff, produced by erosion or faulting, that breaks the general continuity of more gently sloping land surfaces. Exposed material is hard or soft bedrock.

Escarpment, nonbedrock (map symbol)

A relatively continuous and steep slope or cliff, generally produced by erosion but in some places produced by faulting, that breaks the continuity of more gently sloping land surfaces. Exposed earthy material is nonsoil or very shallow soil.

Esker

A long, narrow, sinuous, steep-sided ridge of stratified sand and gravel deposited as the bed of a stream flowing in an ice tunnel within or below the ice (subglacial) or between ice walls on top of the ice of a wasting glacier and left

behind as high ground when the ice melted. Eskers range in length from less than a kilometer to more than 160 kilometers and in height from 3 to 30 meters.

Extrusive rock

Igneous rock derived from deep-seated molten matter (magma) deposited and cooled on the earth's surface.

Fallow

Cropland left idle in order to restore productivity through accumulation of moisture. Summer fallow is common in regions of limited rainfall where cereal grain is grown. The soil is tilled for at least one growing season for weed control and decomposition of plant residue.

Fan remnant

A general term for landforms that are the remaining parts of older fan landforms, such as alluvial fans, that have been either dissected or partially buried.

Fertility, soil

The quality that enables a soil to provide plant nutrients, in adequate amounts and in proper balance, for the growth of specified plants when light, moisture, temperature, tilth, and other growth factors are favorable.

Fibric soil material (peat)

The least decomposed of all organic soil material. Peat contains a large amount of well preserved fiber that is readily identifiable according to botanical origin. Peat has the lowest bulk density and the highest water content at saturation of all organic soil material.

Field moisture capacity

The moisture content of a soil, expressed as a percentage of the ovendry weight, after the gravitational, or free, water has drained away; the field moisture content 2 or 3 days after a soaking rain; also called *normal field capacity, normal moisture capacity,* or *capillary capacity*.

Fill slope

A sloping surface consisting of excavated soil material from a road cut. It commonly is on the downhill side of the road.

Fine textured soil

Sandy clay, silty clay, or clay.

Firebreak

An area cleared of flammable material to stop or help control creeping or running fires. It also serves as a line from which to work and to facilitate the movement of firefighters and equipment. Designated roads also serve as firebreaks.

First bottom

An obsolete, informal term loosely applied to the lowest flood-plain steps that are subject to regular flooding.

Flaggy soil material

Material that has, by volume, 15 to 35 percent flagstones. Very flaggy soil material has 35 to 60 percent flagstones, and extremely flaggy soil material has more than 60 percent flagstones.

Flagstone

A thin fragment of sandstone, limestone, slate, shale, or (rarely) schist 6 to 15 inches (15 to 38 centimeters) long.

Flood plain

The nearly level plain that borders a stream and is subject to flooding unless protected artificially.

Flood-plain landforms

A variety of constructional and erosional features produced by stream channel migration and flooding. Examples include backswamps, flood-plain splays, meanders, meander belts, meander scrolls, oxbow lakes, and natural levees.

Flood-plain splay

A fan-shaped deposit or other outspread deposit formed where an overloaded stream breaks through a levee (natural or artificial) and deposits its material (commonly coarse grained) on the flood plain.

Flood-plain step

An essentially flat, terrace-like alluvial surface within a valley that is frequently covered by floodwater from the present stream; any approximately horizontal surface still actively modified by fluvial scour and/or deposition. May occur individually or as a series of steps.

Fluvial

Of or pertaining to rivers or streams; produced by stream or river action.

Foothills

A region of steeply sloping hills that fringes a mountain range or high-plateau escarpment. The hills have relief of as much as 1,000 feet (300 meters).

Footslope

The concave surface at the base of a hillslope. A footslope is a transition zone between upslope sites of erosion and transport (shoulders and backslopes) and downslope sites of deposition (toeslopes).

Forb

Any herbaceous plant not a grass or a sedge.

Forest cover

All trees and other woody plants (underbrush) covering the ground in a forest.

Forest type

A stand of trees similar in composition and development because of given physical and biological factors by which it may be differentiated from other stands.

Fragipan

A loamy, brittle subsurface horizon low in porosity and content of organic matter and low or moderate in clay but high in silt or very fine sand. A fragipan appears cemented and restricts roots. When dry, it is hard or very hard and has a higher bulk density than the horizon or horizons above. When moist, it tends to rupture suddenly under pressure rather than to deform slowly.

Genesis, soil

The mode of origin of the soil. Refers especially to the processes or soil-forming factors responsible for the formation of the solum, or true soil, from the unconsolidated parent material.

Gilgai

Commonly, a succession of microbasins and microknolls in nearly level areas or of microvalleys and microridges parallel with the slope. Typically, the microrelief of clayey soils that shrink and swell considerably with changes in moisture content.

Glaciofluvial deposits

Material moved by glaciers and subsequently sorted and deposited by streams flowing from the melting ice. The deposits are stratified and occur in the form of outwash plains, valley trains, deltas, kames, eskers, and kame terraces.

Glaciolacustrine deposits

Material ranging from fine clay to sand derived from glaciers and deposited in glacial lakes mainly by glacial meltwater. Many deposits are bedded or laminated.

Gleyed soil

Soil that formed under poor drainage, resulting in the reduction of iron and other elements in the profile and in gray colors.

Graded stripcropping

Growing crops in strips that grade toward a protected waterway.

Grassed waterway

A natural or constructed waterway, typically broad and shallow, seeded to grass as protection against erosion. Conducts surface water away from cropland.

Gravel

Rounded or angular fragments of rock as much as 3 inches (2 millimeters to 7.6 centimeters) in diameter. An individual piece is a pebble.

Gravel pit (map symbol)

An open excavation from which soil and underlying material have been removed and used, without crushing, as a source of sand or gravel.

Gravelly soil material

Material that has 15 to 35 percent, by volume, rounded or angular rock fragments, not prominently flattened, as much as 3 inches (7.6 centimeters) in diameter.

Gravelly spot (map symbol)

A spot where the surface layer has more than 35 percent, by volume, rock fragments that are mostly less than 3 inches in diameter in an area that has less than 15 percent rock fragments.

Green manure crop (agronomy)

A soil-improving crop grown to be plowed under in an early stage of maturity or soon after maturity.

Ground water

Water filling all the unblocked pores of the material below the water table.

Gully (map symbol)

A small, steep-sided channel caused by erosion and cut in unconsolidated materials by concentrated but intermittent flow of water. The distinction between a gully and a rill is one of depth. A gully generally is an obstacle to farm machinery and is too deep to be obliterated by ordinary tillage whereas a rill is of lesser depth and can be smoothed over by ordinary tillage.

Hard bedrock

Bedrock that cannot be excavated except by blasting or by the use of special equipment that is not commonly used in construction.

Hard to reclaim

Reclamation is difficult after the removal of soil for construction and other uses. Revegetation and erosion control are extremely difficult.

Hardpan

A hardened or cemented soil horizon, or layer. The soil material is sandy, loamy, or clayey and is cemented by iron oxide, silica, calcium carbonate, or other substance.

Head slope (geomorphology)

A geomorphic component of hills consisting of a laterally concave area of a hillside, especially at the head of a drainageway. The overland waterflow is converging.

Hemic soil material (mucky peat)

Organic soil material intermediate in degree of decomposition between the less decomposed fibric material and the more decomposed sapric material.

High-residue crops

Such crops as small grain and corn used for grain. If properly managed, residue from these crops can be used to control erosion until the next crop in the rotation is established. These crops return large amounts of organic matter to the soil.

Hill

A generic term for an elevated area of the land surface, rising as much as 1,000 feet above surrounding lowlands, commonly of limited summit area and having a well defined outline. Slopes are generally more than 15 percent. The distinction between a hill and a mountain is arbitrary and may depend on local usage.

Hillslope

A generic term for the steeper part of a hill between its summit and the drainage line, valley flat, or depression floor at the base of a hill.

Horizon, soil

A layer of soil, approximately parallel to the surface, having distinct characteristics produced by soil-forming processes. In the identification of soil horizons, an uppercase letter represents the major horizons. Numbers or lowercase letters that follow represent subdivisions of the major horizons. An explanation of the subdivisions is given in the “Soil Survey Manual.” The major horizons of mineral soil are as follows:

O horizon: An organic layer of fresh and decaying plant residue.

L horizon: A layer of organic and mineral limnic materials, including coprogenous earth (sedimentary peat), diatomaceous earth, and marl.

A horizon: The mineral horizon at or near the surface in which an accumulation of humified organic matter is mixed with the mineral material. Also, a plowed surface horizon, most of which was originally part of a B horizon.

E horizon: The mineral horizon in which the main feature is loss of silicate clay, iron, aluminum, or some combination of these.

B horizon: The mineral horizon below an A horizon. The B horizon is in part a layer of transition from the overlying A to the underlying C horizon. The B horizon also has distinctive characteristics, such as (1) accumulation of clay, sesquioxides, humus, or a combination of these; (2) prismatic or blocky structure; (3) redder or browner colors than those in the A horizon; or (4) a combination of these.

C horizon: The mineral horizon or layer, excluding indurated bedrock, that is little affected by soil-forming processes and does not have the properties typical of the overlying soil material. The material of a C horizon may be either like or unlike that in which the solum formed. If the material is known to differ from that in the solum, an Arabic numeral, commonly a 2, precedes the letter C.

Cr horizon: Soft, consolidated bedrock beneath the soil.

R layer: Consolidated bedrock beneath the soil. The bedrock commonly underlies a C horizon, but it can be directly below an A or a B horizon.

M layer: A root-limiting subsoil layer consisting of nearly continuous, horizontally oriented, human-manufactured materials.

W layer: A layer of water within or beneath the soil.

Humus

The well decomposed, more or less stable part of the organic matter in mineral soils.

Hydrologic soil groups

Refers to soils grouped according to their runoff potential. The soil properties that influence this potential are those that affect the minimum rate of water infiltration on a bare soil during periods after prolonged wetting when the soil is not frozen. These properties include depth to a seasonal high water table, the infiltration rate, and depth to a layer that significantly restricts the downward movement of water. The slope and the kind of plant cover are not considered but are separate factors in predicting runoff.

Igneous rock

Rock that was formed by cooling and solidification of magma and that has not been changed appreciably by weathering since its formation. Major varieties include plutonic and volcanic rock (e.g., andesite, basalt, and granite).

Illuviation

The movement of soil material from one horizon to another in the soil profile. Generally, material is removed from an upper horizon and deposited in a lower horizon.

Impervious soil

A soil through which water, air, or roots penetrate slowly or not at all. No soil is absolutely impervious to air and water all the time.

Increasers

Species in the climax vegetation that increase in amount as the more desirable plants are reduced by close grazing. Increasers commonly are the shorter plants and the less palatable to livestock.

Infiltration

The downward entry of water into the immediate surface of soil or other material, as contrasted with percolation, which is movement of water through soil layers or material.

Infiltration capacity

The maximum rate at which water can infiltrate into a soil under a given set of conditions.

Infiltration rate

The rate at which water penetrates the surface of the soil at any given instant, usually expressed in inches per hour. The rate can be limited by the infiltration capacity of the soil or the rate at which water is applied at the surface.

Intake rate

The average rate of water entering the soil under irrigation. Most soils have a fast initial rate; the rate decreases with application time. Therefore, intake rate for design purposes is not a constant but is a variable depending on the net irrigation application. The rate of water intake, in inches per hour, is expressed as follows:

Very low: Less than 0.2
Low: 0.2 to 0.4
Moderately low: 0.4 to 0.75
Moderate: 0.75 to 1.25
Moderately high: 1.25 to 1.75
High: 1.75 to 2.5
Very high: More than 2.5

Interfluve

A landform composed of the relatively undissected upland or ridge between two adjacent valleys containing streams flowing in the same general direction. An elevated area between two drainageways that sheds water to those drainageways.

Interfluve (geomorphology)

A geomorphic component of hills consisting of the uppermost, comparatively level or gently sloping area of a hill; shoulders of backwearing hillslopes can narrow the upland or can merge, resulting in a strongly convex shape.

Intermittent stream

A stream, or reach of a stream, that does not flow year-round but that is commonly dry for 3 or more months out of 12 and whose channel is generally below the local water table. It flows only during wet periods or when it receives ground-water discharge or long, continued contributions from melting snow or other surface and shallow subsurface sources.

Invaders

On range, plants that encroach into an area and grow after the climax vegetation has been reduced by grazing. Generally, plants invade following disturbance of the surface.

Iron depletions

See Redoximorphic features.

Irrigation

Application of water to soils to assist in production of crops. Methods of irrigation are:

Basin: Water is applied rapidly to nearly level plains surrounded by levees or dikes.

Border: Water is applied at the upper end of a strip in which the lateral flow of water is controlled by small earth ridges called border dikes, or borders.

Controlled flooding: Water is released at intervals from closely spaced field ditches and distributed uniformly over the field.

Corrugation: Water is applied to small, closely spaced furrows or ditches in fields of close-growing crops or in orchards so that it flows in only one direction.

Drip (or trickle): Water is applied slowly and under low pressure to the surface of the soil or into the soil through such applicators as emitters, porous tubing, or perforated pipe.

Furrow: Water is applied in small ditches made by cultivation implements. Furrows are used for tree and row crops.

Sprinkler: Water is sprayed over the soil surface through pipes or nozzles from a pressure system.

Subirrigation: Water is applied in open ditches or tile lines until the water table is raised enough to wet the soil.

Wild flooding: Water, released at high points, is allowed to flow onto an area without controlled distribution.

Kame

A low mound, knob, hummock, or short irregular ridge composed of stratified sand and gravel deposited by a subglacial stream as a fan or delta at the margin of a melting glacier; by a supraglacial stream in a low place or hole on the surface of the glacier; or as a ponded deposit on the surface or at the margin of stagnant ice.

Karst (topography)

A kind of topography that formed in limestone, gypsum, or other soluble rocks by dissolution and that is characterized by closed depressions, sinkholes, caves, and underground drainage.

Knoll

A small, low, rounded hill rising above adjacent landforms.

Ksat

See Saturated hydraulic conductivity.

Lacustrine deposit

Material deposited in lake water and exposed when the water level is lowered or the elevation of the land is raised.

Lake plain

A nearly level surface marking the floor of an extinct lake filled by well sorted, generally fine textured, stratified deposits, commonly containing varves.

Lake terrace

A narrow shelf, partly cut and partly built, produced along a lakeshore in front of a scarp line of low cliffs and later exposed when the water level falls.

Landfill (map symbol)

An area of accumulated waste products of human habitation, either above or below natural ground level.

Landslide

A general, encompassing term for most types of mass movement landforms and processes involving the downslope transport and outward deposition of soil and rock materials caused by gravitational forces; the movement may or may not involve saturated materials. The speed and distance of movement, as well as the amount of soil and rock material, vary greatly.

Large stones

Rock fragments 3 inches (7.6 centimeters) or more across. Large stones adversely affect the specified use of the soil.

Lava flow (map symbol)

A solidified, commonly lobate body of rock formed through lateral, surface outpouring of molten lava from a vent or fissure.

Leaching

The removal of soluble material from soil or other material by percolating water.

Levee (map symbol)

An embankment that confines or controls water, especially one built along the banks of a river to prevent overflow onto lowlands.

Linear extensibility

Refers to the change in length of an unconfined clod as moisture content is decreased from a moist to a dry state. Linear extensibility is used to determine the shrink-swell potential of soils. It is an expression of the volume change between the water content of the clod at $^{1}/_{3}$- or $^{1}/_{10}$-bar tension (33kPa or 10kPa tension) and oven dryness. Volume change is influenced by the amount and type of clay minerals in the soil. The volume change is the percent change for the whole soil. If it is expressed as a fraction, the resulting value is COLE, coefficient of linear extensibility.

Liquid limit

The moisture content at which the soil passes from a plastic to a liquid state.

Loam

Soil material that is 7 to 27 percent clay particles, 28 to 50 percent silt particles, and less than 52 percent sand particles.

Loess

Material transported and deposited by wind and consisting dominantly of silt-sized particles.

Low strength

The soil is not strong enough to support loads.

Low-residue crops

Such crops as corn used for silage, peas, beans, and potatoes. Residue from these crops is not adequate to control erosion until the next crop in the rotation is established. These crops return little organic matter to the soil.

Marl

An earthy, unconsolidated deposit consisting chiefly of calcium carbonate mixed with clay in approximately equal proportions; formed primarily under freshwater lacustrine conditions but also formed in more saline environments.

Marsh or swamp (map symbol)

A water-saturated, very poorly drained area that is intermittently or permanently covered by water. Sedges, cattails, and rushes are the dominant vegetation in marshes, and trees or shrubs are the dominant vegetation in swamps. Not used in map units where the named soils are poorly drained or very poorly drained.

Mass movement

A generic term for the dislodgment and downslope transport of soil and rock material as a unit under direct gravitational stress.

Masses

See Redoximorphic features.

Meander belt

The zone within which migration of a meandering channel occurs; the flood-plain area included between two imaginary lines drawn tangential to the outer bends of active channel loops.

Meander scar

A crescent-shaped, concave or linear mark on the face of a bluff or valley wall, produced by the lateral erosion of a meandering stream that impinged upon and undercut the bluff.

Meander scroll

One of a series of long, parallel, close-fitting, crescent-shaped ridges and troughs formed along the inner bank of a stream meander as the channel migrated laterally down-valley and toward the outer bank.

Mechanical treatment

Use of mechanical equipment for seeding, brush management, and other management practices.

Medium textured soil

Very fine sandy loam, loam, silt loam, or silt.

Mesa

A broad, nearly flat topped and commonly isolated landmass bounded by steep slopes or precipitous cliffs and capped by layers of resistant, nearly horizontal rocky material. The summit width is characteristically greater than the height of the bounding escarpments.

Metamorphic rock

Rock of any origin altered in mineralogical composition, chemical composition, or structure by heat, pressure, and movement at depth in the earth’s crust. Nearly all such rocks are crystalline.

Mine or quarry (map symbol)

An open excavation from which soil and underlying material have been removed and in which bedrock is exposed. Also denotes surface openings to underground mines.

Mine spoil

An accumulation of displaced earthy material, rock, or other waste material removed during mining or excavation. Also called earthy fill.

Mineral soil

Soil that is mainly mineral material and low in organic material. Its bulk density is more than that of organic soil.

Minimum tillage

Only the tillage essential to crop production and prevention of soil damage.

Miscellaneous area

A kind of map unit that has little or no natural soil and supports little or no vegetation.

Miscellaneous water (map symbol)

Small, constructed bodies of water that are used for industrial, sanitary, or mining applications and that contain water most of the year.

Moderately coarse textured soil

Coarse sandy loam, sandy loam, or fine sandy loam.

Moderately fine textured soil

Clay loam, sandy clay loam, or silty clay loam.

Mollic epipedon

A thick, dark, humus-rich surface horizon (or horizons) that has high base saturation and pedogenic soil structure. It may include the upper part of the subsoil.

Moraine

In terms of glacial geology, a mound, ridge, or other topographically distinct accumulation of unsorted, unstratified drift, predominantly till, deposited primarily by the direct action of glacial ice in a variety of landforms. Also, a general term for a landform composed mainly of till (except for kame moraines, which are composed mainly of stratified outwash) that has been deposited by a glacier. Some types of moraines are disintegration, end, ground, kame, lateral, recessional, and terminal.

Morphology, soil

The physical makeup of the soil, including the texture, structure, porosity, consistence, color, and other physical, mineral, and biological properties of the various horizons, and the thickness and arrangement of those horizons in the soil profile.

Mottling, soil

Irregular spots of different colors that vary in number and size. Descriptive terms are as follows: abundance—*few, common,* and *many;* size—*fine, medium,* and *coarse;* and contrast—*faint, distinct,* and *prominent*. The size measurements are of the diameter along the greatest dimension. *Fine* indicates less than 5 millimeters (about 0.2 inch); *medium,* from 5 to 15 millimeters (about 0.2 to 0.6 inch); and *coarse,* more than 15 millimeters (about 0.6 inch).

Mountain

A generic term for an elevated area of the land surface, rising more than 1,000 feet (300 meters) above surrounding lowlands, commonly of restricted summit area (relative to a plateau) and generally having steep sides. A mountain can

occur as a single, isolated mass or in a group forming a chain or range. Mountains are formed primarily by tectonic activity and/or volcanic action but can also be formed by differential erosion.

Muck

Dark, finely divided, well decomposed organic soil material. (See Sapric soil material.)

Mucky peat

See Hemic soil material.

Mudstone

A blocky or massive, fine grained sedimentary rock in which the proportions of clay and silt are approximately equal. Also, a general term for such material as clay, silt, claystone, siltstone, shale, and argillite and that should be used only when the amounts of clay and silt are not known or cannot be precisely identified.

Munsell notation

A designation of color by degrees of three simple variables—hue, value, and chroma. For example, a notation of 10YR 6/4 is a color with hue of 10YR, value of 6, and chroma of 4.

Natric horizon

A special kind of argillic horizon that contains enough exchangeable sodium to have an adverse effect on the physical condition of the subsoil.

Neutral soil

A soil having a pH value of 6.6 to 7.3. (See Reaction, soil.)

Nodules

See Redoximorphic features.

Nose slope (geomorphology)

A geomorphic component of hills consisting of the projecting end (laterally convex area) of a hillside. The overland waterflow is predominantly divergent. Nose slopes consist dominantly of colluvium and slope-wash sediments (for example, slope alluvium).

Nutrient, plant

Any element taken in by a plant essential to its growth. Plant nutrients are mainly nitrogen, phosphorus, potassium, calcium, magnesium, sulfur, iron, manganese, copper, boron, and zinc obtained from the soil and carbon, hydrogen, and oxygen obtained from the air and water.

Organic matter

Plant and animal residue in the soil in various stages of decomposition. The content of organic matter in the surface layer is described as follows:

Very low: Less than 0.5 percent
Low: 0.5 to 1.0 percent
Moderately low: 1.0 to 2.0 percent
Moderate: 2.0 to 4.0 percent
High: 4.0 to 8.0 percent
Very high: More than 8.0 percent

Outwash

Stratified and sorted sediments (chiefly sand and gravel) removed or “washed out” from a glacier by meltwater streams and deposited in front of or beyond the end moraine or the margin of a glacier. The coarser material is deposited nearer to the ice.

Outwash plain

An extensive lowland area of coarse textured glaciofluvial material. An outwash plain is commonly smooth; where pitted, it generally is low in relief.

Paleoterrace

An erosional remnant of a terrace that retains the surface form and alluvial deposits of its origin but was not emplaced by, and commonly does not grade to, a present-day stream or drainage network.

Pan

A compact, dense layer in a soil that impedes the movement of water and the growth of roots. For example, *hardpan, fragipan, claypan, plowpan,* and *traffic pan*.

Parent material

The unconsolidated organic and mineral material in which soil forms.

Peat

Unconsolidated material, largely undecomposed organic matter, that has accumulated under excess moisture. (See Fibric soil material.)

Ped

An individual natural soil aggregate, such as a granule, a prism, or a block.

Pedisediment

A layer of sediment, eroded from the shoulder and backslope of an erosional slope, that lies on and is being (or was) transported across a gently sloping erosional surface at the foot of a receding hill or mountain slope.

Pedon

The smallest volume that can be called “a soil.” A pedon is three dimensional and large enough to permit study of all horizons. Its area ranges from about 10 to 100 square feet (1 square meter to 10 square meters), depending on the variability of the soil.

Percolation

The movement of water through the soil.

Perennial water (map symbol)

Small, natural or constructed lakes, ponds, or pits that contain water most of the year.

Permafrost

Ground, soil, or rock that remains at or below 0 degrees C for at least 2 years. It is defined on the basis of temperature and is not necessarily frozen.

pH value

A numerical designation of acidity and alkalinity in soil. (See Reaction, soil.)

Phase, soil

A subdivision of a soil series based on features that affect its use and management, such as slope, stoniness, and flooding.

Piping

Formation of subsurface tunnels or pipelike cavities by water moving through the soil.

Pitting

Pits caused by melting around ice. They form on the soil after plant cover is removed.

Plastic limit

The moisture content at which a soil changes from semisolid to plastic.

Plasticity index

The numerical difference between the liquid limit and the plastic limit; the range of moisture content within which the soil remains plastic.

Plateau (geomorphology)

A comparatively flat area of great extent and elevation; specifically, an extensive land region that is considerably elevated (more than 100 meters) above the adjacent lower lying terrain, is commonly limited on at least one side by an abrupt descent, and has a flat or nearly level surface. A comparatively large part of a plateau surface is near summit level.

Playa

The generally dry and nearly level lake plain that occupies the lowest parts of closed depressions, such as those on intermontane basin floors. Temporary flooding occurs primarily in response to precipitation and runoff. Playa deposits are fine grained and may or may not have a high water table and saline conditions.

Plinthite

The sesquioxide-rich, humus-poor, highly weathered mixture of clay with quartz and other diluents. It commonly appears as red mottles, usually in platy, polygonal, or reticulate patterns. Plinthite changes irreversibly to an ironstone hardpan or to irregular aggregates on repeated wetting and drying, especially if it is exposed also to heat from the sun. In a moist soil, plinthite can be cut with a spade. It is a form of laterite.

Plowpan

A compacted layer formed in the soil directly below the plowed layer.

Ponding

Standing water on soils in closed depressions. Unless the soils are artificially drained, the water can be removed only by percolation or evapotranspiration.

Poorly graded

Refers to a coarse grained soil or soil material consisting mainly of particles of nearly the same size. Because there is little difference in size of the particles, density can be increased only slightly by compaction.

Pore linings

See Redoximorphic features.

Potential native plant community

See Climax plant community.

Potential rooting depth (effective rooting depth)

Depth to which roots could penetrate if the content of moisture in the soil were adequate. The soil has no properties restricting the penetration of roots to this depth.

Prescribed burning

Deliberately burning an area for specific management purposes, under the appropriate conditions of weather and soil moisture and at the proper time of day.

Productivity, soil

The capability of a soil for producing a specified plant or sequence of plants under specific management.

Profile, soil

A vertical section of the soil extending through all its horizons and into the parent material.

Proper grazing use

Grazing at an intensity that maintains enough cover to protect the soil and maintain or improve the quantity and quality of the desirable vegetation. This practice increases the vigor and reproduction capacity of the key plants and

promotes the accumulation of litter and mulch necessary to conserve soil and water.

Rangeland

Land on which the potential natural vegetation is predominantly grasses, grasslike plants, forbs, or shrubs suitable for grazing or browsing. It includes natural grasslands, savannas, many wetlands, some deserts, tundras, and areas that support certain forb and shrub communities.

Reaction, soil

A measure of acidity or alkalinity of a soil, expressed as pH values. A soil that tests to pH 7.0 is described as precisely neutral in reaction because it is neither acid nor alkaline. The degrees of acidity or alkalinity, expressed as pH values, are:

Ultra acid: Less than 3.5
Extremely acid: 3.5 to 4.4
Very strongly acid: 4.5 to 5.0
Strongly acid: 5.1 to 5.5
Moderately acid: 5.6 to 6.0
Slightly acid: 6.1 to 6.5
Neutral: 6.6 to 7.3
Slightly alkaline: 7.4 to 7.8
Moderately alkaline: 7.9 to 8.4
Strongly alkaline: 8.5 to 9.0
Very strongly alkaline: 9.1 and higher

Red beds

Sedimentary strata that are mainly red and are made up largely of sandstone and shale.

Redoximorphic concentrations

See Redoximorphic features.

Redoximorphic depletions

See Redoximorphic features.

Redoximorphic features

Redoximorphic features are associated with wetness and result from alternating periods of reduction and oxidation of iron and manganese compounds in the soil. Reduction occurs during saturation with water, and oxidation occurs when the soil is not saturated. Characteristic color patterns are created by these processes. The reduced iron and manganese ions may be removed from a soil if vertical or lateral fluxes of water occur, in which case there is no iron or manganese precipitation in that soil. Wherever the iron and manganese are oxidized and precipitated, they form either soft masses or hard concretions or nodules. Movement of iron and manganese as a result of redoximorphic processes in a soil may result in redoximorphic features that are defined as follows:

1. Redoximorphic concentrations.—These are zones of apparent accumulation of iron-manganese oxides, including:
   A. Nodules and concretions, which are cemented bodies that can be removed from the soil intact. Concretions are distinguished from nodules on the basis of internal organization. A concretion typically has concentric layers that are visible to the naked eye. Nodules do not have visible organized internal structure; *and*
   B. Masses, which are noncemented concentrations of substances within the soil matrix; *and*
   C. Pore linings, i.e., zones of accumulation along pores that may be either coatings on pore surfaces or impregnations from the matrix adjacent to the pores.
2. Redoximorphic depletions.—These are zones of low chroma (chromas less than those in the matrix) where either iron-manganese oxides alone or both iron-manganese oxides and clay have been stripped out, including:
   A. Iron depletions, i.e., zones that contain low amounts of iron and manganese oxides but have a clay content similar to that of the adjacent matrix; *and*
   B. Clay depletions, i.e., zones that contain low amounts of iron, manganese, and clay (often referred to as silt coatings or skeletans).
3. Reduced matrix.—This is a soil matrix that has low chroma *in situ* but undergoes a change in hue or chroma within 30 minutes after the soil material has been exposed to air.

Reduced matrix

See Redoximorphic features.

Regolith

All unconsolidated earth materials above the solid bedrock. It includes material weathered in place from all kinds of bedrock and alluvial, glacial, eolian, lacustrine, and pyroclastic deposits.

Relief

The relative difference in elevation between the upland summits and the lowlands or valleys of a given region.

Residuum (residual soil material)

Unconsolidated, weathered or partly weathered mineral material that accumulated as bedrock disintegrated in place.

Rill

A very small, steep-sided channel resulting from erosion and cut in unconsolidated materials by concentrated but intermittent flow of water. A rill generally is not an obstacle to wheeled vehicles and is shallow enough to be smoothed over by ordinary tillage.

Riser

The vertical or steep side slope (e.g., escarpment) of terraces, flood-plain steps, or other stepped landforms; commonly a recurring part of a series of natural, steplike landforms, such as successive stream terraces.

Road cut

A sloping surface produced by mechanical means during road construction. It is commonly on the uphill side of the road.

Rock fragments

Rock or mineral fragments having a diameter of 2 millimeters or more; for example, pebbles, cobbles, stones, and boulders.

Rock outcrop (map symbol)

An exposure of bedrock at the surface of the earth. Not used where the named soils of the surrounding map unit are shallow over bedrock or where “Rock outcrop” is a named component of the map unit.

Root zone

The part of the soil that can be penetrated by plant roots.

Runoff

The precipitation discharged into stream channels from an area. The water that flows off the surface of the land without sinking into the soil is called surface runoff. Water that enters the soil before reaching surface streams is called ground-water runoff or seepage flow from ground water.

Saline soil

A soil containing soluble salts in an amount that impairs growth of plants. A saline soil does not contain excess exchangeable sodium.

Saline spot (map symbol)

An area where the surface layer has an electrical conductivity of 8 mmhos/cm more than the surface layer of the named soils in the surrounding map unit. The surface layer of the surrounding soils has an electrical conductivity of 2 mmhos/cm or less.

Sand

As a soil separate, individual rock or mineral fragments from 0.05 millimeter to 2.0 millimeters in diameter. Most sand grains consist of quartz. As a soil textural class, a soil that is 85 percent or more sand and not more than 10 percent clay.

Sandstone

Sedimentary rock containing dominantly sand-sized particles.

Sandy spot (map symbol)

A spot where the surface layer is loamy fine sand or coarser in areas where the surface layer of the named soils in the surrounding map unit is very fine sandy loam or finer.

Sapric soil material (muck)

The most highly decomposed of all organic soil material. Muck has the least amount of plant fiber, the highest bulk density, and the lowest water content at saturation of all organic soil material.

Saturated hydraulic conductivity (Ksat)

The ease with which pores of a saturated soil transmit water. Formally, the proportionality coefficient that expresses the relationship of the rate of water movement to hydraulic gradient in Darcy's Law, a law that describes the rate of water movement through porous media. Commonly abbreviated as "Ksat." Terms describing saturated hydraulic conductivity are:

Very high: 100 or more micrometers per second (14.17 or more inches per hour)

High: 10 to 100 micrometers per second (1.417 to 14.17 inches per hour)

Moderately high: 1 to 10 micrometers per second (0.1417 inch to 1.417 inches per hour)

Moderately low: 0.1 to 1 micrometer per second (0.01417 to 0.1417 inch per hour)

Low: 0.01 to 0.1 micrometer per second (0.001417 to 0.01417 inch per hour)

Very low: Less than 0.01 micrometer per second (less than 0.001417 inch per hour).

To convert inches per hour to micrometers per second, multiply inches per hour by 7.0572. To convert micrometers per second to inches per hour, multiply micrometers per second by 0.1417.

Saturation

Wetness characterized by zero or positive pressure of the soil water. Under conditions of saturation, the water will flow from the soil matrix into an unlined auger hole.

Scarification

The act of abrading, scratching, loosening, crushing, or modifying the surface to increase water absorption or to provide a more tillable soil.

Sedimentary rock

A consolidated deposit of clastic particles, chemical precipitates, or organic remains accumulated at or near the surface of the earth under normal low temperature and pressure conditions. Sedimentary rocks include consolidated equivalents of alluvium, colluvium, drift, and eolian, lacustrine, and marine deposits. Examples are sandstone, siltstone, mudstone, claystone, shale, conglomerate, limestone, dolomite, and coal.

Sequum

A sequence consisting of an illuvial horizon and the overlying eluvial horizon. (See Eluviation.)

Series, soil

A group of soils that have profiles that are almost alike, except for differences in texture of the surface layer. All the soils of a series have horizons that are similar in composition, thickness, and arrangement.

Severely eroded spot (map symbol)

An area where, on the average, 75 percent or more of the original surface layer has been lost because of accelerated erosion. Not used in map units in which “severely eroded,” “very severely eroded,” or “gullied” is part of the map unit name.

Shale

Sedimentary rock that formed by the hardening of a deposit of clay, silty clay, or silty clay loam and that has a tendency to split into thin layers.

Sheet erosion

The removal of a fairly uniform layer of soil material from the land surface by the action of rainfall and surface runoff.

Short, steep slope (map symbol)

A narrow area of soil having slopes that are at least two slope classes steeper than the slope class of the surrounding map unit.

Shoulder

The convex, erosional surface near the top of a hillslope. A shoulder is a transition from summit to backslope.

Shrink-swell

The shrinking of soil when dry and the swelling when wet. Shrinking and swelling can damage roads, dams, building foundations, and other structures. It can also damage plant roots.

Shrub-coppice dune

A small, streamlined dune that forms around brush and clump vegetation.

Side slope (geomorphology)

A geomorphic component of hills consisting of a laterally planar area of a hillside. The overland waterflow is predominantly parallel. Side slopes are dominantly colluvium and slope-wash sediments.

Silica

A combination of silicon and oxygen. The mineral form is called quartz.

Silica-sesquioxide ratio

The ratio of the number of molecules of silica to the number of molecules of alumina and iron oxide. The more highly weathered soils or their clay fractions in warm-temperate, humid regions, and especially those in the tropics, generally have a low ratio.

Silt

As a soil separate, individual mineral particles that range in diameter from the upper limit of clay (0.002 millimeter) to the lower limit of very fine sand (0.05 millimeter). As a soil textural class, soil that is 80 percent or more silt and less than 12 percent clay.

Siltstone

An indurated silt having the texture and composition of shale but lacking its fine lamination or fissility; a massive mudstone in which silt predominates over clay.

Similar soils

Soils that share limits of diagnostic criteria, behave and perform in a similar manner, and have similar conservation needs or management requirements for the major land uses in the survey area.

Sinkhole (map symbol)

A closed, circular or elliptical depression, commonly funnel shaped, characterized by subsurface drainage and formed either by dissolution of the surface of underlying bedrock (e.g., limestone, gypsum, or salt) or by collapse of underlying caves within bedrock. Complexes of sinkholes in carbonate-rock terrain are the main components of karst topography.

Site index

A designation of the quality of a forest site based on the height of the dominant stand at an arbitrarily chosen age. For example, if the average height attained by dominant and codominant trees in a fully stocked stand at the age of 50 years is 75 feet, the site index is 75.

Slickensides (pedogenic)

Grooved, striated, and/or glossy (shiny) slip faces on structural peds, such as wedges; produced by shrink-swell processes, most commonly in soils that have a high content of expansive clays.

Slide or slip (map symbol)

A prominent landform scar or ridge caused by fairly recent mass movement or descent of earthy material resulting from failure of earth or rock under shear stress along one or several surfaces.

Slope

The inclination of the land surface from the horizontal. Percentage of slope is the vertical distance divided by horizontal distance, then multiplied by 100. Thus, a slope of 20 percent is a drop of 20 feet in 100 feet of horizontal distance.

Slope alluvium

Sediment gradually transported down the slopes of mountains or hills primarily by nonchannel alluvial processes (i.e., slope-wash processes) and characterized by particle sorting. Lateral particle sorting is evident on long slopes. In a profile sequence, sediments may be distinguished by differences in size and/or specific gravity of rock fragments and may be separated by stone lines. Burnished peds and sorting of rounded or subrounded pebbles or cobbles distinguish these materials from unsorted colluvial deposits.

Slow refill

The slow filling of ponds, resulting from restricted water transmission in the soil.

Slow water movement

Restricted downward movement of water through the soil. See Saturated hydraulic conductivity.

Sodic (alkali) soil

A soil having so high a degree of alkalinity (pH 8.5 or higher) or so high a percentage of exchangeable sodium (15 percent or more of the total exchangeable bases), or both, that plant growth is restricted.

Sodic spot (map symbol)

An area where the surface layer has a sodium adsorption ratio that is at least 10 more than that of the surface layer of the named soils in the surrounding map unit. The surface layer of the surrounding soils has a sodium adsorption ratio of 5 or less.

Sodicity

The degree to which a soil is affected by exchangeable sodium. Sodicity is expressed as a sodium adsorption ratio (SAR) of a saturation extract, or the ratio of Na^{+} to $Ca^{++} + Mg^{++}$. The degrees of sodicity and their respective ratios are:

Slight: Less than 13:1
Moderate: 13-30:1
Strong: More than 30:1

Sodium adsorption ratio (SAR)

A measure of the amount of sodium (Na) relative to calcium (Ca) and magnesium (Mg) in the water extract from saturated soil paste. It is the ratio of the Na concentration divided by the square root of one-half of the Ca + Mg concentration.

Soft bedrock

Bedrock that can be excavated with trenching machines, backhoes, small rippers, and other equipment commonly used in construction.

Soil

A natural, three-dimensional body at the earth's surface. It is capable of supporting plants and has properties resulting from the integrated effect of climate and living matter acting on earthy parent material, as conditioned by relief and by the passage of time.

Soil separates

Mineral particles less than 2 millimeters in equivalent diameter and ranging between specified size limits. The names and sizes, in millimeters, of separates recognized in the United States are as follows:

Very coarse sand: 2.0 to 1.0
Coarse sand: 1.0 to 0.5
Medium sand: 0.5 to 0.25
Fine sand: 0.25 to 0.10
Very fine sand: 0.10 to 0.05
Silt: 0.05 to 0.002
Clay: Less than 0.002

Solum

The upper part of a soil profile, above the C horizon, in which the processes of soil formation are active. The solum in soil consists of the A, E, and B horizons. Generally, the characteristics of the material in these horizons are unlike those of the material below the solum. The living roots and plant and animal activities are largely confined to the solum.

Spoil area (map symbol)

A pile of earthy materials, either smoothed or uneven, resulting from human activity.

Stone line

In a vertical cross section, a line formed by scattered fragments or a discrete layer of angular and subangular rock fragments (commonly a gravel- or cobble-sized lag concentration) that formerly was draped across a topographic surface and was later buried by additional sediments. A stone line generally caps material that was subject to weathering, soil formation, and erosion before burial. Many stone lines seem to be buried erosion pavements, originally formed by sheet and rill erosion across the land surface.

Stones

Rock fragments 10 to 24 inches (25 to 60 centimeters) in diameter if rounded or 15 to 24 inches (38 to 60 centimeters) in length if flat.

Stony

Refers to a soil containing stones in numbers that interfere with or prevent tillage.

Stony spot (map symbol)

A spot where 0.01 to 0.1 percent of the soil surface is covered by rock fragments that are more than 10 inches in diameter in areas where the surrounding soil has no surface stones.

Strath terrace

A type of stream terrace; formed as an erosional surface cut on bedrock and thinly mantled with stream deposits (alluvium).

Stream terrace

One of a series of platforms in a stream valley, flanking and more or less parallel to the stream channel, originally formed near the level of the stream; represents the remnants of an abandoned flood plain, stream bed, or valley floor produced during a former state of fluvial erosion or deposition.

Stripcropping

Growing crops in a systematic arrangement of strips or bands that provide vegetative barriers to wind erosion and water erosion.

Structure, soil

The arrangement of primary soil particles into compound particles or aggregates. The principal forms of soil structure are:

Platy: Flat and laminated

Prismatic: Vertically elongated and having flat tops

Columnar: Vertically elongated and having rounded tops

Angular blocky: Having faces that intersect at sharp angles (planes)

Subangular blocky: Having subrounded and planar faces (no sharp angles)

Granular: Small structural units with curved or very irregular faces

Structureless soil horizons are defined as follows:

Single grained: Entirely noncoherent (each grain by itself), as in loose sand

Massive: Occurring as a coherent mass

Stubble mulch

Stubble or other crop residue left on the soil or partly worked into the soil. It protects the soil from wind erosion and water erosion after harvest, during preparation of a seedbed for the next crop, and during the early growing period of the new crop.

Subsoil

Technically, the B horizon; roughly, the part of the solum below plow depth.

Subsoiling

Tilling a soil below normal plow depth, ordinarily to shatter a hardpan or claypan.

Substratum

The part of the soil below the solum.

Subsurface layer

Any surface soil horizon (A, E, AB, or EB) below the surface layer.

Summer fallow

The tillage of uncropped land during the summer to control weeds and allow storage of moisture in the soil for the growth of a later crop. A practice common in semiarid regions, where annual precipitation is not enough to produce a crop every year. Summer fallow is frequently practiced before planting winter grain.

Summit

The topographically highest position of a hillslope. It has a nearly level (planar or only slightly convex) surface.

Surface layer

The soil ordinarily moved in tillage, or its equivalent in uncultivated soil, ranging in depth from 4 to 10 inches (10 to 25 centimeters). Frequently designated as the “plow layer,” or the “Ap horizon.”

Surface soil

The A, E, AB, and EB horizons, considered collectively. It includes all subdivisions of these horizons.

Talus

Rock fragments of any size or shape (commonly coarse and angular) derived from and lying at the base of a cliff or very steep rock slope. The accumulated mass of such loose broken rock formed chiefly by falling, rolling, or sliding.

Taxadjuncts

Soils that cannot be classified in a series recognized in the classification system. Such soils are named for a series they strongly resemble and are designated as taxadjuncts to that series because they differ in ways too small to be of consequence in interpreting their use and behavior. Soils are recognized as taxadjuncts only when one or more of their characteristics are slightly outside the range defined for the family of the series for which the soils are named.

Terminal moraine

An end moraine that marks the farthest advance of a glacier. It typically has the form of a massive arcuate or concentric ridge, or complex of ridges, and is underlain by till and other types of drift.

Terrace (conservation)

An embankment, or ridge, constructed across sloping soils on the contour or at a slight angle to the contour. The terrace intercepts surface runoff so that water soaks into the soil or flows slowly to a prepared outlet. A terrace in a field

generally is built so that the field can be farmed. A terrace intended mainly for drainage has a deep channel that is maintained in permanent sod.

Terrace (geomorphology)

A steplike surface, bordering a valley floor or shoreline, that represents the former position of a flood plain, lake, or seashore. The term is usually applied both to the relatively flat summit surface (tread) that was cut or built by stream or wave action and to the steeper descending slope (scarp or riser) that has graded to a lower base level of erosion.

Terracettes

Small, irregular steplike forms on steep hillslopes, especially in pasture, formed by creep or erosion of surficial materials that may be induced or enhanced by trampling of livestock, such as sheep or cattle.

Texture, soil

The relative proportions of sand, silt, and clay particles in a mass of soil. The basic textural classes, in order of increasing proportion of fine particles, are *sand, loamy sand, sandy loam, loam, silt loam, silt, sandy clay loam, clay loam, silty clay loam, sandy clay, silty clay,* and *clay*. The sand, loamy sand, and sandy loam classes may be further divided by specifying “coarse,” “fine,” or “very fine.”

Thin layer

Otherwise suitable soil material that is too thin for the specified use.

Till

Dominantly unsorted and nonstratified drift, generally unconsolidated and deposited directly by a glacier without subsequent reworking by meltwater, and consisting of a heterogeneous mixture of clay, silt, sand, gravel, stones, and boulders; rock fragments of various lithologies are embedded within a finer matrix that can range from clay to sandy loam.

Till plain

An extensive area of level to gently undulating soils underlain predominantly by till and bounded at the distal end by subordinate recessional or end moraines.

Tilth, soil

The physical condition of the soil as related to tillage, seedbed preparation, seedling emergence, and root penetration.

Toeslope

The gently inclined surface at the base of a hillslope. Toeslopes in profile are commonly gentle and linear and are constructional surfaces forming the lower part of a hillslope continuum that grades to valley or closed-depression floors.

Topsoil

The upper part of the soil, which is the most favorable material for plant growth. It is ordinarily rich in organic matter and is used to topdress roadbanks, lawns, and land affected by mining.

Trace elements

Chemical elements, for example, zinc, cobalt, manganese, copper, and iron, in soils in extremely small amounts. They are essential to plant growth.

Tread

The flat to gently sloping, topmost, laterally extensive slope of terraces, flood-plain steps, or other stepped landforms; commonly a recurring part of a series of natural steplike landforms, such as successive stream terraces.

Tuff

A generic term for any consolidated or cemented deposit that is 50 percent or more volcanic ash.

Upland

An informal, general term for the higher ground of a region, in contrast with a low-lying adjacent area, such as a valley or plain, or for land at a higher elevation than the flood plain or low stream terrace; land above the footslope zone of the hillslope continuum.

Valley fill

The unconsolidated sediment deposited by any agent (water, wind, ice, or mass wasting) so as to fill or partly fill a valley.

Variegation

Refers to patterns of contrasting colors assumed to be inherited from the parent material rather than to be the result of poor drainage.

Varve

A sedimentary layer or a lamina or sequence of laminae deposited in a body of still water within a year. Specifically, a thin pair of graded glaciolacustrine layers seasonally deposited, usually by meltwater streams, in a glacial lake or other body of still water in front of a glacier.

Very stony spot (map symbol)

A spot where 0.1 to 3.0 percent of the soil surface is covered by rock fragments that are more than 10 inches in diameter in areas where the surface of the surrounding soil is covered by less than 0.01 percent stones.

Water bars

Smooth, shallow ditches or depressional areas that are excavated at an angle across a sloping road. They are used to reduce the downward velocity of water and divert it off and away from the road surface. Water bars can easily be driven over if constructed properly.

Weathering

All physical disintegration, chemical decomposition, and biologically induced changes in rocks or other deposits at or near the earth's surface by atmospheric or biologic agents or by circulating surface waters but involving essentially no transport of the altered material.

Well graded

Refers to soil material consisting of coarse grained particles that are well distributed over a wide range in size or diameter. Such soil normally can be easily increased in density and bearing properties by compaction. Contrasts with poorly graded soil.

Wet spot (map symbol)

A somewhat poorly drained to very poorly drained area that is at least two drainage classes wetter than the named soils in the surrounding map unit.

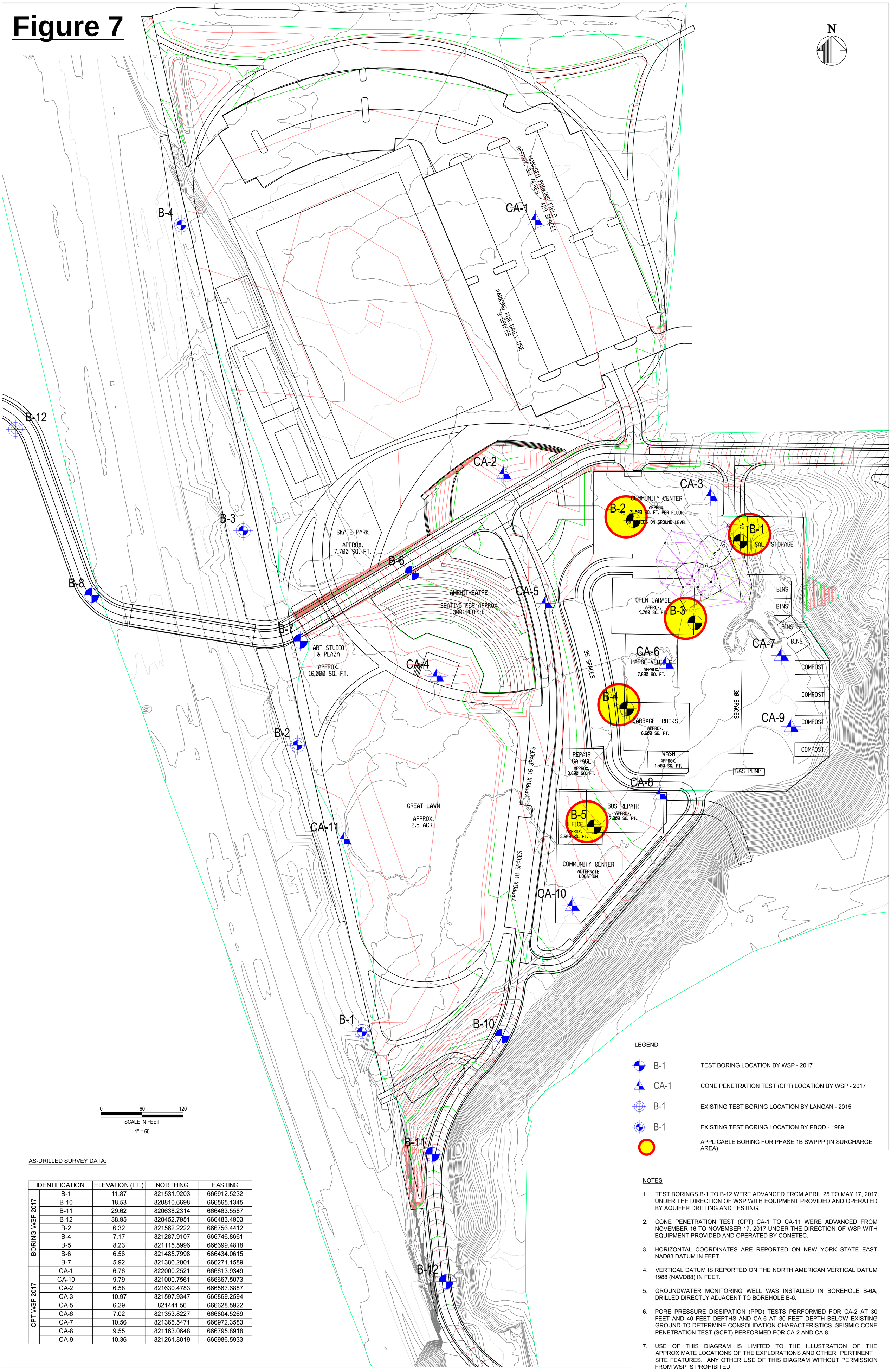
Wilting point (or permanent wilting point)

The moisture content of soil, on an ovendry basis, at which a plant (specifically a sunflower) wilts so much that it does not recover when placed in a humid, dark chamber.

Windthrow

The uprooting and tipping over of trees by the wind.

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
- APPLICABLE BORING FOR PHASE 1B SWPPP (IN SURCHARGE AREA)

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
   a. Preamble to Site Assessment and Inspections
   b. Pre-Construction Site Assessment Checklist

II. Construction Duration Inspections
   a. Directions
   b. Modification to the SWPPP

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

Construction Plans (Phase 2)

SLEEPY HOLLOW COMMONS - PHASE II

PREPARED FOR THE VILLAGE OF SLEEPY HOLLOW

TOWN OF MOUNT PLEASANT, WESTCHESTER COUNTY, NEW YORK

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5	ROADWAY SECTION	TS101
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7	OVERALL SITE PLAN	SP101
8	EXISTING CONDITIONS AND REMOVAL PLAN - 1	EX101
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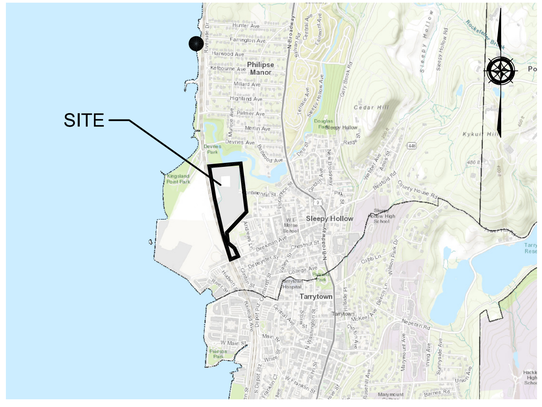
69	EROSION AND SEDIMENT CONTROL DETAILS - 3	ESCD103
70	EROSION AND SEDIMENT CONTROL DETAILS - 4	ESCD104



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, 2018, 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.
500 Summit Lake Drive, Suite 450
Valhalla, NY 10595
(914) 747-1120

ENGINEER OF RECORD:

STATE OF NEW YORK
SCOTT C. GIBSON
070904
LICENSED PROFESSIONAL ENGINEER

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 EAST PARCEL PROJECT - PHASE II

VILLAGE OF SLEEPY HOLLOW WESTCHESTER COUNTY, NEW YORK

ISSUE DATE: 01/2023

PROJECT NUMBER: I188137H

SCALE: NONE

DRAWING NAME: **COVER SHEET**

DRAWING NUMBER: CS101

SHEET NUMBER: 1

Drawing Path\Name: C:\Jms\wsp--pb--us--pw--02\Jias.giordano@wsp.com\d0376312\EPsheet_2001.dwg Printed: Dec 16, 2022, 3:23pm Layout: TS--1

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 1, 2022 AS AMENDED BY CURRENT ADDITIONS AND MODIFICATIONS THERETO, THE 2015 INTERNATIONAL CODES, 2017 UNIFORM CODE SUPPLEMENT, 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 AND STAKEOUT.

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/STATE

      1. WESTCHESTER COUNTY DEPARTMENT OF ENVIRONMENTAL FACILITIES
      2. WESTCHESTER COUNTY DEPARTMENT OF HEALTH
      3. VILLAGE OF SLEEPY HOLLOW POLICE
      4. VILLAGE OF SLEEPY HOLLOW SCHOOL DISTRICT
      5. VILLAGE OF SLEEPY HOLLOW DEPARTMENT OF PUBLIC WORKS
      6. VILLAGE OF SLEEPY HOLLOW BUILDING DEPARTMENT
      7. VILLAGE OF SLEEPY HOLLOW SEWER DISTRICT
      8. VILLAGE OF SLEEPY HOLLOW WATER DISTRICT
      9. VILLAGE OF SLEEPY HOLLOW FIRE DEPARTMENT
      10. NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION (NYSDEC)

   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 IN 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 CONTRACT OPERATIONS. 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-BASIC WORK ZONE TRAFFIC CONTROL.

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

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

13. THE 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.

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 ITEM.

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 ITEM.

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.IN LIEU OF TRANSPORTING IF OFFSITE, REMOVED ASPHALT MAY BE RUBBLIZED/STOCKPILED FOR USE AS ROADWAY SUBBASE.

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. ALL WORK SHALL CONFORM TO THE SITE PLAN APPROVAL RESOLUTION, DATED: XX/XX/XXXX

24. AS-BUILT PLANS/SURVEYS SHALL BE SUBMITTED TO THE VILLAGE UPON COMPLETION OF THE WORK.

25. ANY IMPORTED TOPSOIL SHALL COMPLY WITH ALL FEDERAL, STATE, AND LOCAL REQUIREMENTS FOR QUALITY AND USE.

26. IF AN EXISTING PIPE IS TO BE ABANDONED AND IS FREE OF OBSTRUCTIONS TO ALLOW THE FLOWABLE FILL TO GRAVITY FEED THE ENTIRE LENGTH OF THE POPE, THE CONTRACTOR SHALL SEAL THE LOWER END OF THE POPE BY MEANS SUITABLE TO THE ENGINEER. THE SEAL SHALL BE VENTED SUCH THAT AIR VOIDS DO NOT FORM IN THE PIPE WHEN THE FLOWABLE FILL IS PLACED. THE FLOWABLE FIT SHALL BE DISCHARGED FROM A MIXER INTO THE HIGH END OF THE ABANDONED DRAINAGE PIPE BY ANY MEANS ACCEPTABLE TO THE ENGINEER. NO FLOWABLE FILL SHALL BE PLACED INTO THE ADJACENT PIPES OR MANHOLE TO RENDER THESE STRUCTURES NON-FUNCTIONAL. AFTER COMPLETING THE WORK, BOTH ENDS OF THE ABANDONED DRAINAGE PIPE SHOULD BE SEALED IN A NEAT, WORKMANLIKE MANNER THAT IS ACCEPTABLE TO THE ENGINEER.

EXCAVATION NOTES:

1. WHERE A GENERAL EXCAVATION OF UNSUITABLE OR UNSTABLE MATERIAL IS REQUIRED TO EXTEND BEYOND THE LATERAL AND DEPTH LIMITS INDICATED, THE EXCAVATION WITHIN THE LIMITS SHOWN WILL BE PAID AS "UNCLASSIFIED EXCAVATION AND DISPOSAL" UNDER ITEM 203.02 AND THIS QUANTITY WILL BE DEDUCTED FROM THE RESPECTIVE CONTRACT QUANTITIES FOR "TRENCH AND CULVERT EXCAVATION" UNDER ITEM 206.0201. SUCH WORK SHALL BE PERMITTED BY THE ENGINEER.

2. WHERE A STABLE WORKING PLATFORM MUST FIRST BE ESTABLISHED OVER A SUBMERGED OR UNSTABLE SURFACE, THE ENGINEER MAY SPECIFY A LOWER EMBANKMENT LEVEL FOR INITIATING THE EXCAVATION FOR THE PIPE. IN THIS CASE, COMPLETE THE REMAINDER OF THE INSTALLATION ABOVE THE "WORKING PLATFORM".

   FOR PIPE INSTALLED IN A ROCK TRENCH, SIDE PAYMENT LINES FOR TRENCH EXCAVATION ARE THE SAME AS DETAILED HEREIN. THE PAYMENT LINE FOR DEPTH OF EXCAVATION IS THE DEPTH NEEDED TO PLACE THE BEDDING MATERIAL AND THE UNDERCUT BACKFILL MATERIAL, SELECT GRANULAR FILL. THE MINIMUM TRENCH WIDTH MAY BE ADJUSTED IF CONTROLLED LOW STRENGTH MATERIAL (CLSM) IS TO BE USED AS BACKFILL.

3. THE CONTRACTOR SHALL DESIGN, FURNISH, PLACE, MAINTAIN AND REMOVE A SHIELDS AND SHORING SYSTEM AT LOCATIONS WITH TRENCH EXCAVATION GREATER THAN 5 FT BUT LESS THAN 20 FT. FOR DEPTH OF TRENCH EXCAVATION, SEE DRAINAGE STRUCTURE TABLES IN THE 'C' DRAWINGS. ANY EXCAVATION WHICH EXCEEDS FIVE (5) FEET IN DEPTH AND HAS LIVE TRAFFIC, STRUCTURES OR UTILITIES WITHIN A 1V:1H PROJECTION FROM THE BOTTOM OF THE EXCAVATION SHALL UTILIZE A SHORING SYSTEM WHICH PROVIDES DIRECT SUPPORT OF THE TRENCH WALLS FOR THE FULL HEIGHT OF THE EXCAVATION (A TRENCH BOX DOES NOT MEET THIS REQUIREMENT). THE CONTRACTOR SHALL PROVIDE VERIFICATION (I.E., MANUFACTURER'S DATA SHEETS AND/OR P.E. DESIGN COMPUTATIONS) TO THE NYSDOT DEMONSTRATING THAT THE SYSTEM CHOSEN CAN ACCOMMODATE THE ANTICIPATED SOIL, WATER AND SURCHARGE LOADS. IT MAY BE LEFT IN PLACE ONLY WITH THE WRITTEN AUTHORIZATION OF THE ENGINEER. ALL COSTS ARE INCLUDED UNDER ITEM 552.17.

4. THE CONTRACTOR SHALL OBSERVE AND FULLY COMPLY WITH THE SITE MANAGEMENT PLAN AS REQUIRED BY THE NYSDEC BROWNFIELD CLEANUP PROGRAM (INDEX# C360070-12-10, DATED DECEMBER 31, 2010 AND AMENDED AUGUST 20, 2013).

BEDDING NOTES:

1. COMPUTE THE ACTUAL BEDDING THICKNESS AS THE DISTANCE FROM INVERT TO BEDDING CONTROL LINE MINUS THE PIPE WALL THICKNESS.

2. TO ESTABLISH STABLE BEDDING CONDITIONS, AN UNDERCUT BACKFILLED WITH SELECT STRUCTURAL FILL MATERIAL MAY BE ORDERED BY THE ENGINEER. THE MINIMUM DEPTH OF UNDERCUT AS MEASURED FROM THE BCL IS 1'-0" AND THE MAXIMUM IS 2'-0".

3. LOOSELY PLACE SELECT STRUCTURAL FILL IN MIDDLE BEDDING AREA (Bc /3). DO NOT COMPACT MIDDLE BEDDING AREA.

4. COMPACT THE OUTER BEDDING AREAS IN CONFORMANCE WITH THE REQUIREMENTS OF NYSDOT STANDARD SPECIFICATIONS SECTION 203.

BACKFILL NOTES:

1. COMPACT IN CONFORMANCE WITH THE REQUIREMENTS OF NYSDOT STANDARD SPECIFICATIONS SECTION 203.

2. IF REQUIRED, CONTROLLED LOW STRENGTH MATERIAL (CLSM) SHALL BE PLACED IN CONFORMANCE WITH THE REQUIREMENTS OF WESTCHESTER COUNTY DEPARTMENT OF HEALTH.

SITE ACCESS NOTES:

1. CONTRACTOR SHALL MAINTAIN ACCESS TO THE SITE AT ALL TIMES BY WAY OF ROADWAY PLATING OR OTHER METHOD APPROVED BY ENGINEER.

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 GENERAL 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. THE 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.

SANITARY SEWER NOTES:

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING ANY SANITARY SEWER SERVICE CONNECTIONS BEFORE OR DURING EXCAVATION OPERATIONS WHEN IT IS PRACTICAL TO DO SO.

2. SEWERS SHALL BE LAID WITH STRAIGHT ALIGNMENT BETWEEN MANHOLES. STRAIGHT ALIGNMENT SHALL BE CHECKED BY EITHER USING A LASER BEAM OR LAMPING.

3. ALL PROPOSED SANITARY SEWERS (APPROXIMATELY 1290 FEET) SHALL BE CLASS 56 TYTON JOINT® SLIP-ON DUCTILE IRON PIPE WITH TYTON GASKETS ® AND LINED WITH PROTECTO 401™ CERAMIC EPOXY, BY U.S. PIPE AND FOUNDRY CO. OR EQUAL SUBJECT TO APPROVAL OF THE VILLAGE OF SLEEPY HOLLOW.

4. INSTALLATION OF PIPE AND FITTINGS, INCLUDING BUT NOT LIMITED TO HANDLING, CUTTING, AND REPAIRING, SHALL CONFORM TO THE MANUFACTURER'S RECOMMENDATIONS.

5. LEDGE, BOULDERS, AND LARGE STONES SHALL BE REMOVED TO PROVIDE A MINIMUM CLEARANCE OF 4 INCHES BELOW AND EACH SIDE OF ALL SEWER PIPE(S).

6. ALL WATER ENTERING THE EXCAVATIONS OR OTHER PARTS OF THE WORK SHALL BE REMOVED. SEE EXCAVATION NOTES, DEWATERING NOTES, AND EROSION AND SEDIMENT CONTROL NOTES.

PERMANENT WATER SUPPLY NOTES:

1. WATER MAINS SHALL HAVE A MINIMUM OF 5'-0" COVER.

2. ALL HORIZONTAL AND VERTICAL BENDS REQUIRE THRUST BLOCKS, SEE NYSDOT 663 SERIES OF STANDARD SHEETS FOR DETAILS.

3. ALL WATER MAINS TO BE DISINFECTED IN ACCORDANCE WITH AWWA SPECIFICATION C651-14, EXCEPT FOR SECTION 5.1 LATEST REVISION. ACCEPTABLE REQULTS OF BACTERIOLOGICAL ANALYSIS OF SAMPLES OF WATER COLLECTED FROM THE NEW DISTRIBUTION MAIN AFTER DISINFECTION SHALL BE SUBMITTED TO THE VILLAGE OF SLEEPY HOLLOW, AND THE WESTCHESTER COUNTY HEALTH DEPARTMENT (WCDOH) PRIOR TO USE. WCDOH MUST BE NOTIFIED A MINIMUM OF 48 HRS PRIOR TO ANY LEAKAGE TESTING.

4. PRESSURE AND LEAKAGE TESTS WILL BE DONE IN ACCORDANCE WITH THE LATEST AWWA STANDARDS (C600).

5. PIPE SHALL BE 8" DIAMETER DUCTILE IRON CEMENT LINED CLASS 52 ANSI/AWWA C151/A21.5.

6. TYTON JOINT PIPE WITH MECHANICAL JOINT TYTON FITTINGS AND FIELD-LOK GASKETS OR APPROVED EQUAL SHALL BE USED AT ALL UNDERGROUND LOCATIONS.

7. TR FLEX PIPE WITH RESTRAINED JOINTS AND FITTINGS AND FIELD-LOK GASKETS OR APPROVED EQUAL SHALL BE USED FOR PORTIONS WITHIN THE LIMITS OF WORK, ITEMS 663.0106, 663.0108 AND 663.0112.

8. FITTINGS SHALL BE AS PER ITEMS 663.2001 AND 663.2002.

9. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE 663 SECTION OF THE NYSDOT STANDARD SPECIFICATIONS.

10. SEE NYSDOT STANDARD SHEETS 663-01 TO 663-07 FOR ADDITIONAL WATER MAIN INSTALLATION DETAILS, SPECIFICALLY, BUT NOT LIMITED TO TRENCHING, HORIZONTAL AND VERTICAL THRUST BLOCKS, HYDRANTS, AND SERVICE CONNECTIONS.

11. UPON COMPLETION AND PRIOR TO USE, TWO (2) SETS OF AS-BUILT PLANS MUST BE SUBMITTED TOGETHER WITH P.E. CERTIFICATION OF CONSTRUCTION AND ACCEPTABLE RESULTS OF BACTERIOLOGICAL TESTING AND HYDROSTATIC PRESSURE TESTING.

SURVEY NOTES:

1. PERMANENT SANITARY SEWER AND TEMPORARY WATER MAIN LOCATIONS AS SHOWN ON THE PLANS WERE FOUND USING THE AS-BUILT DRAWINGS FROM SLEEPY HOLLOW COMMONS PROJECT - PHASE I, DATED FEBRUARY 11, 2020.

2. AERIAL SURVEY PERFORMED BY CONTROL POINT ASSOCIATES INC. PC. DATED JANUARY 26, 2022. NAD 1983 COORDINATE SYSTEM.

COORDINATION NOTES:

1. THE CONTRACTOR SHALL COORDINATE HIS/HER WORK WITH OTHER CONTRACTORS, THE VILLAGE OF SLEEPY HOLLOW DEPARTMENT OF PUBLIC WORKS, AND THE HISTORIC HUDSON VALLEY.

2. THE CONTRACTOR SHALL BE AWARE THAT THE SLEEPY HOLLOW DPW FACILITY WILL BE UNDER CONSTRUCTION WITH AN EXPECTED START DATE OF MAY 1, 2023. THIS WORK WILL TAKE PLACE ON THE EAST PARCEL IN THE AREA IDENTIFIED ON THE CONTRACT DRAWINGS. THE PHASE 2 CONTRACTOR SHALL COORDINATE THEIR WORK WITH THE CONTRACTOR WHO IS CONSTRUCTING THE DPW FACILITY. SPECIFICALLY, THE PHASE 2 CONTRACTOR SHALL SEQUENCE THEIR WORK TO EXCAVATE AND ROUGH GRADE THE FUTURE DPW AREA, AS SHOWN ON THE GRADING AND UTILITIES PLAN, AS AN INITIAL WORK ACTIVITY, IN ORDER FOR THE DPW CONSTRUCTION TO COMMENCE.

SLEEPY HOLLOW
LOCAL DEVELOPMENT CORPORATION

WSP USA INC.
500 Summit Lake Drive, Suite 450
Valhalla, NY 10595
(914) 747-1120

ENGINEER OF RECORD:

SCOTT C. GRIBEN
NEW YORK STATE LICENSED PROFESSIONAL ENGINEER
070904

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 EAST PARCEL PROJECT - PHASE II

VILLAGE OF SLEEPY HOLLOW WESTCHESTER COUNTY, NEW YORK

ISSUE DATE: 01/2023

PROJECT NUMBER: I188137H

SCALE: NONE

DRAWING NAME: **GENERAL NOTES - 1**

DRAWING NUMBER: GEN101

SHEET NUMBER: 2

Drawing Path\Name: C:\sms\wsp--pb--us--pw--02\wsp__shaun.scahr\d037631f\EPsrcs6--0003_0005.dwg Printed: Jan 10, 2023, 12:01pm Layout: GEN-01

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), NOVEMBER 2016), 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. ALL OPERATIONS SHALL BE CONDUCTED IN ACCORDANCE WITH THE PROJECT'S APPROVED STORMWATER POLLUTION PREVENTION PLAN (SWPPP) TITLED, "EAST PARCEL FILLING OPERATIONS SITE PREPARATION PLAN - STORMWATER POLLUTION PREVENTION PLAN" AND CONSTRUCTION GENERAL PERMIT GP-0-15-002. THE BID DOCUMENTS (BID BOOK AND PLANS) DEVELOPED FOR THE SLEEPY HOLLOW COMMONS PHASE I UTILITY WORK IS AN OFFICIAL AMENDMENT TO THE ABOVE NOTED SWPPP DOCUMENT. THE QUALIFIED INSPECTOR (AS DESIGNATED BY THE OWNER), SHALL MAKE ANY NECESSARY DETERMINATION IN THE EVENT OF A CONTRADICTION BETWEEN THE ORIGINAL SWPPP DOCUMENT AND THE AMENDMENTS NOTED HEREIN.
16. ANY IMPORTED TOPSOIL SHALL COMPLY WITH ALL FEDERAL, STATE, AND LOCAL REQUIREMENTS FOR QUALITY AN USE.
17. ALL SOIL RESTORATION PROCEDURES SHALL BE CONSISTENT WITH CHAPTER 5 OF THE NYSDEC STORMWATER MANAGEMENT DESIGN MANUAL (JANUARY 2015).
18. TEMPORARY SOIL EROSION AND SEDIMENT CONTROLS ARE NOT TO BE REMOVED UNTIL PERMANENT STABILIZATION (80% UNIFORM DENSITY OF PERMANENT VEGETATION OR PERMANENT MULCH/STONE) IS ESTABLISHED IN ALL CONTRIBUTORY DRAINAGE AREAS PER THE NOVEMBER 2016 NYS STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL.
19. TEMPORARY SEED SHALL BE PLACED IN ALL DISTURBED AREAS THAT WILL BE LEFT EXPOSED FOR MORE THAN 21 DAYS AND NOT SUBJECT TO CONSTRUCTION TRAFFIC. DISTURBED AREAS SHALL BE LIMITED AND BE COVERED WITH A LAYER OF TOPSOIL PRIOR TO SEEDING. SEEDING SHALL BE INSPECTED FOR BARE SPOTS, WASH OUTS, AND HEALTHY GROWTH. IF REQUIRED, ADDITIONAL SEEDING SHALL BE PERFORMED. THE SEED MIX SHALL FOLLOW THAT SPECIFIED IN THE NYS STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL.

DEWATERING NOTES:

1. GROUNDWATER MAY BE ENCOUNTERED DURING UTILITY TRENCHING AND THE INSTALLATION OF VARIOUS OTHER CONTRACT ITEMS. THE COST FOR DEWATERING SHALL BE INCLUDED IN THE RESPECTIVE EXCAVATION ITEMS. GROUNDWATER IS NOT EXPECTED TO BE ENCOUNTERED DURING CONSTRUCTION OF THE RETAINING WALLS.
2. ~~THE CONTRACTOR SHALL PROVIDE A DEWATERING PLAN INCLUDING A COMPLETE PROCESS DESCRIPTION AND PRODUCT SHEETS TO THE OWNER AND ENGINEER FOR APPROVAL PRIOR TO COMMENCING DEWATERING OPERATIONS.~~
3. 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").

LEGEND

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

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
DIP	DUCTILE IRON PIPE
CMP	CORRUGATED METAL PIPE
INV	INVERT

NYSDOT STANDARD SHEETS

203-01	603-05	609-02	645-03
203-02	604-02	611-01	655-02
203-04	606-09	619-01	655-08
203-05	606-43	619-02	663-01
209-01	607-05	619-04	663-02
209-02	607-06	619-10	663-03
209-03	608-01	619-11	663-04
209-04	608-02	619-12	663-05
209-05	608-03	619-60	663-07
209-07	608-07	625-01	685-01
603-02	609-01	645-01	

SLEEPY HOLLOW
LOCAL DEVELOPMENT CORPORATION

WSP USA INC.
500 Summit Lake Drive, Suite 450
Valhalla, NY 10595
(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:
02/13/2023 - GROUNDWATER NOTE REVISIONS

PROJECT NAME:

SLEEPY HOLLOW EAST PARCEL PROJECT - PHASE II

VILLAGE OF SLEEPY HOLLOW
WESTCHESTER COUNTY, NEW YORK

ISSUE DATE: SEPTEMBER 2022

PROJECT NUMBER: I188137H

SCALE: NONE

DRAWING NAME: **GENERAL NOTES - 2**

DRAWING NUMBER: GEN102

SHEET NUMBER: 3 OF 67

Drawing Path\Name: C:\bims\wsp-pb--us-pw-02\wsp__#hsun.suah\d0378312\Parcel--0003_0005.dwg Printed: Feb 14, 2023, 12:22pm Layout: GEN--02

Item	Unit	Item Description	Supplemental Description	Quantity
201.07	ACRE	CLEARING AND GRUBBING		4
201.030002	CY	UNCLASSIFIED EXCAVATION AND ONSITE REUSE	**SPECIAL SPECIFICATION**	72000
206.0201	CY	TRENCH AND CULVERT EXCAVATION		4225
209.1003	SY	SEED AND MULCH - TEMPORARY		19950
209.11010011	EACH	TEMPORARY CATCH BASIN INSERTS FOR DRAINAGE STRUCTURESTRASH, SEDIMENT AND DEBRIS REMOVAL		33
209.13	LF	SILT FENCE-TEMPORARY		5330
209.22	SY	CONSTRUCTION ENTRANCE		680
304.11	CY	SUBBASE COURSE, TYPE 1		2050
402.097104	TON	9.5 F1 Top Course HMA, 70 Series Compaction		500
402.197904	TON	19 F9 Binder Course HMA, 70 Series Compaction		850
402.377904	TON	37.5 F9 Base Course HMA, 70 Series Compaction		2150
407.0103	GAL	STRAIGHT TACK COAT		2050
490.30	SY	MISCELLANEOUS COLD MILLING OF BITUMINOUS CONCRETE		6500
554.40	SF	FILL TYPE RETAINING WALL (0 - 6FT.)	**SPECIAL SPECIFICATION**	250
554.42010011	SF	T-WALL (GREATER THAN 12 FT TO 18 FT)	**SPECIAL SPECIFICATION**	1200
554.43010011	SF	T-WALL (GREATER THAN 18 FT TO 24 FT)	**SPECIAL SPECIFICATION**	1600
554.44010011	SF	T-WALL (GREATER THAN 24 FT TO 30 FT)	**SPECIAL SPECIFICATION**	2200
554.45010011	SF	T-WALL (GREATER THAN 30 FT)	**SPECIAL SPECIFICATION**	2750
552.17	SF	SHIELDS AND SHORING	**SPECIAL SPECIFICATION**	3500
555.10000006	CY	ABANDON EXISTING CULVERT		10
569.10010011	LF	SINGLE SLOPE HALF SECTION BRIDGE BARRIER WITH MOMENT SLAB	**SPECIAL SPECIFICATION**	100
603.6002	LF	REINFORCED CONCRETE PIPE CLASS III, 15 INCH DIAMETER		1300
603.6003	LF	REINFORCED CONCRETE PIPE CLASS III, 18 INCH DIAMETER		1200
603.6004	LF	REINFORCED CONCRETE PIPE CLASS III, 21 INCH DIAMETER		540
603.6005	LF	REINFORCED CONCRETE PIPE CLASS III, 24 INCH DIAMETER		370
603.7302	EACH	REINFORCED CONCRETE PIPE END SECTIONS 15 INCHDIAMETER		1
603.7303	EACH	REINFORCED CONCRETE PIPE END SECTIONS 18 INCHDIAMETER		1
603.7305	EACH	REINFORCED CONCRETE PIPE END SECTIONS 24 INCHDIAMETER		1
603.77	EACH	CONCRETE COLLARS		1
603.98100602	LF	SMOOTH INTERIOR PERFORATED CORRUGATED POLYETHYLENEUNDERDRAIN PIPE - 6 INCH		2130
603.99050002	EACH	CONCRETE PLUGS FOR SEWER PIPE		1
604.070801	EACH	ALTERING DRAINAGE STRUCTURES, LEACHING BASINS AND MANHOLES		7
604.300503	LF	RECTANGULAR DRAINAGE STRUCTURE TYPE E FOR #3 WELDED FRAME		155
606.22	EACH	ANCHORAGE UNITS FOR CORRUGATED BEAM GUIDE RAILING		4
606.2701	LF	HPBO (MOD.) CORRUGATED BEAM GUIDE RAILING		2200
606.71	LF	REMOVING AND DISPOSING CORRUGATED BEAM GUIDE RAILING		1280
606.7910	EACH	REMOVING AND DISPOSING ANCHORAGE UNITS FOR CORRUGATED BEAMGUIDE RAILING AND MEDIAN BARRIER		4
606.8903	EACH	TRANSITION: HEAVY POSTS BLOCKED OUT (MOD.) CORRUGATED BEAMGUIDE RAILING TO SINGLE SLOPE CONCRETE HALF SECTION BARRIER		2
607.0522	LF	VINYL COATED STEEL CHAIN-LINK FENCE ON PLASTIC COATED FRAMEWITH TOP TENSION WIRE 6 FEET HIGH		1070
607.1651	EACH	VINYL COATED STEEL FENCE GATE ON PLASTIC COATED FRAME(DOUBLE LEAF 10 FEET OPENING, 6 FEET HIGH)		1
607.41010010	LF	TEMPORARY PLASTIC BARRIER FENCE		1000
607.70010001	LF	DECORATIVE METAL FENCES AND GATES	**SPECIAL SPECIFICATION**	530
607.99870011	LF	REMOVE EXISTING CHAIN-LINK FENCE		580
608.0101	CY	CONCRETE SIDEWALKS AND DRIVEWAYS		190
608.01050409	EACH	CURB RAMP CONFIGURATION TYPE 4		5
608.01051409	EACH	CURB RAMP CONFIGURATION TYPE 14		5
609.0201	LF	STONE CURB, GRANITE, (TYPE A)		4020
610.1402	CY	TOPSOIL - ROADSIDE	Utilize On-site stockpile to be screened;	3330
610.1601	SY	TURF ESTABLISHMENT - ROADSIDE		19950
614.0601nn	EACH	TREE REMOVAL OVER 4" TO 6" DIAM. BREAST HEIGHT		20
614.0602nn	EACH	TREE REMOVAL OVER 6" TO 12" AT BREAST HEIGHT		20
614.0603nn	EACH	TREE REMOVAL OVER 12" TO 18" AT BREAST HEIGHT		5
614.0604nn	EACH	TREE REMOVAL OVER 18" TO 24" AT BREAST HEIGHT		5
614.0605nn	EACH	TREE REMOVAL OVER 24" TO 36" AT BREAST HEIGHT		3
619.04	EACH	TYPE III CONSTRUCTION BARRICADE		10
625.01	LS	SURVEY OPERATIONS		1
627.50140008	LF	CUTTING PAVEMENT		180
634.010000SH	EACH	SURFACE MOVEMENT MONITORING POINT, ROAD PRISM (SM2)		5
634.020000SH	EACH	SURFACE MOVEMENT MONITORING POINT, SPLIT BAR (SM4)		10
634.030000SH	EACH	HIGH PRECISION OPTICAL PRISM (SP1)		28
634.040000SH	EACH	HIGH PRECISION OPTICAL PRISM WITH RAIL BRACKET (SP2)		76
634.050000SH	EACH	SEISMOGRAPHS		2
634.060000SH	EACH	AUTOMATED MOTORIZED TOTAL STATION (AMTS)		2
634.070000SH	MNTH	MONITORING AND REPORTING OF ALL INSTRUMENTATION		12
634.080000SH	LS	PRE-CONSTRUCTION CONDITION SURVEY REPORT		1
634.090000SH	LS	POST-CONSTRUCTION CONDITION SURVEY REPORT		1
637.11	MNTH	ENGINEER'S FIELD OFFICE - TYPE 1		9
645.5101	SF	GROUND-MOUNTED SIGN PANELS WITHOUT Z-BARS		120
645.81	EACH	TYPE A SIGN POSTS		6
655.1003	EACH	WELDED FRAME AND RECTANGULAR GRATE 3		38
655.17000011	EACH	RESETTING EXISTING UTILITY SERVICE FRAMES		3
663.0106	LF	DUCTILE IRON CEMENT LINED WATER PIPE, 6"		80
663.0108	LF	DUCTILE IRON CEMENT LINED WATER PIPE, 8"		1970
663.1108	EACH	BUTTERFLY VALVE & VALVE BOX, 8"		10
663.1301	EACH	HYDRANT		5
663.2603	EACH	CURB STOP & CURB BOX, 3/4"		3
685.11	LF	WHITE EPOXY REFLECTORIZED PAVEMENT STRIPES - 20 MILS		5600
685.12	LF	YELLOW EPOXY REFLECTORIZED PAVEMENT STRIPES - 20 MILS		3950
			SUBTOTAL	
697.03	DC	FIELD CHANGE PAYMENT		1
698.04	DC	ASPHALT PRICE ADJUSTMENT		100
698.05	DC	FUEL PRICE ADJUSTMENT		100
699.040001	LS	MOBILIZATION (4%)		1
			BASE BID TOTAL	
ADD ALTERNATE 1 - EXTEND RETAINING WALL TO BEEKMAN AVENUE				
554.45010011	SF	T-WALL (GREATER THAN 30 FT)	**SPECIAL SPECIFICATION**	3750
552.17	SF	SHIELDS AND SHORING	**SPECIAL SPECIFICATION**	1100
			ADD ALTERNATE 1 TOTAL	
ADD ALTERNATE 2 - EXTEND CLINTON STREET EXTENSION TO BEEKMAN AVENUE				
206.0201	CY	TRENCH AND CULVERT EXCAVATION		576
209.11010011	EACH	TEMPORARY CATCH BASIN INSERTS FOR DRAINAGE STRUCTURESTRASH, SEDIMENT AND DEBRIS REMOVAL		7
304.11	CY	SUBBASE COURSE, TYPE 1		276
402.097104	TON	9.5 F1 Top Course HMA, 70 Series Compaction		67
402.197904	TON	19 F9 Binder Course HMA, 70 Series Compaction		114
402.377904	TON	37.5 F9 Base Course HMA, 70 Series Compaction		288
407.0103	GAL	STRAIGHT TACK COAT		276
609.0101	LF	STONE CURB, (TYPE A)		548
603.6002	LF	REINFORCED CONCRETE PIPE CLASS III, 15 INCH DIAMETER		310
604.300503	LF	RECTANGULAR DRAINAGE STRUCTURE TYPE E FOR #3 WELDED FRAME		35
608.0101	CY	CONCRETE SIDEWALKS AND DRIVEWAYS		25
			ADD ALTERNATE 2 TOTAL	

SLEEPY HOLLOW
LOCAL DEVELOPMENT CORPORATION

WSP USA INC.
500 Summit Lake Drive, Suite 450
Valhalla, NY 10595
(914) 747-1120

ENGINEER OF RECORD:

STATE OF NEW YORK
SCOTT C. GIRARD
070904
LICENSED PROFESSIONAL ENGINEER

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 EAST PARCEL PROJECT - PHASE II

VILLAGE OF SLEEPY HOLLOW
WESTCHESTER COUNTY, NEW YORK

ISSUE DATE: 01/2023

PROJECT NUMBER: I188137H

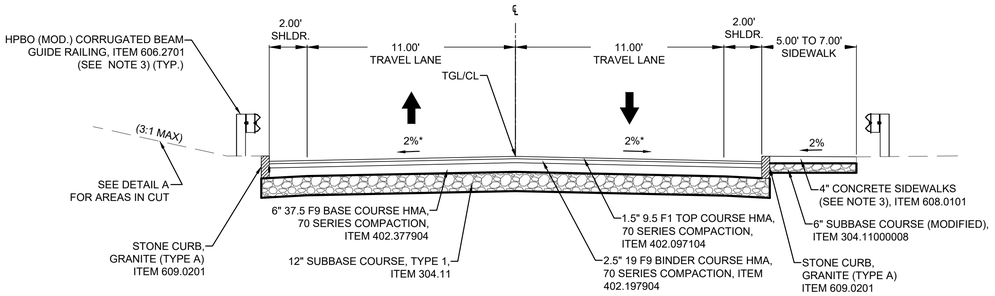
SCALE: NONE

DRAWING NAME: **ESTIMATE OF QUANTITIES**

DRAWING NUMBER: EST101

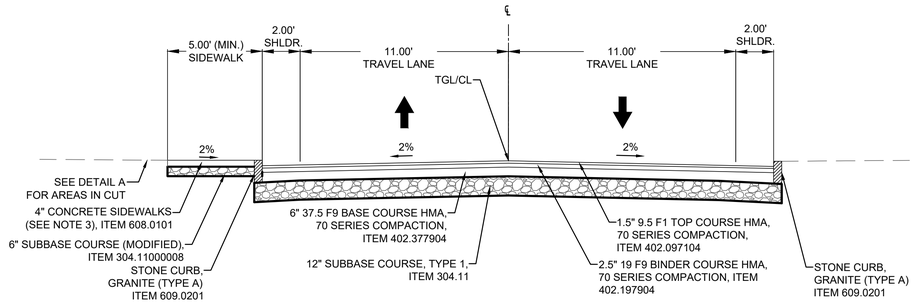
SHEET NUMBER: 4

Drawing Path\Name: G:\bms\wsp--pb--us--pw--02\lisa.giordano@wsp.com\d0376312\Estimate of Quantities.dwg Printed: Jan 06, 2023, 3:28pm Layout: EST101

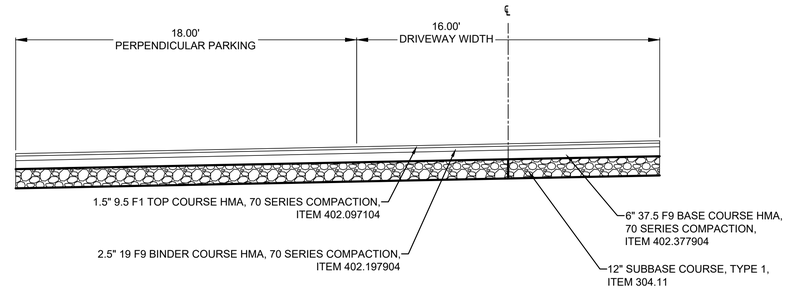


CLINTON STREET EXTENSION - TYPICAL ROADWAY SECTION
11' LANES WITH LEFT SIDEWALK

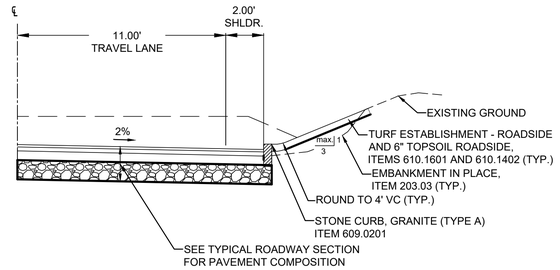
*NOTE:
CROSS SLOPE SHALL VARY IN SUPERELEVATED AREAS (MAX. SUPERELEVATION = 4%)



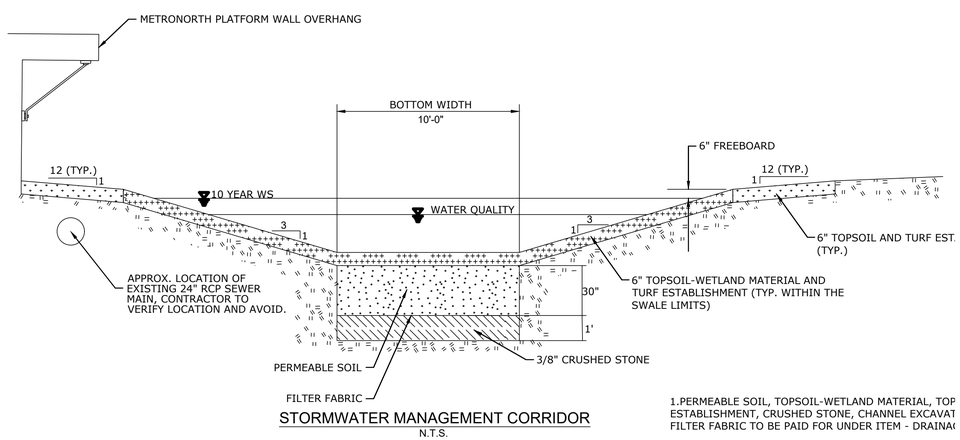
CONTINENTAL STREET - TYPICAL ROADWAY SECTION
11' LANES WITH SIDEWALKS



MNR ACCESS DRIVEWAY - TYPICAL ROADWAY SECTION
16' LANES WITH 18' PERPENDICULAR PARKING

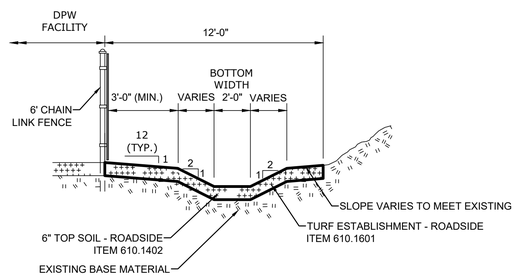


DETAIL A - CUT SECTION



STORMWATER MANAGEMENT CORRIDOR
N.T.S.

1.PERMEABLE SOIL, TOPSOIL-WETLAND MATERIAL, TOP ESTABLISHMENT, CRUSHED STONE, CHANNEL EXCAVAT FILTER FABRIC TO BE PAID FOR UNDER ITEM - DRAINA(



DPW ACCESS/SWALE
N.T.S.

LONGITUDINAL SLOPE OF THE DRAINAGE SWALE TO BE AS FOLLOWS:
STATION 100+00 TO 107+50 = 0.52%
STATION 107+50 TO 114+37 = 0.31%

NOTES:

1. TACK COAT SHALL BE APPLIED BETWEEN ALL ASPHALT COURSES, PAID UNDER ITEM 407.0103
2. FOR EXISTING AND PROPOSED ELEVATIONS, SEE PROFILE SHEETS.
3. FOR LOCATION OF GUIDE RAILING, SIDEWALKS AND PARKING, SEE SITE PLANS.
4. MILLING OF PARKING LOT AREAS TO BE CAPPED SHALL BE PAID UNDER ITEM 490.10.

SLEEPY HOLLOW
LOCAL DEVELOPMENT CORPORATION

WSP USA INC.
500 Summit Lake Drive, Suite 450
Valhalla, NY 10595
(914) 747-1120

ENGINEER OF RECORD:

STATE OF NEW YORK SCOTT C. GRIGER LICENSED PROFESSIONAL ENGINEER 070904

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 EAST PARCEL PROJECT - PHASE II

VILLAGE OF SLEEPY HOLLOW WESTCHESTER COUNTY, NEW YORK

ISSUE DATE: 01/2023

PROJECT NUMBER: I188137H

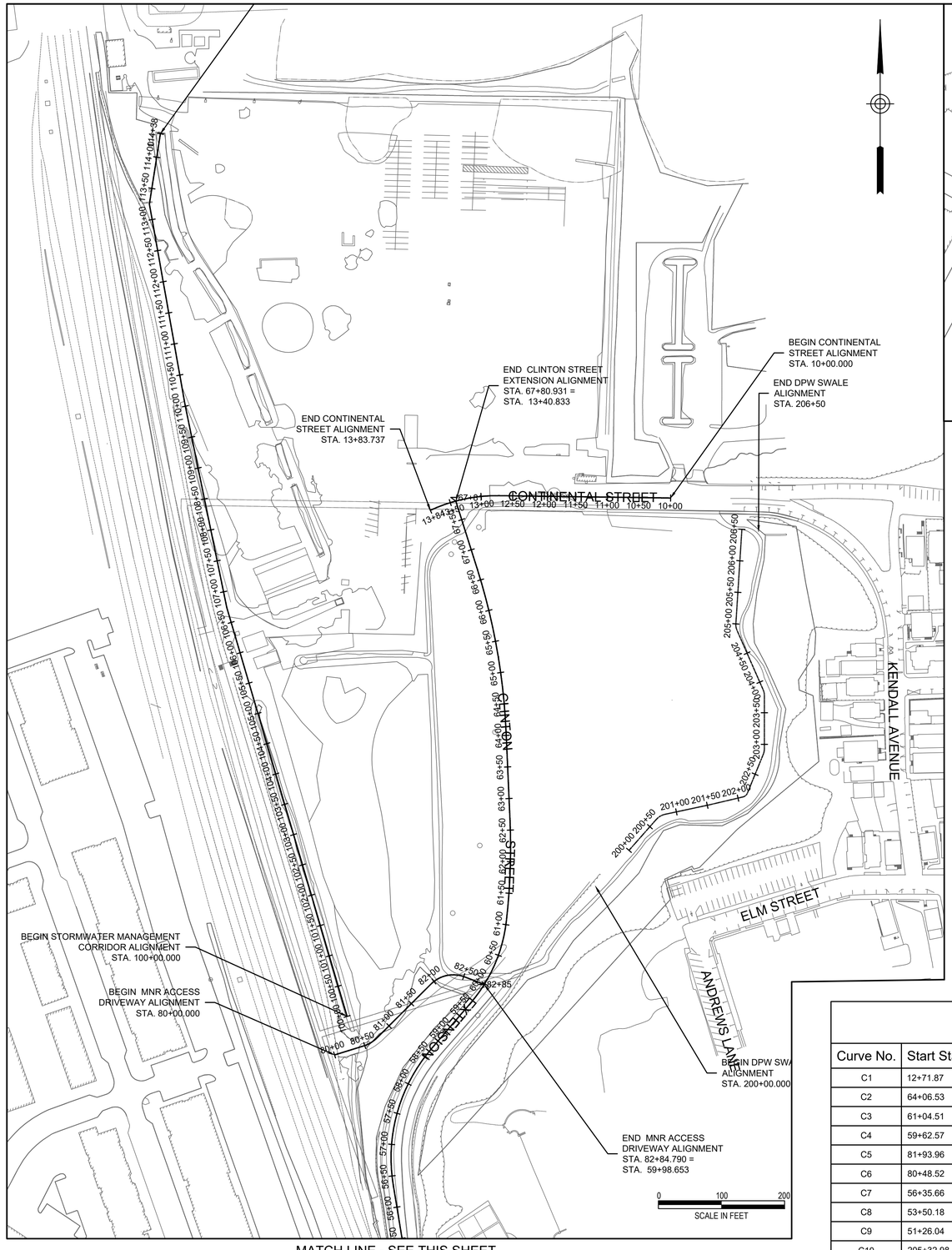
SCALE: NONE

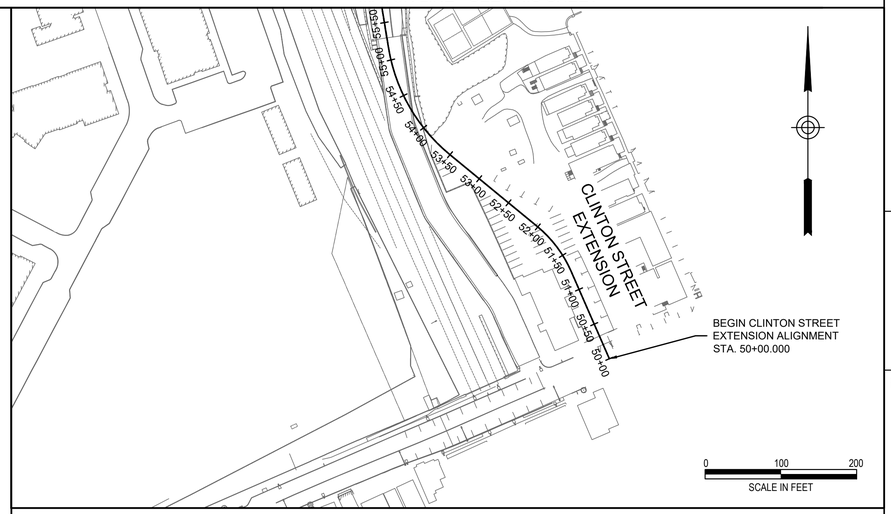
DRAWING NAME: **ROADWAY SECTION**

DRAWING NUMBER: TS101

SHEET NUMBER: 5

Drawing Path\Name: C:\Jobs\wsp-pb-us-pw-02\Work___ghoun.suehr\d0376309\Roadway Section Updated Template.dwg Printed: Jan 10, 2023, 3:46pm Layout: TYP SECTIONS





Alignment Line Table

Line No.	Start Station	End Station	Length	Direction	Start Point	End Point
L1	10+00.00	12+71.87	271.87	N89° 12' 59"W	N:821657.1818 E:666897.6595	N:821660.8999 E:666625.8170
L2	66+67.82	67+81.03	113.21	N17° 31' 45"W	N:821544.4315 E:666591.6972	N:821652.3799 E:666557.6007
L3	62+66.74	64+06.53	139.78	N02° 33' 29"W	N:821148.2283 E:666643.3753	N:821287.8714 E:666637.1369
L4	82+51.44	82+84.79	33.35	S69° 01' 19"E	N:820899.2450 E:666571.5483	N:820887.3057 E:666602.6869
L5	80+72.68	81+93.96	121.28	N45° 06' 14"E	N:820802.3782 E:666432.4453	N:820887.9785 E:666518.3567
L6	80+72.68	81+93.96	121.28	N45° 06' 14"E	N:820802.3782 E:666432.4453	N:820887.9785 E:666518.3567
L7	80+00.00	80+48.52	48.52	N72° 46' 57"E	N:820775.6752 E:666365.6044	N:820790.0382 E:666411.9540
L8	58+66.75	59+62.57	95.81	N40° 37' 23"E	N:820785.4524 E:666518.9031	N:820858.1754 E:666581.2852
L9	55+15.72	56+35.66	119.94	N09° 20' 33"W	N:820451.5478 E:666478.0261	N:820569.8967 E:666458.5555
L10	52+01.36	53+50.18	148.82	N50° 34' 48"W	N:820216.7062 E:666673.8912	N:820311.2075 E:666558.9252
L11	50+00.00	51+26.04	126.04	N23° 36' 33"W	N:820041.6916 E:666769.3778	N:820157.1833 E:666718.8991
L12	200+00.00	200+94.75	94.75	N40° 16' 13"E	N:821044.0547 E:666777.0708	N:821116.3525 E:666838.3195
L13	201+65.97	202+37.63	71.65	N79° 07' 09"E	N:821166.1497 E:666887.7539	N:821179.6757 E:666958.1197
L14	202+91.37	203+60.69	69.33	N19° 21' 01"E	N:821191.3157 E:667009.6863	N:821256.7265 E:667032.6573
L15	203+62.38	204+55.19	92.81	N00° 00' 00"E	N:821258.3832 E:667032.9397	N:821351.1921 E:667032.9397
L16	204+57.41	205+32.98	75.57	N25° 27' 16"W	N:821353.3411 E:667032.4544	N:821421.5755 E:666999.9748
L17	205+44.09	207+11.55	167.46	N00° 00' 00"E	N:821432.3203 E:666997.5480	N:821599.7780 E:666997.5480
L18	207+50.82	208+16.82	66.00	N90° 00' 00"W	N:821624.7780 E:666972.5480	N:821624.7780 E:666906.5480
L19	100+00.00	106+74.17	674.17	N16° 23' 47"W	N:820836.9045 E:666385.3167	N:821483.6561 E:666195.0100
L20	106+74.17	110+00.21	326.04	N11° 38' 10"W	N:821483.6561 E:666195.0100	N:821802.9981 E:666129.2491

Alignment Curve Table

Curve No.	Start Station	End Station	Radius	Length	Delta Angle	Center of Curve	P.C.	P.T.
C1	12+71.87	13+83.76	250.00	111.89	025 38 40	N:821410.9232 E:666622.3980	N:821660.8999 E:666625.8170	N:821637.7562 E:666517.2943
C2	64+06.53	66+67.82	999.99	261.30	014 58 17	N:821243.2424 E:665638.1433	N:821287.8714 E:666637.1369	N:821544.4315 E:666591.6972
C3	61+04.51	62+66.74	1000.00	162.24	009 17 44	N:821103.5988 E:665644.3717	N:820986.2777 E:666637.4658	N:821148.2283 E:666643.3753
C4	59+62.57	61+04.51	240.00	141.94	033 53 08	N:821014.4348 E:666399.1232	N:820858.1754 E:666581.2852	N:820986.2777 E:666637.4658
C5	81+93.96	82+51.44	50.00	57.49	065 52 26	N:820852.5591 E:666553.6479	N:820887.9785 E:666518.3567	N:820899.2450 E:666571.5483
C6	80+48.52	80+72.68	50.00	24.15	027 40 43	N:820837.7976 E:666397.1541	N:820790.0382 E:666411.9540	N:820802.3782 E:666432.4453
C7	56+35.66	58+66.75	265.00	231.10	049 57 56	N:820612.9160 E:666720.0403	N:820569.8967 E:666458.5555	N:820785.4524 E:666518.9031
C8	53+50.18	55+15.72	230.00	165.54	041 14 15	N:820488.8853 E:666704.9752	N:820311.2075 E:666558.9252	N:820451.5478 E:666478.0261
C9	51+26.04	52+01.36	160.00	75.32	026 58 16	N:820093.1043 E:666572.2912	N:820157.1833 E:666718.8991	N:820216.7062 E:666673.8912
C10	205+32.98	205+44.09	25.00	11.11	025 27 16	N:821432.3203 E:667022.5480	N:821421.5755 E:666999.9748	N:821432.3203 E:666997.5480
C11	207+11.55	207+50.82	25.00	39.27	090 00 00	N:821599.7780 E:666972.5480	N:821599.7780 E:666997.5480	N:821624.7780 E:666972.5480

SLEEPY HOLLOW
LOCAL DEVELOPMENT CORPORATION

WSP USA INC.
500 Summit Lake Drive, Suite 450
Valhalla, NY 10595
(914) 747-1120

ENGINEER OF RECORD:

STATE OF NEW YORK · SCOTT C. GRIGGS · LICENSED PROFESSIONAL ENGINEER · 070904

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 EAST PARCEL PROJECT - PHASE II

VILLAGE OF SLEEPY HOLLOW
WESTCHESTER COUNTY, NEW YORK

ISSUE DATE: 01/2023

PROJECT NUMBER: I188137H

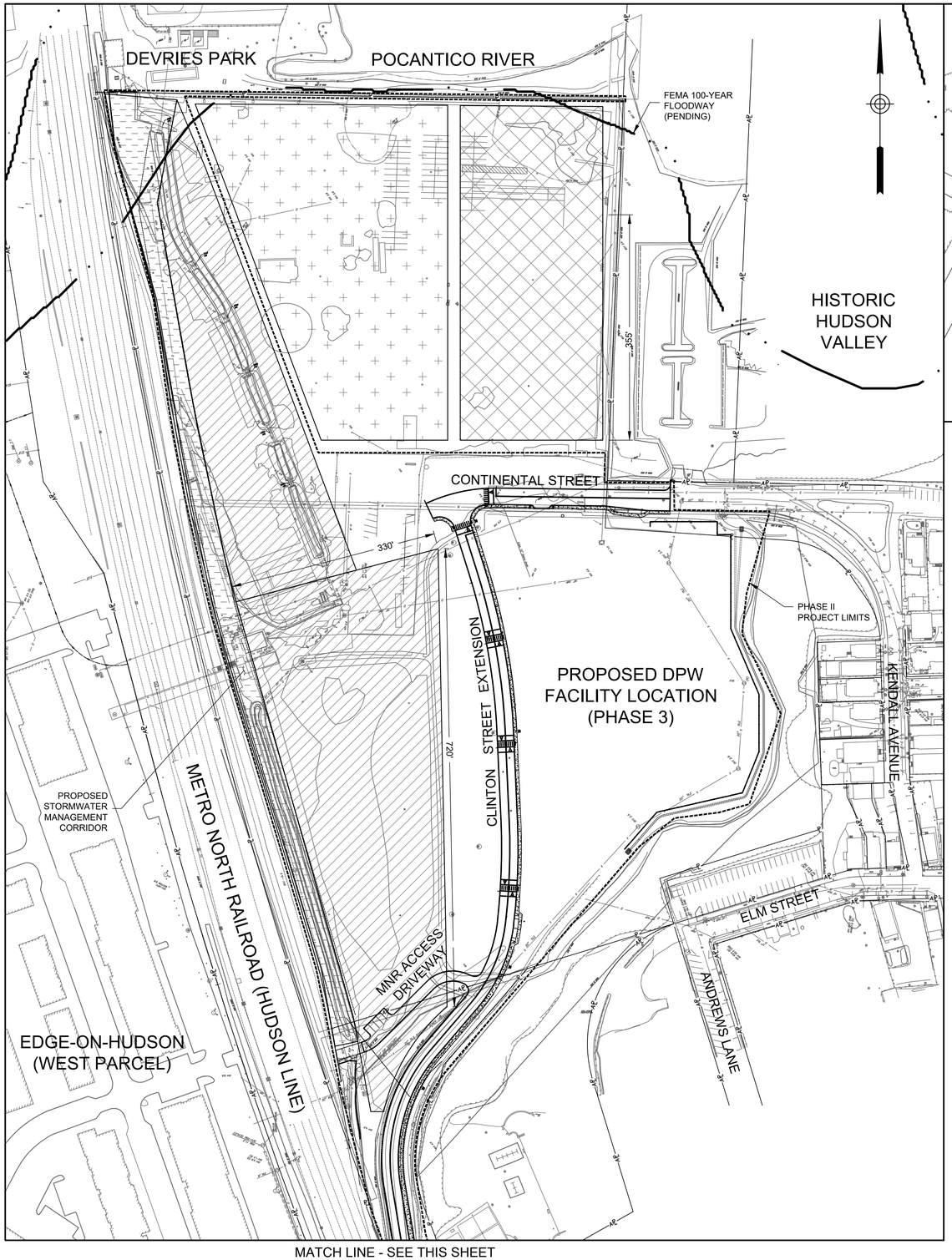
SCALE: 1"=100'-0"

DRAWING NAME: **ALIGNMENT PLAN**

DRAWING NUMBER: SP101

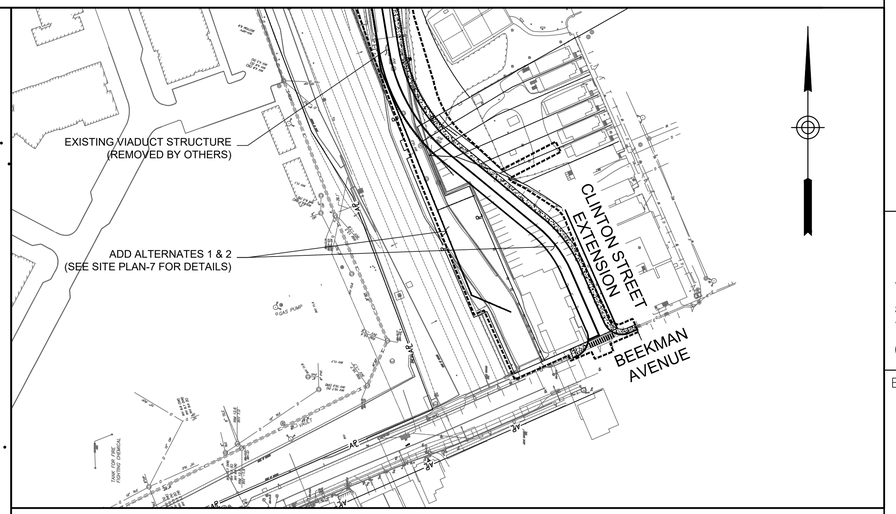
SHEET NUMBER: 6

Drawing Path\Name: C:\sma\wsp-pb-us-pw-02\joseph.lyons@wsp.com\d0376332\Alignment Plan.dwg Printed: Dec 09, 2022, 7:19pm Layout: Alignment



MATCH LINE - SEE THIS SHEET

MATCH LINE - SEE THIS SHEET



LEGEND

- UNDISTURBED AREA FOR HHV OVERFLOW PARKING (85,000 SF±)
- UNDISTURBED AREA FOR VILLAGE DPW USE (150,000 SF±)
- AREA FOR CONTRACTOR STAGING AND EQUIPMENT STORAGE. FOR AREAS OF ROUGH GRADING, SEE GRADING AND DRAINAGE PLANS. ALL AREAS WHERE EXISTING ASPHALT PAVEMENT IS REMOVED (ASSUME 12" DEPTH), FILL WITH MINIMUM 2' OF FILL MATERIAL FROM SURCHARGE
- PROPOSED DRAINAGE SWALE AND TURF ESTABLISHMENT
- LIMIT OF DISTURBANCE

NOTE:

1. EXISTING SIDING BALLAST STONE AND EXTRA MANHOLE RISER EXTENSIONS SHALL BE STORED FOR VILLAGE DPW USE. SPECIFIC STORAGE LOCATIONS TO BE DETERMINED BY THE ENGINEER.
2. WORK FOR FINAL SANITARY SEWER AND TEMPORARY WATER MAIN HAVE BEEN PREVIOUSLY SUBMITTED TO THE DEPARTMENT OF HEALTH.

0 100 200
SCALE IN FEET

SLEEPY HOLLOW
LOCAL DEVELOPMENT CORPORATION

VILLAGE OF SLEEPY HOLLOW 1874

WSP USA INC.
500 Summit Lake Drive, Suite 450
Valhalla, NY 10595
(914) 747-1120

ENGINEER OF RECORD:

STATE OF NEW YORK · SCOTT C. GRIGG · 070904 · LICENSED PROFESSIONAL ENGINEER

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 EAST PARCEL PROJECT - PHASE II

VILLAGE OF SLEEPY HOLLOW WESTCHESTER COUNTY, NEW YORK

ISSUE DATE: 01/2023

PROJECT NUMBER: I188137H

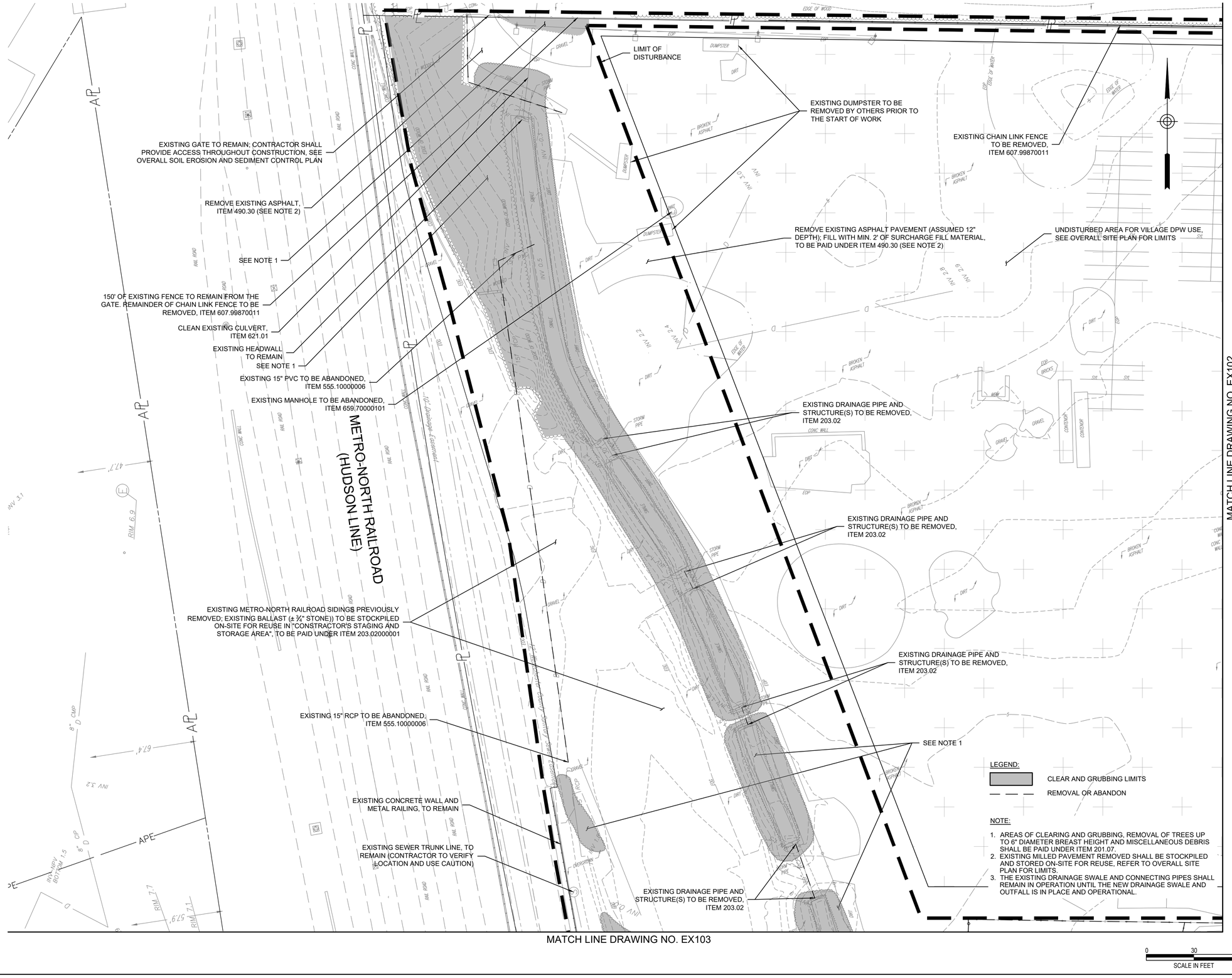
SCALE: 1"=100'-0"

DRAWING NAME: **OVERALL SITE PLAN**

DRAWING NUMBER: SP101

SHEET NUMBER: 7

Drawing Path\Name: C:\Jma\vasp-pb-us-pw-02\vasp_____shaun.sushi\d0376322\Overall Site Plan.dwg Printed: Jan 10, 2023, 9:40am Layout: Overall



SLEEPY HOLLOW
LOCAL DEVELOPMENT CORPORATION

WSP USA INC.
500 Summit Lake Drive, Suite 450
Valhalla, NY 10595
(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:

1	2
3	4
5	6
7	

REVISIONS:

PROJECT NAME:

SLEEPY HOLLOW EAST PARCEL PROJECT - PHASE II

VILLAGE OF SLEEPY HOLLOW WESTCHESTER COUNTY, NEW YORK

ISSUE DATE: 01/2023

PROJECT NUMBER: I188137H

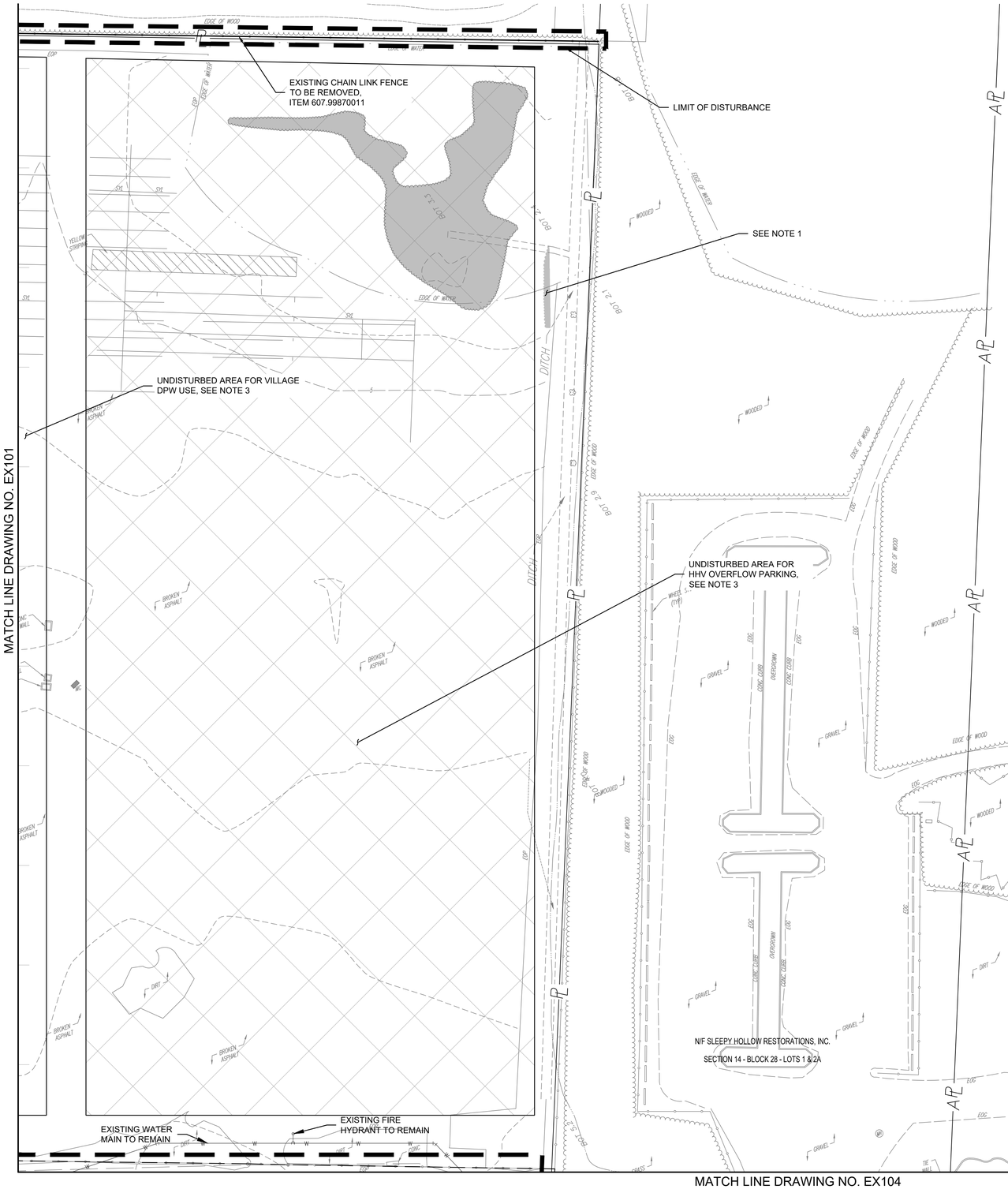
SCALE: 1"=30'-0"

DRAWING NAME: **EXISTING CONDITIONS AND REMOVAL PLAN-1**

DRAWING NUMBER: EX101

SHEET NUMBER: 8

Drawing Path\Name: C:\jma\wsp-pb-us-pw-02\wsp_...ahsun.sushi\d0376232\Existing Conditions and Removal Plans.dwg Printed: Dec 15, 2022, 12:00pm Layout: X101



LEGEND:

CLEAR AND GRUBBING LIMITS

REMOVAL OR ABANDON

NOTE:

1. AREAS OF CLEARING AND GRUBBING, REMOVAL OF TREES UP TO 6" DIAMETER BREAST HEIGHT AND MISCELLANEOUS DEBRIS SHALL BE PAID UNDER ITEM 201.07.
2. EXISTING MILLED PAVEMENT REMOVED SHALL BE STOCKPILED AND STORED ON-SITE FOR REUSE, REFER TO OVERALL SITE PLAN FOR LIMITS.
3. UNDISTURBED AREA FOR VILLAGE DPW AND HHV OVERLFLOW PARKING SHALL BE ISOLATED FROM CONSTRUCTION ACTIVITIES USING MOVABLE CONSTRUCTION FENCE (ITEM 607.02080039). EXISTING GATES AND TRAILERS WILL BE RELOCATED AT THE DIRECTION OF THE OWNER.

0 30 60
SCALE IN FEET

SLEEPY HOLLOW
LOCAL DEVELOPMENT CORPORATION

WSP USA INC.
500 Summit Lake Drive, Suite 450
Valhalla, NY 10595
(914) 747-1120

ENGINEER OF RECORD:

STATE OF NEW YORK
SCOTT C. GRIGER
070904
LICENSED PROFESSIONAL ENGINEER

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:

1	2
3	4
5	6
7	

REVISIONS:

PROJECT NAME:

SLEEPY HOLLOW EAST PARCEL PROJECT - PHASE II

VILLAGE OF SLEEPY HOLLOW
WESTCHESTER COUNTY, NEW YORK

ISSUE DATE: 01/2023

PROJECT NUMBER: I188137H

SCALE: 1"=30'-0"

DRAWING NAME: **EXISTING CONDITIONS AND REMOVAL PLAN-2**

DRAWING NUMBER: EX102

SHEET NUMBER: 9

Drawing Path\Name: C:\sms\wsp-pb-us-pw-02\wsp___sheun.suen\d0376322\Existing Conditions and Removal Plans.dwg Printed: Dec 16, 2022, 12:00pm Layout: X102

MATCH LINE DRAWING NO. EX101

REMOVE EXISTING ASPHALT PAVEMENT (ASSUMED 12" DEPTH); FILL WITH MIN. 2' OF FILL MATERIAL FROM SURCHARGE, TO BE PAID UNDER ITEM 490.30 (SEE NOTE 2)

EXISTING METRO-NORTH RAILROAD SIDINGS PREVIOUSLY REMOVED; EXISTING BALLAST (± ¾" STONE)) TO BE STOCKPILED ON-SITE FOR REUSE IN "CONSTRACTOR'S STAGING AND STORAGE AREA", TO BE PAID UNDER ITEM 203.02000001

SEE NOTE 1

EXISTING CONCRETE WALL AND METAL RAILING, TO REMAIN

EXISTING SEWER TRUNK LINE, TO REMAIN (CONTRACTOR TO VERIFY LOCATION AND AVOID)

EXISTING CONCRETE PLATFORMS TO BE REMOVED, ITEM 203.02

EXISTING 8" CI TO BE REMOVED, ITEM 203.02

EXISTING 2-24" RCP TO BE ABANDONED, ITEM 555.10000006

PREVIOUSLY ABANDONDED EXISTING CONCRETE PAD TO BE REMOVED TO 24" BELOW GRADE AND BACKFILLED WITH 2' OF CLEAN FILL, TO BE PAID UNDER ITEMS 203.02 AND 203.02000001

LIMIT OF DISTURBANCE

EXISTING CHAIN LINK FENCE TO BE REMOVED, ITEM 607.99870011

EXISTING DRAINAGE PIPE AND STRUCTURE(S) TO BE REMOVED, ITEM 203.02

REMOVE EXISTING CHAIN-LINK FENCE ITEM 607.99870011

EXISTING WATER MAIN PREVIOUSLY ABANDONED (CONTRACTOR TO VERIFY)

EXISTING FIRE HYDRANT TO REMAIN

EXISTING CHAIN LINK FENCE AND GATE TO BE REMOVED, ITEM 607.99870011

EXISTING 8" CI TO BE REMOVED, ITEM 203.02

EXISTING GAS MAIN PREVIOUSLY ABANDONED (CONTRACTOR TO VERIFY)

SEE NOTE 1

EXISTING DRAINAGE STRUCTURE TO BE ABANDONED 2' BELOW GRADE, ITEM 604.13000011 (SEE NOTE 3)

SEE NOTE 1

EXISTING 18" CMP TO BE ABANDONED, ITEM 555.10000006

EXISTING CHAIN LINK FENCE TO BE REMOVED, ITEM 607.99870011

EXISTING 2-24" RCP TO BE ABANDONED, ITEM 555.10000006

EXISTING DRAINAGE STRUCTURE TO BE ABANDONED, ITEM 604.13000011

EXISTING CHAIN LINK FENCE AND GATE TO BE REMOVED, ITEM 607.99870011. ANY REMAINING PARTS OF THE GAS METER STATION REMAINING ARE TO BE REMOVED AND PAID UNDER ITEM 203.02

EXISTING 2-24" RCP TO BE ABANDONED, ITEM 555.10000006

EXISTING GRAVEL DRAINAGE SWALE, BERM AND CHECK DAMS TO BE REMOVED, ITEM 203.02

EXISTING HEADWALL TO BE REMOVED, ITEM 203.02

SEE NOTE 5

EXISTING CHAIN LINK FENCE TO BE REMOVED, ITEM 607.99870011

CLEAR AND GRUB EXISTING VEGETATION (TYP. ALONG BOUNDARY), SEE NOTE 1

METRO-NORTH RAILROAD (HUDSON LINE)

LEGEND:

CLEAR AND GRUBBING LIMITS

REMOVAL OR ABANDON

NOTE:

1. AREAS OF CLEARING AND GRUBBING, REMOVAL OF TREES UP TO 6" DIAMETER BREAST HEIGHT AND MISCELLANEOUS DEBRIS SHALL BE PAID UNDER ITEM 201.07.
2. EXISTING MILLED PAVEMENT REMOVED SHALL BE STOCKPILED AND STORED ON-SITE FOR REUSE, REFER TO OVERALL SITE PLAN FOR LIMITS.
3. EXISTING OPEN CONCRETE DRAINAGE STRUCTURE TO BE ABANDONED 2' BELOW PROPOSED GRADE. STRUCTURE CONTAINS DRAIN LINES AND A PREVIOUSLY ABANDONED 12" GAS MAIN.
4. THE EXISTING DRAINAGE SWALE AND CONNECTING PIPES SHALL REMAIN IN OPERATION UNTIL THE NEW DRAINAGE SWALE AND OUTFALL IS IN PLACE AND OPERATIONAL.
5. SEE SITE PLAN - SHEET 3 FOR ADDITIONAL NOTES REGARDING THIS AREA, WHICH IS TO BE USED FOR CONTRACTOR STAGING/STORAGE.

MATCH LINE DRAWING NO. EX104

MATCH LINE DRAWING NO. EX105

0 30 60
SCALE IN FEET

SLEEPY HOLLOW
LOCAL DEVELOPMENT CORPORATION

WSP USA INC.
500 Summit Lake Drive, Suite 450
Valhalla, NY 10595
(914) 747-1120

ENGINEER OF RECORD:

STATE OF NEW YORK
SCOTT C. GRIGG
070904
LICENSED
PROFESSIONAL ENGINEER

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:

1	2
3	4
5	6
7	

REVISIONS:

PROJECT NAME:

SLEEPY HOLLOW EAST PARCEL PROJECT - PHASE II

VILLAGE OF SLEEPY HOLLOW WESTCHESTER COUNTY, NEW YORK

ISSUE DATE: 01/2023

PROJECT NUMBER: I188137H

SCALE: 1"=30'-0"

DRAWING NAME: **EXISTING CONDITIONS AND REMOVAL PLAN-3**

DRAWING NUMBER: EX103

SHEET NUMBER: 10

Drawing Path\Name: G:\bms\wsp-pb--us--pw--pd2\wsp___shaun.suehr\d0378322\Existing Conditions and Removal Plans.dwg Printed: Dec 16, 2022, 12:02pm Layout: X103

MATCH LINE DRAWING NO. EX102

MATCH LINE DRAWING NO. EX103

MATCH LINE DRAWING NO. EX106

EXISTING PLANTERS TO BE REMOVED, ITEM 203.02 (TYP.)

EXISTING SEWER STRUCTURE TO REMAIN, SEE NOTE 3

EXISTING WATER MAIN, TO REMAIN

RELOCATE EXISTING TRAILER

CONTRACTOR TO TEST PIT AND VERIFY LOCATION OF GAS MAIN

CONTINENTAL STREET

Existing 8" Water Main

Existing 18" Water Main

SEE NOTE 4

LIMIT OF DISTURBANCE

EXISTING CHAIN LINK FENCE TO REMAIN DURING CONSTRUCTION AND REMOVED BEFORE THE END OF CONSTRUCTION

EXISTING CHAIN LINK FENCE TO REMAIN DURING CONSTRUCTION AND SHALL BE REMOVED IN A FUTURE PHASE

INSTALL 12' DOUBLE LEAF GATE INTO EXISTING CHAIN LINK FENCE FOR ACCESS DURING CONSTRUCTION

EXISTING GRAVEL TO BE REMOVED, ITEM 203.02 CONTRACTOR MAY STORE ONSITE FOR REUSE

EXISTING 12" STORM DRAIN TO BE ABANDONED, ITEM 555.10000006

ABANDONED DRAINAGE LINE, ITEM 555.10000006

RELOCATE EXISTING GATE DURING CONSTRUCTION, PAID UNDER ITEM 203.02

EXISTING HYDRANT AND VALVES TO REMAIN

REMOVE EXISTING ASPHALT, ITEM 203.02 (SEE NOTE 2)

EXISTING GAS MAIN PREVIOUSLY ABANDONED (CONTRACTOR TO VERIFY)

SURCHARGE FILL MATERIAL TO BE REMOVED PER PROPOSED GRADING PLAN AND TEMPORARILY STOCKPILED WITHIN THE DESIGNATED AREAS, TO BE PAID UNDER ITEM 203.02000001

PREVIOUSLY ABANDONED EXISTING 18" CMP

24" SANITARY SEWER ON PILES TO REMAIN (TYP.)

APPROXIMATE LOCATION OF ABANDONED SANITARY SEWER MAIN (CONTRACTOR TO VERIFY)

10' Village Sewer Easement

EXISTING SEWER STRUCTURE TO REMAIN, SEE NOTE 3

EAST PARCEL

SECTION 15 - BLOCK 15 - LOT 1
28.291 ACRES (1,232,334 SQ. FT)

CONTRACTOR'S STAGING AND STORAGE AREA

EXISTING SEWER STRUCTURE TO REMAIN, SEE NOTE 3

EXISTING GRAVEL DRAINAGE SWALE, BERM AND CHECK DAMS TO BE REMOVED, ITEM 203.02

KENDALL AVE

N/F JOHNSTON BRIAN
SECTION 15 - BLOCK 7 - LOT 9 & 10A

N/F CIARLETTA WESTCHESTER
SECTION 15 - BLOCK 4 - LOT 8

N/F DIREITINHO EMILIA LE
SECTION 15 - BLOCK 4 - LOT 7

N/F BROWN KENT M
SECTION 15 - BLOCK 4 - LOT 5 & 6

N/F SOUSA MARCIA & WILSON
SECTION 15 - BLOCK 4 - LOT 2, 3 & 4

N/F IANNARELLI ANTONIO & D
SECTION 15 - BLOCK 6 - LOT 1

LEGEND:

CLEAR AND GRUBBING LIMITS

REMOVAL OR ABANDON

NOTE:

1. AREAS OF CLEARING AND GRUBBING, REMOVAL OF TREES UP TO 6" DIAMETER BREAST HEIGHT AND MISCELLANEOUS DEBRIS SHALL BE PAID UNDER ITEM 201.07.
2. EXISTING MILLED PAVEMENT REMOVED SHALL BE STOCKPILED AND STORED ON-SITE FOR REUSE, REFER TO OVERALL SITE PLAN FOR LIMITS.
3. EXISTING SANITARY SEWER MANHOLES TO REMAIN (TYP.) FRAME AND GRATE TO BE RESET TO FINAL GRADE ALONG WITH REMOVAL OF EXCESS SURCHARGE MATERIAL. EXCESS RISERS TO BE REMOVED AND STORED ON-SITE. PAID FOR UNDER ITEMS 655.05010010.
4. THE CONTRACTOR SHALL VERIFY THE STATUS OF THE GAS MAIN BEFORE DEMOLISHING AND ABANDONING STRUCTURE AND ASSOCIATED PIPE.

0 30 60
SCALE IN FEET

SLEEPY HOLLOW
LOCAL DEVELOPMENT CORPORATION

WSP USA INC.
500 Summit Lake Drive, Suite 450
Valhalla, NY 10595
(914) 747-1120

ENGINEER OF RECORD:

SCOTT C. GIBSON
070904
NEW YORK STATE LICENSED PROFESSIONAL ENGINEER

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:

1	2
3	4
5	6
7	

REVISIONS:

PROJECT NAME:

SLEEPY HOLLOW EAST PARCEL PROJECT - PHASE II

VILLAGE OF SLEEPY HOLLOW
WESTCHESTER COUNTY, NEW YORK

ISSUE DATE: 01/2023

PROJECT NUMBER: I188137H

SCALE: 1"=30'-0"

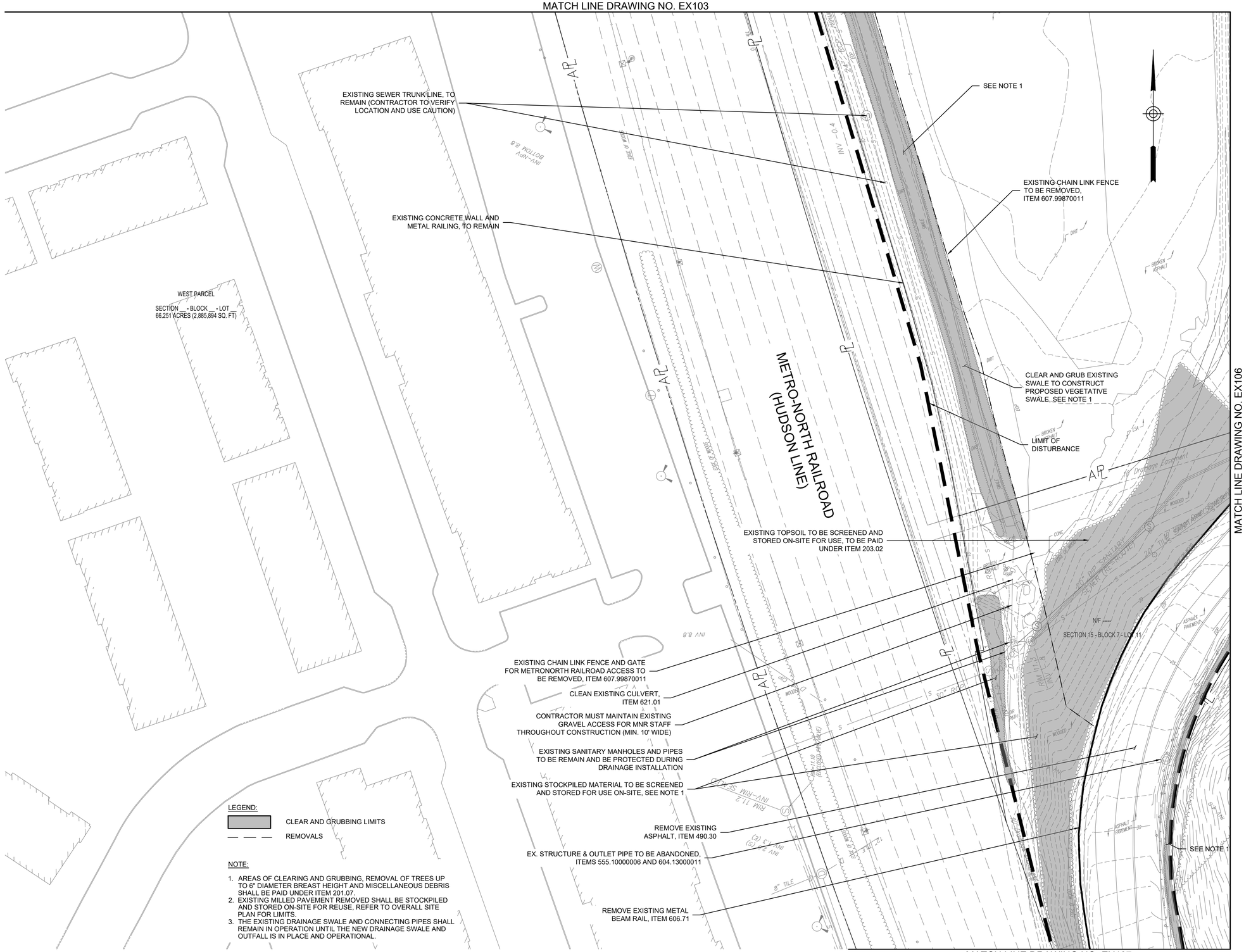
DRAWING NAME: **EXISTING CONDITIONS AND REMOVAL PLAN-4**

DRAWING NUMBER: EX104

SHEET NUMBER: 11

Drawing Path\Name: C:\pma\wsp--pb--us--pw--02\wsp__dhaun.xuehr\d0376323\Existing Conditions and Removal Plans.dwg Printed: Dec 16, 2022, 12:00pm Layout: X104

MATCH LINE DRAWING NO. EX103



LEGEND:

CLEAR AND GRUBBING LIMITS

REMOVALS

NOTE:

1. AREAS OF CLEARING AND GRUBBING, REMOVAL OF TREES UP TO 6" DIAMETER BREAST HEIGHT AND MISCELLANEOUS DEBRIS SHALL BE PAID UNDER ITEM 201.07.
2. EXISTING MILLED PAVEMENT REMOVED SHALL BE STOCKPILED AND STORED ON-SITE FOR REUSE, REFER TO OVERALL SITE PLAN FOR LIMITS.
3. THE EXISTING DRAINAGE SWALE AND CONNECTING PIPES SHALL REMAIN IN OPERATION UNTIL THE NEW DRAINAGE SWALE AND OUTFALL IS IN PLACE AND OPERATIONAL.

0 30 60
SCALE IN FEET

SLEEPY HOLLOW
LOCAL DEVELOPMENT CORPORATION

WSP USA INC.
500 Summit Lake Drive, Suite 450
Valhalla, NY 10595
(914) 747-1120

ENGINEER OF RECORD:

SCOTT C. GIBSON
STATE OF NEW YORK
070904
LICENSED PROFESSIONAL ENGINEER

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:

1	2
3	4
5	6
7	

REVISIONS:

PROJECT NAME:

SLEEPY HOLLOW EAST PARCEL PROJECT - PHASE II

VILLAGE OF SLEEPY HOLLOW
WESTCHESTER COUNTY, NEW YORK

ISSUE DATE: 01/2023

PROJECT NUMBER: I188137H

SCALE: 1"=30'-0"

DRAWING NAME: **EXISTING CONDITIONS AND REMOVAL PLAN-5**

DRAWING NUMBER: EX105

SHEET NUMBER: 12

Drawing Path\Name: C:\Jobs\wsp--pb--us--pw--02\ work_____shaun.xuehr\d0376323\Existing Conditions and Removal Plans.dwg Printed: Dec 16, 2022, 12:01pm Layout: X105

MATCH LINE DRAWING NO. EX104

MATCH LINE DRAWING NO. EX105

MATCH LINE DRAWING NO. EX107

EXISTING SEWER STRUCTURE TO REMAIN, SEE NOTE 3

EXISTING GRAVEL DRAINAGE SWALE , BERM AND CHECK DAMS TO BE REMOVED, ITEM 203.02

24" SANITARY SEWER ON PILES TO REMAIN (TYP.)

CONTRACTOR'S STAGING AND STORAGE AREA

EXISTING SEWER STRUCTURE TO REMAIN, SEE NOTE 3

EXISTING GRAVEL PATH TO BE REMOVED, ITEM 203.02

CONTRACTOR TO LOCATE EXISTING 15" RCP AND ASSOCIATED STRUCTURE ON-SITE (SEE GRADING AND DRAINAGE PLANS), ITEM 206.05

LIMIT OF DISTURBANCE

APPROXIMATE LOCATION OF EXISTING LIVE VILLAGE SEWER LINE

REMOVE EXISTING METAL BEAM RAIL, ITEM 606.71

EXISTING PLANTERS TO BE REMOVED, ITEM 203.02 (TYP.)

SEE NOTE 1

EXISTING LIVE VILLAGE SEWER LINE, CONTRACTOR TO VERIFY LOCATION AND DEPTH

REMOVE EXISTING ASPHALT, ITEM 490.30 (SEE NOTE 2)

SEE NOTE 1

N/F IANNARELLI ANTONIO & D
SECTION 15 - BLOCK 6 - LOT 1

N/F VILLAGE OF SLEEPY HOLLOW
SECTION 15 - BLOCK 15 - LOT 1B

N/F DURACELL, INC.
SECTION 15 - BLOCK 3 - LOT 3

N/F VILLAGE OF SLEEPY HOLLOW
SECTION 15 - BLOCK 15 - LOT 1

LEGEND:

CLEAR AND GRUBBING LIMITS

REMOVAL OR ABANDON

NOTE:

1. AREAS OF CLEARING AND GRUBBING, REMOVAL OF TREES UP TO 6" DIAMETER BREAST HEIGHT AND MISCELLANEOUS DEBRIS SHALL BE PAID UNDER ITEM 201.07.
2. EXISTING MILLED PAVEMENT REMOVED SHALL BE STOCKPILED AND STORED ON-SITE FOR REUSE, REFER TO OVERALL SITE PLAN FOR LIMITS.
3. EXISTING SANITARY SEWER MANHOLES TO REMAIN (TYP.) FRAME AND GRATE TO BE RESET TO FINAL GRADE ALONG WITH REMOVAL OF EXCESS SURCHARGE MATERIAL. EXCESS RISERS TO BE REMOVED AND STORED ON-SITE FOR DPW RE-USE. PAID FOR UNDER ITEMS 655.05010010.

0 30 60
SCALE IN FEET

SLEEPY HOLLOW
LOCAL DEVELOPMENT CORPORATION

WSP USA INC.
500 Summit Lake Drive, Suite 450
Valhalla, NY 10595
(914) 747-1120

ENGINEER OF RECORD:

SCOTT C. GRIGG
070904
NEW YORK STATE LICENSED PROFESSIONAL ENGINEER

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:

1	2
3	4
5	6
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REVISIONS:

PROJECT NAME:

SLEEPY HOLLOW EAST PARCEL PROJECT - PHASE II

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

ISSUE DATE: 01/2023

PROJECT NUMBER: I188137H

SCALE: 1"=30'-0"

DRAWING NAME: **EXISTING CONDITIONS AND REMOVAL PLAN-6**

DRAWING NUMBER: EX106

SHEET NUMBER: 13

Drawing Path\Name: G:\dms\wsp--pb--us--pw--02\wsp___dhaun.sueh\d0376322\Existing Conditions and Removal Plans.dwg Printed: Dec 16, 2022, 12:01pm Layout: X106

MATCH LINE DRAWING NO. EX105

MATCH LINE DRAWING NO. EX106

LEGEND:

- CLEAR AND GRUBBING LIMITS
- LIMITS UNDER ALTERNATIVE 2
- REMOVAL OR ABANDON

NOTE:

1. AREAS OF CLEARING AND GRUBBING, REMOVAL OF TREES UP TO 6" DIAMETER BREAST HEIGHT AND MISCELLANEOUS DEBRIS SHALL BE PAID UNDER ITEM 201.07.
2. EXISTING CONTRACTOR TO SURVEY AND FIELD VERIFY EXISTING PIERS, FOOTINGS, AND RETAINING WALLS LEFT FROM VIADUCT REMOVAL. THE CONTRACTOR SHALL REPORT BACK TO THE ENGINEER WITH ANY CONFLICTS BETWEEN THE EXISTING FOOTINGS AND PROPOSED WALL.
3. EXISTING MILLED PAVEMENT REMOVED SHALL BE STOCKPILED AND STORED ON-SITE FOR REUSE, REFER TO OVERALL SITE PLAN FOR LIMITS.

0 30 60
SCALE IN FEET

SLEEPY HOLLOW
LOCAL DEVELOPMENT CORPORATION

WSP USA INC.
500 Summit Lake Drive, Suite 450
Valhalla, NY 10595
(914) 747-1120

ENGINEER OF RECORD:

SCOTT C. GRIGG
070904
NEW YORK STATE LICENSED PROFESSIONAL ENGINEER

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KEY PLAN:

1	2
3	4
5	6
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REVISIONS:

PROJECT NAME:

SLEEPY HOLLOW EAST PARCEL PROJECT - PHASE II

VILLAGE OF SLEEPY HOLLOW
WESTCHESTER COUNTY, NEW YORK

ISSUE DATE: 01/2023

PROJECT NUMBER: I188137H

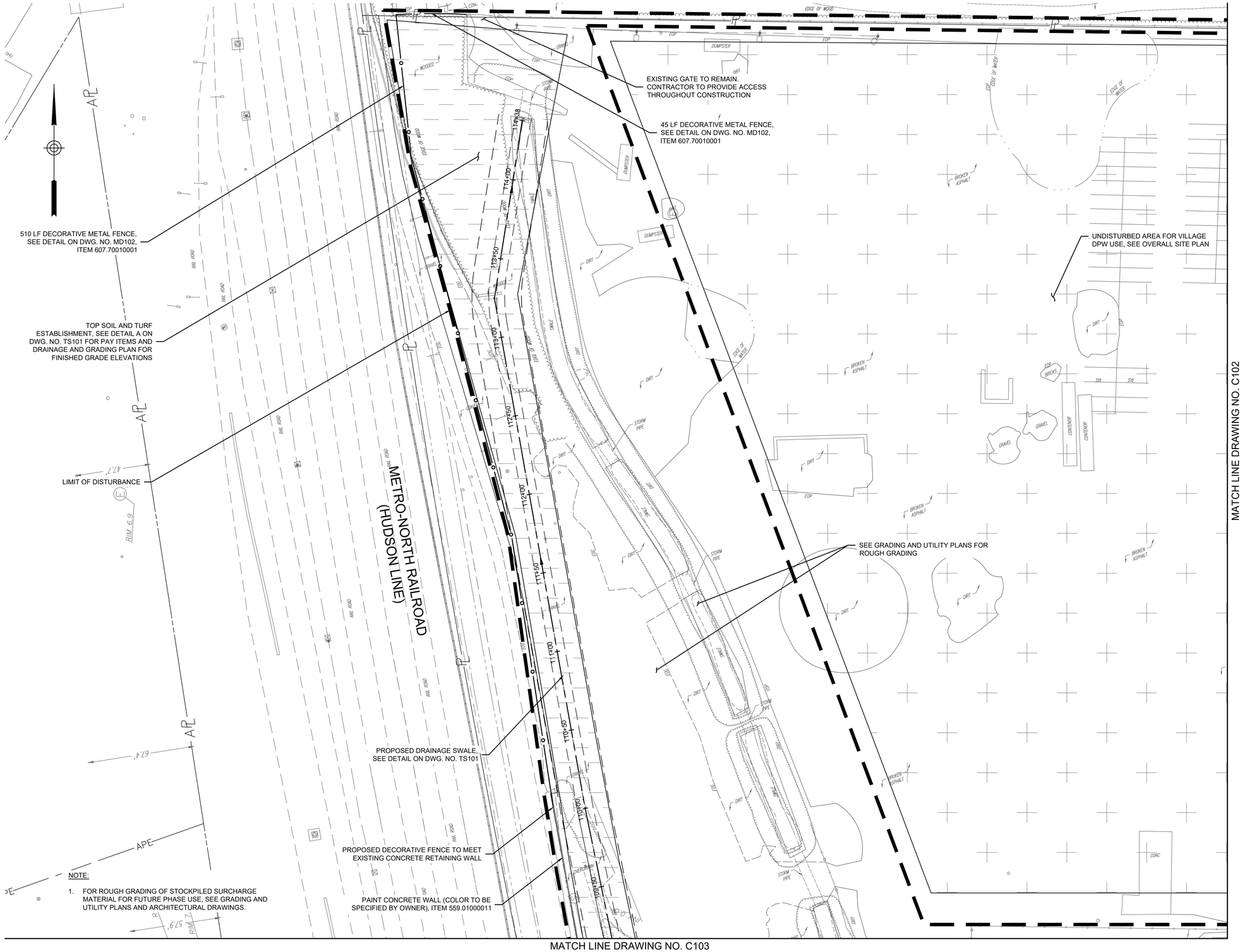
SCALE: 1"=30'-0"

DRAWING NAME: **EXISTING CONDITIONS AND REMOVAL PLAN-7**

DRAWING NUMBER: EX107

SHEET NUMBER: 14

Drawing Path\Name: C:\bma\wsp--pb--us--pw--02\wsp_____shaun.sueh\d0376332\Existing Conditions and Removal Plans.dwg Printed: Dec. 16, 2022, 12:01pm Layout: X107



SLEEPY HOLLOW
LOCAL DEVELOPMENT CORPORATION

WSP USA INC.
500 Summit Lake Drive, Suite 450
Valhalla, NY 10595
(914) 747-1120

ENGINEER OF RECORD:

STATE OF NEW YORK
SCOTT C. GRIGER
070904
LICENSED PROFESSIONAL ENGINEER

NEW YORK STATE LICENSED PROFESSIONAL ENGINEER

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KEY PLAN:

1	2
3	4
5	6
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REVISIONS:

PROJECT NAME:

SLEEPY HOLLOW EAST PARCEL PROJECT - PHASE II

VILLAGE OF SLEEPY HOLLOW WESTCHESTER COUNTY, NEW YORK

ISSUE DATE: 01/2023

PROJECT NUMBER: I188137H

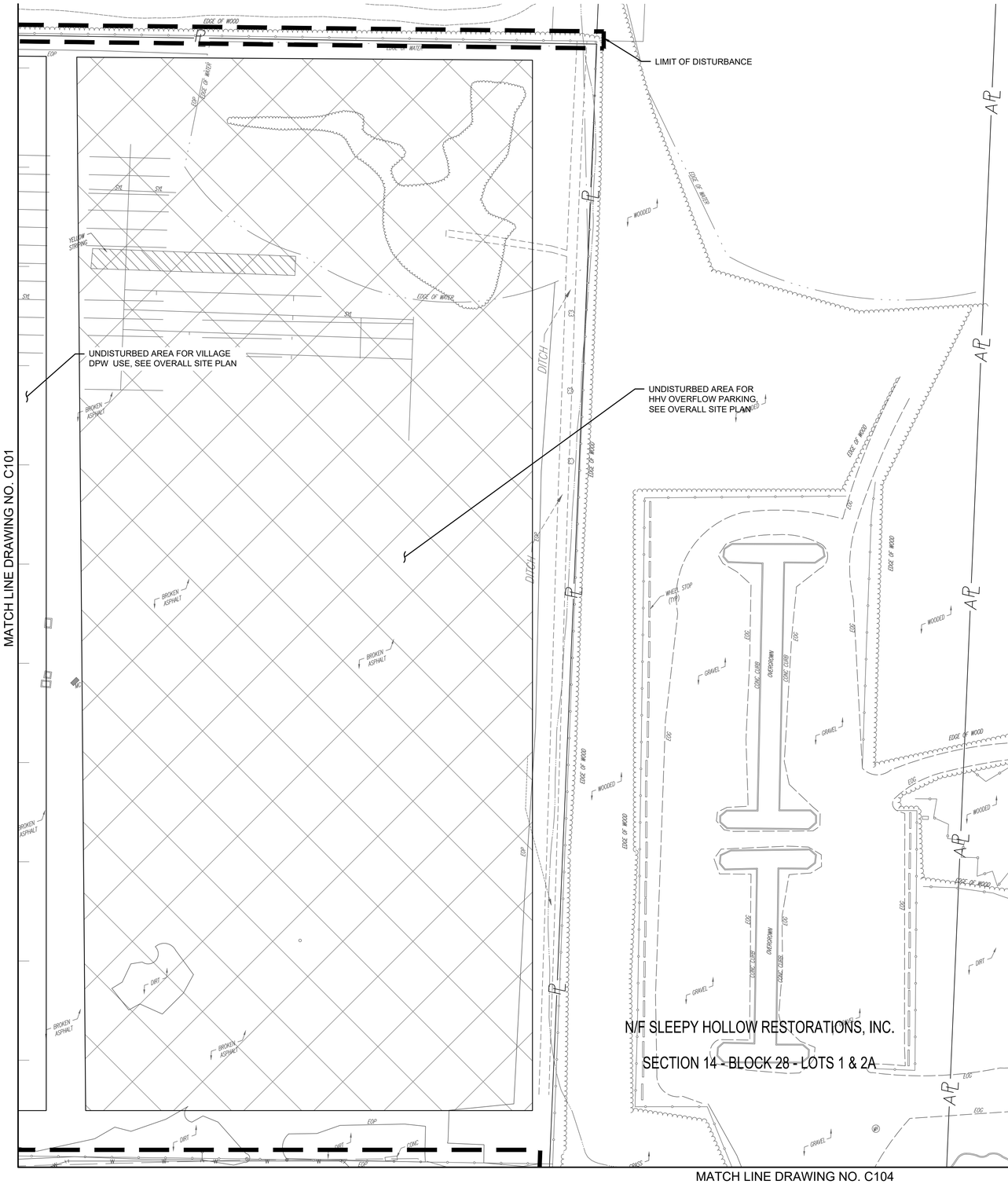
SCALE: 1"=30'-0"

DRAWING NAME: **SITE PLAN-1**

DRAWING NUMBER: C101

SHEET NUMBER: 15

Drawing Path\Name: C:\Jma\wsp-pb--us-pw-02\wsp_____shtoun.sush\d037832\Site Plan.dwg Printed: Dec 16, 2022, 3:04pm Layout: X101



CURB TABLE - CONTINENTAL STREET EXTENSION							
STATION TO STATION				SIDE	RADIUS	LENGTH	PAY ITEM 609.XXXX (FT)
STA.	OFFSET	STA.	OFFSET				
10+00.00	23.0	10+09.89	13.0	RT	10.0	15.7	16.0
10+09.89	13.0	11+14.08	13.0	RT		104.2	105.0
11+14.08	13.0	11+68.14	13.0	RT		54.1	55.0
11+68.14	13.0	12+71.87	13.0	RT		103.7	104.0
12+71.87	13.0	13+83.76	13.0	RT	263.0	117.7	118.0
10+00.09	19.4	10+26.80	19.4	LT		26.7	27.0
10+26.80	19.4	10+35.05	19.4	LT		8.3	9.0
10+35.05	19.4	11+04.20	13.0	LT		173.9	174.0
11+04.20	13.0	11+85.39	13.0	LT		81.2	82.0
11+85.39	13.0	11+90.38	18.5	LT	5.0	7.9	8.0
12+15.40	18.5	12+20.40	13.0	LT	5.0	7.8	8.0
12+20.40	13.0	12+71.87	13.0	LT		51.5	52.0
12+71.87	13.0	12+93.53	13.0	LT	237.0	20.5	21.0
12+93.53	13.0	13+22.88	42.3	LT	25.0	45.1	46
13+83.76	13.0	13+54.23	39.7	LT	25.0	42.8	43

CURB TABLE - CLINTON STREET EXTENSION							
STATION TO STATION				SIDE	RADIUS	LENGTH	PAY ITEM 609.XXXX (FT)
STA.	OFFSET	STA.	OFFSET				
50+20.59	48.8	50+20.72	37.7	RT		11.1	12.0
50+20.72	37.7	50+45.75	13.0	RT	25.0	39.0	39.0
50+45.75	13.0	51+25.95	13.0	RT		80.2	81.0
51+25.95	13.0	52+01.26	13.0	RT	173.0	81.4	82.0
52+01.26	13.0	53+50.08	13.0	RT		148.8	149.0
53+50.08	13.0	55+15.62	13.0	RT	217.0	156.2	157.0
55+15.62	13.0	56+36.56	13.0	RT		119.9	120.0
56+36.56	13.0	58+66.66	13.0	RT	252.0	219.8	220.0
58+66.66	13.0	59+62.47	13.0	RT		95.8	96.0
59+62.47	13.0	61+04.41	13.0	RT	253.0	149.6	150.0
61+04.41	13.0	62+66.65	13.0	RT	1013.0	164.3	165.0
62+66.65	13.0	64+06.43	13.0	RT		139.8	140.0
64+06.43	13.0	66+67.73	13.0	RT	1013.0	264.7	265.0
66+67.73	13.0	67+25.00	13.0	RT		57.3	58.0
67+25.00	13.0	67+37.44	13.0	RT		12.4	13.0
50+20.32	43.1	50+20.34	37.9	LT		5.2	6.0
50+20.34	37.9	50+45.34	13.0	LT	25.0	39.2	40.0
50+45.34	13.0	51+25.95	13.0	LT		80.6	81.0
51+25.95	13.0	52+01.26	13.0	LT	147.0	69.2	70.0
52+01.26	13.0	53+50.08	13.0	LT		148.8	149.0
53+50.08	13.0	55+15.62	13.0	LT	243.0	174.9	175.0
55+15.62	13.0	56+35.56	13.0	LT		119.9	120.0
56+35.56	13.0	58+66.66	13.0	LT	278.0	242.4	243.0
58+66.66	13.0	59+69.72	12.9	LT		102.7	103.0
59+69.72	12.9	59+83.08	28.3	LT	12.0	23.0	23.0
59+83.08	28.3	59+82.33	30.7	LT		2.6	3.0
60+00.39	34.3	60+02.67	23.2	LT		11.2	12.0
60+02.67	23.2	60+15.86	13.0	LT	12.0	17.4	18.0
60+15.86	13.0	61+04.41	13.0	LT	227.0	83.8	84.0
61+04.41	13.0	62+66.65	13.0	LT	987.0	160.1	161.0
62+66.65	13.0	64+06.43	13.0	LT		139.8	140.0
64+06.43	13.0	66+67.73	13.0	LT	987.0	257.9	258.0
66+67.73	13.0	67+40.43	13.0	LT		73.7	74.0

NOTE:

1. FOR ROUGH GRADING OF STOCKPILED SURCHARGE MATERIAL FOR FUTURE PHASE USE, SEE GRADING AND UTILITY PLANS AND ARCHITECTURAL DRAWINGS.

0 30 60
SCALE IN FEET

SLEEPY HOLLOW
LOCAL DEVELOPMENT CORPORATION

WSP USA INC.
500 Summit Lake Drive, Suite 450
Valhalla, NY 10595
(914) 747-1120

ENGINEER OF RECORD:

SCOTT C. GRIGER
070904
NEW YORK STATE LICENSED PROFESSIONAL ENGINEER

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KEY PLAN:

1	2
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REVISIONS:

PROJECT NAME:

SLEEPY HOLLOW EAST PARCEL PROJECT - PHASE II

VILLAGE OF SLEEPY HOLLOW WESTCHESTER COUNTY, NEW YORK

ISSUE DATE: 01/2023

PROJECT NUMBER: I188137H

SCALE: 1"=30'-0"

DRAWING NAME: **SITE PLAN 2**

DRAWING NUMBER: C102

SHEET NUMBER: 16

Drawing Path\Name: C:\bim\wsp-pb--us--pw--02\wsp__sheun.sueh\d0376323\Site Plan.dwg Printed: Dec. 16, 2022, 3:04pm Layout: X102

MATCH LINE DRAWING NO. C101

EXISTING SIDING AND DRAINAGE SWALE TO BE REGRADED. REFER TO DRAINAGE & GRADING PLANS FOR FINISHED GRADE ELEVATIONS, TO BE PAID UNDER ITEM 201.030002. EXISTING BALLAST (±¾" STONE) TO BE STOCKPILED ON-SITE FOR RE-USE.

TOP SOIL AND TURF ESTABLISHMENT IN AREAS OF FINAL GRADING. SEE DWG. NO. TS101 FOR DETAILS AND PAY ITEMS.

PROPOSED DRAINAGE SWALE. SEE DETAIL ON DWG. NO. TS101

LIMIT OF DISTURBANCE

PAINT CONCRETE WALL (COLOR TO BE SPECIFIED BY OWNER), ITEM 559.01000011

LIMIT OF WORK FOR FUTURE ROADWAY EXTENSION

METRO-NORTH RAILROAD (HUDSON LINE)

10' Drainage Easement

EAST PARCEL

SECTION 15 - BLOCK 15 - LOT 1
28.291 ACRES (1,232,334 SQ. FT)

CONTRACTOR STAGING AREA:
LOW LYING AREA PRONE TO FLODING; PRIOR TO USE FOR STAGING/STORAGE CONTRACTOR TO DEWATER ANY STANDING WATER AND MILL EXISTING ASPHALT; UTILIZE STOCKPILED AGGREGATE AND EXCAVATED SURCHARGE MATERIAL TO ELEVATE THIS AREA AND PROVIDE POSITIVE DRAINAGE. MAXIMUM FINAL ELEVATION OF APPROXIMATELY 10' WITHIN THIS AREA (APPROXIMATELY 3 TO 4 FEET OF FILL)

NOTES:

1. FOR ROUGH GRADING OF STOCKPILED SURCHARGE MATERIAL FOR FUTURE PHASE USE, SEE GRADING AND UTILITY PLANS AND ARCHITECTURAL DRAWINGS.
2. FOR ROADWAY FINISH GRADE ELEVATIONS, REFER TO ROADWAY PROFILES AND GRADING AND UTILITY PLANS.

MATCH LINE DRAWING NO. C104

MATCH LINE DRAWING NO. C105

0 30 60
SCALE IN FEET

Drawing Path\Name: C:\Jms\wsp-pb-us-pw-02\wsp_____shaun.sueh\a0378322\Site Plan.dwg Printed: Dec 15, 2022, 3:05pm Layout: X103

SLEEPY HOLLOW
LOCAL DEVELOPMENT CORPORATION

VILLAGE OF SLEEPY HOLLOW 1874

WSP USA INC.
500 Summit Lake Drive, Suite 450
Valhalla, NY 10595
(914) 747-1120

ENGINEER OF RECORD:

STATE OF NEW YORK · SCOTT C. GRIGLEY · LICENSED PROFESSIONAL ENGINEER · 070904

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:

1	2
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REVISIONS:

PROJECT NAME:

SLEEPY HOLLOW EAST PARCEL PROJECT - PHASE II

VILLAGE OF SLEEPY HOLLOW WESTCHESTER COUNTY, NEW YORK

ISSUE DATE: 01/2023

PROJECT NUMBER:	SCALE:
1188137H	1"=30'-0"

DRAWING NAME: **SITE PLAN-3**

DRAWING NUMBER:	SHEET NUMBER:
C103	17

MATCH LINE DRAWING NO. C102

MATCH LINE DRAWING NO. C103

MATCH LINE DRAWING NO. C106

CONTINENTAL STREET
(DESIGN SPEED = 25 MPH)

CLINTON STREET EXT.
(DESIGN SPEED = 25 MPH)

WHITE YIELD LINE MARKINGS, ITEM 685.14

12" WHITE EPOXY LADDER BAR CROSSWALK (TYPE L), ITEM 685.11

EMBEDDED DETECTABLE WARNING UNIT, ITEM 608.21

NYR1-1 30"x30" STOP 645.5102 (1) 645.81 (1)

18" WHITE STOP LINE, ITEM 685.11

W17-1 30"x30" RAISED CROSSWALK 645.5102 (1) 645.81 (1)

W13-1P 18"x18" 20 M.P.H.

4" SOLID DOUBLE YELLOW LINE, ITEM 685.12

R=10'

MEET EXISTING GRADE

CURB RAMP (TYPE 2) WITH EMBEDDED DETECTABLE WARNING STRIP, ITEM 608.21

LIMIT OF WORK PHASE 3 - DPW FACILITY (UNDER SEPARATE CONTRACT)

R1-1 30"x30" STOP 645.5102 (1) 645.81 (1)

W11-2 30"x30" 645.5102 (1) 645.81 (1)

W16-7PL 24"x12"

GRANITE CURB (TYP.)

CONCRETE SIDEWALK (TYP.)

INSTALL VINYL COATED STEEL FENCE GATE ON PLASTIC COATED FRAME (SINGLE LEAF 4 FEET OPENING, 6 FEET HIGH) AS SPECIFIED BY THE DPW, ITEM 607.1717

LIMIT OF DISTRUBANCE (PHASE II PROJECT LIMITS)

SEE DETAIL ON DRAWING NO. TS101 FOR DPW ACCESS/SWALE DETAIL AND PAY ITEMS

VINYL COATED STEEL CHAIN-LINK FENCE ON PLASTIC COATED FRAME WITH TENSION WIRE, 6 FEET HIGH, ITEM 607.0522

Existing 4" Water Main

Existing 18" Water Main

20" TILE

20" TILE S

INV 3.4

INV 2.6

INV 2.4

N/F JOHNSTON BRIAN
SECTION 15 - BLOCK 7 - LOT 9 & 10A

N/F CIARLETTA WESTCHESTER
SECTION 15 - BLOCK 4 - LOT 8

N/F DIREITINHO EMILIA LE
SECTION 15 - BLOCK 4 - LOT 7

N/F BROWN KENT M
SECTION 15 - BLOCK 4 - LOT 5 & 6

N/F SOUSA MARCIA & WILSON
SECTION 15 - BLOCK 4 - LOT 2, 3 & 4

NOTES:

1. FOR ROUGH GRADING OF STOCKPILED SURCHARGE MATERIAL FOR FUTURE PHASE USE, SEE GRADING AND UTILITY PLANS AND ARCHITECTURAL DRAWINGS.
2. FOR ROADWAY PAY ITEMS, SEE TYPICAL SECTIONS.
3. FOR ROADWAY FINISH GRADE ELEVATIONS, REFER TO ROADWAY PROFILES AND GRADING AND UTILITY PLANS.

0 30 60
SCALE IN FEET

SLEEPY HOLLOW
LOCAL DEVELOPMENT CORPORATION

WSP USA INC.
500 Summit Lake Drive, Suite 450
Valhalla, NY 10595
(914) 747-1120

ENGINEER OF RECORD:

SCOTT C. GIBSON
070904
NEW YORK STATE LICENSED PROFESSIONAL ENGINEER

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KEY PLAN:

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REVISIONS:

PROJECT NAME:

SLEEPY HOLLOW EAST PARCEL PROJECT - PHASE II

VILLAGE OF SLEEPY HOLLOW WESTCHESTER COUNTY, NEW YORK

ISSUE DATE: 01/2023

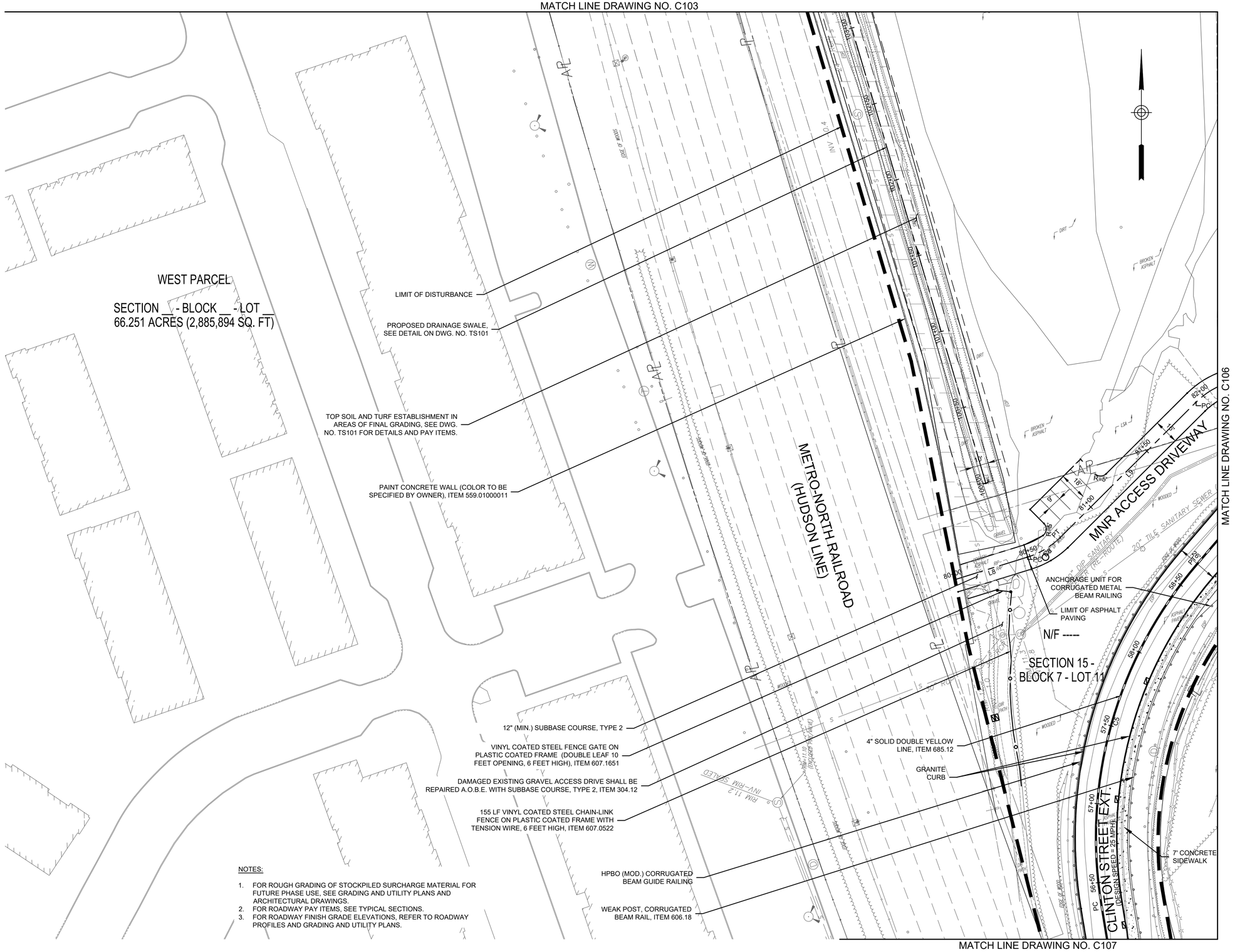
PROJECT NUMBER:	SCALE:
I188137H	1"=30'-0"

DRAWING NAME: **SITE PLAN-4**

DRAWING NUMBER:	SHEET NUMBER:
C104	18

Drawing Path\Name: C:\Jobs\wsp-pb-us-pw-02\wsp___shaun.xuehr\d\376323\Site Plan.dwg Printed: Dec 15, 2022, 3:06pm Layout: X104

MATCH LINE DRAWING NO. C103



NOTES:

1. FOR ROUGH GRADING OF STOCKPILED SURCHARGE MATERIAL FOR FUTURE PHASE USE, SEE GRADING AND UTILITY PLANS AND ARCHITECTURAL DRAWINGS.
2. FOR ROADWAY PAY ITEMS, SEE TYPICAL SECTIONS.
3. FOR ROADWAY FINISH GRADE ELEVATIONS, REFER TO ROADWAY PROFILES AND GRADING AND UTILITY PLANS.

SLEEPY HOLLOW
LOCAL DEVELOPMENT CORPORATION

WSP USA INC.
500 Summit Lake Drive, Suite 450
Valhalla, NY 10595
(914) 747-1120

ENGINEER OF RECORD:

STATE OF NEW YORK
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070904
LICENSED PROFESSIONAL ENGINEER

NEW YORK STATE LICENSED PROFESSIONAL ENGINEER

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KEY PLAN:

1	2
3	4
5	6
7	

REVISIONS:

PROJECT NAME:

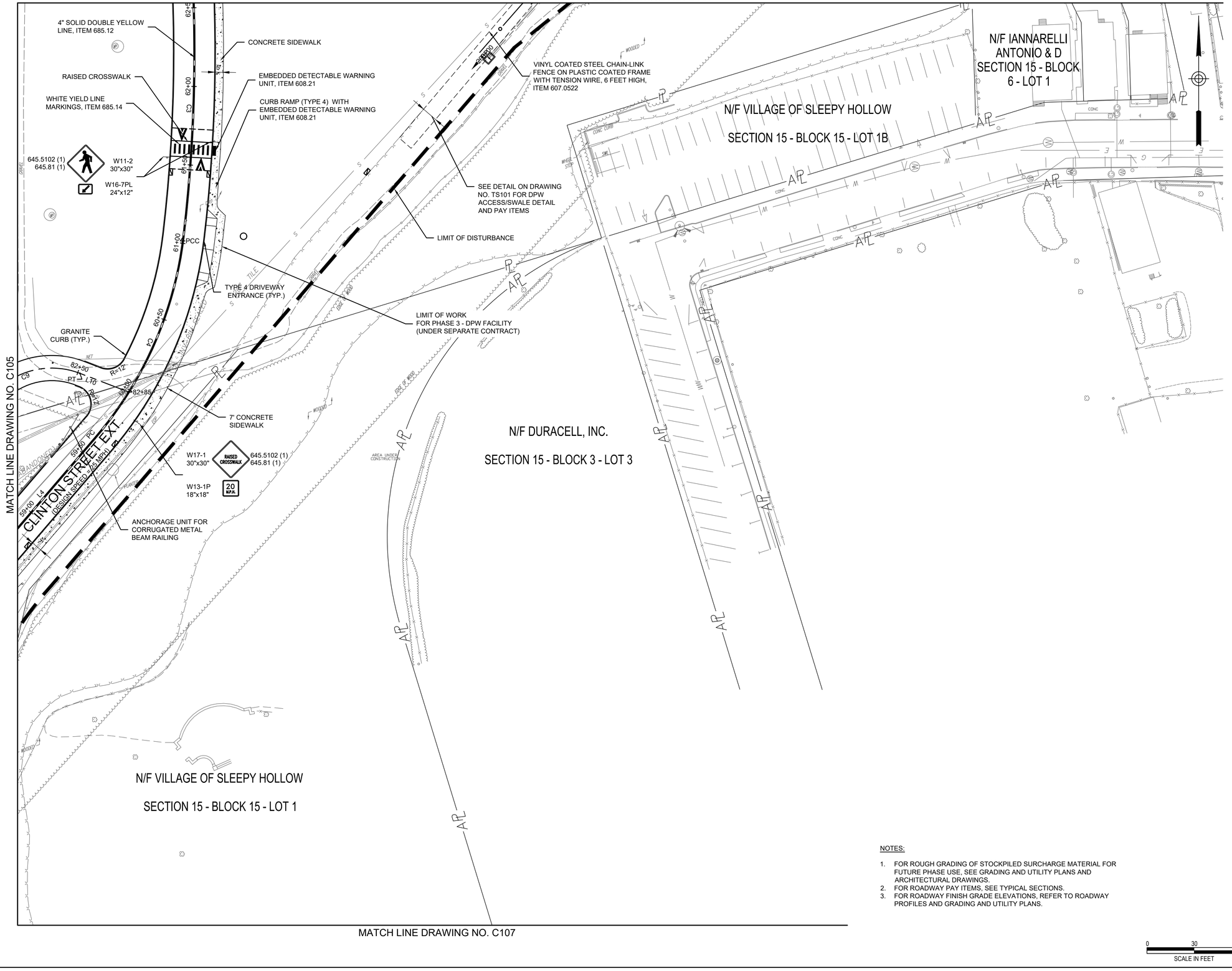
SLEEPY HOLLOW EAST PARCEL PROJECT - PHASE II

VILLAGE OF SLEEPY HOLLOW WESTCHESTER COUNTY, NEW YORK

ISSUE DATE: 01/2023	
PROJECT NUMBER: I188137H	SCALE: 1"=30'-0"
DRAWING NAME: **SITE PLAN-5**	
DRAWING NUMBER: C105	SHEET NUMBER: 19

Drawing Path\Name: C:\prm\wsp--pb--us--pw--02\wsp_---athoun.sush\d0378332\Site Plan.dwg Printed: Dec 16, 2022, 3:08pm Layout: X105

MATCH LINE DRAWING NO. C104



NOTES:

1. FOR ROUGH GRADING OF STOCKPILED SURCHARGE MATERIAL FOR FUTURE PHASE USE, SEE GRADING AND UTILITY PLANS AND ARCHITECTURAL DRAWINGS.
2. FOR ROADWAY PAY ITEMS, SEE TYPICAL SECTIONS.
3. FOR ROADWAY FINISH GRADE ELEVATIONS, REFER TO ROADWAY PROFILES AND GRADING AND UTILITY PLANS.

0 30 60
SCALE IN FEET

SLEEPY HOLLOW
LOCAL DEVELOPMENT CORPORATION

WSP USA INC.
500 Summit Lake Drive, Suite 450
Valhalla, NY 10595
(914) 747-1120

ENGINEER OF RECORD:

STATE OF NEW YORK
SCOTT C. GIBSON
070904
LICENSED PROFESSIONAL ENGINEER

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:

1	2	
3	4	
5	6	
	7	

REVISIONS:

PROJECT NAME:

SLEEPY HOLLOW EAST PARCEL PROJECT - PHASE II

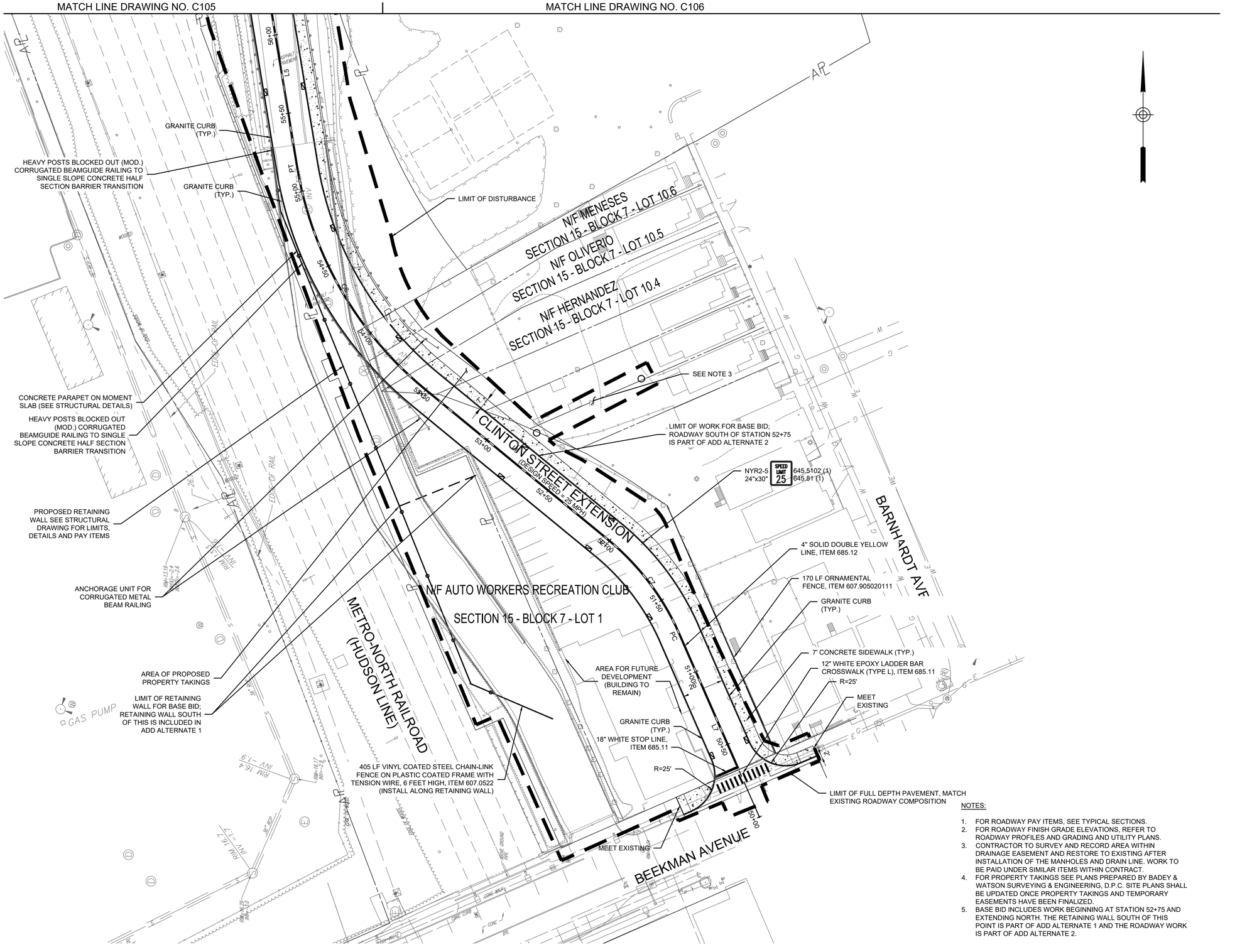
VILLAGE OF SLEEPY HOLLOW
WESTCHESTER COUNTY, NEW YORK

ISSUE DATE: 01/2023	
PROJECT NUMBER: I188137H	SCALE: 1"=30'-0"
DRAWING NAME: **SITE PLAN-6**	
DRAWING NUMBER: C106	SHEET NUMBER: 20

Drawing Path\Name: C:\cma\wsp-pb-us-pw-02\wsp__shaun.sueh\d0378322\Site Plan.dwg Printed: Jan 10, 2023, 9:47am Layout: X106

MATCH LINE DRAWING NO. C105

MATCH LINE DRAWING NO. C106



NOTES:

1. FOR ROADWAY PAY ITEMS, SEE TYPICAL SECTIONS.
2. FOR ROADWAY FINISH GRADE ELEVATIONS, REFER TO ROADWAY PROFILES AND GRADING AND UTILITY PLANS.
3. CONTRACTOR TO SURVEY AND RECORD AREA WITHIN DRAINAGE EASEMENT AND RESTORE TO EXISTING AFTER INSTALLATION OF THE MANHOLES AND DRAIN LINE. WORK TO BE PAID UNDER SIMILAR ITEMS WITHIN CONTRACT.
4. FOR PROPERTY TAKINGS SEE PLANS PREPARED BY BADEY & WATSON SURVEYING & ENGINEERING, D.P.C. SITE PLANS SHALL BE UPDATED ONCE PROPERTY TAKINGS AND TEMPORARY EASEMENTS HAVE BEEN FINALIZED.
5. BASE BID INCLUDES WORK BEGINNING AT STATION 52+75 AND EXTENDING NORTH. THE RETAINING WALL SOUTH OF THIS POINT IS PART OF ADD ALTERNATE 1 AND THE ROADWAY WORK IS PART OF ADD ALTERNATE 2.

0 30 60
SCALE IN FEET

SLEEPY HOLLOW
LOCAL DEVELOPMENT CORPORATION

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500 Summit Lake Drive, Suite 450
Valhalla, NY 10595
(914) 747-1120

ENGINEER OF RECORD:

SCOTT C. GIBSON
STATE OF NEW YORK
070904
LICENSED PROFESSIONAL ENGINEER

NEW YORK STATE LICENSED PROFESSIONAL ENGINEER

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KEY PLAN:

1	2
3	4
5	6
7	

REVISIONS:

PROJECT NAME:

SLEEPY HOLLOW EAST PARCEL PROJECT - PHASE II

VILLAGE OF SLEEPY HOLLOW
WESTCHESTER COUNTY, NEW YORK

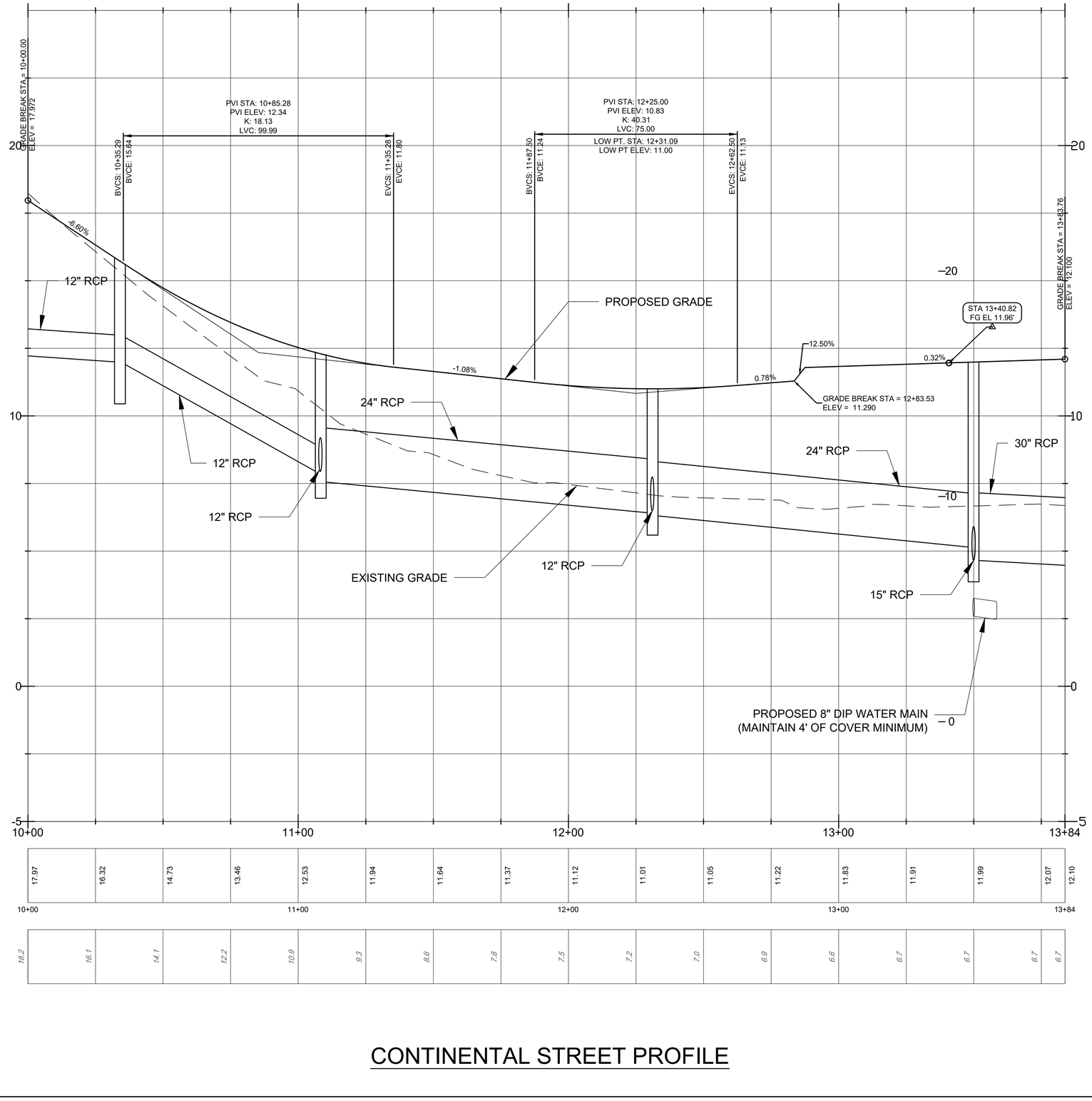
ISSUE DATE: 01/2023

PROJECT NUMBER:	SCALE:
I188137H	1"=30'-0"

DRAWING NAME: **SITE PLAN-7**

DRAWING NUMBER:	SHEET NUMBER:
C107	21

Drawing Path\Name: G:\bms\wsp-pb--us-pw-pz\wsp__shaun.suehr\d\037\5323\Site Plan.dwg Printed: Jan 10, 2023, 9:56am Layout: X107



CONTINENTAL STREET PROFILE

VERTICAL SCALE IN FEET: 0 2 4

HORIZONTAL SCALE IN FEET: 0 20 40

SLEEPY HOLLOW
LOCAL DEVELOPMENT CORPORATION

WSP USA INC.
500 Summit Lake Drive, Suite 400
Valhalla, NY 10595
(914) 747-1120

ENGINEER OF RECORD:

STATE OF NEW YORK · SCOTT C. GROSSI · 070904 · LICENSED PROFESSIONAL ENGINEER

NEW YORK STATE LICENSED
PROFESSIONAL ENGINEER

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KEY PLAN:

REVISIONS:

PROJECT NAME:

SLEEPY HOLLOW EAST PARCEL PROJECT - PHASE II

VILLAGE OF SLEEPY HOLLOW
WESTCHESTER COUNTY, NEW YORK

ISSUE DATE: 01/2023

PROJECT NUMBER: I188137H

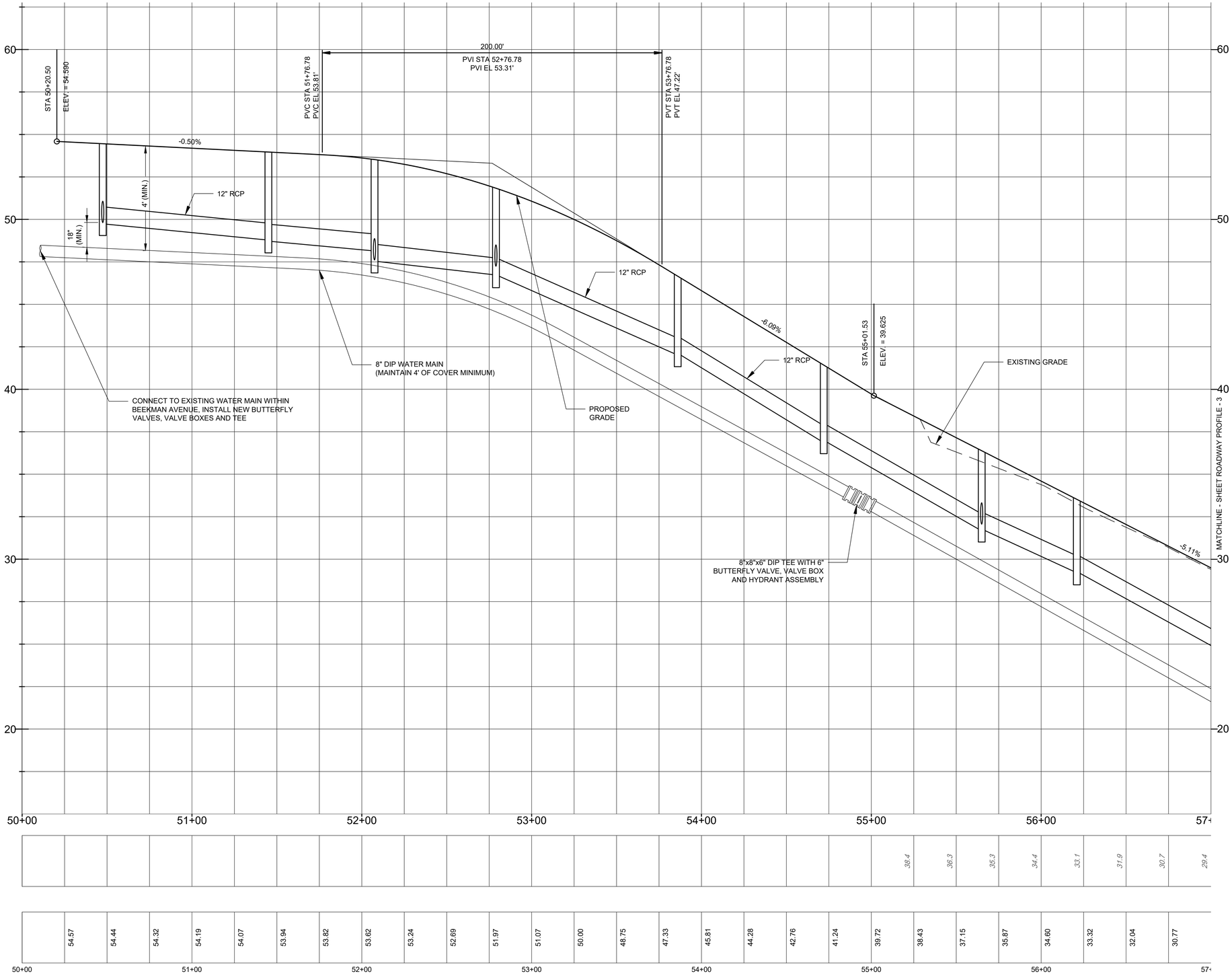
SCALE: 1" = 20'

DRAWING NAME: **ROADWAY PROFILE-1**

DRAWING NUMBER: C108

SHEET NUMBER: 22

Drawing Path\Name: C:\bm\\wsp--sb--us--pw--02\\tea.gordon@wsp.com\d0378322\profiles_updated_20220325.dwg Printed: Jan 10, 2023, 2:47pm Layout: Continental St Ext



CLINTON STREET EXTENSION PROFILE

0 3 6
VERTICAL SCALE IN FEET

0 30 60
HORIZONTAL SCALE IN FEET

SLEEPY HOLLOW
LOCAL DEVELOPMENT CORPORATION

WSP USA INC.
500 Summit Lake Drive, Suite 400
Valhalla, NY 10595
(914) 747-1120

ENGINEER OF RECORD:

STATE OF NEW YORK
SCOTT C. GEROFF
070904
LICENSED PROFESSIONAL ENGINEER

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 EAST PARCEL PROJECT - PHASE II

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

ISSUE DATE: 01/2023

PROJECT NUMBER: 1188137H

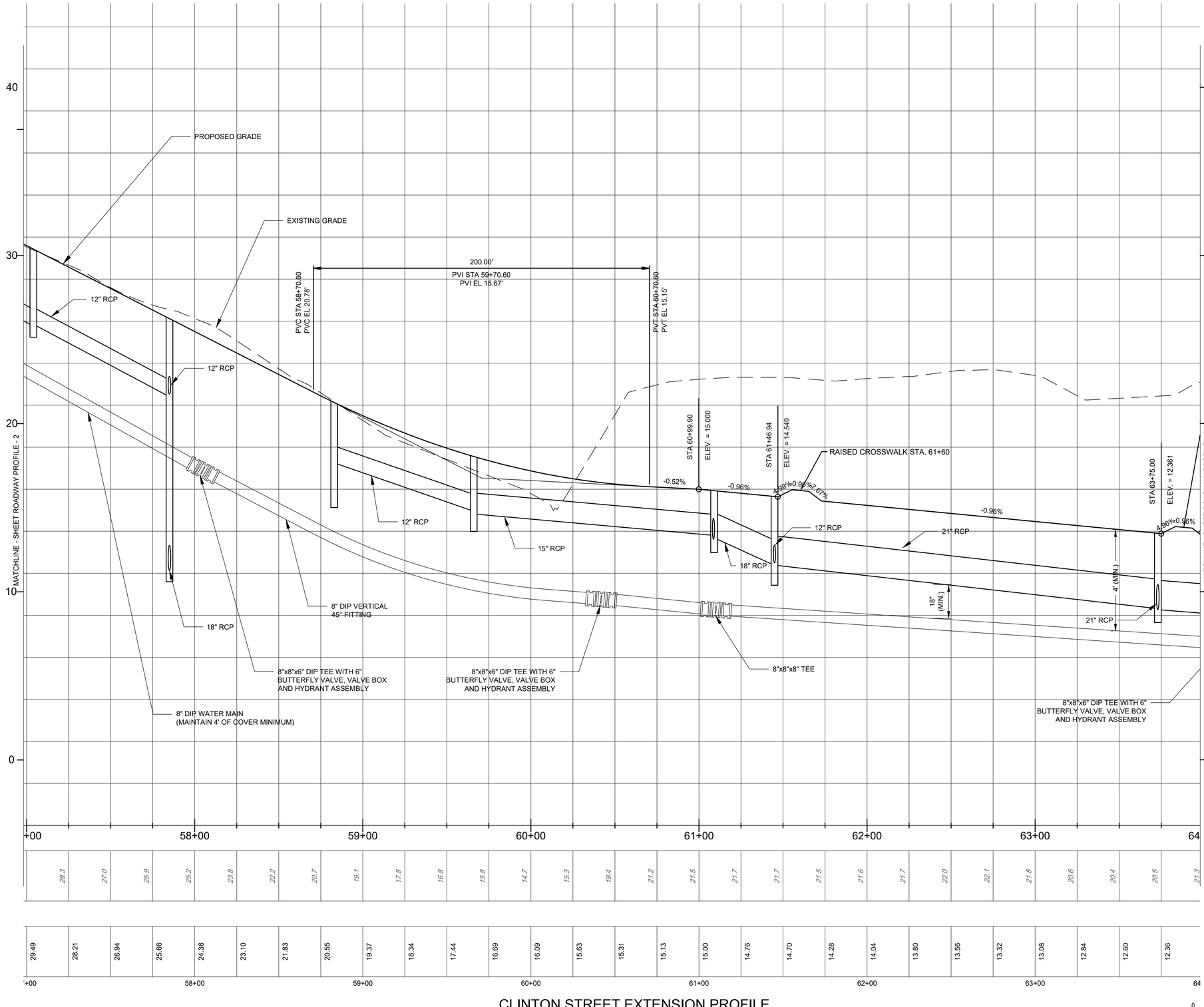
SCALE: 1" = 30'

DRAWING NAME: **ROADWAY PROFILE-2**

DRAWING NUMBER: **C109**

SHEET NUMBER: 23

Drawing Path\Name: C:\Jrm\wsp-pb-us-pw-02\lisa.gliedon@wsp.com\d0376322\Jrmfiles_updated_20220325.dwg Printed: Jan 10, 2023, 2:47pm Layout: Clinton St Ext (1)



CLINTON STREET EXTENSION PROFILE

0 3 6
VERTICAL SCALE IN FEET

0 30 60
HORIZONTAL SCALE IN FEET

SLEEPY HOLLOW
LOCAL DEVELOPMENT CORPORATION

WSP USA INC.
500 Summit Lake Drive, Suite 400
Valhalla, NY 10595
(914) 747-1120

ENGINEER OF RECORD:

SCOTT C. GROSSI
070904
NEW YORK STATE LICENSED
PROFESSIONAL ENGINEER

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KEY PLAN:

REVISIONS:

PROJECT NAME:

SLEEPY HOLLOW EAST PARCEL PROJECT - PHASE II

VILLAGE OF SLEEPY HOLLOW
WESTCHESTER COUNTY, NEW YORK

ISSUE DATE: 01/2023

PROJECT NUMBER: I188137H

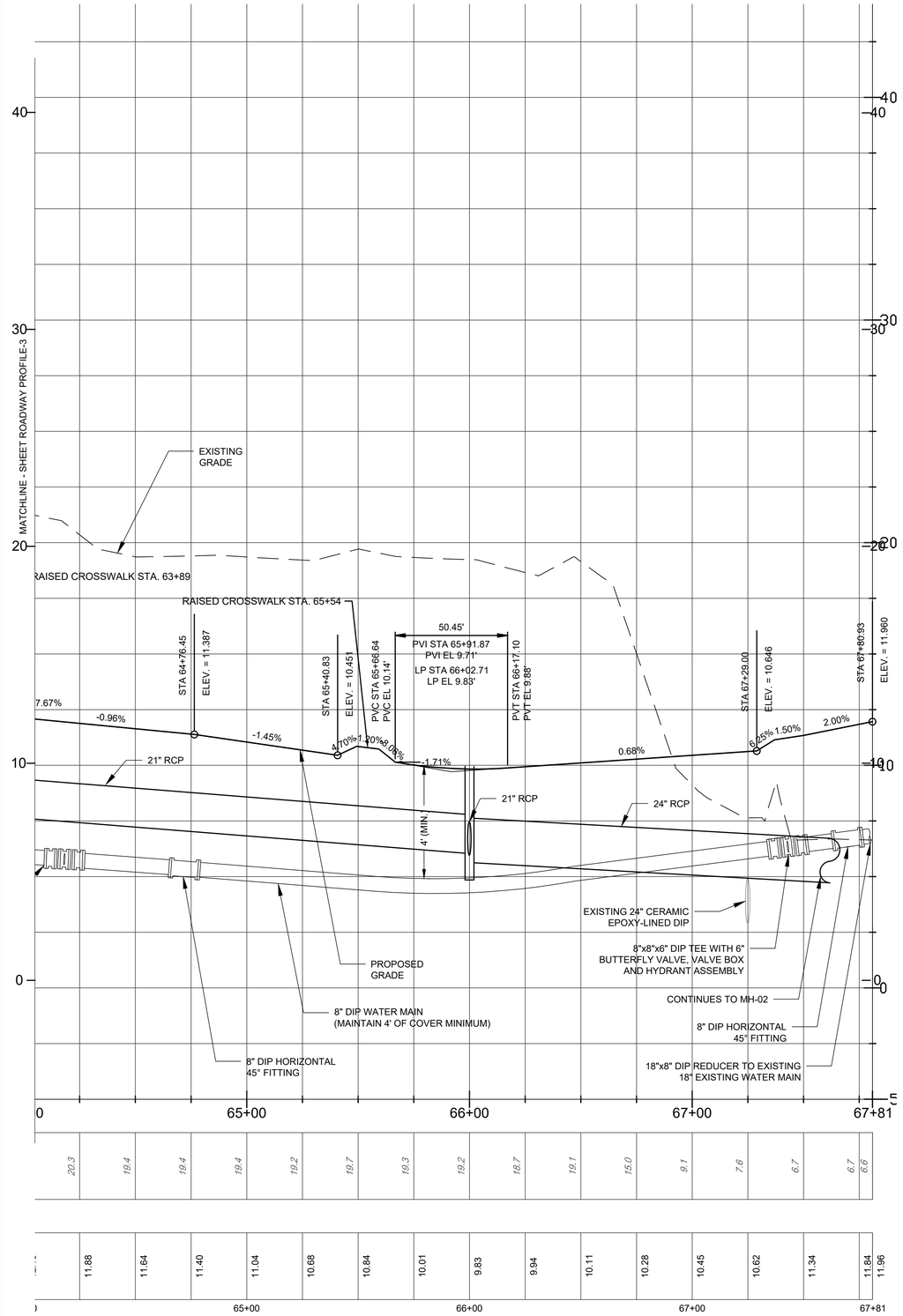
SCALE: 1" = 30'

DRAWING NAME: **ROADWAY PROFILE-3**

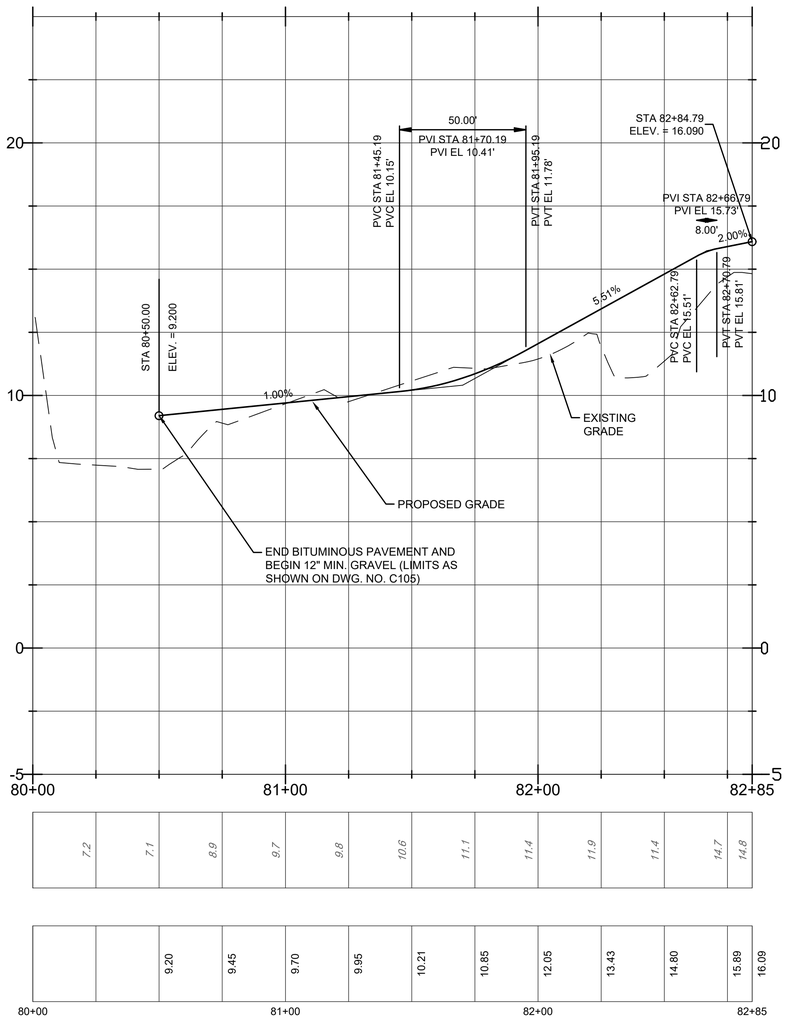
DRAWING NUMBER: C110

SHEET NUMBER: 24

Drawing Path\Name: C:\pms\wsp-pk-us-pw-02\lee.gliordano@wsp.com\d0376323\profiles_updated_20220325.dwg Printed: Jan 10, 2023, 2:47pm Layout: Clinton St Ext (2)



CLINTON STREET EXTENSION PROFILE



METRO-NORTH DRIVEWAY PROFILE

0 3 6
VERTICAL SCALE IN FEET
0 30 60
HORIZONTAL SCALE IN FEET

SLEEPY HOLLOW
LOCAL DEVELOPMENT CORPORATION

WSP USA INC.
500 Summit Lake Drive, Suite 400
Valhalla, NY 10595
(914) 747-1120

ENGINEER OF RECORD:

STATE OF NEW YORK · SCOTT C. GROSSI · 070904 · LICENSED PROFESSIONAL ENGINEER

NEW YORK STATE LICENSED PROFESSIONAL ENGINEER

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KEY PLAN:

REVISIONS:

PROJECT NAME:

SLEEPY HOLLOW EAST PARCEL PROJECT - PHASE II

VILLAGE OF SLEEPY HOLLOW
WESTCHESTER COUNTY, NEW YORK

ISSUE DATE: 01/2023

PROJECT NUMBER: I188137H

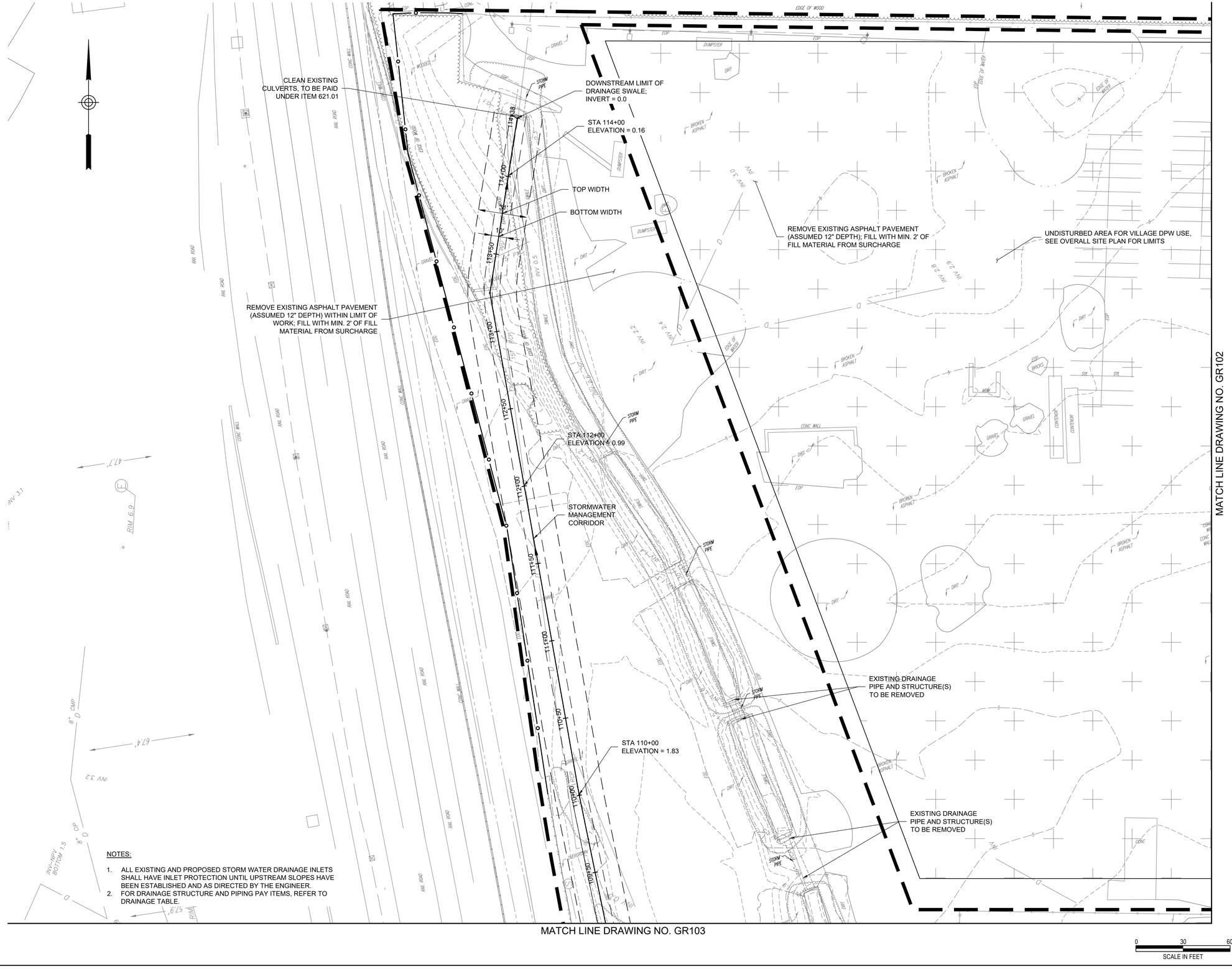
SCALE: 1" = 30'

DRAWING NAME: **ROADWAY PROFILE-4**

DRAWING NUMBER: C111

SHEET NUMBER: 25

Drawing Path\Name: C:\Jmn\wsp--pb--us--pw--02\Alisa.gliedon@wsp.com\d0376322\Jcn\files_updated_20220325.dwg Printed: Jan 10, 2023, 2:48pm Layout: Clinton St Ext (3)



NOTES:

1. ALL EXISTING AND PROPOSED STORM WATER DRAINAGE INLETS SHALL HAVE INLET PROTECTION UNTIL UPSTREAM SLOPES HAVE BEEN ESTABLISHED AND AS DIRECTED BY THE ENGINEER.
2. FOR DRAINAGE STRUCTURE AND PIPING PAY ITEMS, REFER TO DRAINAGE TABLE.

SLEEPY HOLLOW
LOCAL DEVELOPMENT CORPORATION

WSP USA INC.
500 Summit Lake Drive, Suite 450
Valhalla, NY 10595
(914) 747-1120

ENGINEER OF RECORD:

SCOTT C. GRIGER
NEW YORK STATE LICENSED PROFESSIONAL ENGINEER
070904

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KEY PLAN:

1	2
3	4
5	6
7	

REVISIONS:

PROJECT NAME:

SLEEPY HOLLOW EAST PARCEL PROJECT - PHASE II

VILLAGE OF SLEEPY HOLLOW WESTCHESTER COUNTY, NEW YORK

ISSUE DATE: 01/2023

PROJECT NUMBER: I188137H

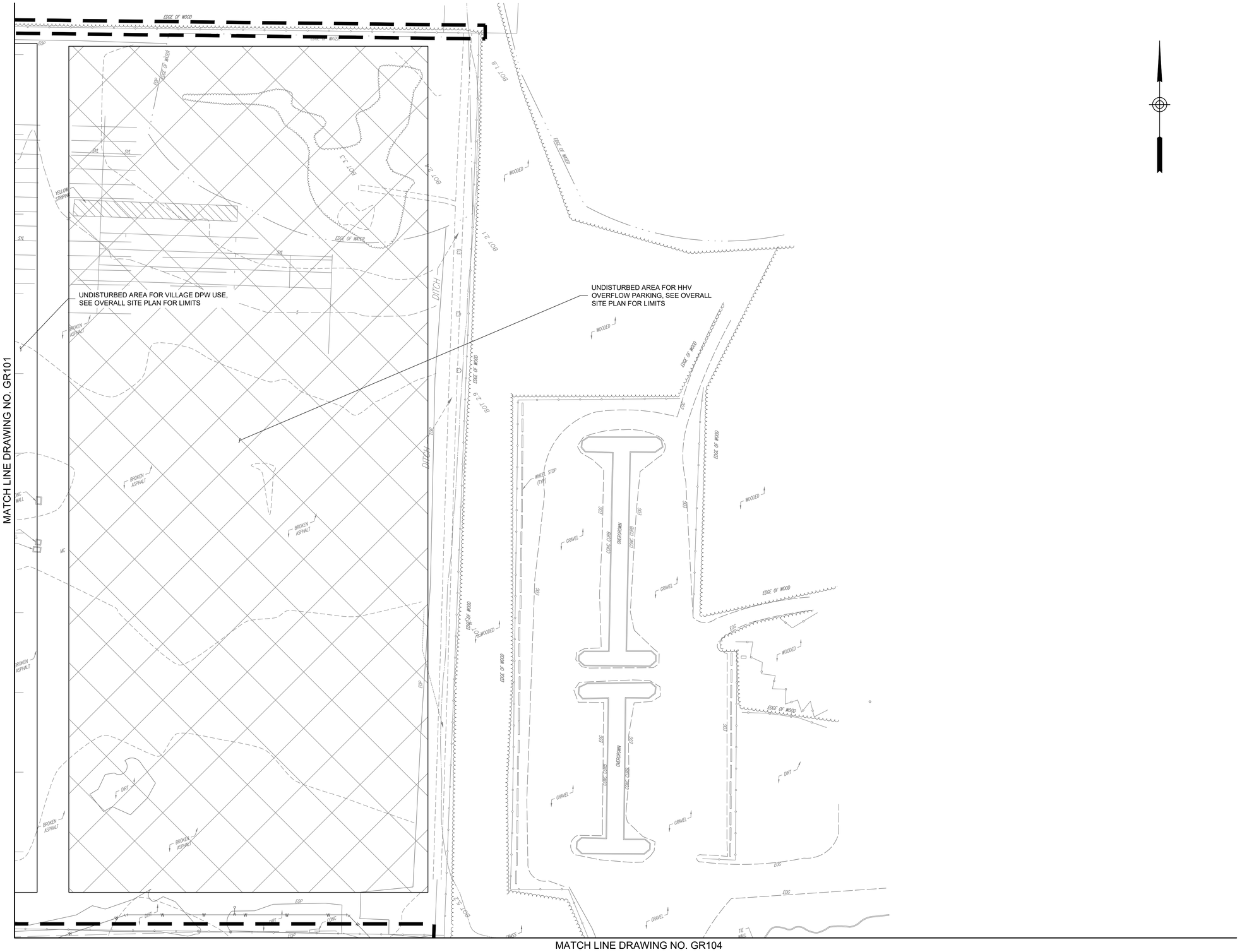
SCALE: 1"=30'-0"

DRAWING NAME: **GRADING AND UTILITIES PLANS-1**

DRAWING NUMBER: GR101

SHEET NUMBER: 26

Drawing Path\Name: C:\Jma\wsp-pb--us-pw-02\wsp_---athoun.sush\d0376332\Grading and Utilities Plans.dwg Printed: Jan 10, 2023, 3:05pm Layout: X101



Drawing Path\Name: G:\bms\wsp--usa--pw--02\wsp___shaun.sueh\d3376322\Grading and Utilities Plans.dwg Printed: Jan 10, 2023, 3:05pm Layout: X102

SLEEPY HOLLOW
LOCAL DEVELOPMENT CORPORATION

WSP USA INC.
500 Summit Lake Drive, Suite 450
Valhalla, NY 10595
(914) 747-1120

ENGINEER OF RECORD:

STATE OF NEW YORK
SCOTT C. GRIGG
070904
LICENSED PROFESSIONAL ENGINEER

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:

1	2
3	4
5	6
7	

REVISIONS:

PROJECT NAME:

SLEEPY HOLLOW EAST PARCEL PROJECT - PHASE II

VILLAGE OF SLEEPY HOLLOW
WESTCHESTER COUNTY, NEW YORK

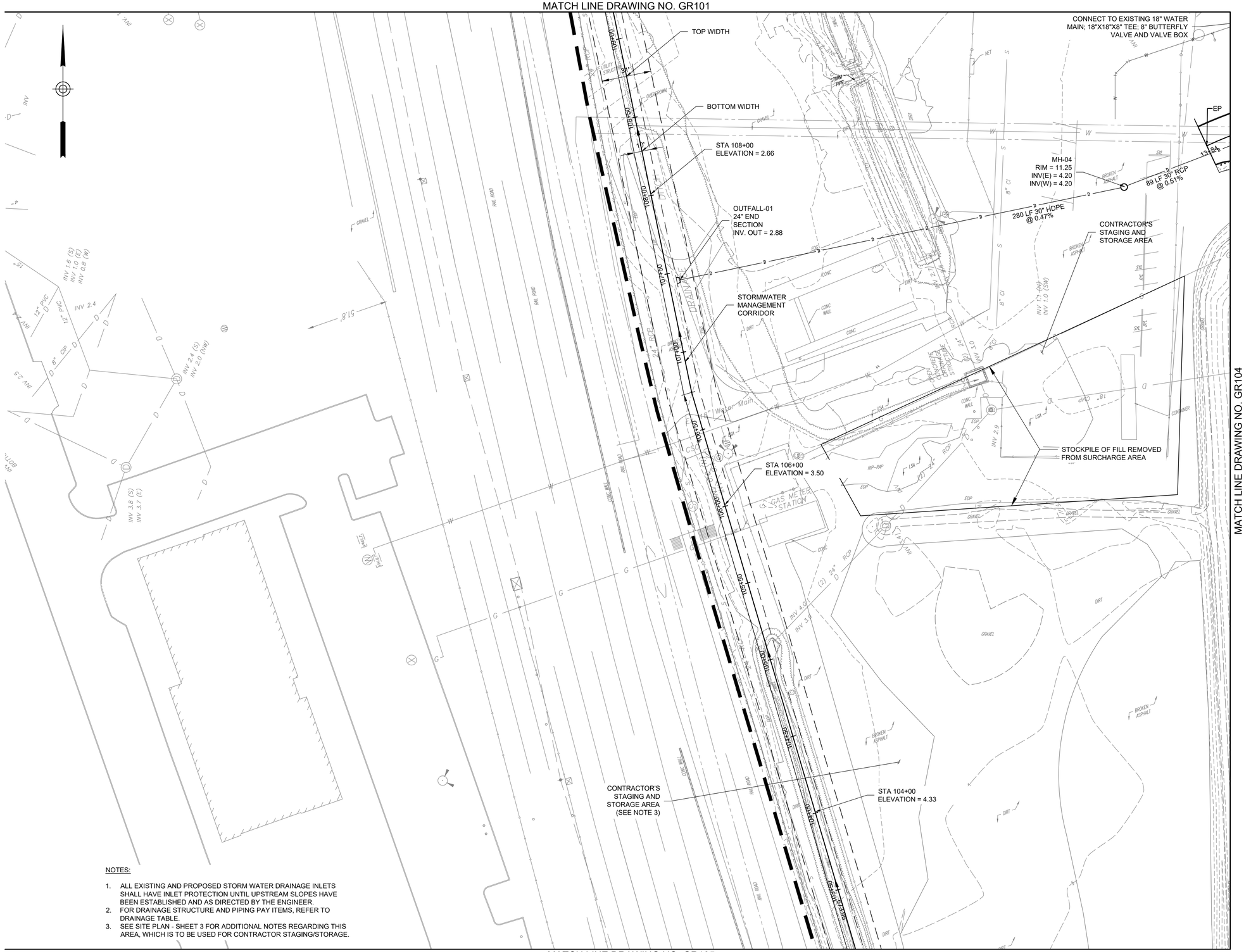
ISSUE DATE: 01/2023

PROJECT NUMBER:	SCALE:
I188137H	1"=30'-0"

DRAWING NAME: **GRADING AND UTILITIES PLANS- 2**

DRAWING NUMBER:	SHEET NUMBER:
GR102	27

MATCH LINE DRAWING NO. GR101



MATCH LINE DRAWING NO. GR104

MATCH LINE DRAWING NO. GR105

NOTES:

1. ALL EXISTING AND PROPOSED STORM WATER DRAINAGE INLETS SHALL HAVE INLET PROTECTION UNTIL UPSTREAM SLOPES HAVE BEEN ESTABLISHED AND AS DIRECTED BY THE ENGINEER.
2. FOR DRAINAGE STRUCTURE AND PIPING PAY ITEMS, REFER TO DRAINAGE TABLE.
3. SEE SITE PLAN - SHEET 3 FOR ADDITIONAL NOTES REGARDING THIS AREA, WHICH IS TO BE USED FOR CONTRACTOR STAGING/STORAGE.

0 30 60
SCALE IN FEET

SLEEPY HOLLOW
LOCAL DEVELOPMENT CORPORATION

WSP USA INC.
500 Summit Lake Drive, Suite 450
Valhalla, NY 10595
(914) 747-1120

ENGINEER OF RECORD:

STATE OF NEW YORK
SCOTT C. GRIGG
070904
LICENSED
PROFESSIONAL ENGINEER

NEW YORK STATE LICENSED
PROFESSIONAL ENGINEER

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KEY PLAN:

1	2
3	4
5	6
7	

REVISIONS:

PROJECT NAME:

SLEEPY HOLLOW EAST PARCEL PROJECT - PHASE II

VILLAGE OF SLEEPY HOLLOW
WESTCHESTER COUNTY, NEW YORK

ISSUE DATE: 01/2023

PROJECT NUMBER: I188137H

SCALE: 1"=30'-0"

DRAWING NAME: **GRADING AND UTILITIES PLANS- 3**

DRAWING NUMBER: GR103

SHEET NUMBER: 28

Drawing Path\Name: C:\cms\wsp-pb-us-pw-02\ves...ahoun.xusher\d0375322\Grading and Utilities Plans.dwg Printed: Jan 10, 2023, 3:05pm Layout: X103

MATCH LINE DRAWING NO. GR102

MATCH LINE DRAWING NO. GR103

MATCH LINE DRAWING NO. GR106

MH-02
RIM = 12.15
INV(E) = 5.15
INV(W) = 4.65
INV(S) = 4.62

28 LF 8" DIP WATER MAIN

CB-05
RIM = 11.05
INV(E) = 6.40
INV(W) = 6.30
INV(S) = 6.50

CB-04
RIM = 11.95
INV(E) = 7.65
INV(W) =7.55
INV(S) =7.65

CB-03
RIM = 13.95
INV =9.95

115 LF 24" RCP @ 1.00%

22 LF 21" RCP @ 1.14%

49 LF 12" RCP @ 4.70%

22 LF 21" RCP @ 0.91%

98 LF 12" RCP @ 0.82%

75 LF 12" RCP @ 5.27%

46 LF 12" RCP @ 13.50%

BP

PC

CB-06
RIM = 10.75
INV = 6.75

CB-02
RIM = 11.95
INV(N) = 7.85
INV(E) = 7.95

HYDRANT WITH 6" DI LATERAL WITH BUTTERFLY VALVE AND VALVE BOX, STA. 67+33.74, 22.06' RT

8"x8"x6" DI TEE WITH 2-8" BUTTERFLY VALVES AND VALVE BOXES, VALVES TO BE PAID UNDER ITEM 663.1108

ADJUST CURB BOX TO MEET PROPOSED GRADE

FG-01
FIELD INLET ITEM xxx.xxx
INV=19.00

MH-01
RIM = 16.55
INV(W) = 12.80
INV(E) = 12.80

CB-01
RIM = 16.00
INV(N) = 11.90
INV(W) = 12.00

180.4 LF 24" RCP @ 0.54%

425 LF 8" DIP WATER MAIN (TYP.)

CB-07
RIM = 9.62
INV(N) = 5.62
INV(E) = 5.62

36.7 LF 21" RCP @ 0.90%

MH-07
RIM = 11.75
INV(W) = 5.95
INV(S) = 6.05

EXISTING SURCHARGE FILL AREA

PROPOSED DPW FACILITY LOCATION (PHASE 3);

CONTRACTOR TO GRADE AREA TO APPROXIMATE ELEVATION 15.0'; EXCESS FILL TO BE STOCKPILED WITHIN THE DESIGNATED AREAS AS APPLICABLE; PROVIDE POSITIVE DRAINAGE

228.7 LF 21" RCP @ 0.77%

HYDRANT WITH 6" DI LATERAL WITH BUTTERFLY VALVE AND VALVE BOX , STA. 64+22, 21.67' RT

CONTRACTOR'S STAGING AND STORAGE AREA

SEWER MANHOLE, ITEMS 6551202 AND 664.40604808

PROPOSED DPW DRAINAGE SWALE AND PERIMETER ACCESS PATH, SEE DETAIL

55.7 LF 8" DIP WATER MAIN (TYP.)

25.5 LF 8" PVC SANITARY SEWER PIPE @ 2.00%, ITEM 603.99230008 (TIE INTO EXISTING SEWER MANHOLE 0.25' ABOVE EXISTING INVERT

CB-09
RIM = 12.14
INV(E) = 8.14

22 LF 21" RCP @ 1.00%

8"x8"x6" DI TEE WITH 2-8" BUTTERFLY VALVES AND VALVE BOXES, VALVES TO BE PAID UNDER ITEM 663.1108

CB-10
RIM = 12.38
INV(W) = 7.92
INV(S) = 7.92
INV(N) = 7.82

23 LF 8" DIP WATER MAIN

298 LF 8" DIP WATER MAIN

226.3 LF 21" RCP @ 0.90%

NOTES:

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2. FOR DRAINAGE STRUCTURE AND PIPING PAY ITEMS, REFER TO DRAINAGE TABLE.

0 30 60
SCALE IN FEET

SLEEPY HOLLOW
LOCAL DEVELOPMENT CORPORATION

WSP USA INC.
500 Summit Lake Drive, Suite 450
Valhalla, NY 10595
(914) 747-1120

ENGINEER OF RECORD:

STATE OF NEW YORK
SCOTT C. GRIBBEN
070904
LICENSED PROFESSIONAL ENGINEER

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:

1	2
3	4
5	6
7	

REVISIONS:

PROJECT NAME:

SLEEPY HOLLOW EAST PARCEL PROJECT - PHASE II

VILLAGE OF SLEEPY HOLLOW WESTCHESTER COUNTY, NEW YORK

ISSUE DATE: 01/2023

PROJECT NUMBER: I188137H

SCALE: 1"=30'-0"

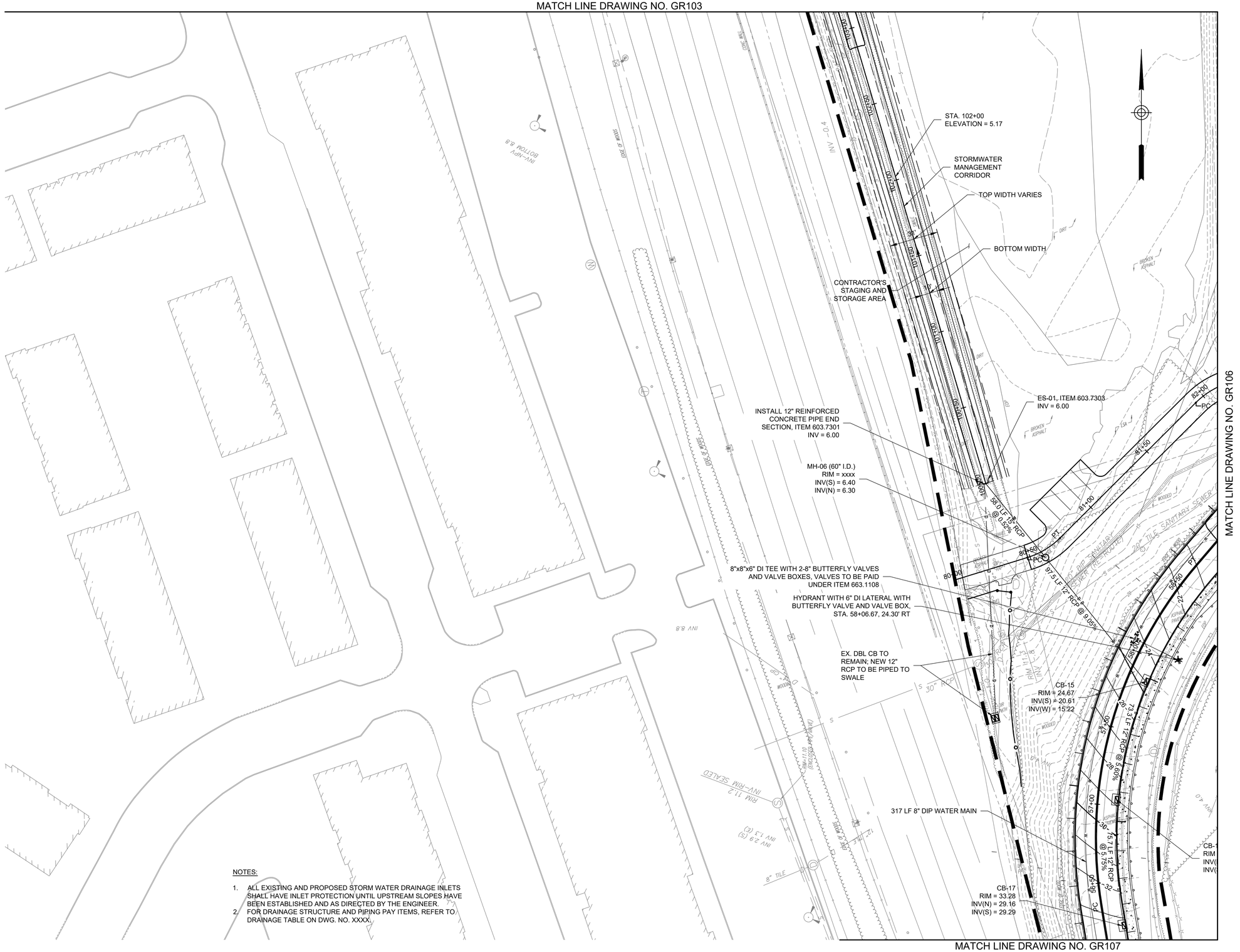
DRAWING NAME: **GRADING AND UTILITIES PLANS- 4**

DRAWING NUMBER: GR104

SHEET NUMBER: 29

Drawing Path\Name: C:\Jrnl\wsp-pb-us-pw-02\wsp_____shaun.auer\v0375322\Grading and Utilities Plans.dwg Printed: Jan 10, 2023, 3:06pm Layout: X104

MATCH LINE DRAWING NO. GR103



MATCH LINE DRAWING NO. GR106

MATCH LINE DRAWING NO. GR107

NOTES:

1. ALL EXISTING AND PROPOSED STORM WATER DRAINAGE INLETS SHALL HAVE INLET PROTECTION UNTIL UPSTREAM SLOPES HAVE BEEN ESTABLISHED AND AS DIRECTED BY THE ENGINEER.
2. FOR DRAINAGE STRUCTURE AND PIPING PAY ITEMS, REFER TO DRAINAGE TABLE ON DWG. NO. XXXX.

0 30 60
SCALE IN FEET

SLEEPY HOLLOW
LOCAL DEVELOPMENT CORPORATION

WSP USA INC.
500 Summit Lake Drive, Suite 450
Valhalla, NY 10595
(914) 747-1120

ENGINEER OF RECORD:

SCOTT C. GIBSON
070904
NEW YORK STATE LICENSED PROFESSIONAL ENGINEER

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KEY PLAN:

1	2
3	4
5	6
7	

REVISIONS:

PROJECT NAME:

SLEEPY HOLLOW EAST PARCEL PROJECT - PHASE II

VILLAGE OF SLEEPY HOLLOW WESTCHESTER COUNTY, NEW YORK

ISSUE DATE: 01/2023

PROJECT NUMBER: I188137H

SCALE: 1"=30'-0"

DRAWING NAME: **GRADING AND UTILITIES PLANS- 5**

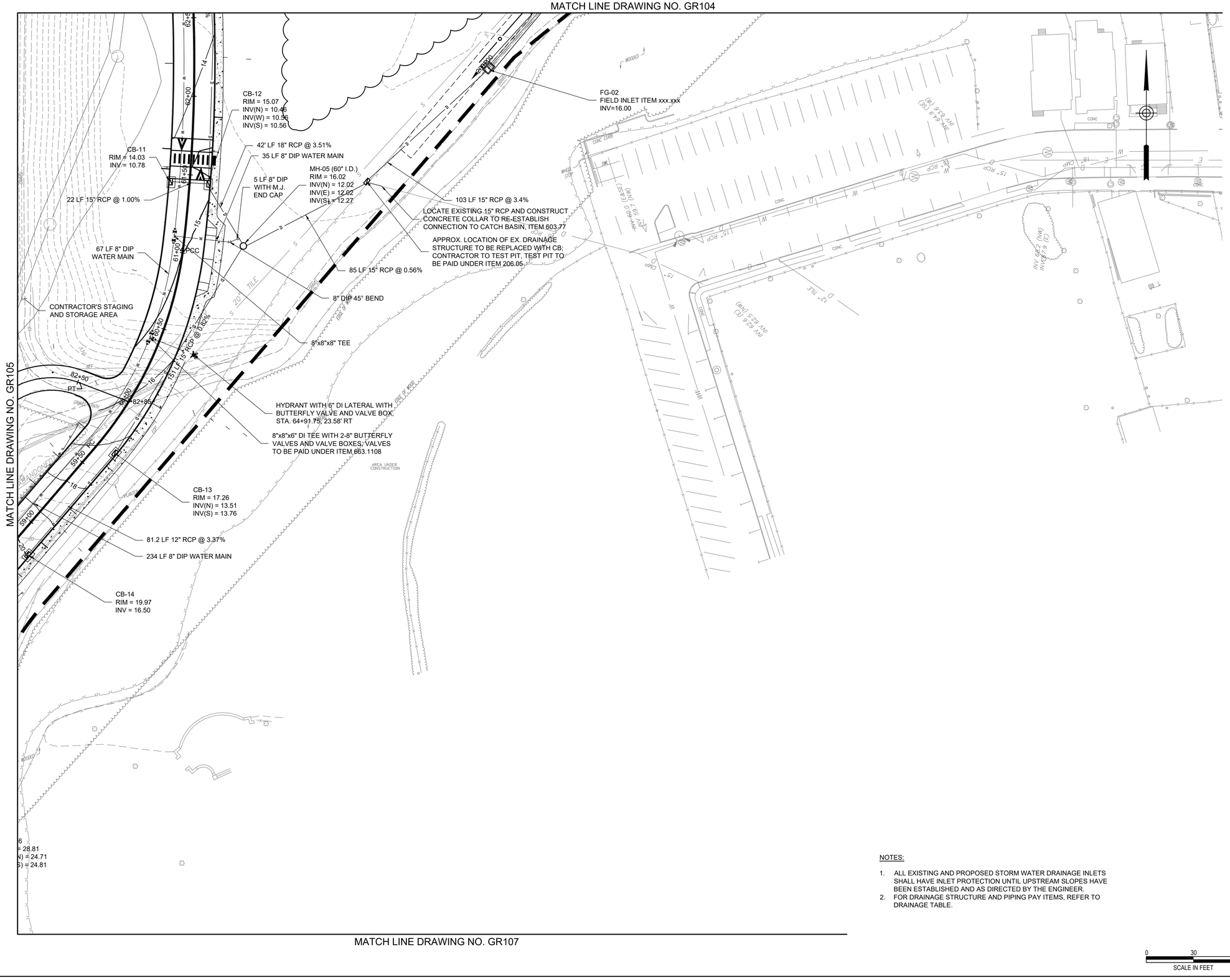
DRAWING NUMBER: GR105

SHEET NUMBER: 30

Drawing Path\Name: C:\Jms\wsp-pb-us-pw-02\wsp_____shaun.sukh\d0378322\Grading and Utilities Plans.dwg Printed: Jan 10, 2023, 3:06pm Layout: X105

MATCH LINE DRAWING NO. GR104

MATCH LINE DRAWING NO. GR105



MATCH LINE DRAWING NO. GR107

NOTES:

1. ALL EXISTING AND PROPOSED STORM WATER DRAINAGE INLETS SHALL HAVE INLET PROTECTION UNTIL UPSTREAM SLOPES HAVE BEEN ESTABLISHED AND AS DIRECTED BY THE ENGINEER.
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0 30 60
SCALE IN FEET

SLEEPY HOLLOW
LOCAL DEVELOPMENT CORPORATION

WSP USA INC.
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Valhalla, NY 10595
(914) 747-1120

ENGINEER OF RECORD:

SCOTT C. GRIBOFF
070904
LICENSED PROFESSIONAL ENGINEER
STATE OF NEW YORK

NEW YORK STATE LICENSED
PROFESSIONAL ENGINEER

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DRAWING IS A VIOLATION OF SECTION 7209 (2)
OF THE NEW YORK STATE EDUCATION LAW

KEY PLAN:

1	2
3	4
5	6
7	

REVISIONS:

PROJECT NAME:

SLEEPY HOLLOW EAST PARCEL PROJECT - PHASE II

VILLAGE OF SLEEPY HOLLOW
WESTCHESTER COUNTY, NEW YORK

ISSUE DATE: 01/2023

PROJECT NUMBER:	SCALE:
I188137H	1"=30'-0"

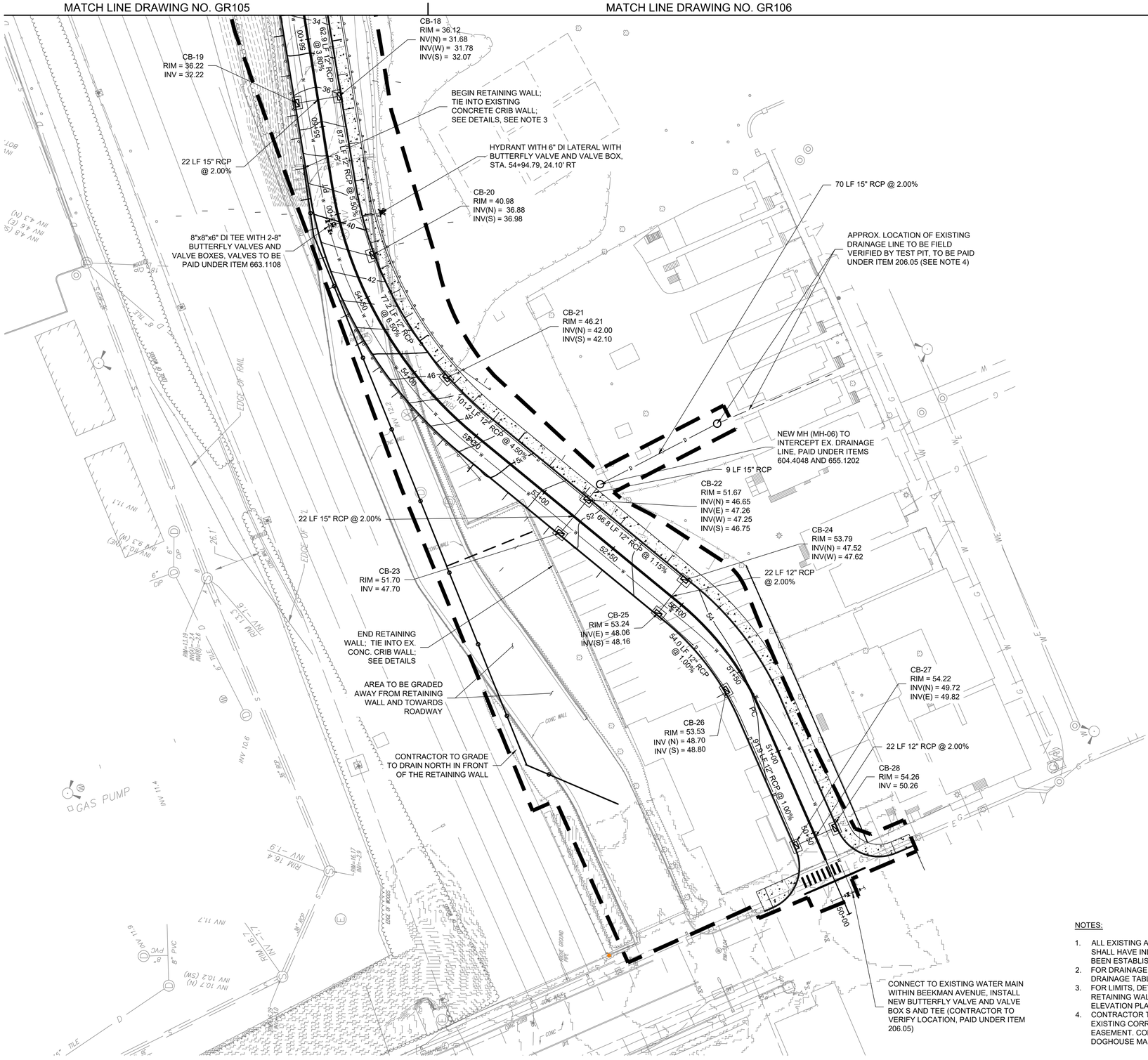
DRAWING NAME: **GRADING AND UTILITIES PLANS- 6**

DRAWING NUMBER:	SHEET NUMBER:
GR106	31

Drawing Path\Name: C:\Jms\wsp-pb-us-pw-02\wsp_____ahoun.auehr\d0376322\Grading and Utilities Plans.dwg Printed: Jan 10, 2023, 3:06pm Layout: X106

MATCH LINE DRAWING NO. GR105

MATCH LINE DRAWING NO. GR106



NOTES:

1. ALL EXISTING AND PROPOSED STORM WATER DRAINAGE INLETS SHALL HAVE INLET PROTECTION UNTIL UPSTREAM SLOPES HAVE BEEN ESTABLISHED AND AS DIRECTED BY THE ENGINEER.
2. FOR DRAINAGE STRUCTURE AND PIPING PAY ITEMS, REFER TO DRAINAGE TABLE.
3. FOR LIMITS, DETAILS AND PAY ITEMS FOR THE PROPOSED T-WALL RETAINING WALL, SEE SITE PLANS, RETAINING WALL PLAN AND ELEVATION PLAN AND RETAINING WALL DETAILS PLAN.
4. CONTRACTOR TO INSTALL NEW DOGHOUSE MANHOLE (MH-07) OVER EXISTING CORRUGATED METAL PIPE (CMP) WITHIN DRAINAGE EASEMENT. CONTRACTOR SHALL SUBMIT CUT SHEET FOR DOGHOUSE MANHOLE TO BE USED BASED ON TEST PIT FINDINGS.

0 30 60
SCALE IN FEET

SLEEPY HOLLOW
LOCAL DEVELOPMENT CORPORATION

WSP USA INC.
500 Summit Lake Drive, Suite 450
Valhalla, NY 10595
(914) 747-1120

ENGINEER OF RECORD:

SCOTT C. GRIGG
070904
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:

1	2
3	4
5	6
7	

REVISIONS:

PROJECT NAME:

SLEEPY HOLLOW EAST PARCEL PROJECT - PHASE II

VILLAGE OF SLEEPY HOLLOW
WESTCHESTER COUNTY, NEW YORK

ISSUE DATE: 01/2023

PROJECT NUMBER: I188137H

SCALE: 1"=30'-0"

DRAWING NAME: **GRADING AND UTILITIES PLANS- 7**

DRAWING NUMBER: GR107

SHEET NUMBER: 32

Drawing Path\Name: C:\bm\wsp-pb--us-pw-02\wsp__shaun.swahn\d0378322\Grading and Utilities Plans.dwg Printed: Jan 10, 2023, 3:07pm Layout: X107

DRAINAGE TABLE

604.070801 ALTERING DRAINAGE STRUCTURES, LEACHING BASINS AND MANHOLES
603.6002 REINFORCED CONCRETE PIPE CLASS III, 15 INCH DIAMETER
603.6003 REINFORCED CONCRETE PIPE CLASS III, 18 INCH DIAMETER
603.6004 REINFORCED CONCRETE PIPE CLASS III, 21 INCH DIAMETER
603.6005 REINFORCED CONCRETE PIPE CLASS III, 24 INCH DIAMETER
603.7301 REINFORCED CONCRETE PIPE END SECTIONS 12 INCHDIAMETER
603.7302 REINFORCED CONCRETE PIPE END SECTIONS 15 INCHDIAMETER
603.7303 REINFORCED CONCRETE PIPE END SECTIONS 18 INCHDIAMETER
603.7305 REINFORCED CONCRETE PIPE END SECTIONS 24 INCHDIAMETER
603.7302 REINFORCED CONCRETE PIPE END SECTIONS 15 INCHDIAMETER
603.7303 REINFORCED CONCRETE PIPE END SECTIONS 18 INCHDIAMETER
603.7305 REINFORCED CONCRETE PIPE END SECTIONS 24 INCHDIAMETER
603.9812 SMOOTH INTERIOR CORRUGATED POLYETHYLENE CULVERT AND STORMDRAIN 12 INCH DIAMETER
603.9815 SMOOTH INTERIOR CORRUGATED POLYETHYLENE CULVERT AND STORMDRAIN 15 INCH DIAMETER
603.9818 SMOOTH INTERIOR CORRUGATED POLYETHYLENE CULVERT AND STORMDRAIN 18 INCH DIAMETER
603.9824 SMOOTH INTERIOR CORRUGATED POLYETHYLENE CULVERT AND STORMDRAIN 24 INCH DIAMETER
604.3002 RECTANGULAR DRAINGE STRUCTURE TYPE B FOR # 11 WELDED FRAME
604.3005 RECTANGULAR DRAINAGE STRUCTURE, TYPE E FOR # 11 WELDED FRAME
604.4048 ROUND PRECAST CONCRETE MANHOLE TYPE 48
604.4060 ROUND PRECAST CONCRETE MANHOLE TYPE 60
654.1103 WELDED FREAME AND RECTICULINE GRATE 3
655.1111 WELDED FREAME AND RECTICULINE GRATE 11
655.1202 MANHOLE FRAME AND COVER

NUMBER	STATION	OFFSET		FRAME/ RIM	INVERT			STRUCTURE			FRAME		PIPE LENGTH	ITEM	Slope (invert	Slope (rim to	DOWNSTREAM	DESCRIPTION
		SIDE	DIST. (FT)	ELEVATION	SIDE	ELEV.	SIZE (IN)	TYPE	LF	ITEM	NO.	ITEM	(FT)	NUMBER	to invert)	rim)	STRUCTURE	
FG-01	206+50.	N/A	0.0	N/A	N													
					W	19.00	12						46.0	603.6001	13.48%		MH-01	FIELD INLET ITEM TO BE PAID UNDER ITEM XXX.XXX
					S													
					E													
MH-01	N/A	N/A	N/A	16.55	N													
					W	12.80	12	48	5.00	604.4048	1	655.1202	98.0	603.6001	0.82%	0.56%	CB-01	
					S													
					E	12.80	12							603.6001				
CB-01	10+33.03	LT	19.4	16	N													
					W	11.90	12	E	5.00	604.3005	1	655.1111	75.0	603.6001	5.27%	5.40%	CB-02	
					S													
					E	12.00	12							603.6001				
CB-02	11+11.7	LT	13.0	11.95	N	7.85	21						22.0	603.6004	0.91%	0.00%		
					W			E	5.00	604.3005	1	655.1111					CB-04	
					S													
					E	7.95	12							603.6001				
CB-03	10+59.14	RT	13.0	13.95	N													
					W	9.95	12	E	5.00	604.3005	1	655.1111	49.0	603.6001	4.69%	4.08%	CB-04	
					S													
					E													
CB-04	11+12.03	RT	13.0	11.95	N													
					W	7.55	24	E	6.00	604.3005	1	655.1111	115.0	603.6005	1.00%	0.78%	CB-05	
					S	7.65	21											
					E	7.65	12											
CB-05	12+31.06	RT	13.0	11.05	N													
					W	6.30	24	E	6.00	604.3005	1	655.1111	115.0	603.6005	1.00%	-0.93%	MH-02	
					S	6.50	12											
					E	6.40	24											
CB-06	12+30.44	LT	13.0	10.75	N	6.75	12						22.0	603.6001	1.14%	-1.36%		
					W			E	5.00	604.3005	1	655.1111					CB-05	
					S													
					E													
MH-02	13+48.78	RT	4.0	12.12	N													
					W	4.65	30	72	9.00	604.4072	1	655.1202	89.0	603.6006	0.51%	0.98%	MH-04	
					S	4.62	24											
					E	5.15	24											
MH-04	N/A	N/A	N/A	11.25	N													
					W	4.20	30	48	8.00	604.4048	1	655.1202	280.0	603.6007	0.47%	#VALUE!	OUTFALL-01	OUTFALL-01 SHALL BE ITEM 603.7305 AND INSTALLED IN THE FORESLOPE OF THE STORMWATER MANAGEMENT CORRIDOR AND SLOPE SHALL BE LINED WITH RIPRAP.
					S													
					E	4.20	30											
OUTFALL-01	N/A	N/A	N/A	N/A	N												STORMWATER MANAGEMENT CORRIDOR	FES TO BE PAID UNDER ITEM 603.7305
					W													
					S													
					E	2.88	30											
CB-07	65+99.9	LT	13.0	9.62	N	5.62	24						180.4	603.6005	0.55%	-1.39%		
					W			E	5.00	604.3005	1	655.1111					MH-02	
					S													
					E	5.62	21											
MH-07	65+99.9	RT	23.7	11.75	N													
					W	5.95	21	48	7.00	604.4048	1	655.1202	36.7	603.6004	0.90%	5.80%	CB-07	
					S	6.05	21											
					E													
CB-09	63+73.02	LT	13.0	12.14	N								22.0	603.6004	1.00%	1.77%		
					W			E	13.00	604.3005	1	655.1111					CB-08	
					S													
					E	8.14	21											
CB-10	63+73.02	RT	13.0	12.38	N	7.82	21											
					W	7.92	21	E	6.00	604.3005	1	655.1111	22.0	603.6004	1.00%	1.09%	CB-09	
					S	7.92	21											
					E													
CB-11	61+44.65	LT	13.0	14.03	N													
					W			E	4.00	604.3005	1	655.1111					CB-12	
					S													
					E	10.78	12						22.0	603.6001	1.00%	-4.73%		
CB-12	61+45.16	RT	13.0	15.07	N	10.46	21						226.3	603.6003	1.12%	1.19%		
					W	10.56	12	E	6.00	604.3005	1	655.1111					CB-10	
					S	10.56	18											
					E													

SLEEPY HOLLOW
LOCAL DEVELOPMENT CORPORATION

WSP USA INC.
500 Summit Lake Drive, Suite 450
Valhalla, NY 10595
(914) 747-1120

ENGINEER OF RECORD:

SCOTT C. GIRARD
NEW YORK STATE LICENSED PROFESSIONAL ENGINEER
070904

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 EAST PARCEL PROJECT - PHASE II

VILLAGE OF SLEEPY HOLLOW WESTCHESTER COUNTY, NEW YORK

ISSUE DATE: 01/2023

PROJECT NUMBER: I188137H

SCALE: NONE

DRAWING NAME: **DRAINAGE TABLES - 1**

DRAWING NUMBER: MT101

SHEET NUMBER: 33

Drawing Path\Name: C:\Jms\wsp--pb--us--pw--02\files.glordano@wsp.com\d0376312\Miscellaneous Tables.dwg Printed: Jan 10, 2023, 2:43pm Layout: MT101

NUMBER	STATION	OFFSET		FRAME/ RIM	INVERT			STRUCTURE			FRAME		PIPE LENGTH	ITEM	Slope (invert	Slope (rim to	DOWNSTREAM	DESCRIPTION
		SIDE	DIST. (FT)	ELEVATION	SIDE	ELEV.	SIZE (IN)	TYPE	LF	ITEM	NO.	ITEM	(FT)	NUMBER	to invert)	rim)	STRUCTURE	
MH-05	61+08.76	RT	6.2	16.02	N	12.02	18	48	5.00	604.4048	1	655.1202	41.6	603.6002	3.51%	2.28%	CB-12	
					W													
					S	12.27	15											
					E	12.02	15											
CB-EX	NA	N/A	0.0	N/A	N			E		604.3005	1	655.1111	84.8	603.6002	1.00%		MH-05	EX. DRAINAGE STRUCTURE TO BE REPLACED WITH CB; CONTRACTOR TO TEST PIT, TEST PIT TO BE PAID UNDER ITEM 206.05
					W	XX	15											
					S													
					E													
FG-02	200+00.	N/A	N/A	16.00	N													
					W	16.00	15						101.3	603.6002	2.00%		CB-XX	FIELD INLET ITEM TO BE PAID UNDER ITEM XXX.XXX
					S													
					E													
CB-13	59+67.6	RT	13.0	17.26	N	13.51	15	E	5.00	604.3005	1	655.1111	151.0	603.6002	0.82%	0.82%	MH-05	
					W													
					S	13.76	12											
					E													
CB-14	58+82.62	RT	13.0	19.97	N	16.50	12	E	5.00	604.3005	1	655.1111	81.2	603.6001	3.37%	3.34%	CB-13	
					W													
					S													
					E													
ES-01	100+00.	N/A	N/A	N/A	N												STORMWATER MANAGEMENT CORRIDOR	CONTRACTOR TO INSTALL FES, PAID UNDER ITEM 603.7303 WITHIN THE STORMWATER MANAGEMENT CORRIDOR. RIPRAP ON GEOTEXTILE SHALL BE PLACED AROUND THE OUTLET STRUCTURE.
					W													
					S	6.00	15											
					E													
MH-06	80+58.54	RT	5.3	XX	N	6.30	15	E	XX	604.3005	1	655.1111	58.0	603.6001	0.52%	XX	FES-03	EX. DBL CB TO REMAIN; NEW 12" RCP TO BE PIPED TO SWALE
					W													
					S	6.40	12											
					E													
CB-15	57+84.95	RT	13.0	24.67	N			E	11.00	604.3005	1	655.1111	97.5	603.6001	9.05%	24.5058974	MH-06	
					W	15.22	12											
					S	20.61	12											
					E													
CB-16	57+03.9	RT	13.0	28.81	N	24.71	12	E	5.00	604.3005	1	655.1111	73.3	603.6001	5.59%	5.65%	CS-15	
					W													
					S	24.81	12											
					E													
CB-17	56+21.	RT	13.0	33.28	N	29.16	12	E	5.00	604.3005	1	655.1111	75.7	603.6001	5.75%	5.90%	CB-16	
					W													
					S	29.29	12											
					E													
CB-18	55+65.4	RT	13.0	36.12	N	31.68	12	E	6.00	604.3005	1	655.1111	62.9	603.6001	3.80%	4.52%	CB-17	
					W	31.78	12											
					S	32.07	12											
					E													
CB-19	55+65.41	LT	13.0	36.22	N			E	5.00	604.3005	1	655.1111					CB-18	
					W													
					S													
					E	32.22	12						22.0	603.6001	2.00%	0.45%		
CB-20	54+71.5	RT	13.0	40.98	N	36.88	12	E	5.00	604.3005	1	655.1111	87.5	603.6001	5.50%	5.55%	CB-18	
					W													
					S	36.98	12											
					E													
CB-21	53+85.63	RT	13.0	46.21	N	42.00	12	E	5.00	604.3005	1	655.1111	77.2	603.6001	6.50%	6.77%	CB-20	
					W													
					S	42.10	12											
					E													
CB-22	52+78.55	RT	13.0	51.67	N	46.65	12	E	6.00	604.3005	1	655.1111	101.2	603.6001	4.50%	5.40%	CB-21	
					W	47.25	12											
					S	46.75	12											
					E	47.26	12											
CB-23	52+78.32	LT	13.0	51.7	N			E	5.00	604.3005	1	655.1111					CB-22	
					W													
					S													
					E	47.70	12						22.0	603.6001	2.05%	0.14%		
CB-24	52+07.74	RT	13.0	53.79	N	47.52	12	E	7.00	604.3005	1	655.1111	66.8	603.6001	1.15%	3.17%	CB-22	
					W	47.62	12											
					S													
					E													
CB-25	52+07.29	LT	13.0	53.24	N			E	6.00	604.3005	1	655.1111					CB-24	
					W													
					S	48.16	12											
					E	48.06	12						22.0	603.6001	2.00%	-2.50%		
CB-26	51+44.7	LT	13.0	53.53	N	48.70	12	E	6.00	604.3005	1	655.1111	54.0	603.6001	1.00%	0.54%	CB-25	
					W													
					S	48.80	12											
					E													
CB-27	50+47.36	LT	13.0	54.22	N	49.72	12	E	6.00	604.3005	1	655.1111	91.9	603.6001	1.00%	0.75%	CB-26	
					W													
					S													
					E	49.82	12											
CB-28	50+47.75	RT	13.0	54.26	N			E	5.00	604.3005	1	655.1111					CB-27	
					W	50.26	12						22.0	603.6001	2.00%	0.18%		
					S													
					E													

SLEEPY HOLLOW
LOCAL DEVELOPMENT CORPORATION

WSP USA INC.
500 Summit Lake Drive, Suite 450
Valhalla, NY 10595
(914) 747-1120

ENGINEER OF RECORD:

SCOTT C. GIRARD
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 EAST PARCEL PROJECT - PHASE II

VILLAGE OF SLEEPY HOLLOW WESTCHESTER COUNTY, NEW YORK

ISSUE DATE: 01/2023

PROJECT NUMBER: I188137H

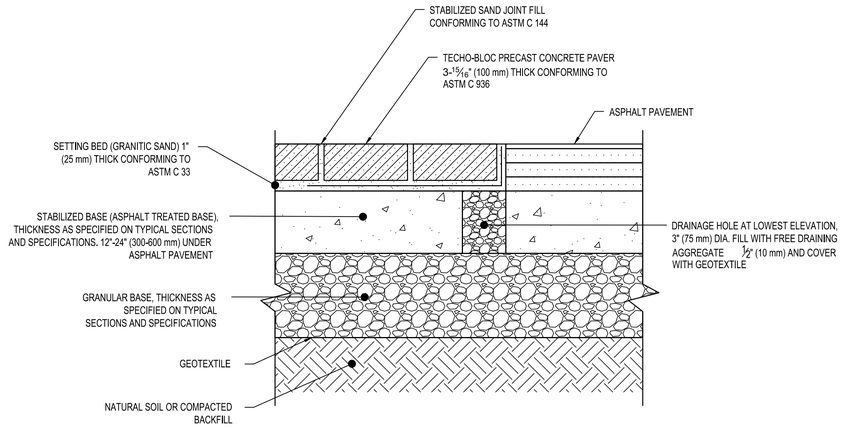
SCALE: NONE

DRAWING NAME: **DRAINAGE TABLES - 2**

DRAWING NUMBER: MT102

SHEET NUMBER: 34

Drawing Path\Name: C:\Jms\wsp-pb-us-pw-02\Users.gordano@wsp.com\d0376313\Miscellaneous Tables.dwg Printed: Jan 10, 2023, 2:44pm Layout: MT102

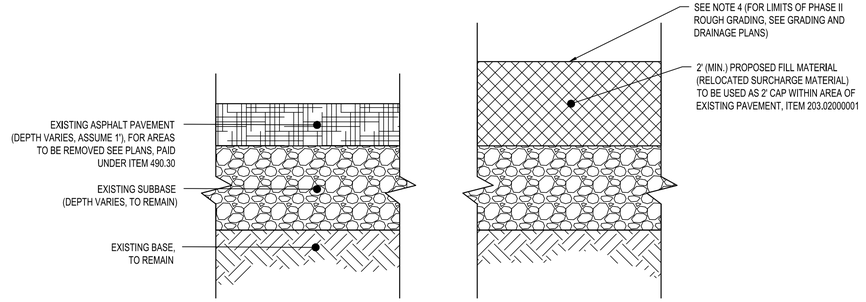


PAVER NOTES:

1. DETAIL SHOWN IS FOR INTERLOCKING CONCRETE PAVERS WITH ASPHALT TRANSITION - HEAVY TRAFFIC BY TECHO-BLOC. SEE ARCHITECTURAL DRAWINGS FOR ADDITIONAL DETAILS.
2. FOR LOCATIONS AND LIMITS FOR SPEED TABLES AND RAISED CROSSWALKS, SEE SITE PLANS.
3. ANY CHANGES TO PAVER DESIGN OR MANUFACTURER SHALL BE APPROVED BY THE ARCHITECT.

SPEED TABLE/ RAISED CROSSWALK DETAIL

N.T.S.

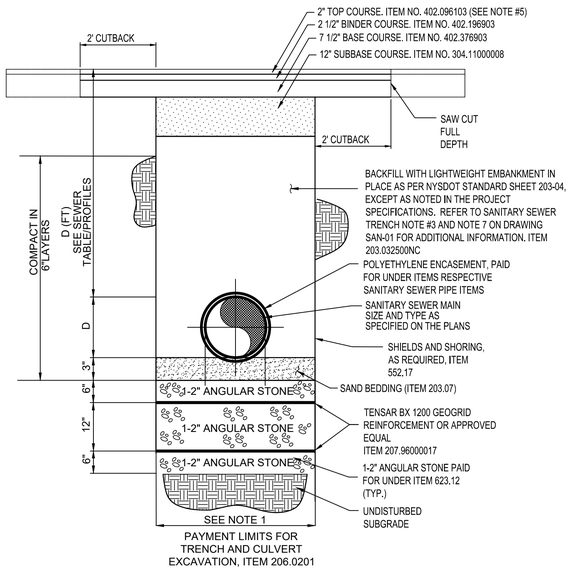


PAVEMENT REMOVAL NOTES:

1. EXISTING PAVEMENT SHALL BE REMOVED, TO BE PAID UNDER ITEM 490.30 - MISCELLANEOUS COLD MILLING OF BITUMINOUS CONCRETE. CONTRACTOR HAS THE OPTION TO GRIND AND STORE MATERIAL ON-SITE TO BE USED AS BASE MATERIAL FOR ROADWAY CONSTRUCTION.
2. THE LIMITS OF EXISTING PAVEMENT TO BE REMOVED ARE AS SHOWN ON THE OVERALL SITE PLAN, DRAWING NO. SP101 AND AS REFERENCE ON THE EXISTING CONDITIONS AND REMOVAL PLANS AND SITE PLANS.
3. ALL AREAS WHERE EXISTING PAVEMENT IS REMOVED, A 2' (MIN.) "CAP" IS TO BE PLACED WITH FILL MATERIAL OR RELOCATED SURCHARGED MATERIAL.
4. AREAS OF ROUGH GRADING MAY HAVE MORE THAN 2' OF FILL MATERIAL. ALL AREAS OF ROUGH GRADING AS SHOWN ON THE GRADING AND UTILITY PLANS SHALL BE SEEDED, ITEM 209.100102. SLOPES GREATER THAN 1V:3H SHALL HAVE ROLLED EROSION CONTROL PRODUCTS, CLASS II, TYPE A, ITEM 20919.01.

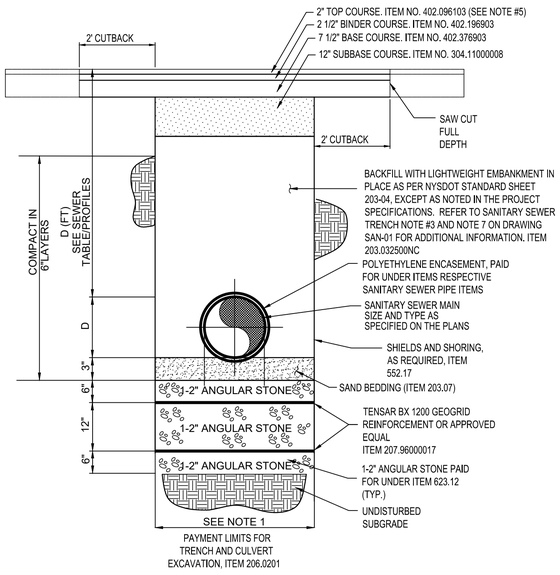
PAVEMENT REMOVAL AND RESTORATION DETAIL

N.T.S.



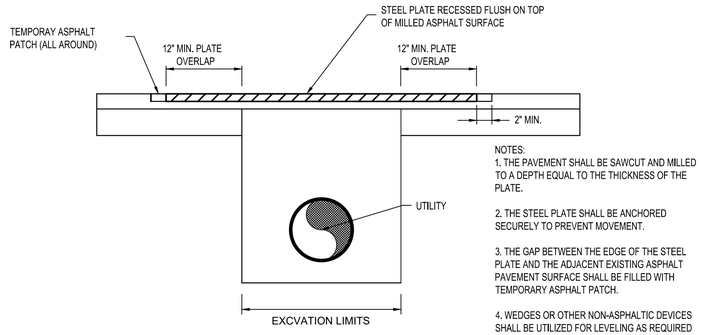
SANITARY SEWER TRENCH DETAIL

N.T.S.



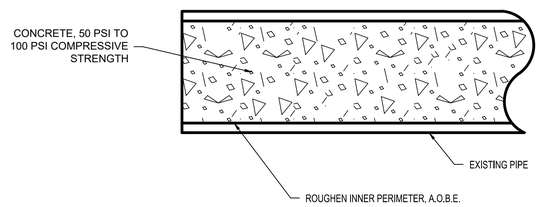
SANITARY SEWER TRENCH DETAIL - UNSUITABLE SOIL

N.T.S.



TEMPORARY STEEL PLATE TRENCH DETAIL

N.T.S.



NOTE:
ALL WORK NECESSARY TO PLUG PIPE INCLUDED UNDER ITEM 555.10000006.

ABANDON EXISTING CULVERT

N.T.S.

SLEEPY HOLLOW
LOCAL DEVELOPMENT CORPORATION

WSP USA INC.
500 Summit Lake Drive, Suite 450
Valhalla, NY 10595
(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 EAST PARCEL PROJECT - PHASE II

VILLAGE OF SLEEPY HOLLOW WESTCHESTER COUNTY, NEW YORK

ISSUE DATE: 01/2023

PROJECT NUMBER: I188137H

SCALE: NOT TO SCALE

DRAWING NAME:

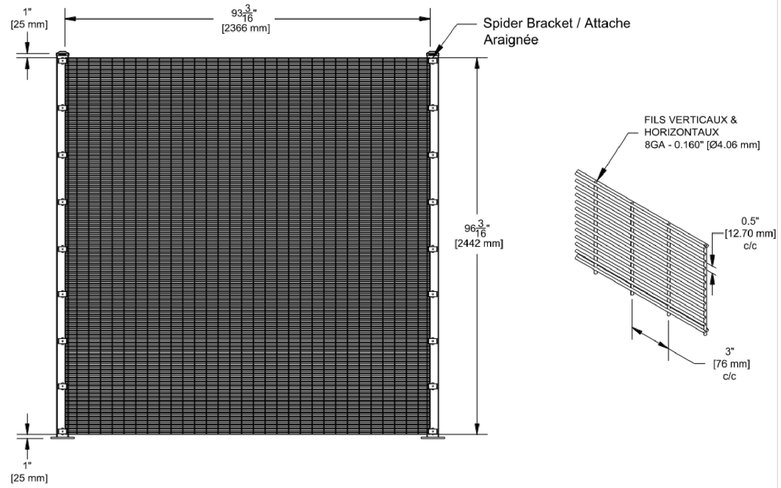
MISCELLANEOUS DETAILS - 1

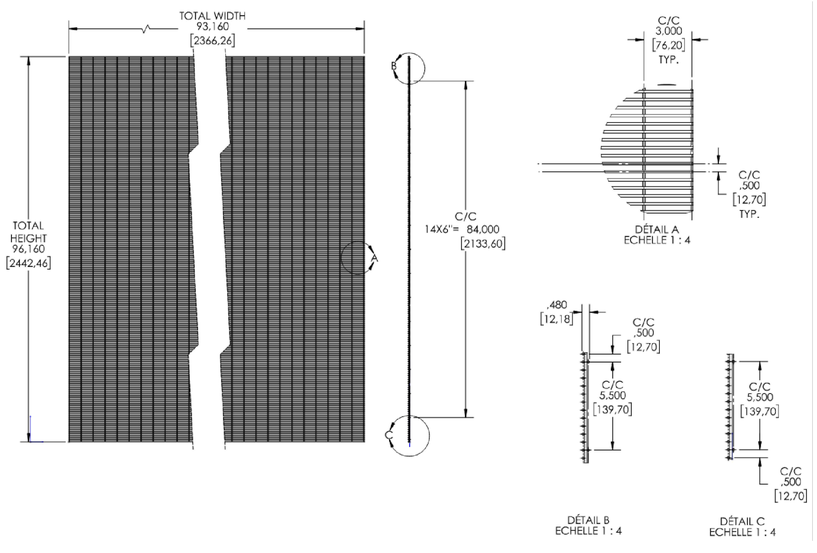
DRAWING NUMBER: MD101

SHEET NUMBER: 35

Drawing Path\Name: C:\prma\wsp-pb--us-pw-02\Vas.glodowski@wsp.com\d0376322\Civil Details.dwg Printed: Dec 15, 2022, 11:30am Layout: Details--01

OMEGA MAX PANELS MOUNTED ON SQUARE POSTS (HEIGHT 8')
PANNEAUX OMEGA MAX SUR POTEAUX CARRÉS (GRANDEUR 8')





PART CODE	VARIANT	FINISH DESCRIPTION / COLOR
C-AC96DBK	BK	BLACK RAL9004 (30% GLOSS)
C-AC96DGV	GV	HOT-DIP GALVANIZED
C-AC96DSP	SP	SPECIAL COLOR (DEFINE IN ORDER)

DECORATIVE FENCE DETAIL
N.T.S.

FENCE NOTES:

1. DECORATIVE FENCING ALONG THE WEST AND NORTH PROPERTY LINES SHALL BE OMEGA FENCE SYSTEMS CODE C-AC96D (OMEGA MAX DOUBLE FILS - 8'H x 93"L AND OMEGA MAX PANEL DOUBLE WIRES - 8'H x 93"L). DECORATIVE FENCING SHALL BE PAID FOR UNDER ITEM 607.45240011 ORNAMENTAL STEEL MESH FENCE 8 FT HIGH.
2. COLOR SHALL BE STANDARD SIGNAL BLACK (RAL: 9004).
3. SEE PLANS FOR LOCATION AND LIMITS OF DECORATIVE FENCING.
4. ANY DEVIATION FROM THE SPECIFIED DECORATIVE FENCING SHALL BE APPROVED BY THE ARCHITECT. ALL FENCING SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.

SLEEPY HOLLOW
LOCAL DEVELOPMENT CORPORATION

WSP USA INC.
500 Summit Lake Drive, Suite 450
Valhalla, NY 10595
(914) 747-1120

ENGINEER OF RECORD:

STATE OF NEW YORK
SCOTT C. GIRARD
070904
LICENSED PROFESSIONAL ENGINEER

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 EAST PARCEL PROJECT - PHASE II

VILLAGE OF SLEEPY HOLLOW
WESTCHESTER COUNTY, NEW YORK

ISSUE DATE: 01/2023

PROJECT NUMBER: I188137H

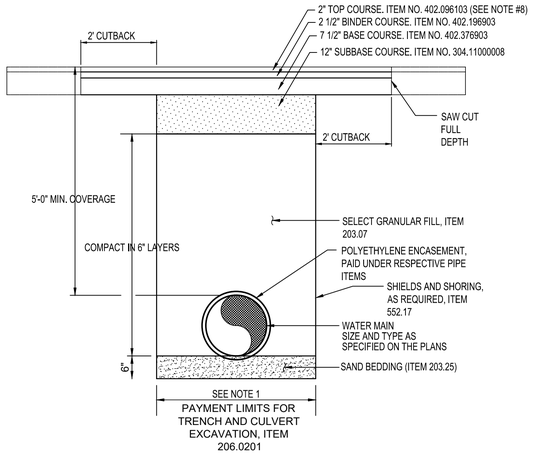
SCALE: NOT TO SCALE

DRAWING NAME: **MISCELLANOUS DETAILS - 2**

DRAWING NUMBER: MD102

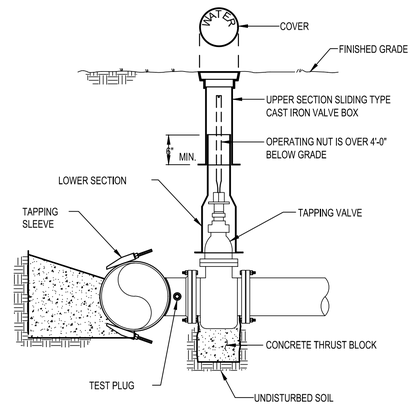
SHEET NUMBER: 36

Drawing Path\Name: C:\Jms\wsp-pb-us-pw-02\files.giordano@wsp.com\d0376322\Civil Details.dwg Printed: Dec. 16, 2022, 11:30am Layout: Details-02



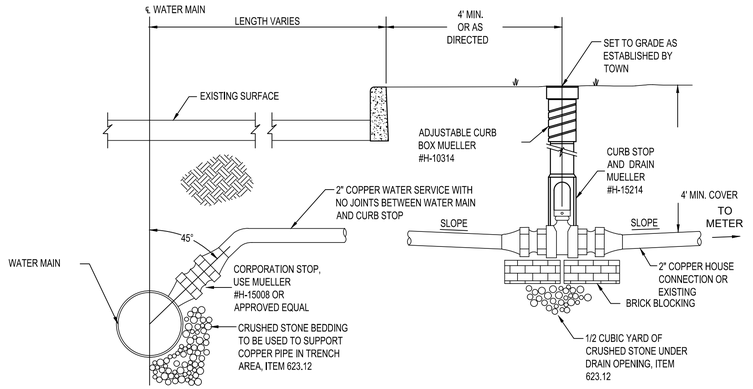
WATER MAIN TRENCH DETAIL - SUITABLE SOIL

N.T.S.



SERVICE TO WATER MAIN CONNECTION DETAIL

N.T.S.



WATER SERVICE CONNECTION DETAIL
(ITEMS 663.2507, 663.2607 & 663.0607)

N.T.S.

WATER SERVICE CONNECTION NOTES:

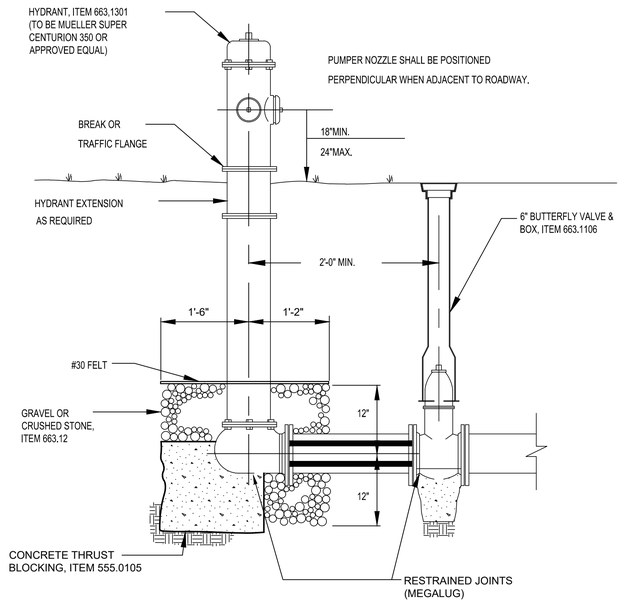
1. WATER SERVICE TAPS ON A NEW OR EXISTING MAIN SHALL BE PLACED AT THE 2 O'CLOCK OR 10 O'CLOCK POSITION AND SHALL BE PLACED A MINIMUM OF 1FT APART ALONG THE LENGTH OF THE MAIN. NO TAPS SHALL BE PLACED WITHIN 2FT OF THE END OF A PIPE.
2. UNLESS OTHERWISE NOTED IN THE OWNER REQUIREMENTS, ALL NEW SERVICE LINES SHALL BE TYPE K COPPER IN ACCORDANCE WITH §722-06.
3. ALL FITTINGS, INCLUDING CORPORATION STOP, CURB STOP, COUPLINGS, ELBOWS, ETC SHALL BE BRASS, IN ACCORDANCE WITH §722-06 AND OWNER REQUIREMENTS.
4. CURB STOP AND CURB BOX SHALL BE PLACED WITHIN THE HIGHWAY RIGHT OF WAY AND WITHIN THE SNOW STORAGE AREA WHENEVER POSSIBLE, OR AS SHOWN ON THE CONTRACT PLANS AND IN THE OWNER REQUIREMENTS.
5. NEW CURB STOP AND BOX SHALL INCLUDE NEW WATER SERVICE PIPE FROM THE WATER MAIN TO THE CURB STOP.
6. THE CURB BOX CAP SHALL BE OF THE PLUG TYPE WHEN PLACED IN A PAVED SURFACE, AND THE TWO HOLE TYPE WHEN PLACED IN A GRASSED OR LANDSCAPED AREA.
7. WHEN PLACED IN GRASS, THE TOP OF CURB BOX SHALL BE SET ONE INCH BELOW FINISHED GRADE.
8. UNLESS OTHERWISE NOTED IN THE OWNER REQUIREMENTS, METERS WILL BE SUPPLIED BY THE OWNER AT NO COST TO THE CONTRACTOR OR TO THE STATE. PIPING IS SCHEMATIC, PIPING SHALL BE INSTALLED AS REQUIRED FOR THE INDIVIDUAL INSTALLATION.
9. ALL MATERIALS FOR ALL WORK SHOWN IN THE CONTRACT DOCUMENTS MUST BE MADE IN THE U.S.A.

WATER MAIN TRENCH DETAIL - UNSUITABLE SOIL

N.T.S.

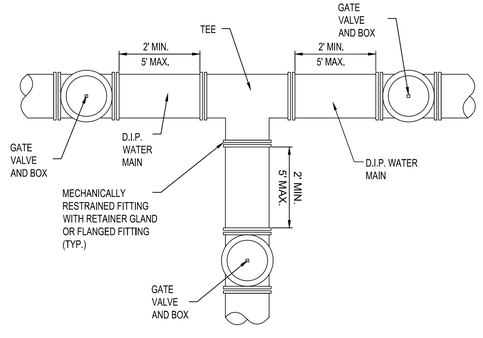
WATER MAIN TRENCH NOTES:

1. TRENCH WIDTH SHALL BE 3X PIPE DIAMETER (D) OR PIPE DIAMETER + 2' (EACH SIDE), WHICHEVER IS LESS.
2. WHERE EXISTING PCC PAVEMENT IS ENCOUNTERED IN AREAS OF MILLING AND RESURFACING, CONTRACTOR TO FOLLOW PCC PAVEMENT TRENCH RESTORATION DETAILS.
3. IN AREAS OF FULL DEPTH HMA PAVEMENT RECONSTRUCTION CONTRACTOR TO FOLLOW HMA PAVEMENT TRENCH RESTORATION DETAIL.
4. SEE GENERAL PLANS, TYPICAL SECTIONS, AND ROADWAY PROFILES FOR PROPOSED PAVEMENT RESURFACING AND RECONSTRUCTION LIMITS.
5. WHEN PIPE IS LAID IN ROCK, PLACE 3/4" CRUSHED STONE TO SPRINGLINE OF PIPE, ITEM 623.12.
6. TRENCH EXCAVATION SHALL BE PAID FOR UNDER ITEM 206.0201.
7. FOR AREAS OF MILL AND RESURFACE, PLACE 4 1/2" OF BINDER COURSE IN 2 LIFTS. THE SPECIFIED TWO (2) INCH TOP COURSE WILL BE PLACED AFTER MILLING ACTIVITIES ARE COMPLETED.



HYDRANT DETAIL - ITEM 663.1301

N.T.S.



TYPICAL WATER MAIN VALVE / TEE CLUSTER DETAIL

N.T.S.

SLEEPY HOLLOW
LOCAL DEVELOPMENT CORPORATION

WSP USA INC.
500 Summit Lake Drive, Suite 450
Valhalla, NY 10595
(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 EAST PARCEL PROJECT - PHASE II

VILLAGE OF SLEEPY HOLLOW WESTCHESTER COUNTY, NEW YORK

ISSUE DATE: 01/2023

PROJECT NUMBER: I188137H

SCALE: NOT TO SCALE

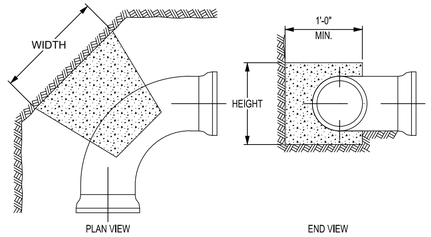
DRAWING NAME:

MISCELLANEOUS DETAILS - 3

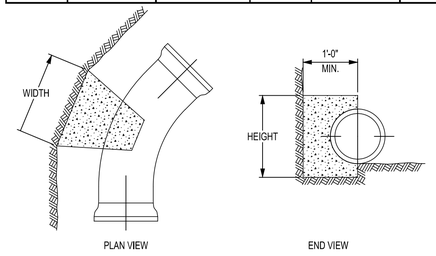
DRAWING NUMBER: MD103

SHEET NUMBER: 37

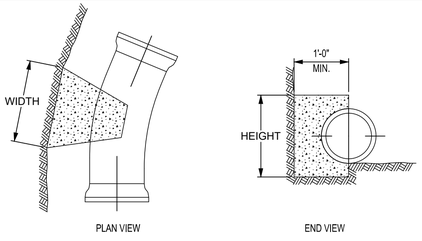
Drawing Path\Name: C:\bms\wsp--pb--us--pw--02\Vas.giordano@wsp.com\d0370322\Civil Details.dwg Printed: Dec 15, 2022, 11:30am Layout: Details--03



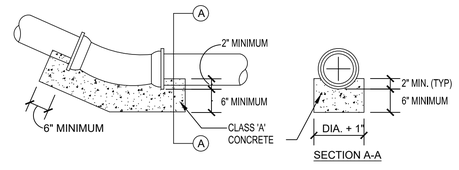
90° BEND THRUST BLOCK DIMENSIONING					
PIPE SIZE	WIDTH (FT-IN)	HEIGHT (FT-IN)	PIPE SIZE	WIDTH (FT-IN)	HEIGHT (FT-IN)
4 NPS	2'-3"	1'-3"	14 NPS	7'-3"	3'-6"
6 NPS	3'-3"	1'-9"	16 NPS	8'-3"	4'-0"
8 NPS	4'-3"	2'-3"	18 NPS	9'-3"	4'-6"
10 NPS	5'-3"	2'-6"	20 NPS	10'-6"	5'-0"
12 NPS	6'-0"	3'-3"	24 NPS	12'-6"	6'-0"



45° BEND THRUST BLOCK DIMENSIONING					
PIPE SIZE	WIDTH (FT-IN)	HEIGHT (FT-IN)	PIPE SIZE	WIDTH (FT-IN)	HEIGHT (FT-IN)
4 NPS	2'-0"	0'-9"	14 NPS	5'-3"	2'-6"
6 NPS	2'-6"	1'-3"	16 NPS	5'-6"	3'-3"
8 NPS	3'-3"	1'-9"	18 NPS	7'-3"	3'-3"
10 NPS	4'-0"	2'-0"	20 NPS	7'-3"	4'-0"
12 NPS	4'-6"	2'-3"	24 NPS	8'-9"	4'-6"

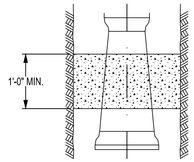


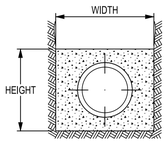
22½° BEND THRUST BLOCK DIMENSIONING					
PIPE SIZE	WIDTH (FT-IN)	HEIGHT (FT-IN)	PIPE SIZE	WIDTH (FT-IN)	HEIGHT (FT-IN)
4 NPS	1'-3"	0'-9"	14 NPS	3'-6"	2'-0"
6 NPS	2'-0"	0'-9"	16 NPS	4'-6"	2'-3"
8 NPS	2'-3"	1'-3"	18 NPS	5'-0"	2'-6"
10 NPS	3'-0"	1'-3"	20 NPS	5'-0"	3'-0"
12 NPS	3'-3"	1'-9"	24 NPS	6'-3"	3'-3"



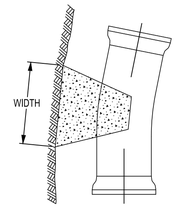
THRUST DISTRIBUTION BLOCK DETAIL

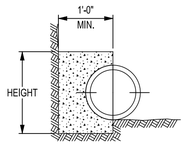
N.T.S.



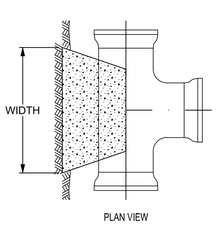


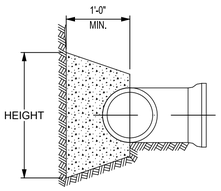
REDUCER THRUST BLOCK DIMENSIONING					
SIZE	WIDTH (FT-IN)	HEIGHT (FT-IN)	SIZE	WIDTH (FT-IN)	HEIGHT (FT-IN)
6x4 NPS	1'-6"	1'-6"	16x8 NPS	4'-6"	4'-6"
8x4 NPS	2'-3"	2'-3"	16x10 NPS	4'-0"	4'-0"
8x6 NPS	1'-9"	1'-9"	16x12 NPS	3'-6"	3'-6"
10x6 NPS	2'-6"	2'-6"	20x12 NPS	5'-0"	5'-0"
10x8 NPS	2'-0"	2'-0"	20x16 NPS	4'-0"	4'-0"
12x6 NPS	3'-3"	3'-3"	24x12 NPS	6'-6"	6'-6"
12x8 NPS	3'-0"	3'-0"	24x16 NPS	5'-9"	5'-9"
12x10 NPS	2'-3"	2'-3"	24x20 NPS	4'-6"	4'-6"





11¼° BEND THRUST BLOCK DIMENSIONING					
PIPE SIZE	WIDTH (FT-IN)	HEIGHT (FT-IN)	PIPE SIZE	WIDTH (FT-IN)	HEIGHT (FT-IN)
4 NPS	1'-0"	0'-6"	14 NPS	3'-0"	1'-3"
6 NPS	1'-3"	0'-9"	16 NPS	3'-3"	1'-9"
8 NPS	1'-9"	0'-9"	18 NPS	3'-6"	1'-9"
10 NPS	2'-0"	1'-0"	20 NPS	3'-6"	2'-0"
12 NPS	2'-3"	1'-3"	24 NPS	4'-6"	2'-3"



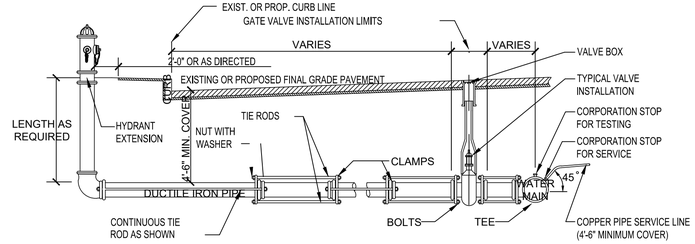


TEE/DEAD END THRUST BLOCK DIMENSIONING					
PIPE SIZE	WIDTH (FT-IN)	HEIGHT (FT-IN)	PIPE SIZE	WIDTH (FT-IN)	HEIGHT (FT-IN)
4 NPS	2'-0"	1'-0"	14 NPS	5'-6"	3'-3"
6 NPS	3'-0"	1'-3"	16 NPS	6'-6"	3'-6"
8 NPS	3'-3"	2'-0"	18 NPS	7'-6"	4'-0"
10 NPS	4'-3"	2'-3"	20 NPS	8'-6"	4'-3"
12 NPS	5'-3"	2'-6"	24 NPS	10'-3"	5'-3"

NOTE:
FOR MECHANICAL JOINT PIPE, TITON AND PVC PIPE TIE RODS MUST BE USED IN THE CONJUNCTION WITH THE CONCRETE THRUST BLOCKS FOR HYDRANTS, VALVES ON TEES AND WHEREVER REQUIRED BY ENGINEER.

MINIMUM RESTRAINED LENGTH OF PIPE (FT-IN) L				
FITTING	4 NPS	6 NPS	8 NPS	
11 ¸n BEND	1'-3"	2'-0"	2'-6"	
22 ½n BEND	1'-3"	2'-0"	2'-6"	
45n BEND	3'-0"	4'-0"	5'-3"	
90n BEND	7'-0"	9'-9"	12'-6"	
DEAD END	8'-6"	12'-6"	16'-0"	
NOTE: PVC PIPE WILL TYPICALLY HAVE SLIGHTLY GREATER RESTRAINED LENGTH				
NOTE: FOR POLYETHYLENE WRAPPED PIPE, MULTIPLY VALUES IN TABLE BY 1.45				

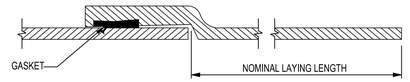
MECHANICAL JOINT BOLT TORQUE		
NPS SIZE	BOLT SIZE	TORQUE (LBF/FT)
3	1"	45-60
4-24	1"	75-90
30-36	1"	100-120
42-48	1,"	120-150



TYPICAL DETAIL OF CLAMP AND TIE ROD INSTALLATION FOR HYDRANT LEADS

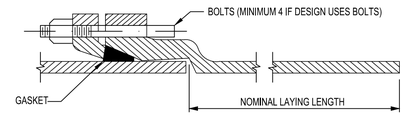
N.T.S.

PIPE	CLAMPS	RODS	BOLTS	STEEL WASHER
6"	1/2" x 2"	3/4"	5/8"	1/2" x 3"
8"	5/8" x 2-1/2"	3/4"	5/8"	1/2" x 3"
10"	5/8" x 2-1/2"	7/8"	3/4"	1/2" x 3"
12"	5/8" x 3"	1"	7/8"	1/2" x 3-1/2"



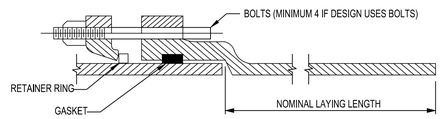
PUSH-ON JOINT FOR
DUCTILE IRON PIPE AND FITTINGS

NOTE: WILL VARY WITH SIZE AND MANUFACTURER



MECHANICAL JOINT (NON-RESTRAINED) FOR
DUCTILE IRON PIPE AND FITTINGS

NOTE: WILL VARY WITH SIZE AND MANUFACTURER



RESTRAINED MECHANICAL JOINT FOR
DUCTILE IRON PIPE AND FITTINGS

NOTE: WILL VARY WITH SIZE AND MANUFACTURER

NOTES:

1. THRUST RESTRAINT USING THRUST BLOCKS OR RESTRAINED LENGTHS ARE SHOWN ON THESE SHEETS. THRUST BLOCKS, RESTRAINED JOINTS USING TIE RODS, OR RETAINER GLANDS ARE ALL ACCEPTABLE METHODS TO NYSDOT. HOWEVER, THE THRUST RESTRAINT METHOD SELECTED SHALL BE APPROVED BY THE SYSTEM OWNER.
2. IF THE OWNER OF THE WATER SYSTEM REQUIRES A METHOD THAT RESTRAINS INDIVIDUAL JOINTS, EACH JOINT THAT FALLS WITHIN THE MINIMUM RESTRAINED LENGTH, MEASURED FROM THE CENTER OF THE FITTING, AS SHOWN ON THESE SHEETS SHALL BE RESTRAINED, AND SHALL WITHSTAND THE MAXIMUM PRESSURE APPLIED TO THE SYSTEM.
3. CLASS A CONCRETE SHALL NOT BE PLACED UNDER WATER, THE CONTRACTOR SHALL DEWATER THE EXCAVATION OR PLACE TYPE G CONCRETE USING APPROPRIATE UNDERWATER PLACEMENT TECHNIQUES.
4. CONCRETE FOR THRUST BLOCKS SHALL NOT BE ALLOWED TO COVER OR INTERFERE WITH JOINT OR RESTRAINT HARDWARE. PLASTIC SHEETING OR BUILDING FELT MAY BE PLACED OVER PIPE OR FITTINGS TO PREVENT CONCRETE FROM ADHERING TO SURFACES. CONCRETE FOR THRUST BLOCKS SHALL BE POURED AGAINST UNDISTURBED SOIL.
5. FOR BENDS, BEARING AREA SHALL BE PARALLEL TO THE EDGE OF THE FITTING AT THE FITTING MIDPOINT.
6. FOR TEES, BEARING AREA SHALL BE PERPENDICULAR TO THE BRANCH (SINGLE LEG) AXIS.
7. FOR REDUCERS, BEARING AREA SHALL BE PERPENDICULAR TO THE FITTING AXIS. THE MINIMUM THICKNESS ALONG THE FITTING AXIS SHALL BE 1'-0" OR THE LENGTH BETWEEN THE BELLS, WHICHEVER IS SMALLER.
8. THRUST RESTRAINTS FOR SIZES OVER 24 NPS OR FOR FITTINGS NOT SHOWN ON THESE SHEETS WILL BE DESIGNED ON A CASE BY CASE BASIS, AND WILL BE SHOWN IN THE CONTRACT DOCUMENTS.
9. THRUST BLOCK SIZES AND MINIMUM RESTRAINED LENGTHS SHOWN ON THESE SHEETS ARE BASED UPON THE FOLLOWING STANDARD CONDITIONS:
   - 1.5 - SAFETY FACTOR
   - 5'-0" - DEPTH OF COVER
   - 200 PSI - WATER SYSTEM TEST PRESSURE
   - 14 PSI - SOIL BEARING CAPACITY
   - 90 LB/CF - SOIL UNIT WEIGHT
10. FOR INSTALLATIONS NOT MEETING THE CONDITIONS OF NOTE 10, THE CONTRACTOR SHALL SUBMIT CALCULATIONS TO THE ENGINEER FOR APPROVAL OF RESTRAINT LENGTH CHOSEN.
11. TO DETERMINE REQUIRED SIZES FOR DIFFERENT CONDITIONS, MULTIPLY THE DIMENSION BY A FACTOR OF THE SPECIFIC VALUE DIVIDED BY THE STANDARD VALUE.

    EXAMPLE: FIND THRUST BLOCK DIMENSION FOR 12 NPS 45^ BEND WITH 100 PSI TEST PRESSURE:

    FROM TABLE "45n BEND THRUST BLOCK DIMENSIONING",
    AREA REQUIRED AT 200 PSI IS 4'-6" X 2'-3" = 10.125 SF
    FOR 100 PSI, AREA = 10.125 X (100/200) = 5.06 SF
    USE WIDTH = 3'-6", HEIGHT = 1'-6" (AREA = 5.25 SF)
12. PAYMENT FOR THRUST BLOCKS SHALL BE INCLUDED UNDER THE APPROPRIATE WATER MAIN FITTING ITEMS 663.2001 AND 663.2002.

SLEEPY HOLLOW
LOCAL DEVELOPMENT CORPORATION

VILLAGE OF SLEEPY HOLLOW 1874

WSP USA INC.
500 Summit Lake Drive, Suite 450
Valhalla, NY 10595
(914) 747-1120

ENGINEER OF RECORD:

STATE OF NEW YORK SCOTT C. GRIGG LICENSED PROFESSIONAL ENGINEER 070904

NEW YORK STATE LICENSED
PROFESSIONAL ENGINEER

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KEY PLAN:

REVISIONS:

PROJECT NAME:

SLEEPY HOLLOW EAST PARCEL PROJECT - PHASE II

VILLAGE OF SLEEPY HOLLOW
WESTCHESTER COUNTY, NEW YORK

ISSUE DATE: 01/2023

PROJECT NUMBER: I188137H

SCALE: NOT TO SCALE

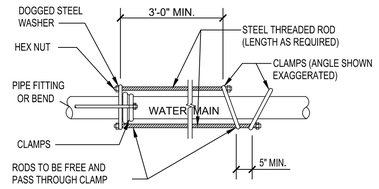
DRAWING NAME:

MISCELLANEOUS DETAILS - 4

DRAWING NUMBER: MD104

SHEET NUMBER: 38

Drawing Path\Name: C:\pma\wsp-pk-us-pw-02\live.gfordonne@wsp.com\d0376323\Civil Details.dwg Printed: Dec 16, 2022, 11:30am Layout: Details-04



*ALL STEEL USED SHALL BE STAINLESS STEEL.

DOUBLE CLAMP DETAIL

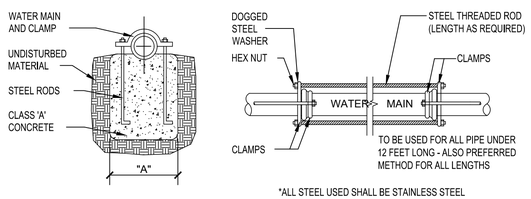
N.T.S.

HARNESSING SCHEDULE					
PIPE DIAMETER	DEFLECTION				DEAD END
	11-1/4°	22-1/2°	45°	90°	
4" & 6"	10'	10'	10'	14'	10'
8"	10'	10'	10'	14'	11'
10"	10'	10'	10'	15'	12'
12"	10'	10'	11'	18'	13'
14"	10'	10'	13'	21'	16'
16"	10'	10'	15'	24'	19'

NOTES:

1. THE DISTANCES SHOWN ARE THE LINEAL FEET OF PIPE TO BE RODDED ON EACH SIDE OF THE FITTING OR THE LINEAL FEET OF PIPE RODDED BACK FROM A PLUGGED DEAD END.
2. THE LIMITS SHOWN ABOVE MAY BE INCREASED WHERE SPECIFICALLY SHOWN ON THE PLANS OR DETAILS.

TIE ROD SIZE			CLAMP SIZE	
PIPE DIA.	ROD DIA.	BOLT DIA.	PIPE DIA.	CLAMP
4"	3/4"	5/8"	4"	1/2" x 2"
6"	3/4"	5/8"	6"	1/2" x 2"
8"	3/4"	5/8"	8"	5/8" x 2-1/2"
10"	7/8"	3/4"	10"	5/8" x 2-1/2"
12"	1"	7/8"	12"	5/8" x 2-1/2"
14"	1-1/8"	1"	14"	3/4" x 4"
16"	1-1/8"	1"	16"	3/4" x 4"

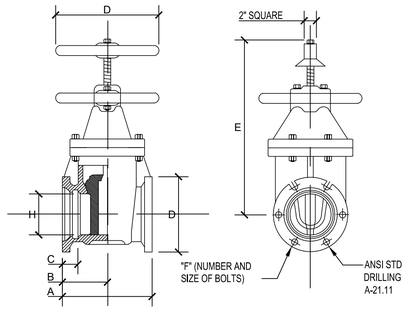


*ALL STEEL USED SHALL BE STAINLESS STEEL

FULL LENGTH CLAMP DETAIL

N.T.S.

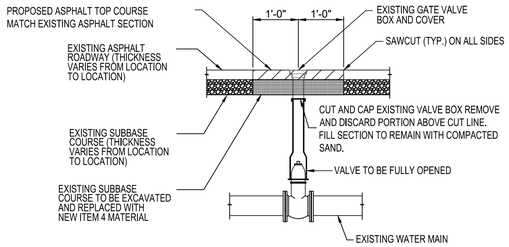
ANCHORAGE							
BEND		PIPE DIAMETER (d)					
		6"	8"	10"	12"	14"	16"
45° 1/8 BEND	A	2'-6"	3'-0"	3'-6"	4'-0"	4'-6"	5'-0"
	B	2'-6"	3'-0"	3'-6"	4'-0"	4'-6"	5'-0"
	C	3'-6"	4'-0"	4'-6"	5'-0"	5'-6"	6'-0"
	D	12"	1'-6"	2'-0"	2'-6"	3'-0"	3'-6"
	ROD DIA.	3/4"	3/4"	7/8"	1"	1-1/8"	1-1/8"
22° 30' 1/16 BEND	A	2'-0"	2'-6"	3'-0"	3'-6"	4'-0"	4'-6"
	B	2'-0"	2'-6"	3'-0"	3'-6"	4'-0"	4'-6"
	C	2'-6"	3'-0"	3'-6"	3'-6"	4'-0"	4'-6"
	D	12"	12"	1'-6"	2'-0"	2'-6"	3'-0"
	ROD DIA.	3/4"	3/4"	3/4"	7/8"	1"	1"
11° 15' 1/32 BEND	A	2'-0"	2'-0"	2'-6"	2'-6"	3'-0"	3'-6"
	B	1'-6"	2'-0"	2'-6"	2'-6"	3'-0"	3'-6"
	C	2'-0"	2'-6"	2'-6"	3'-6"	4'-0"	4'-6"
	D	12"	12"	12"	12"	12"	12"
	ROD DIA.	3/4"	3/4"	3/4"	7/8"	1"	1"



VALVE SIZE	A	B	C	D	E	F	G	H
2	8-1/4	8-1/4	2.50	4-1/2	10-7/8	2-5/8	7-1/4	2
2-1/2	----	----	---	----	----	----	----	----
3	8-1/2	8-1/2	2.50	7-3/4	12-3/8	4-5/8	10	3
4	9-1/2	9-1/2	2.50	9-1/8	14-3/4	4-3/4	10	4-1/4
6	10	10	2.50	11-1/8	19"	6-3/4	12	6-1/4
8	10-1/2	10-1/2	2.50	13-3/4	22-1/2	6-3/4	14	8-1/4
10	12	12	2.50	15-3/4	26-1/2	8-3/4	18	10-1/4
12	13	13	2.62	18	30	8-3/4	18	12-1/4
18	17	8-1/2	3.00	18-3/8	44-3/16	18-1-1/4	18	18-3/8

TYPICAL GATE VALVE DETAIL

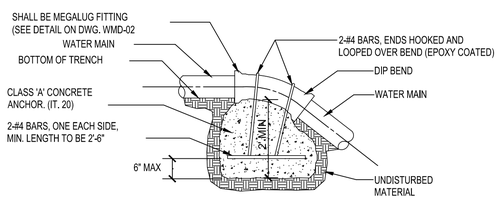
N.T.S.



EXISTING WATER VALVE BOX MODIFICATION DETAIL

PAID FOR UNDER ITEMS 663.1006, 663.1008

N.T.S.

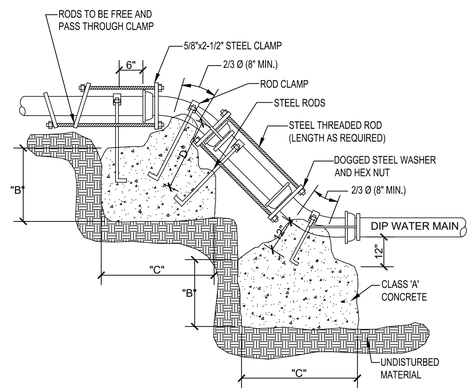


NOTES:

1. THE LENGTH AND WIDTH OF THE CONCRETE BLOCK COMBINED WITH THE MINIMUM DEPTH AT 2' SHALL BE SUFFICIENT TO GIVE A MINIMUM VOLUME OF CONCRETE AS INDICATED ON THE PLAN
2. THE CAST FOR THE EXCAVATION, PLACING OF CONCRETE AND OTHER INCIDENTAL EXPENSES NECESSARY TO CONSTRUCT CONCRETE ANCHORS SHALL BE INCLUDED IN THE UNIT PRICE BID FOR CONCRETE MASONARY (CLASS B). MEASUREMENTS FOR PAYMENT UNDER THIS ITEM SHALL BE LIMITED TO THOSE DIMENSIONS AS SHOWN ON THE DETAIL.

CONCRETE ANCHOR DETAIL

N.T.S.



*ALL STEEL TO BE STAINLESS STEEL

BUTTRESSES AND DEFLECTION HARNESSING DETAIL

N.T.S.

SLEEPY HOLLOW
LOCAL DEVELOPMENT CORPORATION

WSP USA INC.
500 Summit Lake Drive, Suite 450
Valhalla, NY 10595
(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 EAST PARCEL PROJECT - PHASE II

VILLAGE OF SLEEPY HOLLOW WESTCHESTER COUNTY, NEW YORK

ISSUE DATE: 01/2023

PROJECT NUMBER: I188137H

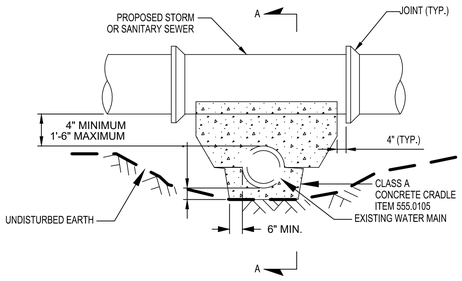
SCALE: NOT TO SCALE

DRAWING NAME: **MISCELLANEOUS DETAILS - 5**

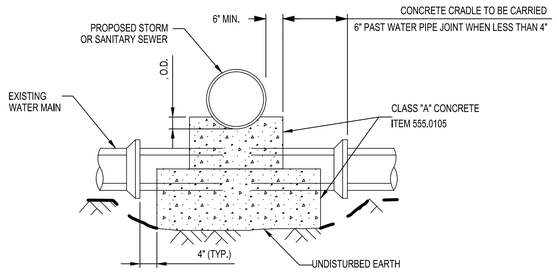
DRAWING NUMBER: MD105

SHEET NUMBER: 39

Drawing Path\Name: C:\Jms\wsp--pb--us--pw--02\Jess.giordano@wsp.com\d0376322\Civil Details.dwg Printed: Dec 16, 2022, 11:31am Layout: Details-05



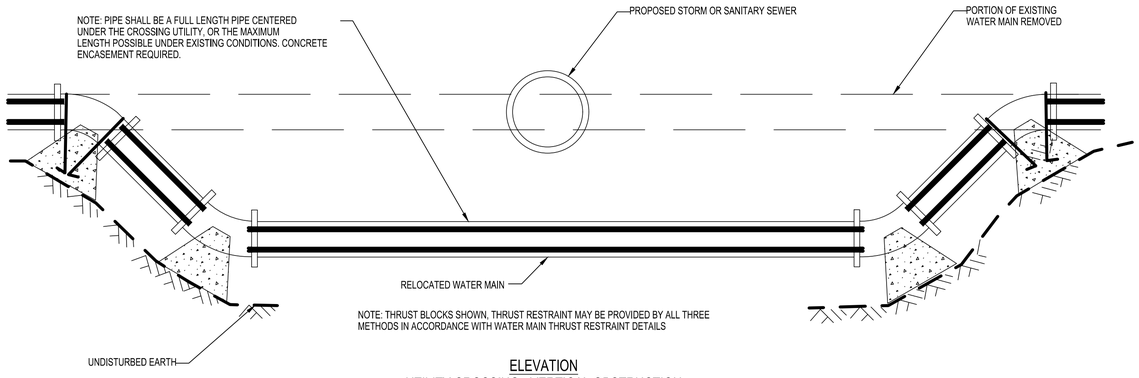
ELEVATION



SECTION A-A

UTILITY CROSSING - VERTICAL OBSTRUCTION LACKING REQUIRED VERTICAL OFFSET
PROPOSED STORM SEWER CROSSING WATER MAIN WITH 4" TO 18" OF VERTICAL SEPARATION

N.T.S.

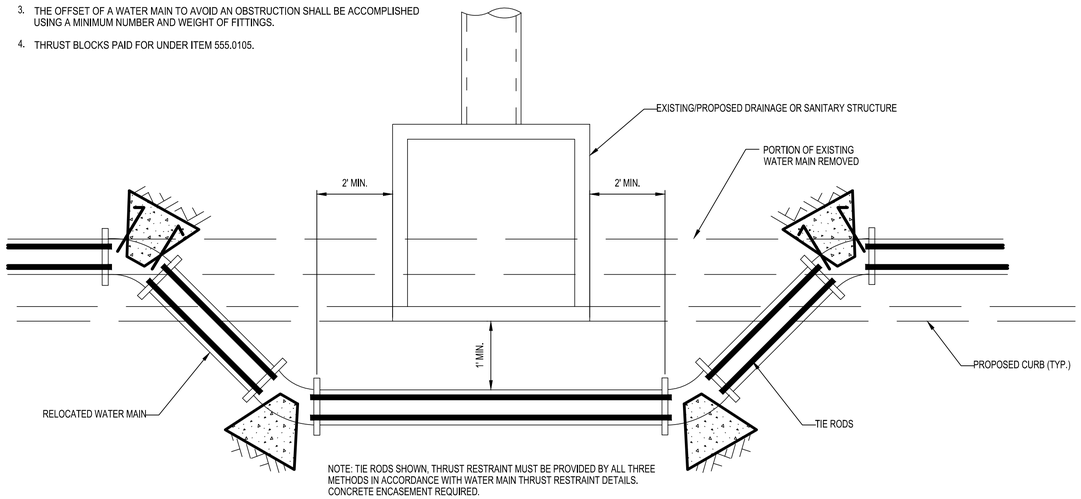


ELEVATION
UTILITY CROSSING - VERTICAL OBSTRUCTION
WITH REQUIRED VERTICAL OFFSET

N.T.S.

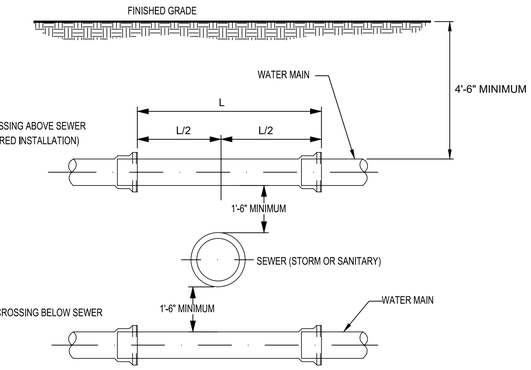
NOTES:

1. WATER MAIN RELOCATION WORK MAY BE REQUIRED WHERE PROPOSED STORM DRAINS CROSS AN EXISTING WATER MAIN. THE CONTRACTOR SHALL ESTABLISH THE DEPTH OF THE WATER MAIN AT ALL CROSSING POINTS. THE ENGINEER WILL THEN VERIFY THE EXTENT OF THE WATER MAIN RELOCATION WORK REQUIRED.
2. UNLESS OTHERWISE NOTED IN THE OWNER REQUIREMENTS, ALL THREE METHODS OF THRUST RESTRAINT SHALL BE PROVIDED AT EACH FITTING THAT CREATES A THRUST IN ACCORDANCE WITH PRESSURE PIPE THRUST RESTRAINT DETAILS.
3. THE OFFSET OF A WATER MAIN TO AVOID AN OBSTRUCTION SHALL BE ACCOMPLISHED USING A MINIMUM NUMBER AND WEIGHT OF FITTINGS.
4. THRUST BLOCKS PAID FOR UNDER ITEM 555.0105.



PLAN VIEW
UTILITY CROSSING - HORIZONTAL OBSTRUCTION

N.T.S.



SEPARATION OF WATER MAINS AND SEWERS CROSSING INSTALLATION

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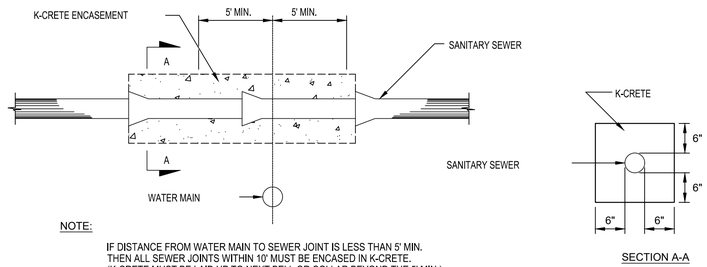


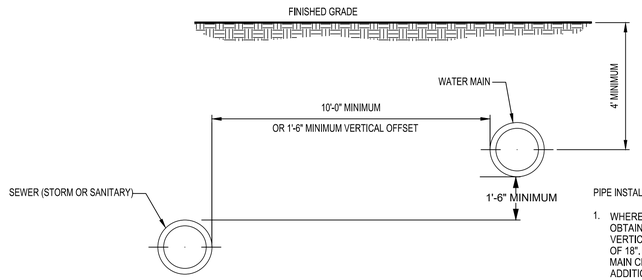
NOTE:

IF DISTANCE FROM WATER MAIN TO SEWER JOINT IS LESS THAN 5' MIN.
THEN ALL SEWER JOINTS WITHIN 10' MUST BE ENCASED IN K-CRETE.
(K-CRETE MUST BE LAID UP TO NEXT BELL OR COLLAR BEYOND THE 5' MIN.)

SECTION A-A

SEPARATION OF WATER MAINS AND SEWERS CROSSING INSTALLATION

N.T.S.

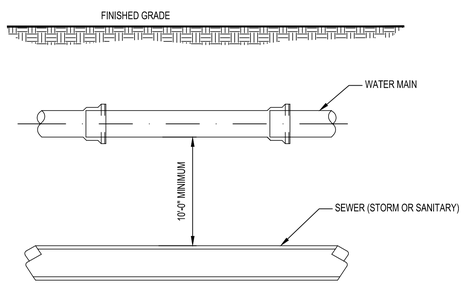


PIPE INSTALLATION NOTES:

1. WHERE A 10' HORIZONTAL SEPARATION CANNOT BE OBTAINED DUE TO FIELD CONDITIONS, THE VERTICAL CLEAR DISTANCE SHALL BE A MINIMUM OF 18". REFER TO SANITARY SEWER AND WATER MAIN CROSSING DETAIL ON DWG. NO. SD-01 FOR ADDITIONAL INFORMATION.

SEPARATION OF WATER MAINS AND SEWERS PARALLEL INSTALLATION

N.T.S.



SEPARATION OF WATER MAINS AND SEWERS CROSSING INSTALLATION

N.T.S.

SLEEPY HOLLOW
LOCAL DEVELOPMENT CORPORATION

WSP USA INC.
500 Summit Lake Drive, Suite 450
Valhalla, NY 10595
(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 EAST PARCEL PROJECT - PHASE II

VILLAGE OF SLEEPY HOLLOW
WESTCHESTER COUNTY, NEW YORK

ISSUE DATE: 01/2023

PROJECT NUMBER:	SCALE:
I188137H	NOT TO SCALE

DRAWING NAME:

MISCELLANEOUS DETAILS - 6

DRAWING NUMBER:	SHEET NUMBER:
MD106	40

Drawing Path\Name: C:\Jmt\wsp--pb--us--pw--02\Users.gjordano@wsp.com\d0376322\Civil Details.dwg Printed: Dec 16, 2022, 11:31:01m Layout: Details--06

I. GENERAL:

1. THE CONTRACTOR'S ATTENTION IS DIRECTED TO THE FACT THAT, DUE TO THE NATURE OF THE WORK ON THIS PROJECT, THE EXACT EXTENT OF THE WORK CANNOT ALWAYS BE ACCURATELY DETERMINED PRIOR TO COMMENCEMENT OF WORK. CONTRACT DOCUMENTS AND/OR WORK ORDER HAVE BEEN PREPARED BASED ON FIELD INSPECTION AND OTHER AVAILABLE INFORMATION. ACTUAL FIELD CONDITIONS MAY REQUIRE MODIFICATIONS TO CONSTRUCTION DETAILS AND WORK QUANTITIES. THE CONTRACTOR SHALL PERFORM THE WORK, AS APPROPRIATE, ACKNOWLEDGING FIELD CONDITIONS AND AS ORDERED BY THE ENGINEER.

2. CONTRACTOR SHALL FIELD VERIFY LOCATIONS AND EXTENTS OF EXISTING STRUCTURES. CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFICATION OF ALL EXISTING ELEVATIONS. IF NECESSARY, THE CONTRACTOR SHALL MAKE ADJUSTMENTS IN LENGTHS AND ELEVATIONS AND SUBMIT FOR APPROVAL PRIOR TO CONSTRUCTION.

3. ALL SHOP DRAWINGS SUBMITTED FOR THE PROJECT SHALL BE IN US CUSTOMARY UNITS.

4. ALL APPROVALS ARE SUBJECT TO SATISFACTORY FIELD PERFORMANCE. THE ENGINEER APPROVAL DOES NOT RELIEVE THE CONTRACTOR OF THEIR RESPONSIBILITY TO SATISFACTORILY COMPLETE THE WORK DETAILED IN THE PLANS AND SPECIFICATIONS.

5. CONTRACTOR MAY ENCOUNTER COBBLES, BOULDERS, AND OTHER OBSTRUCTIONS AT VARYING DEPTHS WHICH MAY CAUSE CONSTRUCTION DIFFICULTIES DURING CONSTRUCTION OF WALL FOUNDATIONS AND SUPPORT OF EXCAVATION SYSTEMS.

6. IF ABANDONED BURIED STRUCTURES ARE ENCOUNTERED, THEY SHALL BE REMOVED AND REPLACED WITH SELECT STRUCTURAL FILL UNDER ITEM 203.21 OR OTHER APPROVED MATERIAL TO THE DEPTH AND EXTENT DIRECTED BY THE ENGINEER. COST TO BE INCLUDED UNDER ITEM 203.02 UNCLASSIFIED EXCAVATION AND DISPOSAL.

7. WHEN PROPOSED WORK SHOWN IN THE PLANS DIFFERS FROM THE NYSDOT STANDARD SHEETS AND SPECIFICATIONS, THE INFORMATION AS DETAILED ON THE PLANS SHALL GOVERN.

DESIGN CRITERIA:

1. RETAINING WALLS SHALL BE DESIGNED FOR A DESIGN SERVICE LIFE OF 75 YEARS.

2. THE ENGINEER OF RECORD (EOR) IS RESPONSIBLE FOR THE EXTERNAL STABILITY, BEARING RESISTANCE, AND SETTLEMENT ANALYSIS. THE WALL MANUFACTURER SHALL BE RESPONSIBLE FOR THE INTERNAL STABILITY REQUIREMENTS OF THE RETAINING WALLS.

3. RETAINING WALLS SHALL CONSIST OF T-WALLS. PAYMENT SHALL BE MADE UNDER THE SERIES 554.4XSH PAY ITEMS. USE OF OTHER PROPRIETARY MODULAR RETAINING WALL SYSTEMS SHALL BE SUBJECT TO APPROVAL BY THE ENGINEER. MECHANICALLY STABILIZED EARTH SYSTEMS (MSES) AND GEOSYNTHETICALLY REINFORCED SOIL SYSTEM (GRSS) SHALL NOT BE PERMITTED.

4. INTERNAL STABILITY OF WALLS SHALL BE IN ACCORDANCE WITH AASHTO LRFD SPECIFICATIONS, 9TH EDITION (2020):

   A. RESISTANCE FACTORS FOR PERMANENT RETAINING WALLS SHALL BE IN ACCORDANCE WITH SECTION 11.5.7 OF AASHTO LRFD SPECIFICATIONS.
   B. LOAD FACTORS FOR PERMANENT RETAINING WALLS SHALL BE IN ACCORDANCE WITH SECTION 3.4 OF AASHTO LRFD SPECIFICATIONS.
   C. SEISMIC HORIZONTAL ACCELERATION COEFFICIENT SHALL BE TAKEN AS 0.135.

5. FOR DETERMINING LATERAL EARTH PRESSURES FOR PREFABRICATED MODULAR WALLS, MAXIMUM WALL FRICTION ANGLE FOR WALLS WITH STEPPED MODULES SHALL BE 0.75 OF THE FRICTION ANGLE OF THE BACKFILL MATERIAL AND FOR WALLS WITH VERTICAL BACK FACE SHALL BE 0.5 OF THE FRICTION ANGLE OF THE BACKFILL MATERIAL, IN ACCORDANCE WITH SECTION 3.11.5.9 OF AASHTO LRFD SPECIFICATIONS.

6. SERVICEABILITY REQUIREMENTS (TOTAL AND DIFFERENTIAL TOLERABLE SETTLEMENTS) SHALL BE IN ACCORDANCE WITH THE NYSDOT GEOTECHNICAL DESIGN MANUAL.

LOADS:

1. LATERAL EARTH PRESSURE SHALL BE OBTAINED UTILIZING THE RANKINE OR COULOMB METHOD IN ACCORDANCE WITH SECTION 3.11 OF AASHTO LRFD SPECIFICATIONS.

2. WALLS SHALL BE DESIGNED FOR BARRIER LOADING AS INDICATED IN SECTION 11.10.10.2 OF AASHTO LRFD SPECIFICATIONS.

3. FOR NOMINAL BEARING RESISTANCE AT THE BASE OF THE WALLS SEE TABLE 1 ON DWG. STR104.

4. ARTICLE 3.11.6 IN AASHTO LRFD SPECIFICATIONS SHALL BE USED FOR SURCHARGE LOADS ACTING ON RETAINING WALLS. RETAINING WALLS SHALL ALSO BE DESIGNED FOR PRESENCE OF CONSTRUCTION EQUIPMENT LOADS, TO BE TAKEN AS A UNIFORM LIVE LOAD SURCHARGE OF 250 PSF APPLIED TO THE GROUND SURFACE IMMEDIATELY BEHIND THE WALL, UNLESS LARGER LOADS ARE PRESENT.

II. RETAINING WALL NOTES:

LEVELING PAD:

1. AN UNREINFORCED CONCRETE LEVELING PAD SHALL BE CONSTRUCTED BENEATH THE FIRST COURSE OF WALL UNITS IN A MANNER ACCEPTABLE TO THE ENGINEER, AND AT THE LOCATION SHOWN IN THE CONTRACT DOCUMENTS. THE LEVELING PAD SHALL BE PROPERLY INSTALLED, TO ASSURE A LEVEL FIRST COURSE OF WALL UNITS.

2. CONCRETE LEVELING PAD INSTALLATION:

   A. GRADE AND LEVEL THE AREA ON WHICH THE LEVELING PAD AND WALL UNITS WILL REST.
   B. THE CONTRACTOR SHALL EXCAVATE 6" AND REPLACE WITH SELECT STRUCTURAL FILL MEETING THE REQUIREMENTS OF NYSDOT STANDARD SPECIFICATION SECTION 733-14. LEVELING PAD SHALL NOT BE DIRECTLY CAST ON THE EXCAVATED WALL FOUNDATION AREA UNLESS APPROVED BY THE ENGINEER.
   C. THE REPLACEMENT MATERIAL OF SELECT STRUCTURAL FILL AND THE EXCAVATED WALL SUBGRADE BELOW REPLACEMENT MATERIAL SHALL BE COMPACTED TO A MINIMUM OF 95% OF MODIFIED PROCTOR MAXIMUM DENSITY.
   D. STEP THE LEVELING PAD TO CONFORM TO GRADE CHANGES.

3. THE USE OF SHIMS WILL NOT BE ALLOWED TO CORRECT FOR IMPROPER OR INCORRECT PLACEMENT OF LEVELING PAD AND/OR POOR CONSTRUCTION PRACTICES. SHIMS WILL BE ALLOWED TO CORRECT FOR MINOR FABRICATION IRREGULARITIES.

4. FOR A PRECAST CONCRETE LEVELING PAD, A 1/2" TO 3/4" JOINT SHALL BE PROVIDED AT ALL WALL CONSTRUCTION JOINTS, CHANGES IN PAD ELEVATION, OR AT THE MAXIMUM INTERVAL OF 20'-0", WHICHEVER IS LESS.

GROUNDWATER:

1. SEEPAGE ZONES INTERCEPTING THE EXCAVATION SLOPE OR THE WALL FOUNDATION AREA SHALL BE POSITIVELY DRAINED BY PROVIDING ADDITIONAL UNDERDRAIN AND UNDERDRAIN FILTER MATERIAL AT THE SEEPAGE ZONE, AS DIRECTED BY THE ENGINEER.

2. FOR INSTALLATIONS WHERE THE WATER LEVEL WILL BE PERMANENTLY ABOVE THE FINISHED GRADE AT WALL FACE, THE NORMAL UNDERDRAIN SECTION SHALL BE RAISED TO A POINT 2'-0" ABOVE HIGH WATER

UNDERCUTS:

1. A MAXIMUM 2'-0" UNDERCUT MAY BE ORDERED BY THE ENGINEER WHERE NECESSARY TO PROVIDE STABLE BEDDING CONDITIONS. UNDERCUTTING SHALL BE PAID FOR UNDER ITEM 206.02 STRUCTURE EXCAVATION.

   A. IF UNDERCUTTING IS ORDERED, THE LIFT THICKNESS AND COMPACTION REQUIREMENTS FOR SELECT STRUCTURAL FILL SHALL BE AS DIRECTED BY THE ENGINEER.
   B. THE ENGINEER SHALL BE CONSULTED IF IT APPEARS THAT UNDERCUTTING BEYOND THE 2'-0" MAXIMUM DEPTH MAY BE NEEDED. SPECIAL CONSTRUCTION PROCEDURES AND DETAILS WILL BE SHOWN IN THE CONTRACT DOCUMENTS WHEN WALLS ARE TO BE LOCATED IN AREAS WHERE UNSUITABLE MATERIAL EXISTS.

WALL BACKFILL:

1. PLACEMENT OF INFILL IN THE WALL (IF REQUIRED) AND BACKFILL BEHIND THE WALL SHALL BE IN ACCORDANANCE WITH NYSDOT STANDARD SPECIFICATION SECTION 203.
2. COMPACTION REQUIREMENTS FOR INFILL (IF REQUIRED) AND BACKFILL MATERIAL SHALL BE IN ACCORDANCE WITH NYSDOT STANDARD SPECIFICATION SECTION 203.

WALL CONSTRUCTION:

1. WALL CONSTRUCTION AT ALL STAGES SHALL BE TRUE TO LINE AND GRADE. ANY DEVIATION FROM LINE AND GRADE WHICH IS EITHER DANGEROUS TO THE STABILITY OR DETRACTS FROM THE APPEARANCE OF THE WALL SHALL BE CORRECTED BY THE CONTRACTOR AT HIS OWN EXPENSE.

2. TOLERANCES SHALL NOT EXCEED THOSE PROVIDED IN THE NYSDOT STANDARD SPECIFICATIONS

3. FOR MINIMUM WALL BASE WIDTHS SEE TABLE 1 ON DWG. STR104.

4. MINIMUM WALL EMBEDMENT SHALL BE 1'-6" IN ACCORDANCE WITH NYSDOT STANDARD SHEETS 554-01 FOR PROPRIETARY FILL TYPE RETAINING WALLS.

5. FIELD VERIFY WALL PANEL HEIGHTS TO MATCH EXISTING ADJACENT WALLS.

AESTHETICS:

1. WALL FACE SURFACE FINISH SHALL BE SMOOTH OR FLAT WITH A SANDBLASTED FINISH. COST OF SURFACE FINISH INCLUDED IN WALL PAY ITEMS.

MISCELLANEOUS WALL NOTES:

1. THE OPEN FACE UNIT PREFABRICATED WALL CUBIC GEOMETRY DEPICTED REPRESENTS THE THEORETICAL DIMENSIONS OF THE BIN, AND NOT NECESSARILY THE SHAPE OF THE UNIT.

2. A VERTICAL JOINT PATTERN IS DEPICTED FOR ILLUSTRATIVE PURPOSES.

3. PLACEMENT OF THE INFILL AND BACKFILL MATERIAL SHALL BE IN ACCORDANCE WITH THE FOLLOWING:

   A. THE ELEVATION OF THE BACKFILL BEHIND THE WALL SHALL NOT EXCEED THE ELEVATION OF THE INFILL MATERIAL PLACED WITHIN THE WALL UNITS.
   B. AT NO TIME SHALL THE DIFFERENCE IN ELEVATION BETWEEN THE INFILL AND BACKFILL EXCEED 4'-0".
   C. AT NO TIME SHALL THE DIFFERENCE IN ELEVATION BETWEEN THE INFILL AND BACKFILL EXCEED THE HEIGHT OF ONE UNIT.

4. INSTALLATION OF THE OPEN FACE UNITS SHALL BE IN ACCORDANCE WITH THE FOLLOWING:

   A. ALL UNITS ABOVE THE FIRST COURSE SHALL INTERLOCK WITH THE LOWER COURSE.
   B. THE VERTICAL JOINT OPENING SHALL BE BETWEEN $\frac{1}{4}$" AND $\frac{1}{2}$".
   C. THE VERTICAL JOINT OPENING SHALL BE ACCOUNTED FOR IN DETERMINING THE TOTAL LENGTH OF THE WALL.

5. CONCRETE SHALL ATTAIN THE FOLLOWING MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS

   A. 3,000 PSI FOR BARRIERS
   B. 2,500 PSI FOR LEVELING PADS
   C. 4,000 PSI FOR MOMENT SLABS
   D. FOR MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS FOR MODULAR WALL CONCRETE, SEE SERIES 554.4XSH ITEM SPECIFICATIONS.

6. ALL EXPOSED EDGES OF CONCRETE SHALL BE CHAMFERED 1 IN. UNLESS OTHERWISE NOTED ON THE PLANS

TABLE 1: RETAINING WALL PARAMETERS

DESCRIPTION	UNIT	WALL SECTIONS (STA ALONG WALL FACE)								
		0+00 TO 0+40	0+40 TO 1+00	1+00 TO 1+50	1+50 TO 3+62	3+62 TO 3+78	3+78 TO 3+86	3+86 TO 3+94	3+94 TO 4+02	4+02 TO 4+18
SELECT BACKFILL UNIT WEIGHT	PCF	120	120	120	120	120	120	120	120	120
FRICTION ANGLE OF SELECT BACKFILL	DEG.	34	34	34	34	34	34	34	34	34
GROUNDWATER ELEVATION (G.W.T)	FT	6	6	6	6	6	6	6	6	6
FOUNDATION SOIL NOMINAL BEARING RESISTANCE (STR)	KSF	21.0	23.0	24.5	26.5	23.5	24.5	24.5	22.5	20.0
FOUNDATION SOIL NOMINAL BEARING RESISTANCE (EXT)	KSF	17.0	18.5	19.5	21.5	18.0	18.5	18.5	17.5	16.5
MINIMUM BASE WIDTH (B)	FT	16	18	20	22	18	16	14	12	10
WALL HEIGHT (H)	FT	25-27	27-30	30-33	33-35	30.5	26.5	22.5	18.5	14.5

*INFORMATION IN TABLE 1 ASSUMES RETAINING WALLS CONSIST OF T-WALLS. IF OTHER PROPRIETARY MODULAR RETAINING WALL SYSTEMS ARE USED, SUBJECT TO APPROVAL BY THE ENGINEER, CONTRACTOR SHALL SUBMIT EXTERNAL STABILITY, BEARING RESISTANCE, AND SETTLEMENT ANALYSIS CALCULATIONS PREPARED BY AN ENGINEER LICENSED IN THE STATE OF NEW YORK FOR APPROVAL.

SLEEPY HOLLOW
LOCAL DEVELOPMENT CORPORATION

WSP USA INC.
500 Summit Lake Drive, Suite 450
Valhalla, NY 10595
(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:
02/13/2023 - TABLE 1 REVISION

PROJECT NAME:

SLEEPY HOLLOW EAST PARCEL PROJECT - PHASE II

VILLAGE OF SLEEPY HOLLOW WESTCHESTER COUNTY, NEW YORK

ISSUE DATE: SEPTEMBER 2022

PROJECT NUMBER: I188137H

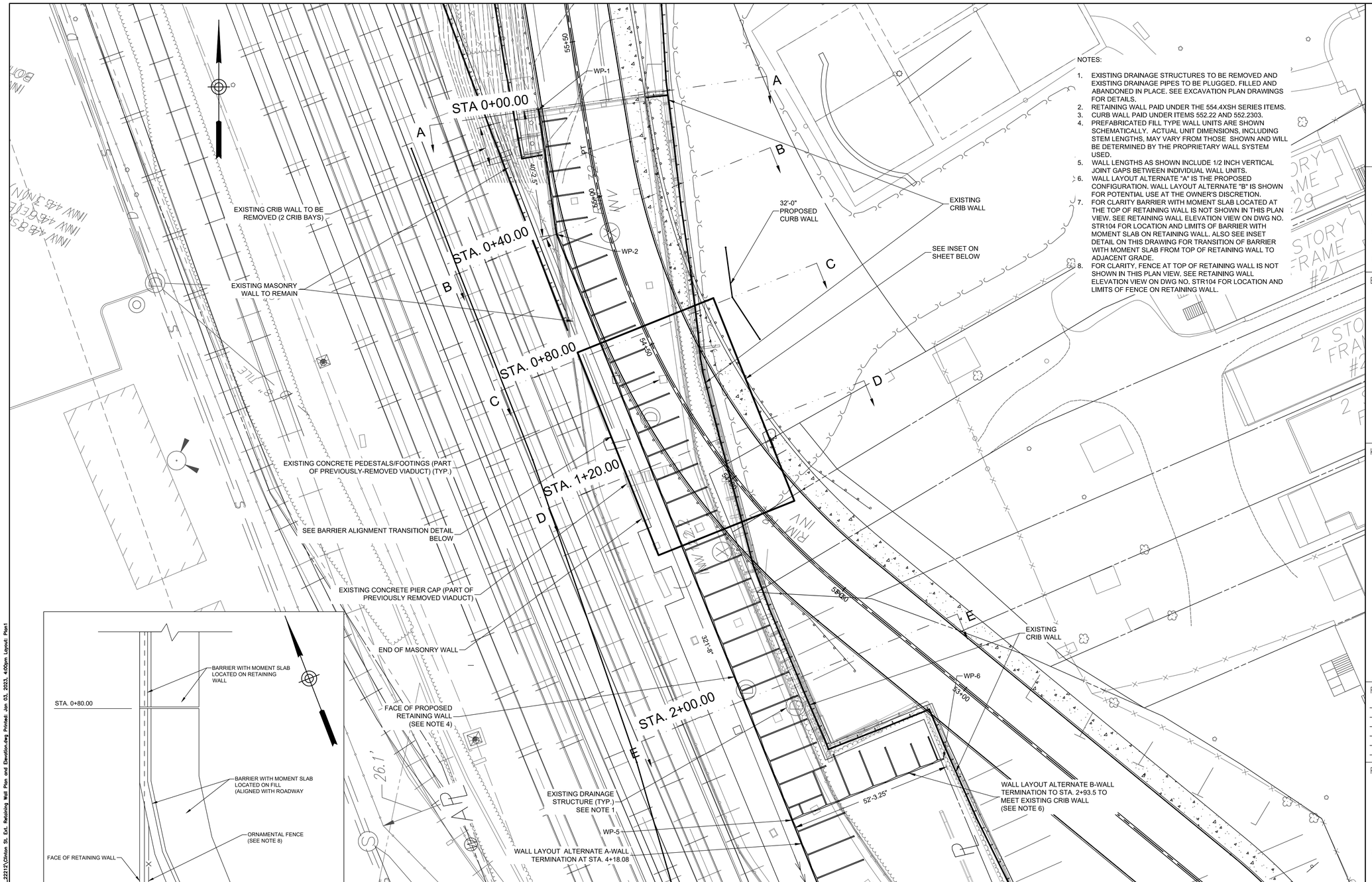
SCALE:

DRAWING NAME: **RETAINING WALL GENERAL NOTES**

DRAWING NUMBER: STR101

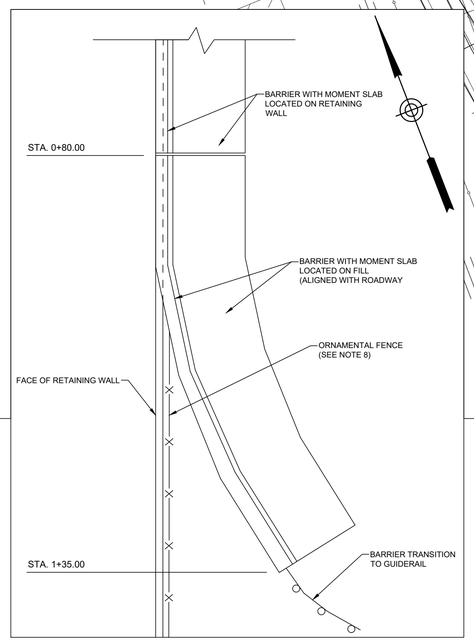
SHEET NUMBER: 40 OF 67

Drawing Path\Name: C:\Users\US05779121\ppdata\Local\Temp\AcPublish_10568\RETAINING WALL GENERAL NOTES.dwg Printed: Feb 10, 2023, 11:28am Layout: Plan View



NOTES:

1. EXISTING DRAINAGE STRUCTURES TO BE REMOVED AND EXISTING DRAINAGE PIPES TO BE PLUGGED. FILLED AND ABANDONED IN PLACE. SEE EXCAVATION PLAN DRAWINGS FOR DETAILS.
2. RETAINING WALL PAID UNDER THE 554.4XSH SERIES ITEMS.
3. CURB WALL PAID UNDER ITEMS 552.22 AND 552.2303.
4. PREFABRICATED FILL TYPE WALL UNITS ARE SHOWN SCHEMATICALLY. ACTUAL UNIT DIMENSIONS, INCLUDING STEM LENGTHS, MAY VARY FROM THOSE SHOWN AND WILL BE DETERMINED BY THE PROPRIETARY WALL SYSTEM USED.
5. WALL LENGTHS AS SHOWN INCLUDE 1/2 INCH VERTICAL JOINT GAPS BETWEEN INDIVIDUAL WALL UNITS.
6. WALL LAYOUT ALTERNATE "A" IS THE PROPOSED CONFIGURATION. WALL LAYOUT ALTERNATE "B" IS SHOWN FOR POTENTIAL USE AT THE OWNER'S DISCRETION.
7. FOR CLARITY BARRIER WITH MOMENT SLAB LOCATED AT THE TOP OF RETAINING WALL IS NOT SHOWN IN THIS PLAN VIEW. SEE RETAINING WALL ELEVATION VIEW ON DWG NO. STR104 FOR LOCATION AND LIMITS OF BARRIER WITH MOMENT SLAB ON RETAINING WALL. ALSO SEE INSET DETAIL ON THIS DRAWING FOR TRANSITION OF BARRIER WITH MOMENT SLAB FROM TOP OF RETAINING WALL TO ADJACENT GRADE.
8. FOR CLARITY, FENCE AT TOP OF RETAINING WALL IS NOT SHOWN IN THIS PLAN VIEW. SEE RETAINING WALL ELEVATION VIEW ON DWG NO. STR104 FOR LOCATION AND LIMITS OF FENCE ON RETAINING WALL.



INSET - BARRIER ALIGNMENT TRANSITION DETAIL
SCALE: 1:10

MATCH LINE DRAWING NO. STR103

SLEEPY HOLLOW
LOCAL DEVELOPMENT CORPORATION

WSP USA INC.
500 Summit Lake Drive, Suite 450
Valhalla, NY 10595
(914) 747-1120

ENGINEER OF RECORD:

STATE OF NEW YORK
SCOTT C. GIBSON
070904
LICENSED PROFESSIONAL ENGINEER

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 EAST PARCEL PROJECT - PHASE II

VILLAGE OF SLEEPY HOLLOW WESTCHESTER COUNTY, NEW YORK

ISSUE DATE: 01/2023

PROJECT NUMBER: I188137H

SCALE: 1/16"=1'-0"

DRAWING NAME: **RETAINING WALL PLAN VIEW 1**

DRAWING NUMBER: STR102

SHEET NUMBER: 42

Drawing Path\Name: C:\Users\US0477912\cppdata\local\temp\AcPublish_22212\Clinton St. Ext. Retaining Wall Plan and Elevation.dwg Printed: Jan 03, 2023, 4:00pm Layout: Plan1

0 30 60

SCALE IN FEET

MATCH LINE DRAWING NO. STR102

WORKING POINTS		
NO.	X	Y
1	666461.6	820463.9
2	666467.5	820424.2
3	666587.5	820125.8
4	666639.1	8020103.6
5	666542.4	820237.6
6	666590.8	820257.1

Drawing Path\Name: C:\Users\US05779121\appdata\local\temp\AcPublish_22212\Clinton St. Ext. Retaining Wall Plan and Elevation.dwg Printed: Jan 03, 2023, 4:05pm Layout: Plan2

SLEEPY HOLLOW
LOCAL DEVELOPMENT CORPORATION

WSP USA INC.
500 Summit Lake Drive, Suite 450
Valhalla, NY 10595
(914) 747-1120

ENGINEER OF RECORD:

STATE OF NEW YORK
SCOTT C. GRIGG
070904
LICENSED PROFESSIONAL ENGINEER

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 EAST PARCEL PROJECT - PHASE II

VILLAGE OF SLEEPY HOLLOW
WESTCHESTER COUNTY, NEW YORK

ISSUE DATE: 01/2023

PROJECT NUMBER: I188137H

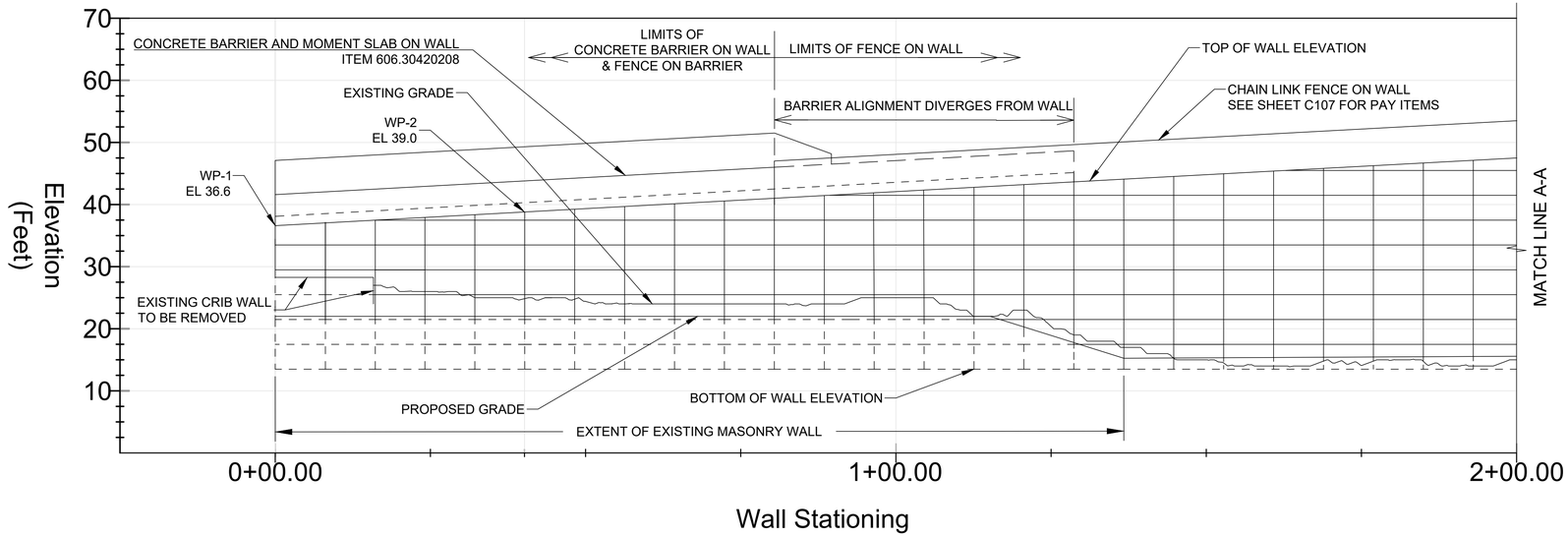
SCALE: 1/16"=1'-0"

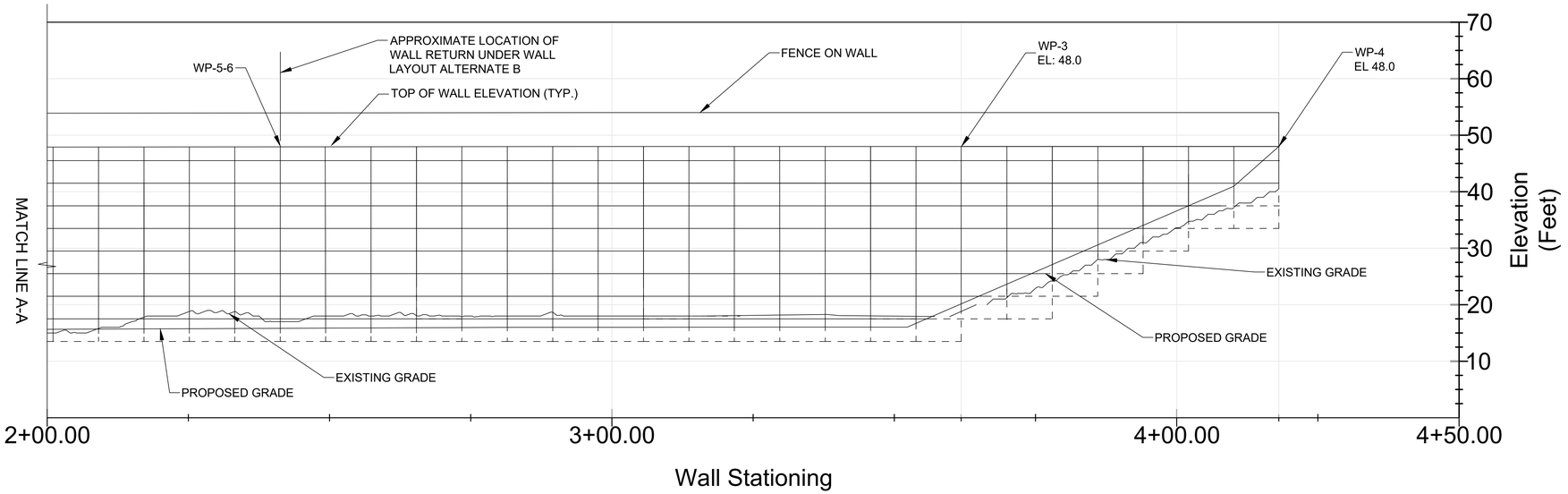
DRAWING NAME: **RETAINING WALL PLAN VIEW 2**

DRAWING NUMBER: STR103

SHEET NUMBER: 43

PROPOSED RETAINING WALL ALTERNATE A





NOTES:

1. SEE WALL PLAN DRAWING FOR WALL ALIGNMENT AND STATIONING.
2. CONTRACTOR TO FIELD VERIFY EXISTING ELEVATIONS PRIOR TO FABRICATION OF WALL UNITS.
3. CONTRACTOR IS ADVISED THAT DEPTH OF EMBEDMENT OF EXISTING CRIB WALLS AND MASONRY WALLS BELOW GRADE ARE UNKNOWN.
4. INSTALL POSTS FOR SIX FOOT HIGH CHAIN LINK FENCE IN BACKFILL BEHIND MODULAR WALL UNITS.
5. PROVIDE WEEPHOLES THAT EXTEND THROUGH FACE OF WALL UNITS TO PROVIDE OUTLETS FOR THE UNDERDRAIN SYSTEM INSTALLED BEHIND THE WALL. WEEPHOLES TO BE SPACED AT THIRTY (30) FOOT MINIMUM INTERVALS. USE DETAILS RECOMMEND BY WALL SYSTEM MANUFACTURER. COST INCLUDED IN WALL ITEMS 554.40SH, 554.41SH, 554.42SH, 554.43SH, 554.44SH, AND 554.45SH
6. FOR RETAINING WALL GENERAL NOTES, SEE DWG. NO. STR101
7. BACKFILL FOR THE RETAINING WALL SHALL BE SELECT STRUCTURE FILL CONFORMING TO THE REQUIREMENTS OF SECTION 733-14
8. A NON-WOVEN GEOTEXTILE SEPARATOR CONFORMING TO THE REQUIREMENTS OF SECTION 737-02 SHALL BE PROVIDED BETWEEN DISSIMILAR FILL MATERIALS TO AVOID MIGRATION OF FINES, IF DIRECTED BY THE ENGINEER.

STATION RANGE	WALL ITEM QUANITIES (SF)					
	554.40SH	554.41SH	554.42SH	554.43SH	554.44SH	554.45SH
0+00.00 TO 0+24.00				590		
0+24.00 TO 1+36.00					3650	
1+36.72 TO 3+60.00						6450
3+60.00 TO 3+76+00						490
3+76.00 TO 3+84.00					220	
3+84.00 TO 3+92.00				180		
3+92.00 TO 4+00.00				150		
4+00.00 TO 4+20.00			290			

0 20 40
SCALE IN FEET

SLEEPY HOLLOW
LOCAL DEVELOPMENT CORPORATION

WSP USA INC.
500 Summit Lake Drive, Suite 450
Valhalla, NY 10595
(914) 747-1120

ENGINEER OF RECORD:

SCOTT C. GIBSON
070904
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 EAST PARCEL PROJECT - PHASE II

VILLAGE OF SLEEPY HOLLOW
WESTCHESTER COUNTY, NEW YORK

ISSUE DATE: 01/2023

PROJECT NUMBER: I188137H

SCALE: 1"=12'

DRAWING NAME: **RETAINING WALL ELEVATION VIEW**

DRAWING NUMBER: STR104

SHEET NUMBER: 44

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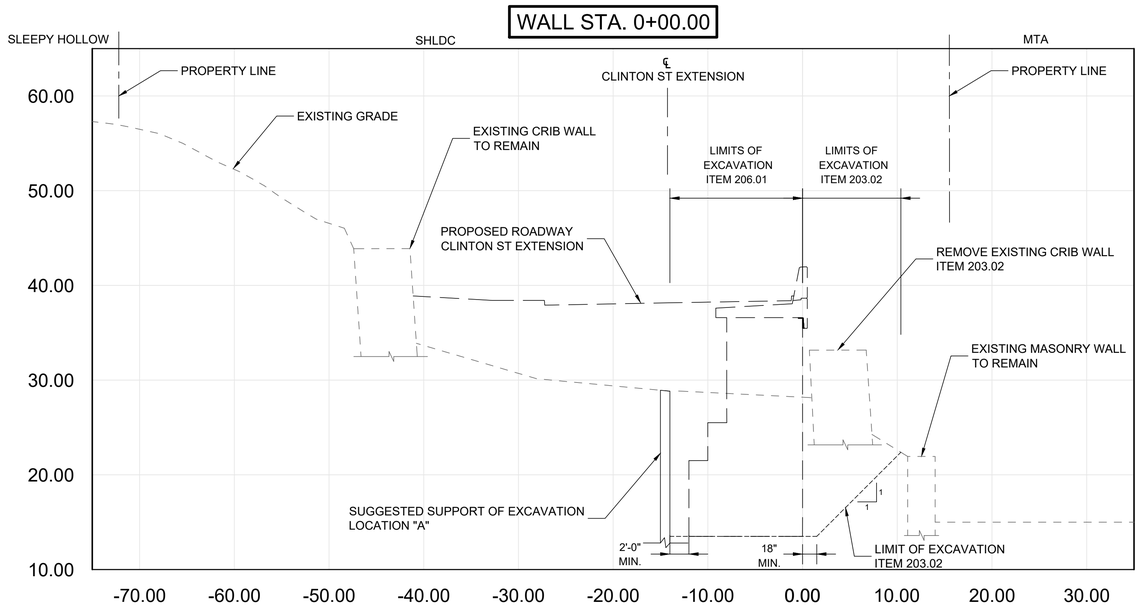
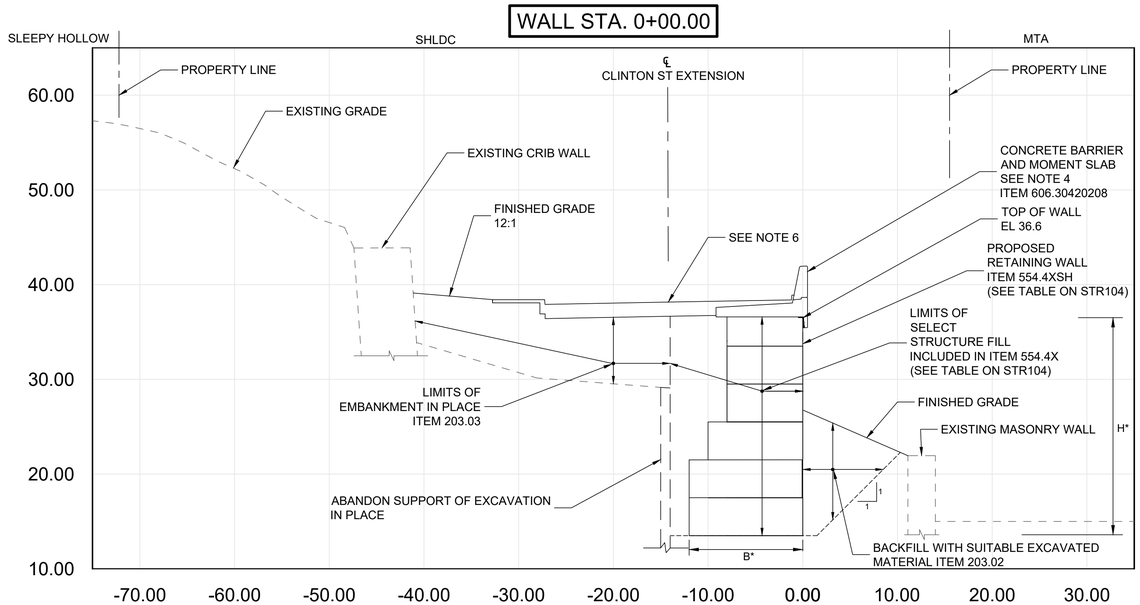


EXCAVATION SECTION A-A



PROPOSED SECTION A-A

*NOTE: WALL HEIGHT 'H' AND WALL BASE 'B' VARY - SEE TABLE 1 ON DWG NO. STR101

NOTES:

1. SEE RETAINING WALL EXCAVATION PLAN DWG. NO.S STR112 AND STR113 FOR SUGGESTED LOCATIONS OF TEMPORARY SUPPORT OF EXCAVATION.
2. SEE SUPPORT OF EXCAVATION DETAILS DWG. NO. STR114
3. FOR ADDITIONAL WALL CONSTRUCTION DETAILS AND PAY ITEMS, SEE RETAINING WALL TYPICAL SECTIONS DWG. NO. STR119.
4. FOR ADDITIONAL INFORMATION FOR CONCRETE BARRIER AND MOMENT SLAB, SEE DWG. NO. STR121
5. EXISTING GRADES ARE APPROXIMATE AND TO BE FIELD VERIFIED BY CONTRACTOR
6. FOR ROADWAY COMPOSITION, SEE ROADWAY SECTIONS ON DWG. NO. TS101.

0 20 40

SCALE IN FEET

SLEEPY HOLLOW
LOCAL DEVELOPMENT CORPORATION

WSP USA INC.
500 Summit Lake Drive, Suite 450
Valhalla, NY 10595
(914) 747-1120

ENGINEER OF RECORD:

STATE OF NEW YORK
SCOTT C. GRIGGS
070904
LICENSED PROFESSIONAL ENGINEER

NEW YORK STATE LICENSED
PROFESSIONAL ENGINEER

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KEY PLAN:

REVISIONS:

PROJECT NAME:

SLEEPY HOLLOW EAST PARCEL PROJECT - PHASE II

VILLAGE OF SLEEPY HOLLOW
WESTCHESTER COUNTY, NEW YORK

ISSUE DATE: 01/2023

PROJECT NUMBER: I188137H

SCALE: 1/8"=1'-0"

DRAWING NAME: **RETAINING WALL CROSS SECTIONS 1**

DRAWING NUMBER: STR105

SHEET NUMBER: 45

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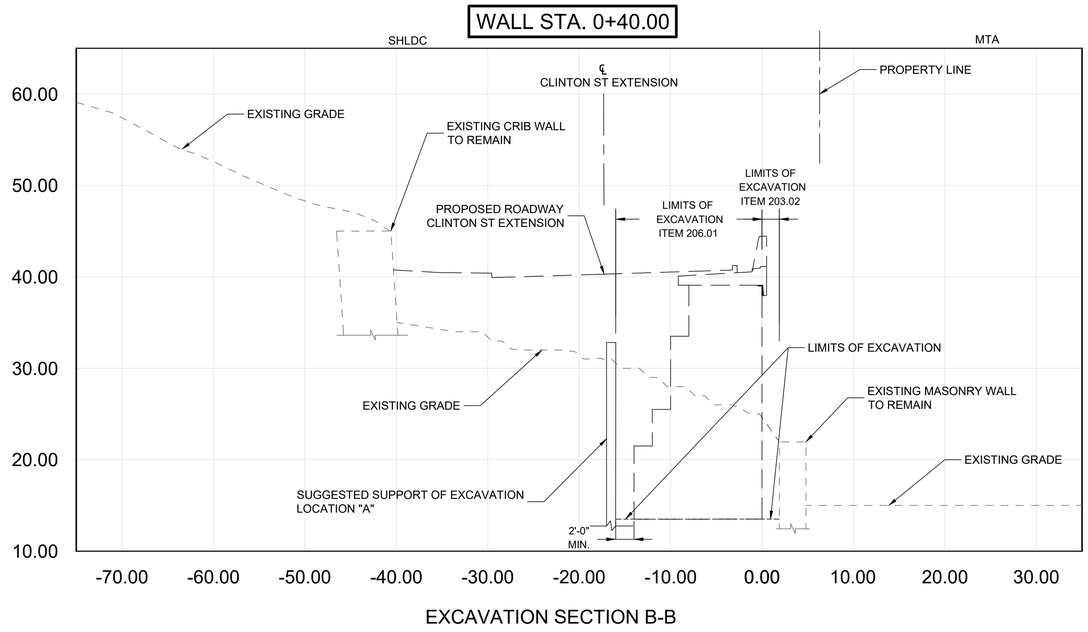
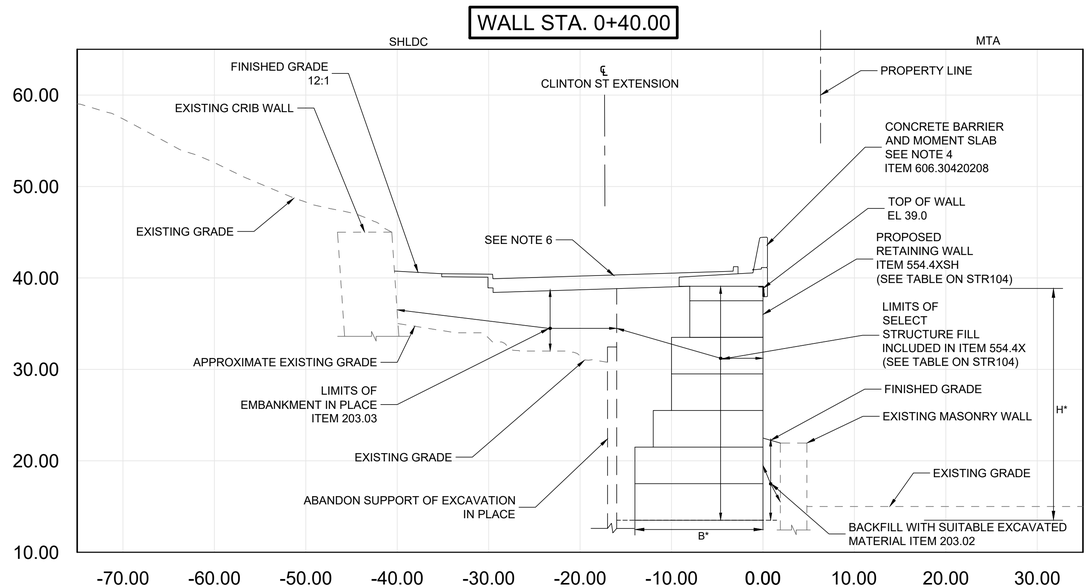


EXCAVATION SECTION B-B



PROPOSED SECTION B-B

*NOTE: WALL HEIGHT 'H' AND WALL BASE 'B' VARY - SEE TABLE 1 ON DWG NO. STR101

NOTES:

1. SEE RETAINING WALL EXCAVATION PLAN DWG. NO.S STR112 AND STR113 FOR SUGGESTED LOCATIONS OF TEMPORARY SUPPORT OF EXCAVATION.
2. SEE SUPPORT OF EXCAVATION DETAILS DWG. NO. STR114
3. FOR ADDITIONAL WALL CONSTRUCTION DETAILS AND PAY ITEMS, SEE RETAINING WALL TYPICAL SECTIONS DWG. NO. STR119.
4. FOR ADDITIONAL INFORMATION FOR CONCRETE BARRIER AND MOMENT SLAB, SEE DWG. NO. STR121
5. EXISTING GRADES ARE APPROXIMATE AND TO BE FIELD VERIFIED BY CONTRACTOR
6. FOR ROADWAY COMPOSITION, SEE ROADWAY SECTIONS ON DWG. NO. TS101.

0 20 40

SCALE IN FEET

SLEEPY HOLLOW
LOCAL DEVELOPMENT CORPORATION

WSP USA INC.
500 Summit Lake Drive, Suite 450
Valhalla, NY 10595
(914) 747-1120

ENGINEER OF RECORD:

STATE OF NEW YORK
SCOTT C. GRIGG
070904
LICENSED PROFESSIONAL ENGINEER

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 EAST PARCEL PROJECT - PHASE II

VILLAGE OF SLEEPY HOLLOW
WESTCHESTER COUNTY, NEW YORK

ISSUE DATE: 01/2023

PROJECT NUMBER: I188137H

SCALE: 1/8"=1'-0"

DRAWING NAME: **RETAINING WALL CROSS SECTIONS 2**

DRAWING NUMBER: STR106

SHEET NUMBER: 46

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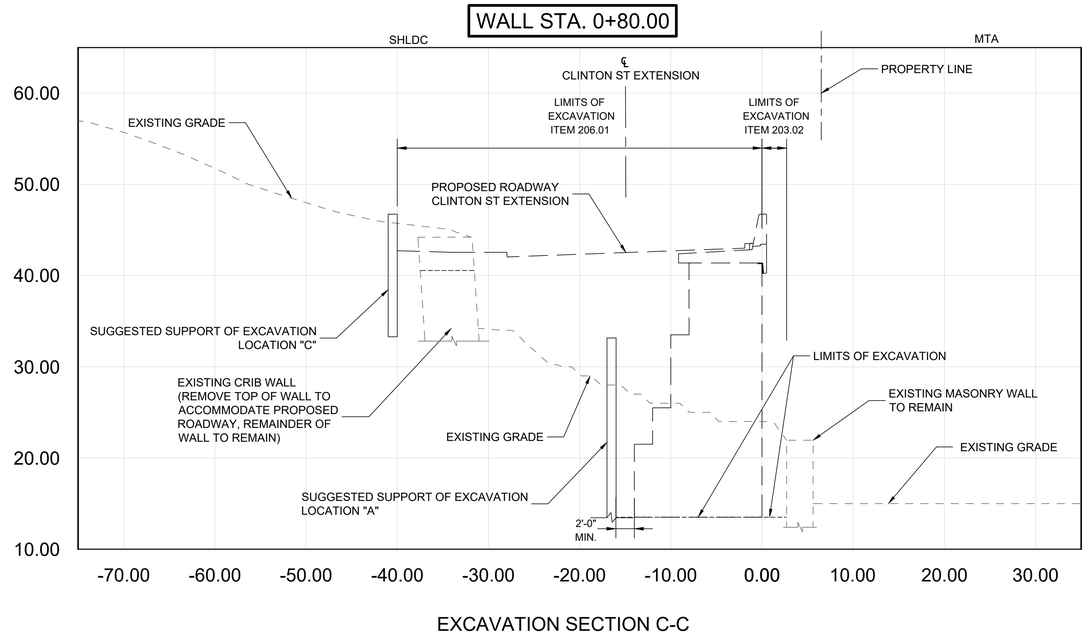
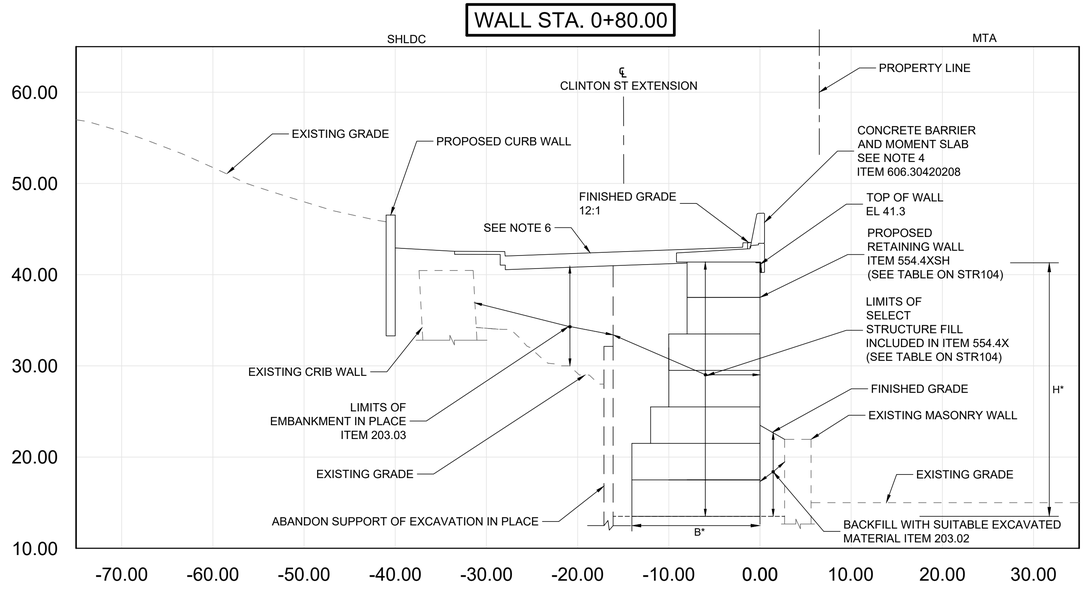


EXCAVATION SECTION C-C



PROPOSED SECTION C-C

*NOTE: WALL HEIGHT 'H' AND WALL BASE 'B' VARY - SEE TABLE 1 ON DWG NO. STR101

NOTES:

1. SEE RETAINING WALL EXCAVATION PLAN DWG. NO.S STR112 AND STR113 FOR SUGGESTED LOCATIONS OF TEMPORARY SUPPORT OF EXCAVATION.
2. SEE SUPPORT OF EXCAVATION DETAILS DWG. NO. STR114
3. FOR ADDITIONAL WALL CONSTRUCTION DETAILS AND PAY ITEMS, SEE RETAINING WALL TYPICAL SECTIONS DWG. NO. STR119.
4. FOR ADDITIONAL INFORMATION FOR CONCRETE BARRIER AND MOMENT SLAB, SEE DWG. NO. STR121
5. EXISTING GRADES ARE APPROXIMATE AND TO BE FIELD VERIFIED BY CONTRACTOR
6. FOR ROADWAY COMPOSITION, SEE ROADWAY SECTIONS ON DWG. NO. TS101.

0 20 40

SCALE IN FEET

Drawing Path\Name: C:\Users\US0077912\opposito\Local\Temp\AcPublish_22212\Existing and Proposed Cross Sections_revised 061422.dwg Printed: Jan 03, 2023, 4:48pm Layout: Layout3

SLEEPY HOLLOW
LOCAL DEVELOPMENT CORPORATION

WSP USA INC.
500 Summit Lake Drive, Suite 450
Valhalla, NY 10595
(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 EAST PARCEL PROJECT - PHASE II

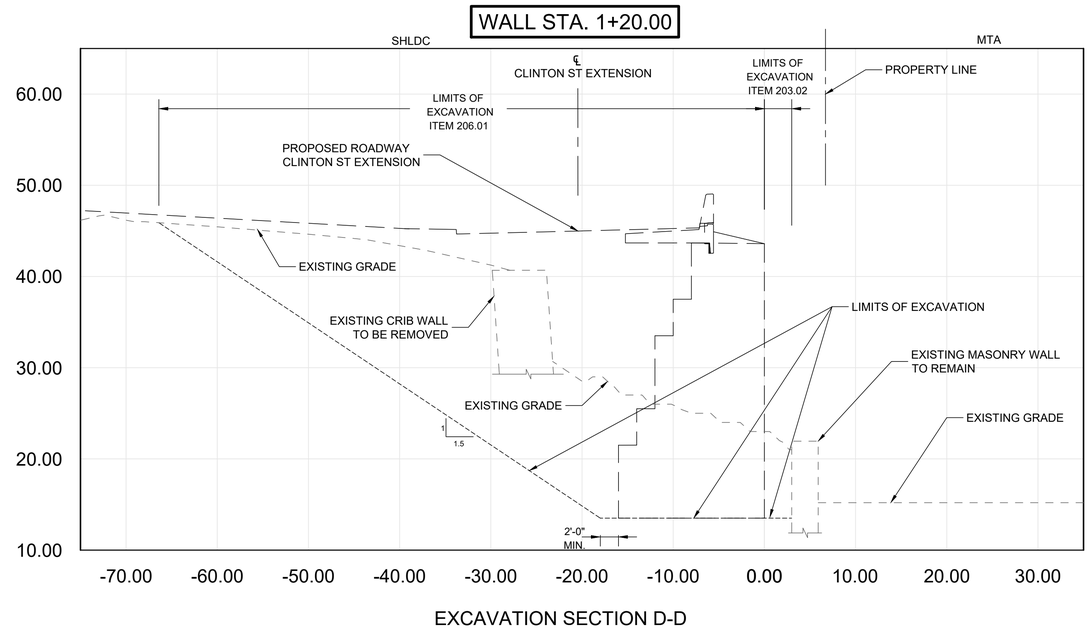
VILLAGE OF SLEEPY HOLLOW
WESTCHESTER COUNTY, NEW YORK

ISSUE DATE: 01/2023

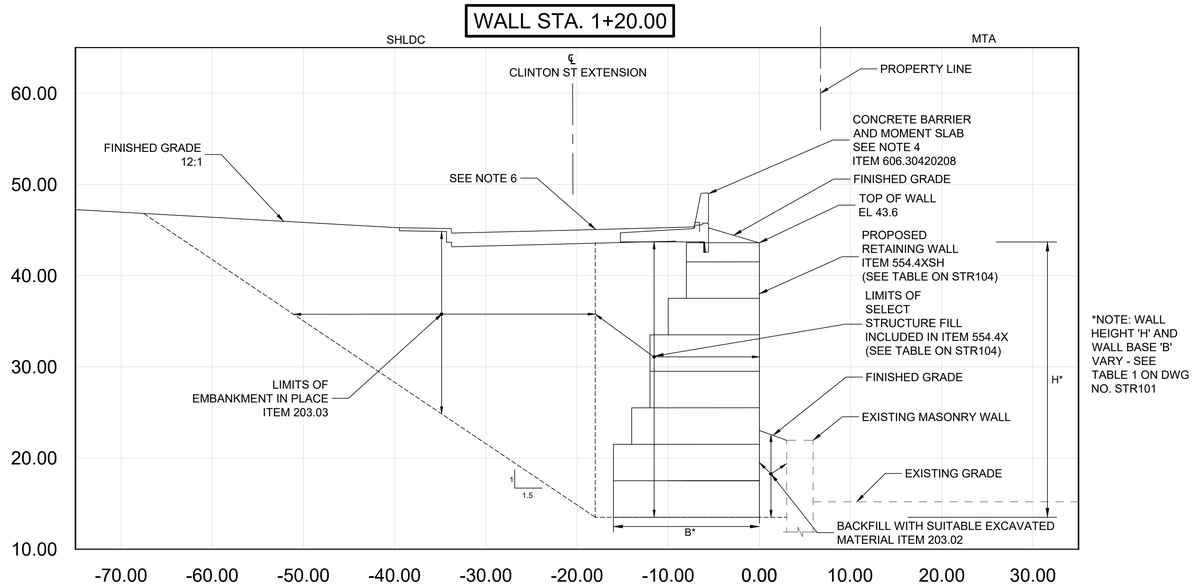
PROJECT NUMBER:	SCALE:
I188137H	1/8"=1'-0"

DRAWING NAME: **RETAINING WALL CROSS SECTIONS 3**

DRAWING NUMBER:	SHEET NUMBER:
STR107	47



EXCAVATION SECTION D-D



*NOTE: WALL HEIGHT 'H' AND WALL BASE 'B' VARY - SEE TABLE 1 ON DWG NO. STR101

PROPOSED SECTION D-D

NOTES:

1. SEE RETAINING WALL EXCAVATION PLAN DWG. NO.S STR112 AND STR113 FOR SUGGESTED LOCATIONS OF TEMPORARY SUPPORT OF EXCAVATION.
2. SEE SUPPORT OF EXCAVATION DETAILS DWG. NO. STR114
3. FOR ADDITIONAL WALL CONSTRUCTION DETAILS AND PAY ITEMS, SEE RETAINING WALL TYPICAL SECTIONS DWG. NO. STR119.
4. FOR ADDITIONAL INFORMATION FOR CONCRETE BARRIER AND MOMENT SLAB, SEE DWG. NO. STR121
5. EXISTING GRADES ARE APPROXIMATE AND TO BE FIELD VERIFIED BY CONTRACTOR
6. FOR ROADWAY COMPOSITION, SEE ROADWAY SECTIONS ON DWG. NO. TS101.

0 20 40

SCALE IN FEET

Drawing Path\Name: C:\Users\US\D07912\Appdata\Local\Temp\AcPublish_22312\Existing and Proposed Cross Sections_revised 061422.dwg Printed: Jan 03, 2023, 4:49pm Layout: Layout4

SLEEPY HOLLOW
LOCAL DEVELOPMENT CORPORATION

WSP USA INC.
500 Summit Lake Drive, Suite 450
Valhalla, NY 10595
(914) 747-1120

ENGINEER OF RECORD:

STATE OF NEW YORK
SCOTT C. GRIGG
070904
LICENSED PROFESSIONAL ENGINEER

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 EAST PARCEL PROJECT - PHASE II

VILLAGE OF SLEEPY HOLLOW
WESTCHESTER COUNTY, NEW YORK

ISSUE DATE: 01/2023

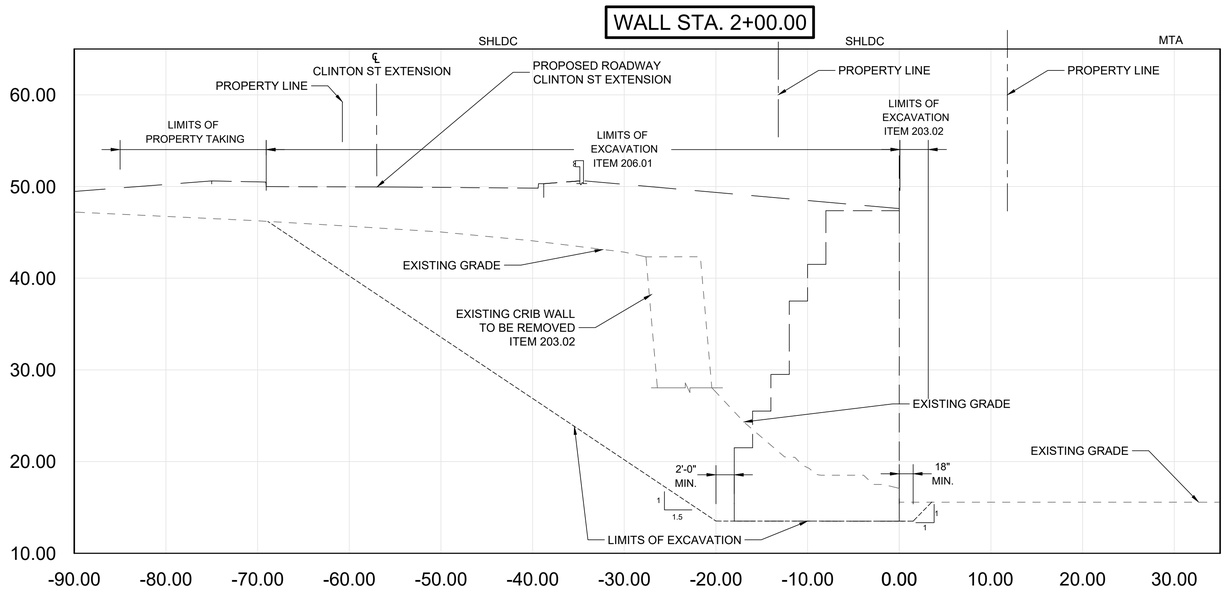
PROJECT NUMBER: I188137H

SCALE: 1/8"=1'-0"

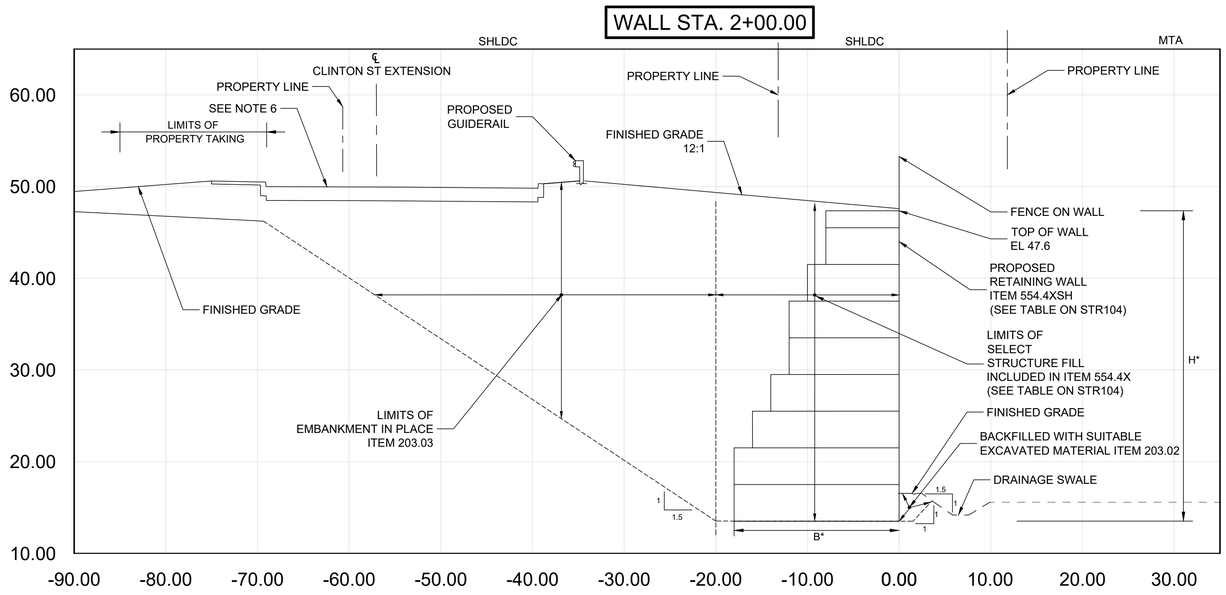
DRAWING NAME: **RETAINING WALL CROSS SECTIONS 4**

DRAWING NUMBER: STR108

SHEET NUMBER: 48



EXCAVATION SECTION E-E



PROPOSED SECTION E-E

*NOTE: WALL HEIGHT 'H' AND WALL BASE 'B' VARY - SEE TABLE 1 ON DWG NO. STR101

NOTES:

1. SEE RETAINING WALL EXCAVATION PLAN DWG. NO.S STR112 AND STR113 FOR SUGGESTED LOCATIONS OF TEMPORARY SUPPORT OF EXCAVATION.
2. SEE SUPPORT OF EXCAVATION DETAILS DWG. NO. STR114
3. FOR ADDITIONAL WALL CONSTRUCTION DETAILS AND PAY ITEMS, SEE RETAINING WALL TYPICAL SECTIONS DWG. NO. STR119.
4. EXISTING GRADES ARE APPROXIMATE AND TO BE FIELD VERIFIED BY CONTRACTOR
5. FOR ROADWAY COMPOSITION, SEE ROADWAY SECTIONS ON DWG. NO. TS101.

0 20 40

SCALE IN FEET

SLEEPY HOLLOW
LOCAL DEVELOPMENT CORPORATION

WSP USA INC.
500 Summit Lake Drive, Suite 450
Valhalla, NY 10595
(914) 747-1120

ENGINEER OF RECORD:

SCOTT C. GRIGG
070904
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 EAST PARCEL PROJECT - PHASE II

VILLAGE OF SLEEPY HOLLOW
WESTCHESTER COUNTY, NEW YORK

ISSUE DATE: 01/2023

PROJECT NUMBER: I188137H

SCALE: 1/8"=1'-0"

DRAWING NAME: **RETAINING WALL CROSS SECTIONS 5**

DRAWING NUMBER: STR109

SHEET NUMBER: 49

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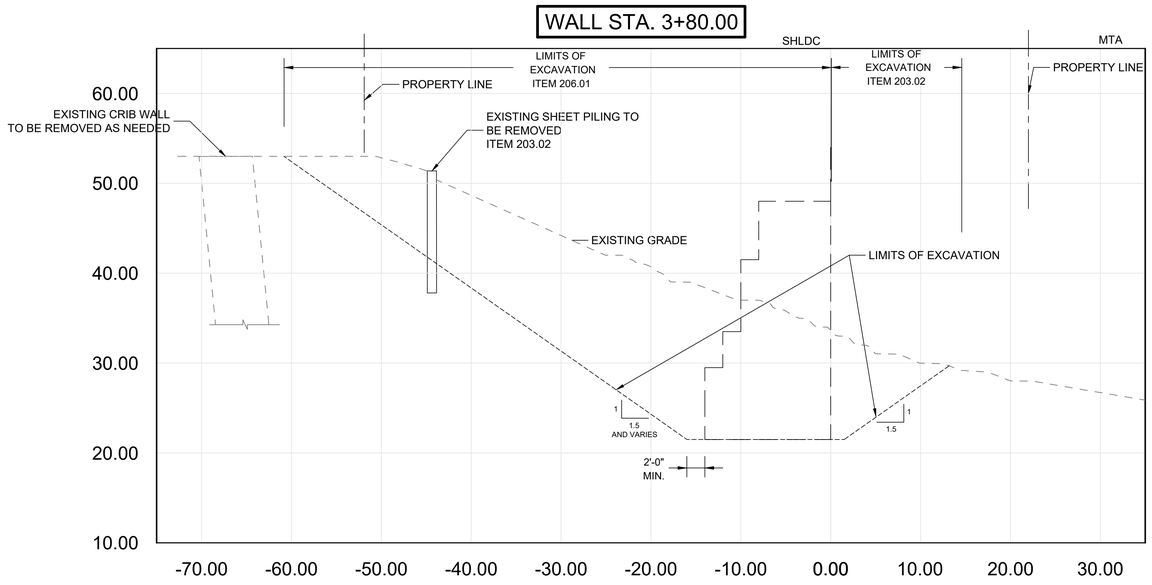
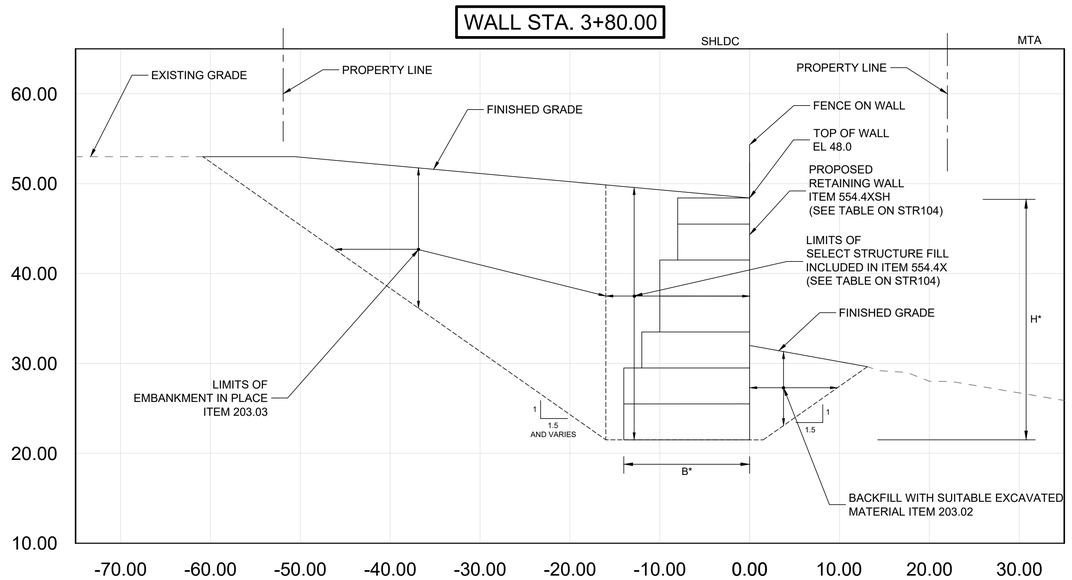


EXCAVATION SECTION F-F



PROPOSED SECTION F-F

*NOTE: WALL HEIGHT 'H' AND WALL BASE 'B' VARY - SEE TABLE 1 ON DWG NO. STR101

NOTES:

1. SEE RETAINING WALL EXCAVATION PLAN DWG. NO.S STR112 AND STR113 FOR SUGGESTED LOCATIONS OF TEMPORARY SUPPORT OF EXCAVATION.
2. SEE SUPPORT OF EXCAVATION DETAILS DWG. NO. STR114
3. FOR ADDITIONAL WALL CONSTRUCTION DETAILS AND PAY ITEMS, SEE RETAINING WALL TYPICAL SECTIONS DWG. NO. STR119.
4. EXISTING GRADES ARE APPROXIMATE AND TO BE FIELD VERIFIED BY CONTRACTOR
5. FOR ROADWAY COMPOSITION, SEE ROADWAY SECTIONS ON DWG. NO. TS101.

0 20 40

SCALE IN FEET

SLEEPY HOLLOW
LOCAL DEVELOPMENT CORPORATION

WSP USA INC.
500 Summit Lake Drive, Suite 450
Valhalla, NY 10595
(914) 747-1120

ENGINEER OF RECORD:

STATE OF NEW YORK · SCOTT C. GRIGG · LICENSED · 070904 · PROFESSIONAL ENGINEER

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 EAST PARCEL PROJECT - PHASE II

VILLAGE OF SLEEPY HOLLOW WESTCHESTER COUNTY, NEW YORK

ISSUE DATE: 01/2023

PROJECT NUMBER: I188137H

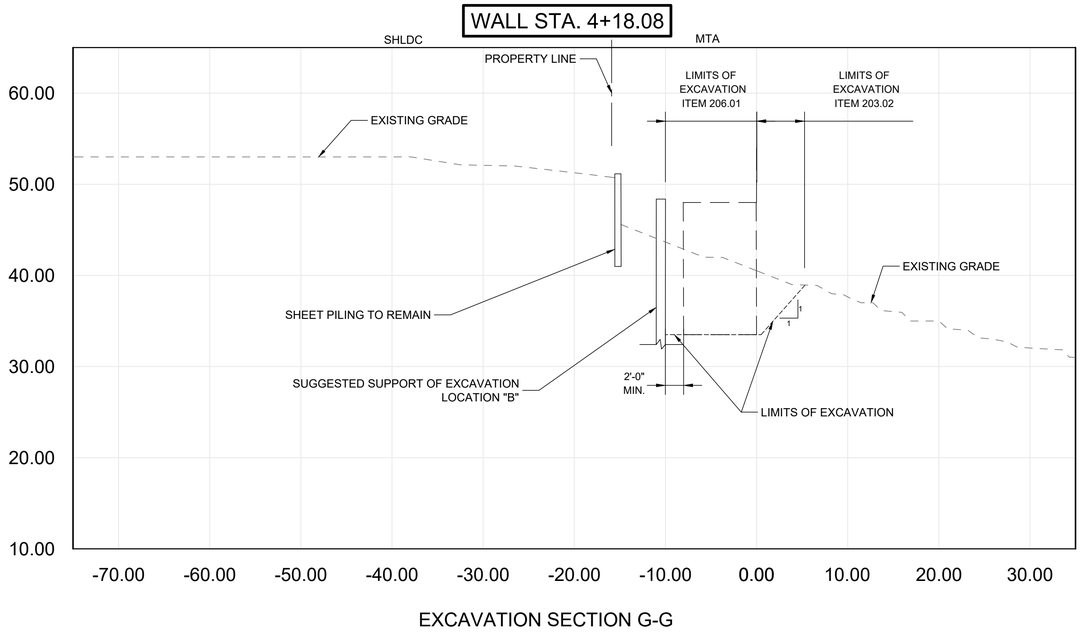
SCALE: 1/8"=1'-0"

DRAWING NAME: **RETAINING WALL CROSS SECTIONS 6**

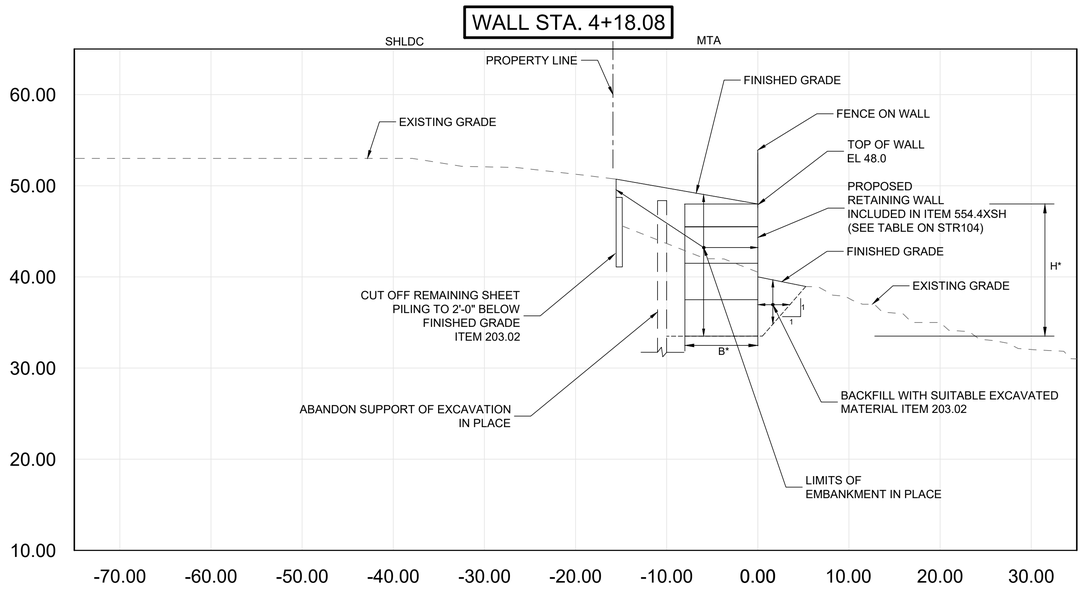
DRAWING NUMBER: STR110

SHEET NUMBER: 50

Drawing Path\Name: C:\Users\US0877912\appdata\local\temp\AcPublish_22212\Existing and Proposed Cross Sections_revised 061422.dwg Printed: Jan 03, 2023, 4:49pm Layout: Layout6



EXCAVATION SECTION G-G



PROPOSED SECTION G-G

*NOTE: WALL HEIGHT 'H' AND WALL BASE 'B' VARY - SEE TABLE 1 ON DWG NO. STR101

NOTES:

1. SEE RETAINING WALL EXCAVATION PLAN DWG. NO.S STR112 AND STR113 FOR SUGGESTED LOCATIONS OF TEMPORARY SUPPORT OF EXCAVATION.
2. SEE SUPPORT OF EXCAVATION DETAILS DWG. NO. STR114
3. FOR ADDITIONAL WALL CONSTRUCTION DETAILS AND PAY ITEMS, SEE RETAINING WALL TYPICAL SECTIONS DWG. NO. STR119.
4. EXISTING GRADES ARE APPROXIMATE AND TO BE FIELD VERIFIED BY CONTRACTOR
5. FOR ROADWAY COMPOSITION, SEE ROADWAY SECTIONS ON DWG. NO. TS101.

0 20 40

SCALE IN FEET

Drawing Path\Name: C:\Users\USJB677912\appdata\local\temp\AcPublish_22212\Existing and Proposed Cross Sections_revised 061422.dwg Printed: Jan 03, 2023, 4:50pm Layout: Layout7

SLEEPY HOLLOW
LOCAL DEVELOPMENT CORPORATION

WSP USA INC.
500 Summit Lake Drive, Suite 450
Valhalla, NY 10595
(914) 747-1120

ENGINEER OF RECORD:

NEW YORK STATE LICENSED PROFESSIONAL ENGINEER

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KEY PLAN:

REVISIONS:

PROJECT NAME:

SLEEPY HOLLOW EAST PARCEL PROJECT - PHASE II

VILLAGE OF SLEEPY HOLLOW WESTCHESTER COUNTY, NEW YORK

ISSUE DATE: 01/2023

PROJECT NUMBER: I188137H

SCALE: 1/8"=1'-0"

DRAWING NAME: **RETAINING WALL CROSS SECTIONS 7**

DRAWING NUMBER: STR111

SHEET NUMBER: 51

EXISTING ABUTMENT TO BE PARTIALLY REMOVED AS NECESSARY TO ACCOMMODATE PROPOSED WALL ITEM 203.02

START OF RETAINING WALL

SUGGESTED SUPPORT OF EXCAVATION LOCATION "A"

PERMANENT CURB WALL AND PROPOSED SOE LOCATION "C"

EXISTING DRAINAGE STRUCTURES TO BE REMOVED

PIER PEDESTALS, CAPS AND FOOTINGS TO BE REMOVED AS NECESSARY TO ACCOMMODATE PROPOSED WALL (TYP.)

END OF RETAINING WALL OPTION B

APPROXIMATE LIMITS OF 1:1.5 EXCAVATION LAYBACK

55+50
55+00
54+50
54+00
53+50
53+00
52+50
201'-1.2"
55'-2.5"
321'-8"
52'-3.25"

SUGGESTED CONSTRUCTION SEQUENCE:

1. INSTALL SOLDIER PILE AND LAGGING WALL AS SUPPORT OF EXCAVATION IN FRONT OF EXISTING CRIB WALL (LOCATION "A").
2. CONSTRUCT ACCESS RAMP EXTENDING FROM APPROACH ROADWAY AT EXISTING NORTH ABUTMENT (PART OF PREVIOUSLY-REMOVED VIADUCT) TO EXISTING GRADE NEAR BASE OF PROPOSED WALL.
3. INSTALL SOLDIER PILE AND LAGGING WALL AS SUPPORT OF EXCAVATION IN FRONT OF EXISTING SHEETPILING WALL (LOCATION "B").
4. EXCAVATE AS REQUIRED TO INSTALL PROPOSED WALL.
5. IF NEEDED, CONSTRUCT SECONDARY ACCESS RAMP FROM AREA OF EXISTING PARKING LOT TO EXISTING GRADE NEAR BASE OF PROPOSED WALL.
6. PREPARE SURFACE AND INSTALL PROPOSED WALL.
7. BACKFILL BEHIND WALL AND REGRADE EXCAVATED AREAS.
8. PRIOR TO EXCAVATION FOR CONSTRUCTION OF ROADWAY, INSTALL SOE BEHIND SIDEWALK TO RETAIN SLOPE (LOCATION "C").

NOTES:

1. SUGGESTED EXCAVATION LIMITS AND SUGGESTED LOCATIONS FOR TEMPORARY SUPPORT OF EXCAVATION (SOE) ARE SHOWN ON THESE PLANS. ACTUAL EXCAVATION LIMITS AND SOE LOCATIONS SHALL BE DETERMINED BASE ON THE REQUIREMENTS OF THE PROPRIETARY WALL SYSTEM SELECTED BY THE CONTRACTOR.
2. SOLDIER PILE AND LAGGING WALL FOR TEMPORARY SUPPORT OF EXCAVATION AT LOCATIONS "A" AND "B" SHALL BE PAID UNDER THE FOLLOWING ITEMS:
   ITEM 552.20 HOLES IN EARTH FOR SOLDIER PILE AND LAGGING WALL
   ITEM 552.22 SOLDIER PILES FOR SOLDIER PILE AND LAGGING WALL
   ITEM 552.2302 UNTREATED WOOD LAGGING FOR SOLDIER PILE AND LAGGING WALL
3. SOLDIER PILE AND LAGGING WALL FOR SUPPORT OF ROADWAY EXCAVATION AT LOCATION "C" IS TO REMAIN IN PLACE AS A PERMANENT CURB WALL AND SHALL BE PAID UNDER THE FOLLOWING ITEMS:
   ITEM 552.20 HOLES IN EARTH FOR SOLDIER PILE AND LAGGING WALL
   ITEM 552.22 SOLDIER PILES FOR SOLDIER PILE AND LAGGING WALL
   ITEM 552.2303 PRECAST CONCRETE PANEL LAGGING FOR SOLDIER PILE AND LAGGING WALL
4. COST OF PROVIDING CONTRACTOR ACCESS, INCLUDING CONSTRUCTION AND RESTORATION OF ANY TEMPORARY ROADWAYS AND RAMPS SHALL NOT BE PAID FOR SEPARATELY AND SHALL BE INCLUDED UNDER THE CONTRACT PAY ITEMS.

MATCH LINE DRAWING NO. STR113

LEGEND:

LIMITS OF SUPPORT OF EXCAVATION

APPROXIMATE EXCAVATION LIMITS

0 30 60
SCALE IN FEET

SLEEPY HOLLOW
LOCAL DEVELOPMENT CORPORATION

WSP USA INC.
500 Summit Lake Drive, Suite 450
Valhalla, NY 10595
(914) 747-1120

ENGINEER OF RECORD:

STATE OF NEW YORK
SCOTT C. GRIGG
070904
LICENSED PROFESSIONAL ENGINEER

NEW YORK STATE LICENSED PROFESSIONAL ENGINEER

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KEY PLAN:

REVISIONS:

PROJECT NAME:

SLEEPY HOLLOW EAST PARCEL PROJECT - PHASE II

VILLAGE OF SLEEPY HOLLOW
WESTCHESTER COUNTY, NEW YORK

ISSUE DATE: 01/2023

PROJECT NUMBER: I188137H

SCALE: 1/16"=1'-0"

DRAWING NAME: **RETAINING WALL EXCAVATION PLAN 1**

DRAWING NUMBER: STR112

SHEET NUMBER: 52

Drawing Path\Name: C:\Users\US3067791\Appdata\Local\Temp\AcPublish_22212\Clinton St. Ext. Retaining Wall Excavation Plan_1.dwg Printed: Jan 03, 2023, 4:13pm Layout: Plan1

LEGEND:

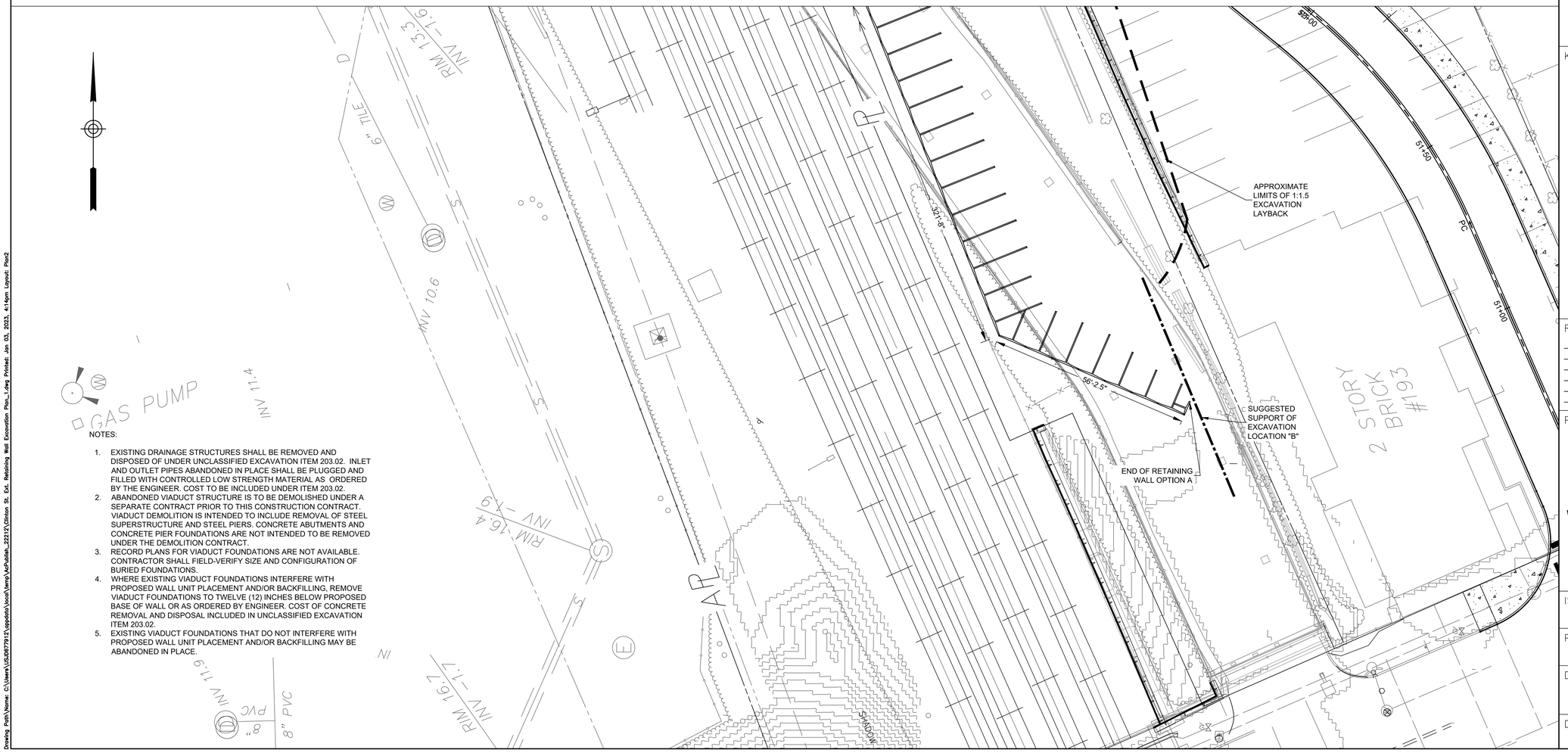
LIMITS OF SUPPORT OF EXCAVATION

APPROXIMATE EXCAVATION LIMITS

0 30 60

SCALE IN FEET

MATCH LINE DRAWING NO. STR112



NOTES:

1. EXISTING DRAINAGE STRUCTURES SHALL BE REMOVED AND DISPOSED OF UNDER UNCLASSIFIED EXCAVATION ITEM 203.02. INLET AND OUTLET PIPES ABANDONED IN PLACE SHALL BE PLUGGED AND FILLED WITH CONTROLLED LOW STRENGTH MATERIAL AS ORDERED BY THE ENGINEER. COST TO BE INCLUDED UNDER ITEM 203.02.
2. ABANDONED VIADUCT STRUCTURE IS TO BE DEMOLISHED UNDER A SEPARATE CONTRACT PRIOR TO THIS CONSTRUCTION CONTRACT. VIADUCT DEMOLITION IS INTENDED TO INCLUDE REMOVAL OF STEEL SUPERSTRUCTURE AND STEEL PIERS. CONCRETE ABUTMENTS AND CONCRETE PIER FOUNDATIONS ARE NOT INTENDED TO BE REMOVED UNDER THE DEMOLITION CONTRACT.
3. RECORD PLANS FOR VIADUCT FOUNDATIONS ARE NOT AVAILABLE. CONTRACTOR SHALL FIELD-VERIFY SIZE AND CONFIGURATION OF BURIED FOUNDATIONS.
4. WHERE EXISTING VIADUCT FOUNDATIONS INTERFERE WITH PROPOSED WALL UNIT PLACEMENT AND/OR BACKFILLING, REMOVE VIADUCT FOUNDATIONS TO TWELVE (12) INCHES BELOW PROPOSED BASE OF WALL OR AS ORDERED BY ENGINEER. COST OF CONCRETE REMOVAL AND DISPOSAL INCLUDED IN UNCLASSIFIED EXCAVATION ITEM 203.02.
5. EXISTING VIADUCT FOUNDATIONS THAT DO NOT INTERFERE WITH PROPOSED WALL UNIT PLACEMENT AND/OR BACKFILLING MAY BE ABANDONED IN PLACE.

SLEEPY HOLLOW
LOCAL DEVELOPMENT CORPORATION

WSP USA INC.
500 Summit Lake Drive, Suite 450
Valhalla, NY 10595
(914) 747-1120

ENGINEER OF RECORD:

SCOTT C. GIBSON
070904
NEW YORK STATE LICENSED PROFESSIONAL ENGINEER

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KEY PLAN:

REVISIONS:

PROJECT NAME:

SLEEPY HOLLOW EAST PARCEL PROJECT - PHASE II

VILLAGE OF SLEEPY HOLLOW
WESTCHESTER COUNTY, NEW YORK

ISSUE DATE: 01/2023

PROJECT NUMBER: I188137H

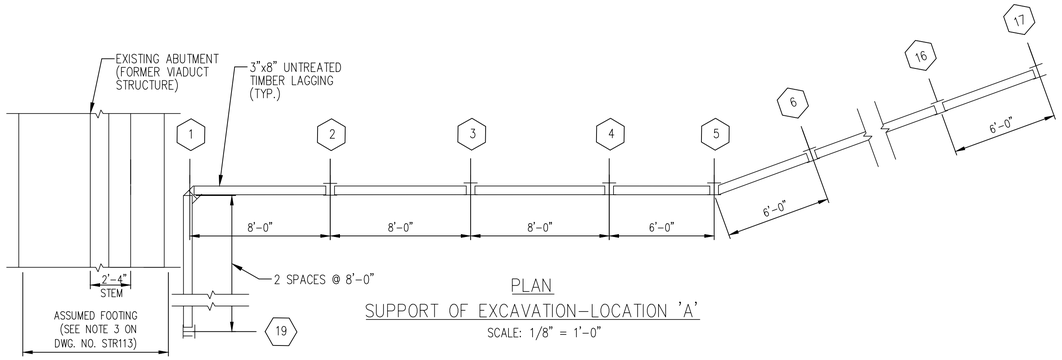
SCALE: 1/16"=1'-0"

DRAWING NAME: **RETAINING WALL EXCAVATION PLAN 2**

DRAWING NUMBER: STR113

SHEET NUMBER: 53

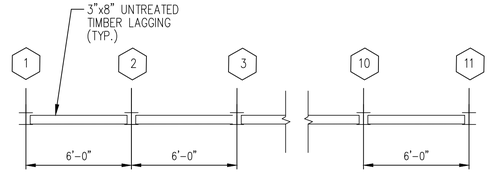
Drawing Path\Name: C:\Users\US067791\appdata\local\temp\AcPublish_22212\Clinton St. Ext. Retaining Wall Excavation Plan_1.dwg Printed: Jan 03, 2023, 4:14pm Layout: Plan2



PLAN

SUPPORT OF EXCAVATION–LOCATION 'A'

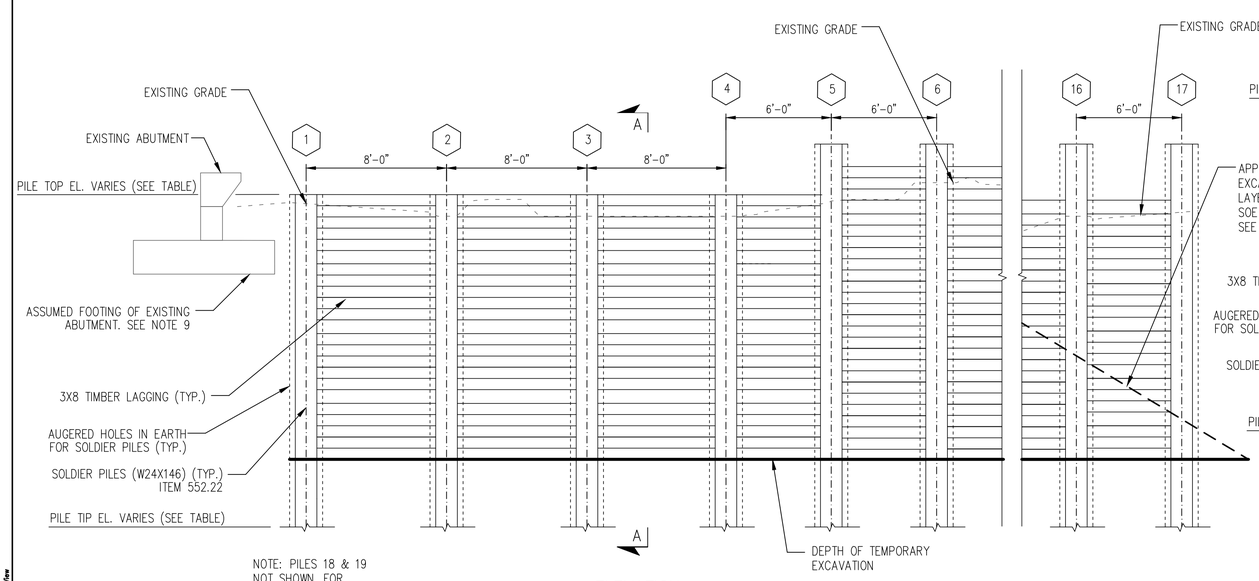
SCALE: 1/8" = 1'-0"



PLAN

SUPPORT OF EXCAVATION WALL–LOCATION 'B'

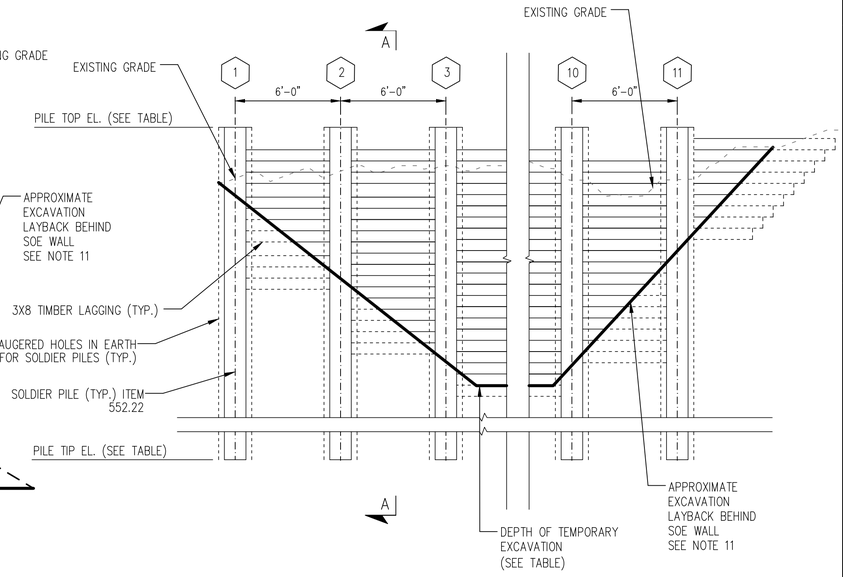
SCALE: 1/8" = 1'-0"



ELEVATION

SUPPORT OF EXCAVATION–LOCATION 'A'

SCALE: 1/8" = 1'-0"



ELEVATION

SUPPORT OF EXCAVATION–LOCATION 'B'

SCALE: 1/8" = 1'-0"

SOE–LOCATION 'A'							
PILE NUMBER	PILE TOP ELEVATIONS (IN FEET)	DEPTH OF EXCAVATION (IN FEET)	REQUIRED PILE TIP ELEV. (IN FEET)	REQUIRED PILE LENGTH (IN FEET)	MINIMUM PILE SECTION MODULUS* (in3)	RECOMMENDED SOLDIER PILE SECTION	MINIMUM DIA. OF HOLE (IN INCHES)
1 TO 3	29.5	16.0	–13.5	43.0	306	W24x146	36.0
4 TO 9	32.5	19.0	–13.5	46.0	288	W24x146	36.0
10 TO 17	32.5	19.0	–14.5	47.0	337	W24x146	36.0
18 & 19	19.5	16.0	–13.5	43.0	306	W24x146	36.0

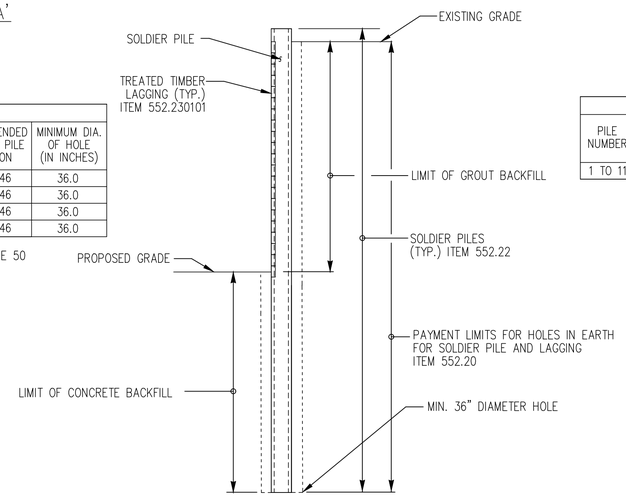
*GRADE 50

SOE–LOCATION 'B'							
PILE NUMBER	PILE TOP ELEVATIONS (IN FEET)	DEPTH OF EXCAVATION (IN FEET)	REQUIRED PILE TIP ELEV. (IN FEET)	REQUIRED PILE LENGTH (IN FEET)	MINIMUM PILE SECTION MODULUS* (in3)	RECOMMENDED SOLDIER PILE SECTION	MINIMUM DIA. OF HOLE (IN INCHES)
1 TO 11	48.0	15.0	0	48.0	285	W24x146	36.0

*GRADE 50

NOTES:

1. FOR SUGGESTED SOE LOCATION, SEE WALL EXCAVATION PLAN DRAWING NOS. STR 112 AND STR 113.
2. SOLDIER PILES SECTIONS SHALL CONFORM TO ASTM A709 GRADE 50 STEEL.
3. TREATED TIMBER LAGGING MINIMUM EXTREME FIBER STRESS=1.000 PSI
4. CONTRACTOR IS ADVISED THAT SPECIFICATION TOLERANCES MAY AFFECT ACTUAL LENGTH OF LAGGING.
5. A MINIMUM BEARING AREA OF 3" PLUS 1" CLEARANCE FOR INSTALLATION OF LAGGING SHALL BE PROVIDED.
6. ALL SOLDIER PILES SHOWN SHALL BE INSTALLED IN DRILLED HOLES.
7. WHEN NO LONGER NECESSARY FOR EXCAVATION SUPPORT, CUT OFF AND REMOVE SOLDIER PILES AND LAGGING TO A MINIMUM OF 2'–0" BELOW GRADE, AND TO A MINIMUM OF 4'–0" BELOW TOP OF PAVEMENT WHERE SOE IS LOCATED BENEATH PROPOSED ROADWAY.
8. CONTRACTOR TO FIELD VERIFY BOTTOM OF FOOTING ELEVATION AND FOOTING DIMENSIONS OF THE EXISTING ABUTMENT.
9. TEMPORARY SLEEVES OR CASINGS ARE REQUIRED FOR ITEM HOLES IN EARTH FOR SOLDIER PILE AND LAGGING WALLS. NO EXTRA PAYMENT WILL BE MADE FOR THE CASINGS.
10. IF CONTRACTOR ELECTS NOT TO LAY SLOPE BACK AND NOT USE THE EXCAVATED SUPPORT SYSTEM AS DETAILED, ANY EXCAVATION SUPPORT SYSTEM USED MUST BE DESIGNED FOR ANTICIPATED CONSTRUCTION LOADING.
11. DUE TO THE POTENTIAL PRESENCE OF BOULDERS AND COBBLES, PROGRESSING THE HOLES IN EARTH FOR SOLDIER PILE AND LAGGING WALL, ITEM MAY REQUIRE SPECIAL EQUIPMENT AND/OR PROCEDURES. NO EXTRA PAYMENT WILL BE MADE FOR SPECIAL EQUIPMENT AND/OR PROCEDURES.



SECTION A–A

NOT DRAWN TO SCALE

SLEEPY HOLLOW
LOCAL DEVELOPMENT CORPORATION

WSP USA INC.
500 Summit Lake Drive, Suite 450
Valhalla, NY 10595
(914) 747-1120

ENGINEER OF RECORD:

STATE OF NEW YORK SCOTT C. GRIGG LICENSED PROFESSIONAL ENGINEER 070904

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 EAST PARCEL PROJECT - PHASE II

VILLAGE OF SLEEPY HOLLOW
WESTCHESTER COUNTY, NEW YORK

ISSUE DATE: 01/2023

PROJECT NUMBER: I188137H

SCALE: NOT TO SCALE

DRAWING NAME: SUPPORT OF EXCAVATION DETAILS

DRAWING NUMBER: STR114

SHEET NUMBER: 54

Drawing Path/Name: C:\Users\US0977912\Appdata\Local\Temp\AcPublish_22212\SUPPORT OF EXCAVATION DETAILS.dwg Printed: Jan 03, 2023, 4:17pm Layout: Plan View

GEOTECHNICAL INSTRUMENTATION AND MONITORING NOTES:

1. INSTRUMENTS SHALL BE FURNISHED, INSTALLED, INITIALIZED, MAINTAINED, AND MONITORED THROUGHOUT THE PERIOD OF THE CONTRACT IN ACCORDANCE WITH THE REQUIREMENTS OF SPECIFICATION SECTION 634.XX0000SH. INSTRUMENTS INSTALLED BY OTHERS BUT USED FOR MONITORING SHALL BE INITIALIZED, MAINTAINED, AND MONITORED.

2. THE INSTRUMENTATION INDICATED ON THE DRAWINGS IS CONSIDERED A MINIMUM REQUIREMENT: THE CONTRACTOR SHALL EVALUATE WHETHER THE SCOPE OF THE INSTRUMENTATION SHOWN ON THE DRAWINGS IS ADEQUATE OR SHOULD BE EXPANDED. THE CONTRACTOR SHALL SUBMIT A GEOTECHNICAL INSTRUMENTATION PLAN IN ACCORDANCE WITH THE REQUIREMENTS OF SPECIFICATION SECTION 634.XX0000SH.

   a. THE TYPE, NUMBER, LOCATIONS, AND ELEVATIONS OF INSTRUMENTS SHALL BE ADJUSTED BASED ON FIELD CONDITIONS, THE PRE-CONSTRUCTION CONDITION SURVEYS PERFORMED IN ACCORDANCE WITH SPECIFICATION SECTION 634.XX0000SH, TO COMPLY WITH EASEMENT REQUIREMENTS, AND TO MINIMIZE CONFLICT WITH CONSTRUCTION REQUIREMENTS, OR AS DIRECTED BY THE ENGINEER.

   b. MONITORING OF THE DEFLECTION OF THE METRO-NORTH RAILROAD TRACKS SHALL BE PERFORMED BY AUTOMATED MOTORIZED TOTAL STATIONS (AMTS).

   c. AT EACH TRACK PRISM, A PAINT MARK SHALL BE MADE ON THE SIDE OF THE RAIL AND THE TOP OF THE RAIL SURVEYED TO AID IN VERIFYING, IF NECESSARY, DEFLECTIONS MEASURED BY AMTS.

   d. MONITORING OF THE DEFLECTION OF OTHER STRUCTURES AND FACILITIES MAY BE PERFORMED BY EITHER CONVENTIONAL SURVEY OR AMTS.

3. THE CONTRACTOR SHALL SUBMIT THE GEOTECHNICAL INSTRUMENTATION PLAN FOR THE REVIEW AND APPROVAL OF THE ENGINEER NO LATER THAN 30 DAYS BEFORE CONSTRUCTION THAT TRIGGERS THE NEED FOR MONITORING.

4. EXISTING STRUCTURES AND UTILITIES WITHIN 100 FT. OF CONSTRUCTION ACTIVITIES, AND RAILROAD TRACKS WITHIN THE LIMITS OF MONITORING SHOWN ON DWG. STR116 SHALL BE INCLUDED IN THE GEOTECHNICAL INSTRUMENTATION PLAN. CONSTRUCTION ACTIVITY DURING WHICH MONITORING SHALL BE PERFORMED INCLUDES, BUT IS NOT LIMITED TO, THE FOLLOWING: INSTALLATION OF SUPPORT OF EXCAVATION SYSTEMS, EXCAVATION, CONSTRUCTION OF RETAINING WALLS, BACKFILLING OF EXCAVATIONS AND RETAINING WALLS, REMOVAL OF SUPPORT OF EXCAVATION SYSTEMS, ALL OTHER EARTHWORK, AND ANY ACTIVITY AS DIRECTED BY THE ENGINEER.

5. THE INSTRUMENTATION SHALL BE INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF SPECIFICATION SECTION 634.XX0000SH AND THE DETAILS SHOWN ON THESE SHEETS. THE CONTRACTOR SHALL SUBMIT INSTRUMENTATION DOCUMENTATION AND RECORDS IN ACCORDANCE WITH SPECIFICATION SECTION 634.XX0000SH.

6. ALL DIMENSIONS, LOCATIONS, AND ELEVATIONS OF EXISTING UTILITIES AND STRUCTURES AT AND IN THE VICINITY OF THE CONSTRUCTION ACTIVITIES ARE APPROXIMATE AND SHALL BE VERIFIED BY THE CONTRACTOR IN THE FIELD.

7. CONTRACTOR SHALL COORDINATE INSTRUMENTATION INSTALLATION, MAINTENANCE, AND MONITORING WORK WITH METRO-NORTH RAILROAD. CONTRACTOR AND INSTRUMENTATION SUBCONTRACTOR SHALL VERIFY THE RESPONSE LEVELS FOR RAILROAD INFRASTRUCTURE WITH METRO-NORTH RAILROAD PRIOR TO START OF MONITORING.

8. THE CONTRACTOR SHALL PERFORM PRE- AND POST- CONSTRUCTION CONDITION SURVEYS OF EXISTING RAILROADS AND STRUCTURES WITHIN 100 FT. OF CONSTRUCTION ACTIVITIES PRIOR TO BEGINNING OF CONSTRUCTION. CONDITION SURVEYS SHALL BE PERFORMED FOLLOWING SPECIFICATION SECTION 634.XX0000SH. AS A RESULT OF THE PRE-CONSTRUCTION CONDITION SURVEY, GRID CRACK GAGES SHALL BE INSTALLED AS NEEDED AND AS DIRECTED BY THE ENGINEER ON EXISTING CRACKS.

9. THE CONTRACTOR SHALL FURNISH, CALIBRATE, PROTECT, MAINTAIN, AND REPLACE (IF REQUIRED) ALL NECESSARY MONITORING EQUIPMENT, AS DIRECTED BY THE ENGINEER. ALL INSTRUMENTATION AND MONITORING SHALL CONFORM TO REQUIREMENTS OF NYSDOT GEOTECHNICAL DESIGN MANUAL (GDM) CHAPTER 23.

10. A MINIMUM OF THREE (3) REFERENCE MONUMENTS SHALL BE FURNISHED AND INSTALLED OUTSIDE OF THE ZONE OF INFLUENCE OF CONSTRUCTION ACTIVITIES AND PROTECTED DURING CONSTRUCTION.

11. BASELINE READINGS SHALL BE TAKEN AT THE FREQUENCIES STATED IN NOTES 22 AND 23 FOR NO LESS THAN FIVE (5) CONSECUTIVE WEEKDAYS PRIOR TO COMMENCING OF CONSTRUCTION THAT TRIGGERS THE NEED FOR MONITORING. BASELINE READINGS SHALL BE SUBMITTED AND APPROVED BY THE ENGINEER PRIOR TO COMMENCING CONSTRUCTION.

12. FOR VERTICAL MOVEMENT MONITORING, BASELINE READINGS ON A MOVEMENT MONITORING POINT SHALL CONSIST OF THE AVERAGE OF 3 ELEVATIONS, FROM 3 INDEPENDENT LEVEL RUNS. FOR HORIZONTAL MOVEMENT MONITORING, BASELINE READINGS SHALL CONSIST OF THE AVERAGE OF 3 READINGS, FROM 3 INDEPENDENT SET-UPS. COLLECT SEISMOGRAPH DATA BEFORE ANY VIBRATION-PRODUCING CONSTRUCTION ACTIVITIES TO DOCUMENT BACKGROUND VIBRATIONS, INCLUDING TRAIN OPERATIONS, AND AT THE START OF VIBRATION-PRODUCING ACTIVITIES TO ESTABLISH THE MAXIMUM ENERGY THAT CAN BE USED WITHOUT SURPASSING ACCEPTABLE VIBRATION AND OVERPRESSURE LEVELS AT NEARBY FACILITIES.

13. CONFORM TO THE FOLLOWING REQUIREMENTS FOR DISPLACEMENT/SETTLEMENT MONITORING OF EXISTING STRUCTURES, RAILROADS, AND UTILITIES DURING CONSTRUCTION ACTIVITIES:

   a. MONITOR DISPLACEMENTS AT EXISTING STRUCTURES AND RAILROADS CONTINUOUSLY USING AUTOMATED MOTORIZED TOTAL STATION (AMTS) AND MOUNTED HIGH PRECISION OPTICAL PRISMS (OR APPROVED EQUAL).

   b. THE UNDERGROUND UTILITIES SHALL BE MONITORED USING SURFACE SETTLEMENT MONITORING POINTS BASED ON THE ACTUAL LOCATIONS OF THE UTILITIES AND STRUCTURES VERIFIED IN THE FIELD, AND AS DIRECTED BY THE ENGINEER.

14. CONFORM TO THE FOLLOWING REQUIREMENTS FOR VIBRATION MONITORING OF EXISTING STRUCTURES, RAILROADS, AND UTILITIES DURING CONSTRUCTION ACTIVITIES:

   a. VIBRATION MONITORING THROUGH THE USE OF GEOPHONE ANCHORS SHALL BE CONDUCTED CONTINUOUSLY DURING ALL VIBRATION-PRODUCING CONSTRUCTION ACTIVITIES. PEAK PARTICLE VELOCITY READINGS OF 0.5 INCH/SECOND FOR REVIEW LEVEL AND 1.0 INCH/SECOND FOR ALERT LEVEL SHALL BE FOLLOWED FOR RESPONSE VALUES.

   b. VIBRATION MONITORING SHALL BE PERFORMED USING A MINIMUM OF TWO (2) SEISMOGRAPHS. FURNISH INSTANTEL INC. "BLASTMATE SERIES III", OR APPROVED EQUAL.

   c. ONE SEISMOGRAPH SHALL BE LOCATED ADJACENT TO THE TRACKS AT THE CLOSEST POINT TO THE CONSTRUCTION ACTIVITY. THE SECOND SEISMOGRAPH SHALL BE LOCATED ALONG THE PROPERTY LINE OF THE RESIDENTIAL STRUCTURES AT THE POINT CLOSEST TO THE CONSTRUCTION ACTIVITY. SEISMOGRAPHS SHALL BE MOVED EACH DAY AS NECESSARY.

   d. ANCHOR THE GEOPHONE AS SHOWN ON THE DETAIL ON DWG. STR118 OR INSTALL A SPIKE AND COVER WITH A SANDBAG WEIGHING NOT LESS THAN 30 POUNDS. GEOPHONE SHALL BE FIRMLY MOUNTED ON THE STRUCTURE TO MAINTAIN DIRECT CONTACT UNDER PRESENCE OF CONSTRUCTION VIBRATIONS.

15. HIGH PRECISION OPTICAL PRISMS SHALL BE FURNISHED AND INSTALLED ON THE EXISTING MASONRY WALLS TO REMAIN LOCATED ON THE NORTH AND SOUTH PORTIONS OF THE SITE ADJACENT TO THE RAILROAD. PRISMS SHALL BE SPACED NO MORE THAN 20 FEET ALONG THE LENGTH OF THE WALLS FOR THE DURATION OF CONSTRUCTION ACTIVITIES.

16. HIGH PRECISION OPTICAL PRISMS SHALL BE FURNISHED AND INSTALLED ON THE EXISTING CRIB WALL LOCATED ON THE NORTH END OF THE SITE. PRISMS SHALL BE SPACED NO MORE THAN 20 FEET ALONG THE LENGTH OF THE WALLS FOR THE DURATION OF CONSTRUCTION ACTIVITIES.

17. SURFACE MOVEMENT MONITORING POINTS SHALL BE FURNISHED AND INSTALLED WITHIN AND ALONG THE EASTERN PERIMETER OF THE WORK AREA. MONITORING POINTS SHALL BE SPACED NO MORE THAN 50 FEET ALONG THE PERIMETER FOR THE DURATION OF CONSTRUCTION ACTIVITIES.

18. ALL PROPOSED NEW RETAINING WALLS SHALL BE MONITORED DURING AND AFTER CONSTRUCTION. AT A MINIMUM, LATERAL DEFLECTION AT THE TOP OF THE NEW RETAINING WALLS SHALL BE MONITORED USING OPTICAL SURVEY PRISMS SPACED NO MORE THAN 50 FEET ALONG THE LENGTH OF THE WALLS.

19. OPTICAL SURVEY POINTS MEASURED BY AMTS, TILTMETER AND VIBRATION MONITORING READINGS SHALL BE REPORTED IN REAL-TIME ON A SECURE WEBSITE, MADE ACCESSIBLE TO THE ENGINEER.

20. TILTMETERS (IF REQUIRED) SHALL BE COVERED AND PROTECTED FROM DAMAGE, VANDALISM, AND THEFT, AND SHALL BE FURNISHED WITH READINGS TAKEN CONTINUOUSLY AND REMOTELY.

21. INSTRUMENTATION AND MONITORING ARE NOT REQUIRED IF THE EXISTING UTILITIES WITHIN THE LIMIT OF THE MONITORING AREA ARE NO LONGER IN SERVICE DURING CONSTRUCTION.

22. DISPLACEMENT OF NON-RAILROAD INFRASTRUCTURE: INFRASTRUCTURE MONITORED BY HIGH PRECISION OPTICAL PRISMS SHALL BE MONITORED ONCE PER HOUR DURING CONSTRUCTION, AND ONCE PER DAY FOR TWO (2) MONTHS FOLLOWING COMPLETION OF CONSTRUCTION. MAXIMUM STRUCTURE AND GROUND MOVEMENT AND/OR ANGULAR DISTORTION SHALL NOT EXCEED THE LIMITS SHOWN IN TABLE 1:

TABLE 1: DISPLACEMENT OF NON-RAILROAD INFRASTRUCTURE

INFRASTRUCTURE TYPE	CRITERIA	RESPONSE VALUES	
		REVIEW LEVEL	ALERT LEVEL
BUILDINGS	VERTICAL DISPLACEMENT (IN.)	0.5	1.0
	ANGULAR DISTORTION	1:800	1:400
VEHICULAR BRIDGES	VERTICAL DISPLACEMENT (IN.)	0.5	1.0
	ANGULAR DISTORTION	1:1000	1:500
STREETS/SIDEWALKS	VERTICAL DISPLACEMENT (IN.)	0.75	1.0

23. DISPLACEMENT OF RAILROAD INFRASTRUCTURE: INFRASTRUCTURE MONITORED BY HIGH PRECISION OPTICAL PRISMS SHALL BE MONITORED ONCE PER HOUR DURING CONSTRUCTION, AND ONCE PER DAY FOR TWO MONTHS (2) FOLLOWING COMPLETION OF CONSTRUCTION. MAXIMUM TRACK AND WALL MOVEMENT SHALL NOT EXCEED THE LIMITS SHOWN IN TABLE 2 AND 3.

   a. TRACKS, TURNOUTS, AND SWITCHES: SEE TABLE 2. TRACKS SHALL BE MONITORED USING HIGH PRECISION OPTICAL PRISMS INSTALLED USING BRACKETS ON EACH RAIL. MONITORING POINTS SHALL BE INSTALLED AT A SPACING OF APPROXIMATELY 31 FT. AS SHOWN ON DWG. STR116.

   b. ALL RAILROAD UTILITIES SUCH AS SIGNALS, LIGHTING, CATENARY, AND COMMUNICATION SYSTEMS SHALL BE MAINTAINED IN OPERATING CONDITION.

   c. BUILDINGS: SAME AS NON-RAILROAD BUILDINGS.

   d. BRIDGES (VEHICULAR): SAME AS NON-RAILROAD BRIDGES.

TABLE 2: RAILROAD INFRASTRUCTURE RESPONSE RANGES - TRACKS, TURNOUTS, AND SWITCHES

		VALUES FOR GREEN RANGE (IN.)		VALUES FOR YELLOW RANGE (IN.) (REVIEW LEVEL)		VALUES FOR RED RANGE (IN.) (ALERT LEVEL)	
		TRACKS	TURNOUTS & SWITCHES	TRACKS	TURNOUTS & SWITCHES	TRACKS	TURNOUTS & SWITCHES
TRACK SURFACE	THE RUNOFF IN ANY 31' OF RAIL AT THE END OF A RAISE MAY NOT BE MORE THAN:	0 TO 1.125	0 TO 1.125	1.125 TO 1.5	1.125 TO 1.5	1.5 TO 2	1.5 TO 2
	THE DEVIATION FROM UNIFORM PROFILE ON EITHER RAIL AT THE MID-ORDINATE OF A 62-FOOT CHORD MAY NOT BE MORE THAN:	0 TO 1.25	0 TO 0.875	1.25 TO 1.625	0.875 TO 1.125	1.625 TO 2.25	1.125 TO 2.25
	THE DEVIATION FROM ZERO CROSSLEVEL AT ANY POINT ON A TANGENT MAY NOT BE MORE THAN:	0 TO 0.875	0 TO 0.625	0.875 TO 1.25	0.625 TO 0.875	1.25 TO 1.75	0.875 TO 1.75
	THE REVERSE CROSSLEVEL ELEVATIONS ON CURVES MAY NOT BE MORE THAN:	0 TO 1	0 TO 0.625	1 TO 1.375	0.625 TO 0.875	1.375 TO 1.75	0.875 TO 1.75
	THE DIFFERENCE IN CROSSLEVEL BETWEEN ANY TWO POINTS LESS THAN 62' APART MAY NOT BE MORE THAN:	0 TO 1.125	0 TO 0.75	1.125 TO 1.5	0.75 TO 1	1.5 TO 2	1 TO 2
ALIGNMENT	THE DEVIATION OF THE MID-ORDINATE FROM A 62' CHORD MAY NOT BE MORE THAN:	0 TO 0.875	0 TO 0.625	0.875 TO 1.25	0.625 TO 0.875	1.25 TO 1.75	0.875 TO 1.75
	FOR CURVED TRACK, THE DEVIATION OF THE MID-ORDINATE FROM A 31' CHORD MAY NOT BE MORE THAN:	0 TO 0.625	0 TO 0.5	0.625 TO 0.875	0.5 TO 0.625	0.875 TO 1.25	0.625 TO 1.25

TABLE 3: RAILROAD INFRASTRUCTURE RESPONSE RANGES - RETAINING WALLS

INFRASTRUCTURE TYPE*	CRITERIA	RESPONSE VALUES	
		REVIEW LEVEL	ALERT LEVEL
TYPE 1 WALLS	DISPLACEMENT (IN.)	0.75	1.0
TYPE 2 WALLS	DISPLACEMENT (IN.)	1.0	1.5

* NOTE: TYPE 1 WALLS: WALLS SUPPORTING STRUCTURES, RAILROAD TRACKS AND UTILITIES. TYPE 2 WALLS: WALLS OTHER THAN TYPE 1 WALLS.

24. IF A REVIEW LEVEL OR ALERT LEVEL ARE RECORDED AN ALERT MESSAGE SHALL BE SENT VIA E-MAIL AND INSTANT TEXT MESSAGE TO REPRESENTATIVES OF THE OWNER, ENGINEER, AND CONTRACTOR, WHOSE NAMES AND CONTACT INFORMATION SHALL BE INCLUDED IN THE INSTRUMENTATION MONITORING PLAN. IF A REVIEW LEVEL IS RECORDED, THE FREQUENCY OF MEASUREMENTS MAY BE INCREASED AS DIRECTED BY THE ENGINEER. IF AN ALERT LEVEL IS RECORDED, ALL WORK IN THE ZONE OF INFLUENCE WHERE THE ALERT LEVEL WAS RECORDED SHALL BE SUSPENDED UNTIL DIRECTED OTHERWISE BY THE ENGINEER. THE ZONE OF INFLUENCE SHALL ENCOMPASS THE LOCATION WHERE THE ALERT LEVEL WAS RECORDED AND A MINIMUM RADIUS OF 100 FT. AROUND THE LOCATION, OR GREATER AS DEEMED NECESSARY BY THE SPECIALIZED FIRM PERFORMING VIBRATION AND DISPLACEMENT MONITORING. THE SPECIALIZED FIRM PERFORMING THE VIBRATION AND DISPLACEMENT MONITORING WILL CONDUCT AN INVESTIGATION INTO WHAT CAUSED THE EVENT TO BE RECORDED AND THE CONTRACTOR SHALL ADJUST THEIR OPERATIONS TO PREVENT FURTHER VALUES GREATER THAN ALERT LEVEL.

25. THE LIMITS OF THE RESPONSE RANGES ARE BASED UPON THE SPEEDS DEFINED FOR SAFE OPERATION ON THE MAINLINE TRACKS WHICH ARE RATED AS CLASS III TRACK (OPERATING SPEED TO 60-MPH). TURNOUTS AND SWITCHES IN GENERAL ARE SET AT A LOWER TOLERANCE LIMITS.

   a. GREEN RANGE: NO RESPONSE ACTION REQUIRED.

   b. YELLOW RANGE: WHEN TRACK MOVEMENT REACHES THE LOWER LIMIT FOR THE YELLOW RESPONSE RANGE, TRACK MAINTENANCE MUST BE SCHEDULED TO BRING THE TRACK BACK INTO TOLERANCE, I.E. BACK TO THE GREEN RESPONSE RANGE.

   c. RED RANGE: WHEN TRACK MOVEMENT REACHES THE LOWER LIMIT OF THE RED RANGE BEFORE SCHEDULED MAINTENANCE CAN COMMENCE, CONTINGENCY MEASURES MUST BE IMPLEMENTED TO IMMEDIATELY BRING THE TRACK BACK INTO TOLERANCE AND ASSURE SAFE OPERATION. THE UPPER LIMIT OF THE RED RESPONSE RANGE IS THE MAXIMUM PERMITTED OUT-OF-TOLERANCE FOR THE OPERATING TRACK FOR THE MAINLINE.

26. 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.

27. ALL INSTRUMENTS SHALL BE REMOVED FROM THE SITE UPON THE COMPLETION OF VIBRATION AND DISPLACEMENT INDUCING ACTIVITIES, AS APPROVED BY THE ENGINEER. PORTLAND CEMENT GROUT SHALL BE USED TO FILL ANY HOLES FORMED TO INSTALL MONITORING EQUIPMENT IN STRUCTURES OR BELOW GROUND.

SLEEPY HOLLOW
LOCAL DEVELOPMENT CORPORATION

WSP USA INC.
500 Summit Lake Drive, Suite 450
Valhalla, NY 10595
(914) 747-1120

ENGINEER OF RECORD:

SCOTT C. GIBSON
070904
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 EAST PARCEL PROJECT - PHASE II

VILLAGE OF SLEEPY HOLLOW WESTCHESTER COUNTY, NEW YORK

ISSUE DATE: 01/2023

PROJECT NUMBER: 188137H

SCALE: NONE

DRAWING NAME: **RETAINING WALL INSTRUMENTATION NOTES**

DRAWING NUMBER: STR115

SHEET NUMBER: 55

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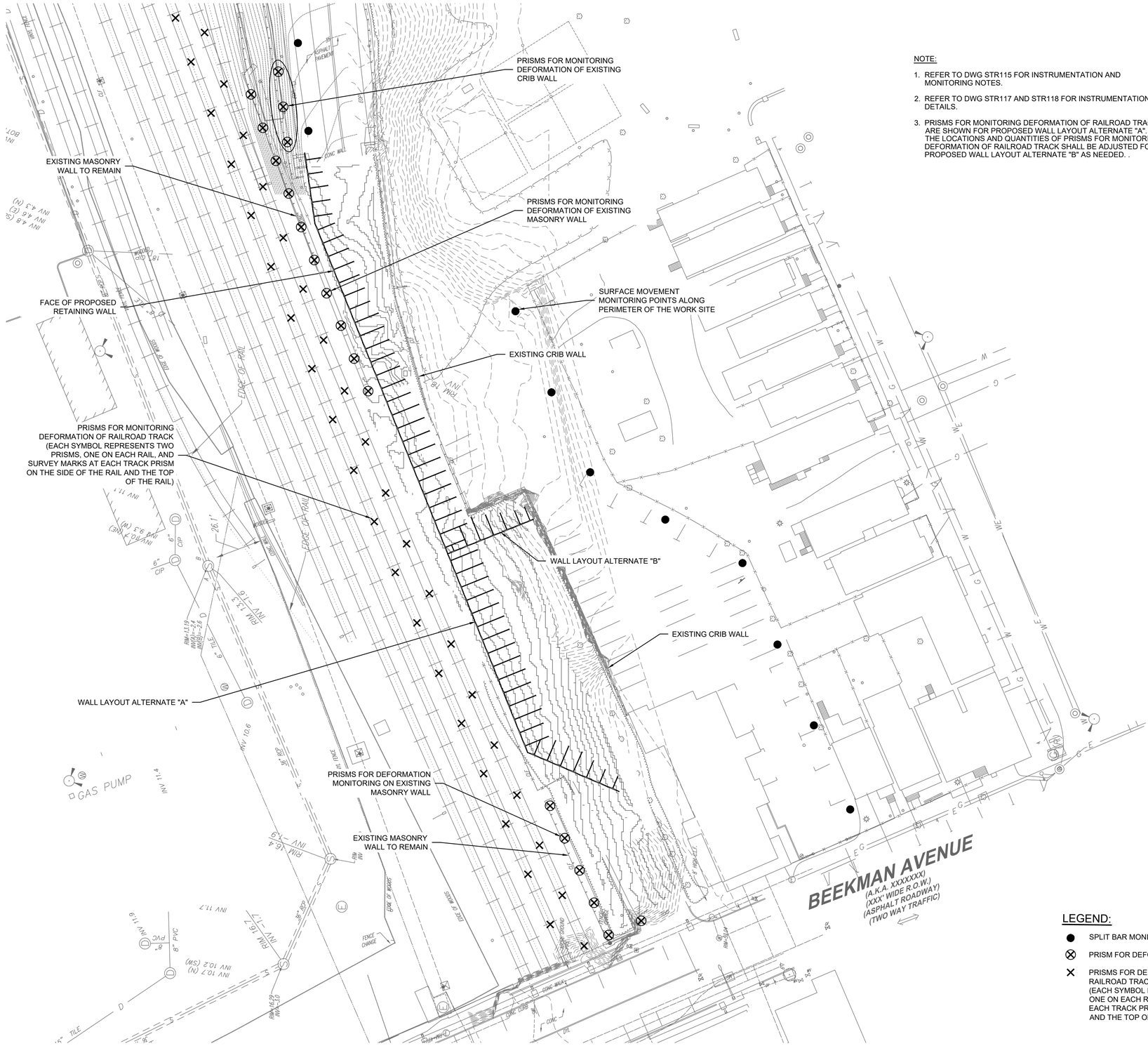

NOTE:

1. REFER TO DWG STR115 FOR INSTRUMENTATION AND MONITORING NOTES.
2. REFER TO DWG STR117 AND STR118 FOR INSTRUMENTATION DETAILS.
3. PRISMS FOR MONITORING DEFORMATION OF RAILROAD TRACKS ARE SHOWN FOR PROPOSED WALL LAYOUT ALTERNATE "A". THE LOCATIONS AND QUANTITIES OF PRISMS FOR MONITORING DEFORMATION OF RAILROAD TRACK SHALL BE ADJUSTED FOR PROPOSED WALL LAYOUT ALTERNATE "B" AS NEEDED. .

LEGEND:

- SPLIT BAR MONITORING POINT (SM4)
- PRISM FOR DEFORMATION MONITORING (SP1)
- PRISMS FOR DEFORMATION MONITORING - RAILROAD TRACKS (SP2) (EACH SYMBOL REPRESENTS TWO PRISMS, ONE ON EACH RAIL, AND SURVEY MARKS AT EACH TRACK PRISM ON THE SIDE OF THE RAIL AND THE TOP OF THE RAIL)

0 30 60
SCALE IN FEET

SLEEPY HOLLOW
LOCAL DEVELOPMENT CORPORATION

WSP USA INC.
500 Summit Lake Drive, Suite 450
Valhalla, NY 10595
(914) 747-1120

ENGINEER OF RECORD:

STATE OF NEW YORK
SCOTT C. GRIFFITH
070904
LICENSED PROFESSIONAL ENGINEER

NEW YORK STATE LICENSED PROFESSIONAL ENGINEER

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SLEEPY HOLLOW EAST PARCEL PROJECT - PHASE II

VILLAGE OF SLEEPY HOLLOW WESTCHESTER COUNTY, NEW YORK

ISSUE DATE: 01/2023

PROJECT NUMBER: 188137H

SCALE: 1": 30'–0"

DRAWING NAME: **RETAINING WALL INSTRUMENTATION PLAN**

DRAWING NUMBER: STR116

SHEET NUMBER: 56

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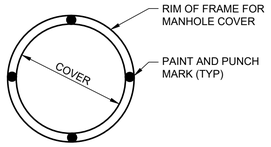
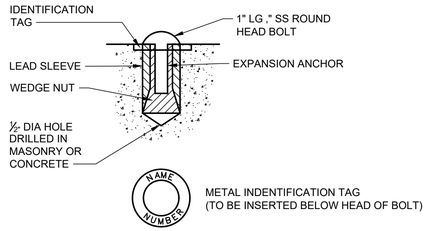


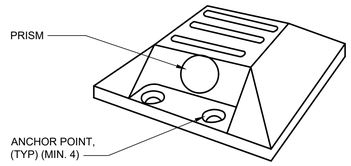
NOTES:

1. EACH S3 SYMBOL REPRESENTS FOUR (4) PAINT AND PUNCH MARKS/MONITORING POINTS ON THE RIM OF THE FRAME FOR THE MANHOLE COVER.
2. PAINT AND PUNCH MARKS/MONITORING POINTS ARE TO BE SPACED APPROXIMATELY EQUIDISTANT AROUND THE RIM.

SURFACE MOVEMENT MONITORING POINT, MANHOLE (SM3) ▣



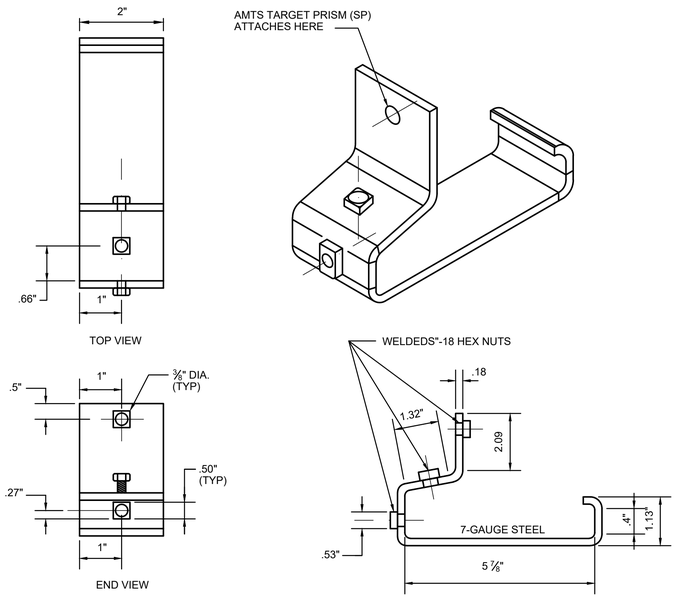
SURFACE MOVEMENT MONITORING POINT, ANCHOR BOLT (SM1)



NOTES:

1. ROAD PRISMS TO BE LOW PROFILE, CAST ALUMINUM.
2. PRISMS TO BE ANCHORED INTO ASPHALT PAVEMENTS AND CONCRETE PAVEMENTS AND SIDEWALKS. ANCHORS TO BE SELECTED BY CONTRACTOR BASED ON FIELD CONDITIONS.
3. SM1 MAY BE USED AS AN ALTERNATIVE TO SM2 AT OPTION OF CONTRACTOR WHERE LINE OF SIGHT FROM AMTS IS OBSTRUCTED.

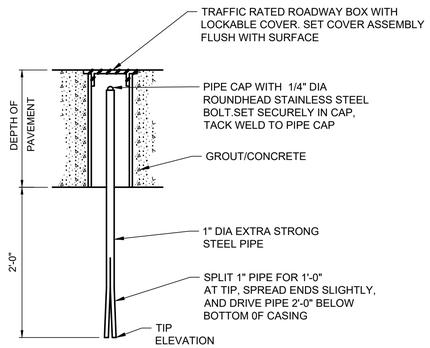
SURFACE MOVEMENT MONITORING POINT, ROAD PRISM (SM2) ◉



NOTE:

1. EACH SYMBOL REPRESENTS TWO PRISMS, ONE ON EACH RAIL, AND SURVEY MARKS AT EACH TRACK PRISM ON THE SIDE OF THE RAIL AND THE TOP OF THE RAIL.

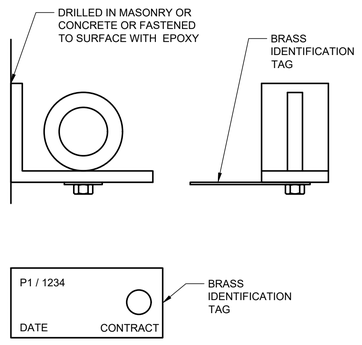
BRACKET FOR HIGH PRECISION OPTICAL PRISM ON RAIL (SP2) ✕



NOTES:

1. WHERE PAVEMENT NOT PRESENT, ROADWAY BOX TO BE 2 FEET IN LENGTH AND GROUTED/CONCRETED INTO PLACE.
2. ANNULUS BETWEEN ROADWAY BOX AND 1" DIA. PIPE SHALL BE FREE OF CONCRETE/GROUT. SURFACE OF 1" PIPE SHALL NOT BE IN CONTACT WITH CONCRETE/GROUT.

SURFACE MOVEMENT MONITORING POINT, SPLIT BAR (SM4) ●



NOTE:

1. SURVEY TARGETS MAY BE USED AS ALTERNATIVE TO PRISMS.

HIGH PRECISION OPTICAL PRISM FOR DEFORMATION MONITORING (SP1) ⊗

SLEEPY HOLLOW
LOCAL DEVELOPMENT CORPORATION

WSP USA INC.
500 Summit Lake Drive, Suite 450
Valhalla, NY 10595
(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 EAST PARCEL PROJECT - PHASE II

VILLAGE OF SLEEPY HOLLOW WESTCHESTER COUNTY, NEW YORK

ISSUE DATE: 01/2023

PROJECT NUMBER: I188137H

SCALE: NONE

DRAWING NAME: **RETAINING WALL INSTRUMENTATION DETAILS**

DRAWING NUMBER: STR117

SHEET NUMBER: 57

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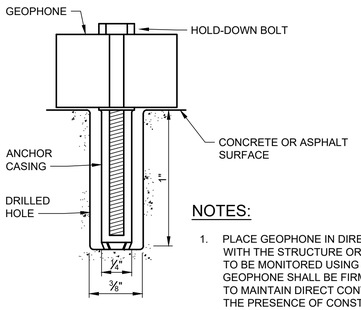
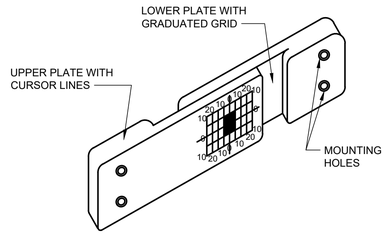


NOTES:

1. PLACE GEOPHONE IN DIRECT CONTACT WITH THE STRUCTURE OR PAVEMENT TO BE MONITORED USING AN ANCHOR. GEOPHONE SHALL BE FIRMLY MOUNTED TO MAINTAIN DIRECT CONTACT UNDER THE PRESENCE OF CONSTRUCTION VIBRATIONS.
2. IF GEOPHONE CANNOT BE ANCHORED TO CONCRETE OR PAVEMENT, SAND BAG WEIGHING NOT LESS THAN 30 POUNDS, SHALL BE PLACED OVER THE GEOPHONE.

GEOPHONE AND ANCHOR



GRID CRACK GAGE (CG)

SLEEPY HOLLOW
LOCAL DEVELOPMENT CORPORATION

WSP USA INC.
500 Summit Lake Drive, Suite 450
Valhalla, NY 10595
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SLEEPY HOLLOW EAST PARCEL PROJECT - PHASE II

VILLAGE OF SLEEPY HOLLOW WESTCHESTER COUNTY, NEW YORK

ISSUE DATE: 01/2023

PROJECT NUMBER:	SCALE:
1188137H	NONE

DRAWING NAME: **RETAINING WALL INSTRUMENTATION DETAILS**

DRAWING NUMBER:	SHEET NUMBER:
STR118	58

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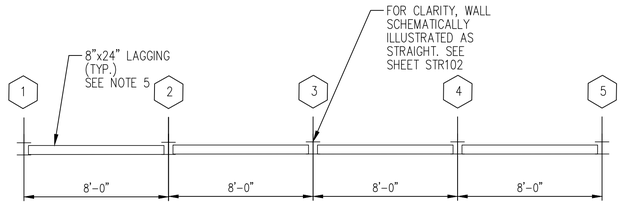
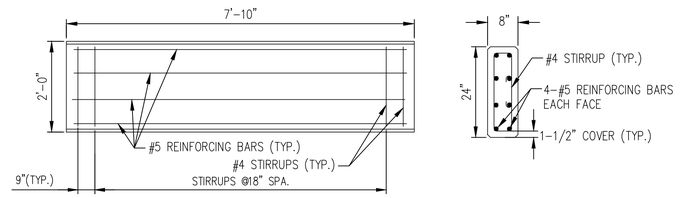
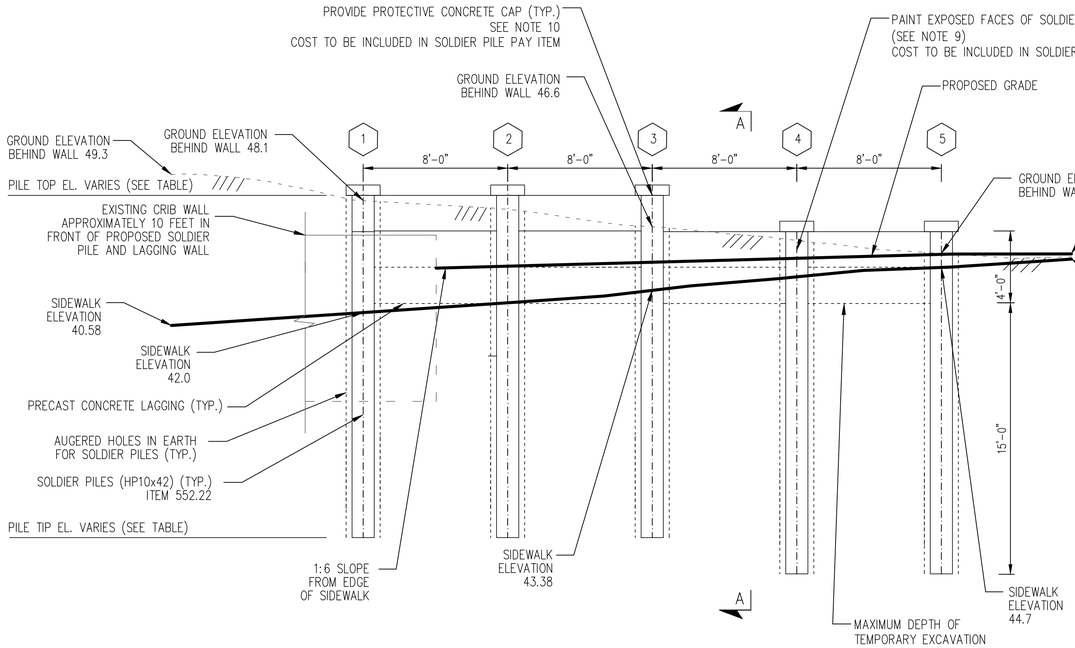


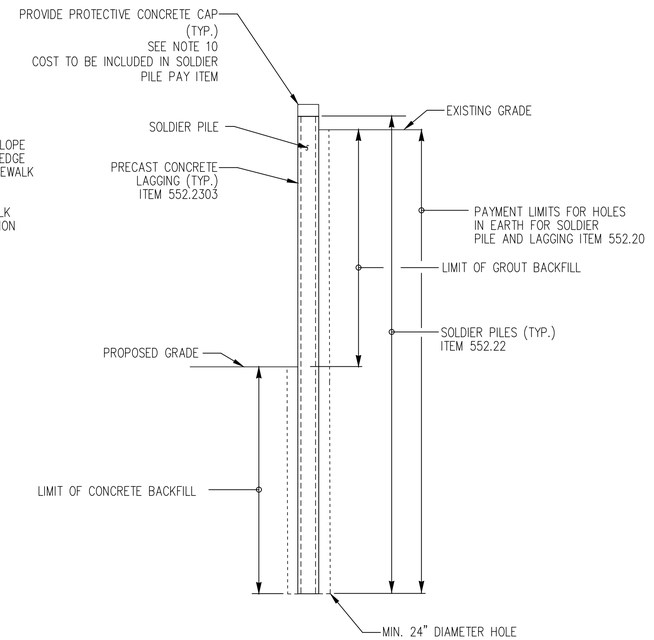
PLAN
SOLDIER PILE AND LAGGING WALL
SCALE: 1/8" = 1'-0"



PRECAST CONCRETE LAGGING DETAIL
NOT DRAWN TO SCALE



NORTH ELEVATION
SOLDIER PILE AND LAGGING WALL
SCALE: 1/8" = 1'-0"



SECTION A-A
NOT DRAWN TO SCALE

NOTES:

1. FOR CURB WALL LOCATION, SEE WALL PLAN DRAWING.
2. SOLDIER PILES SECTIONS SHALL CONFORM TO ASTM A709 GRADE 50 STEEL.
3. PRECAST CONCRETE LAGGING MINIMUM f'c=3,000PSI
4. CONTRACTOR IS ADVISED THAT SPECIFICATION TOLERANCES MAY AFFECT ACTUAL LENGTH OF LAGGING.
5. A MINIMUM BEARING AREA OF 3" PLUS 1" CLEARANCE FOR INSTALLATION OF LAGGING SHALL BE PROVIDED.
6. ALL SOLDIER PILES SHOWN SHALL BE INSTALLED IN DRILLED HOLES.
7. GRADE GROUND SURFACE AT BASE OF WALL TO ALLOW FOR POSITIVE DRAINAGE AWAY FROM THE WALL. MINIMUM OF 1% GRADE EXTENDING 5'-0" FROM WALL.
8. EXPOSED FACES OF SOLDIER PILES TO BE PAINTED INCLUDE FRONT FACE AND TOP EDGES.
9. PROVIDE LIGHTLY-REINFORCED CONCRETE CAP AT TOP OF EACH EXPOSED PILE. CAP SHALL BE SECURED TO PILE TO PROTECT PUBLIC FROM SHARP STEEL EDGES.
10. CONTRACTOR IS ADVISED THAT MAIN RETAINING WALL SUPPORTING CLINTON AVENUE EXTENSION MUST BE INSTALLED FIRST, PRIOR TO CONSTRUCTION OF THE CURB WALL DETAILED ON THIS DRAWING.
11. TEMPORARY SLEEVES OR CASINGS ARE REQUIRED FOR ITEM HOLES IN EARTH FOR SOLIDER PILE AND LAGGING WALLS. NO EXTRA PAYMENT WILL BE MADE FOR THE CASINGS.
12. DUE TO THE POTENTIAL PRESENCE OF BOULDERS AND COBBLES, PROGRESSING THE HOLES IN EARTH FOR SOLDIER PILE AND LAGGING WALL, ITEM MAY REQUIRE SPECIAL EQUIPMENT AND/OR PROCEDURES. NO EXTRA PAYMENT WILL BE MADE FOR SPECIAL EQUIPMENT AND/OR PROCEDURES.

PILE NUMBER	PILE TOP ELEVATIONS (IN FEET)	MAXIMUM DEPTH OF EXCAVATION (IN FEET)	REQUIRED PILE TIP ELEV. (IN FEET)	REQUIRED PILE LENGTH (IN FEET)	MINIMUM PILE SECTION MODULUS* (in3)	RECOMMENDED SOLDIER PILE SECTION	MINIMUM DIA. OF HOLE (INCHES)
1	50.0	6.0	31.0	19.0	60	HP12x53	24
2	50.0	6.0	31.0	19.0	60	HP12x53	24
3	50.0	6.0	31.0	19.0	60	HP12x53	24
4	46.0	6.0	27.0	19.0	60	HP12x53	24
5	46.0	6.0	27.0	19.0	60	HP12x53	24

*NOTE: GRADE 50 STEEL

SLEEPY HOLLOW
LOCAL DEVELOPMENT CORPORATION

WSP USA INC.
500 Summit Lake Drive, Suite 450
Valhalla, NY 10595
(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 EAST PARCEL PROJECT - PHASE II

VILLAGE OF SLEEPY HOLLOW
WESTCHESTER COUNTY, NEW YORK

ISSUE DATE: 01/2023

PROJECT NUMBER: I188137H

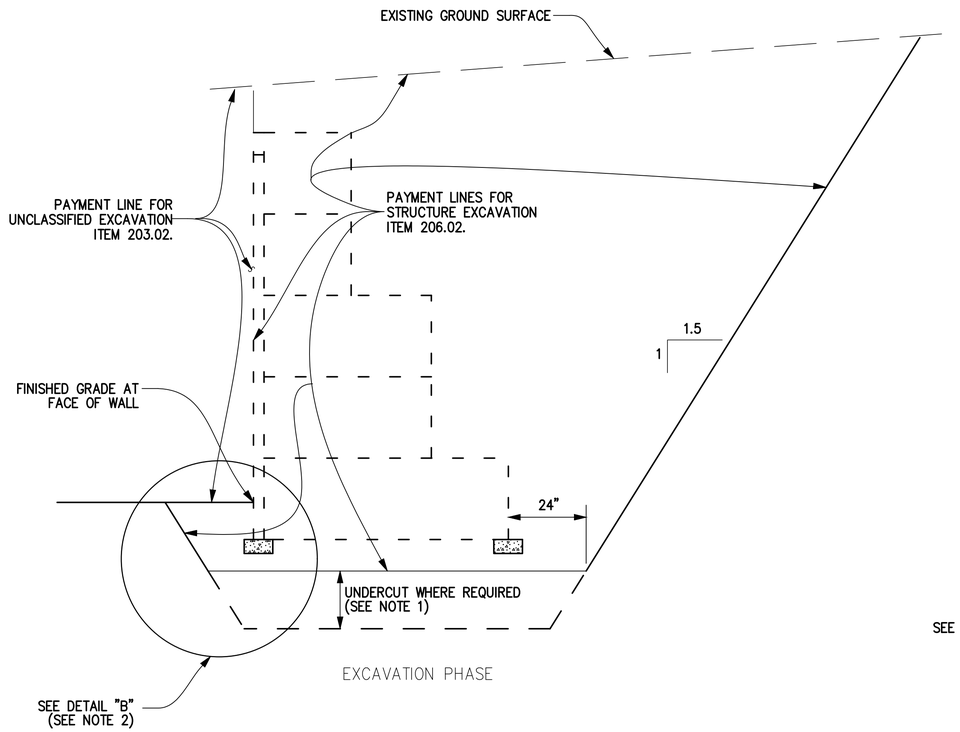
SCALE: NOT TO SCALE

DRAWING NAME: **RETAINING WALL CURB WALL DETAILS**

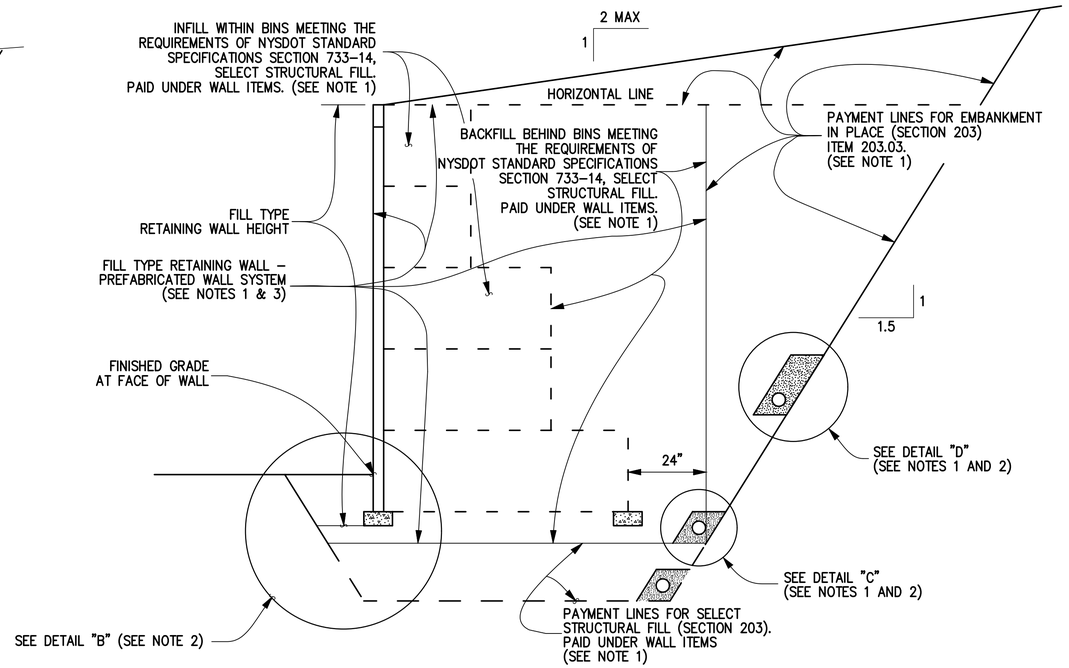
DRAWING NUMBER: STR119

SHEET NUMBER: 59

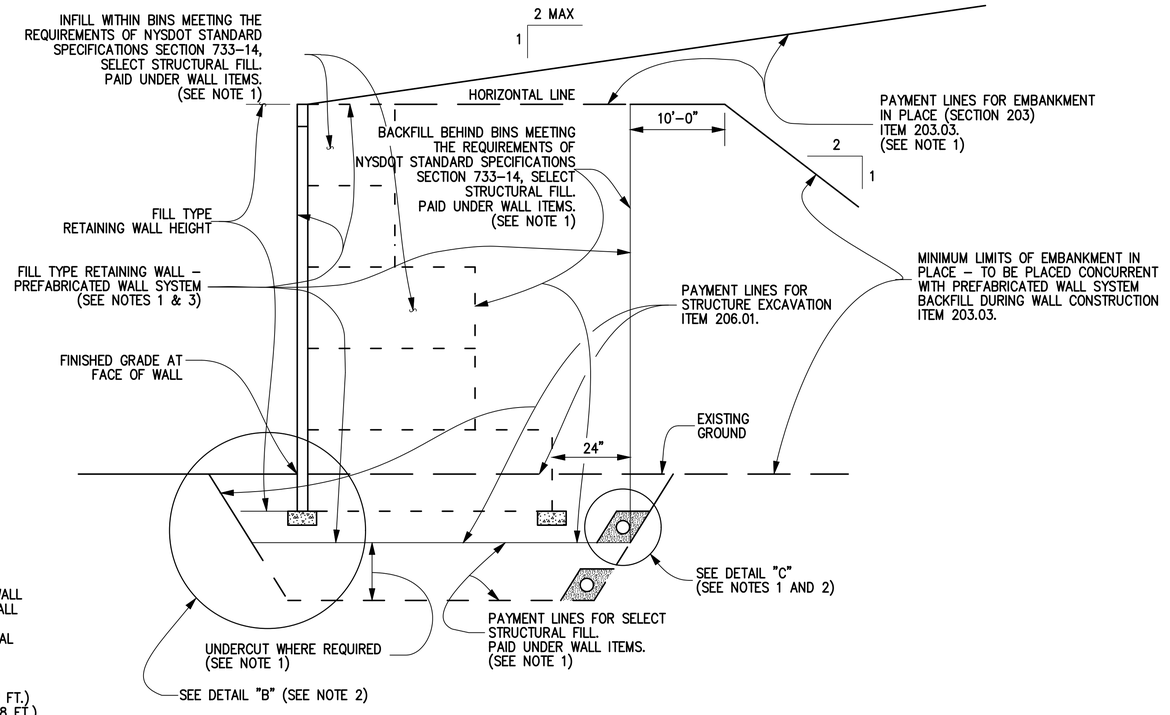
Drawing Path\Name: C:\Users\USJ067791\Appdata\Local\Temp\AcPublish_22212\PERMANENT WALL DETAILS.dwg Printed: Jan 04, 2023, 10:34am Layout: Plan View



EXCAVATION PHASE



BACKFILL PHASE



PREFABRICATED WALL SYSTEM SECTION IN FILL

NOTES:

1. SEE "GROUNWATER NOTES", "UNDERCUT NOTES", "WALL BACKFILL NOTES", "WALL CONSTRUCTION NOTES" AND "MISCELLANEOUS WALL NOTES" ON RETAINING WALL GENERAL NOTES DRAWING.
2. FOR JOINT DETAIL AND DETAILS 'B', 'C', AND 'D', SEE RETAINING WALL TYPICAL DETAILS DRAWING
3. RETAINING WALL TO BE PAID UNDER THE FOLLOWING ITEMS:
   - ITEM 554.40SH FILL TYPE RETAINING WALL (0–6 FT.)
   - ITEM 554.41SH FILL TYPE RETAINING WALL (GREATER THAN 6 FT. – 12 FT.)
   - ITEM 554.42SH FILL TYPE RETAINING WALL (GREATER THAN 12 FT. – 18 FT.)
   - ITEM 554.43SH FILL TYPE RETAINING WALL (GREATER THAN 18 FT. – 24 FT.)
   - ITEM 554.44SH FILL TYPE RETAINING WALL (GREATER THAN 24 FT. – 30 FT.)
   - ITEM 554.45SH FILL TYPE RETAINING WALL (GREATER THAN 30 FT.)

SLEEPY HOLLOW
LOCAL DEVELOPMENT CORPORATION

WSP USA INC.
500 Summit Lake Drive, Suite 450
Valhalla, NY 10595
(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 EAST PARCEL PROJECT - PHASE II

VILLAGE OF SLEEPY HOLLOW
WESTCHESTER COUNTY, NEW YORK

ISSUE DATE: 01/2023

PROJECT NUMBER:	SCALE:
I188137H	NOT TO SCALE

DRAWING NAME: **RETAINING WALL TYPICAL SECTIONS**

DRAWING NUMBER:	SHEET NUMBER:
STR119A	60

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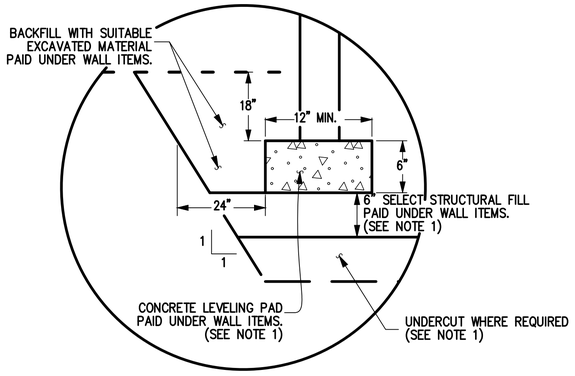
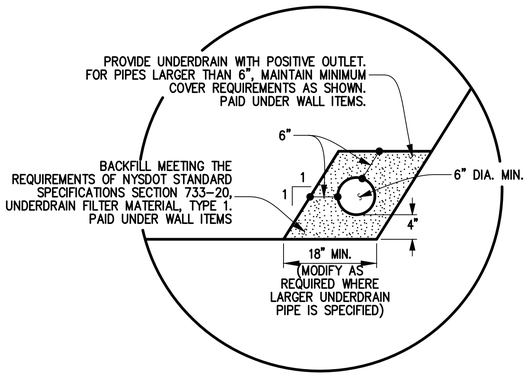
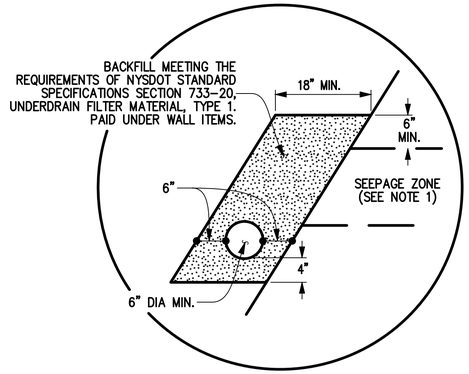


DETAIL "B"



DETAIL "C"



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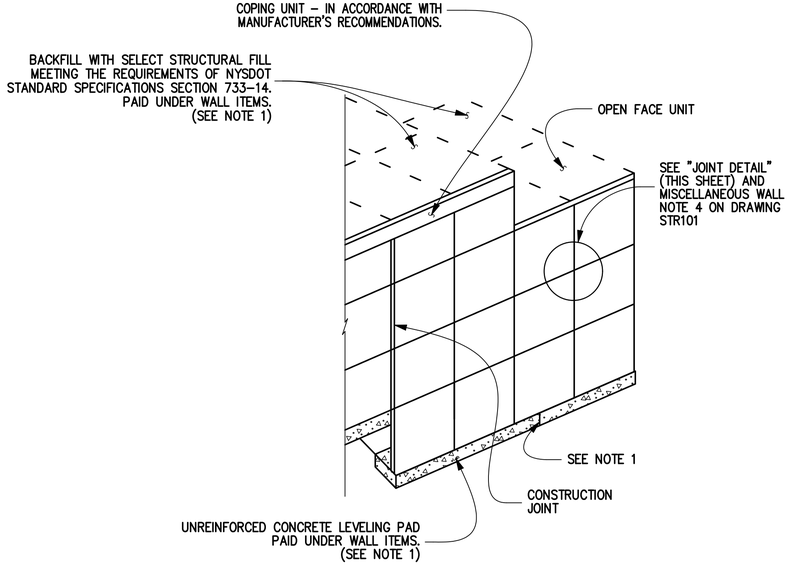
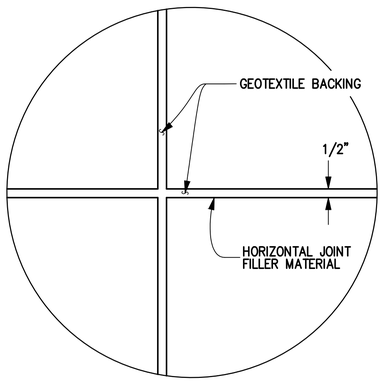


PREFABRICATED WALL SYSTEM
ISOMETRIC VIEW



"JOINT DETAIL"

NOTES:

1. SEE "LEVELING PAD NOTES", "UNDERCUT NOTES", AND "MISCELLANEOUS WALL NOTES" ON RETAINING WALL GENERAL NOTES DRAWING.

SLEEPY HOLLOW
LOCAL DEVELOPMENT CORPORATION

WSP USA INC.
500 Summit Lake Drive, Suite 450
Valhalla, NY 10595
(914) 747-1120

ENGINEER OF RECORD:

SCOTT C. GIBSON
070904
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 EAST PARCEL PROJECT - PHASE II

VILLAGE OF SLEEPY HOLLOW WESTCHESTER COUNTY, NEW YORK

ISSUE DATE: 01/2023

PROJECT NUMBER: I188137H

SCALE: NOT TO SCALE

DRAWING NAME: **RETAINING WALL TYPICAL DETAILS**

DRAWING NUMBER: STR120

SHEET NUMBER: 61

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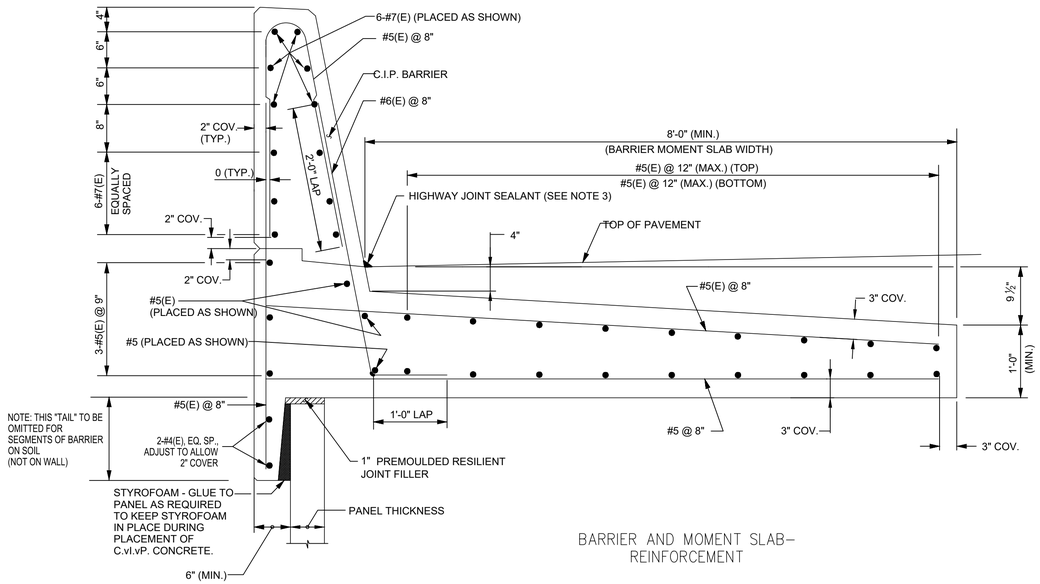
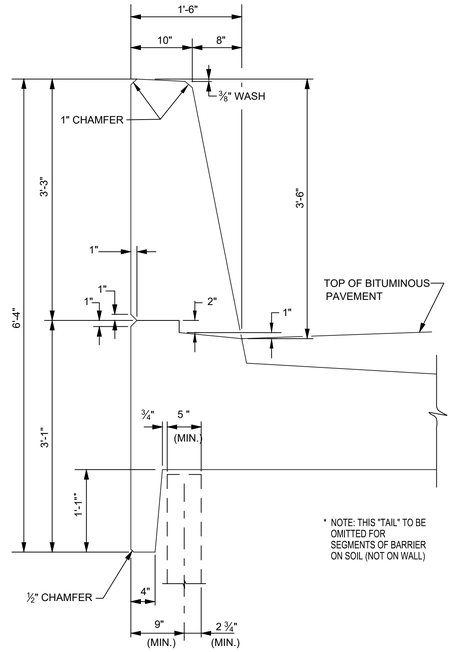
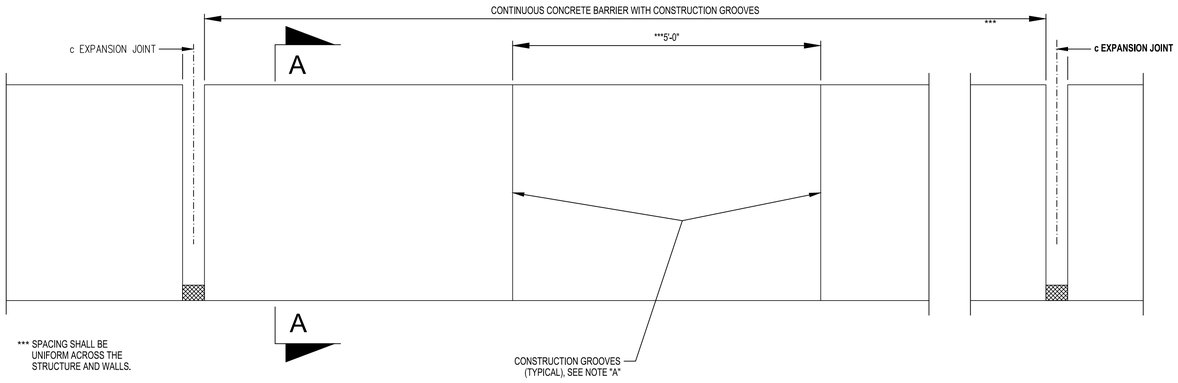


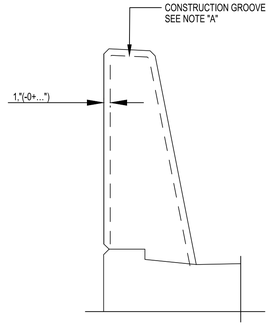
BARRIER AND MOMENT SLAB–
REINFORCEMENT



BARRIER AND MOMENT SLAB–
SECTION



ELEVATION
CONCRETE BARRIER GROOVE SPACING



SECTION A-A

NOTE "A"

CONSTRUCTION GROOVES SHALL BE MADE BY:

1. FORMING FOR CAST-IN-PLACE CONSTRUCTED FORMS.
2. SAWING THE SET CONCRETE WITHIN 8 HOURS OF PLACEMENT FOR CAST-IN-PLACE SLIP FORMED.
3. CUTTING THE PLASTIC CONCRETE. COMBINATION OF THESE METHODS MAY BE EMPLOYED, THE DEPTH OF THE GROOVES SHALL BE 1,"(-0+...."). FORMED GROOVES SHALL MAKE A 60n ANGLE WITH THE SURFACE. CUT GROOVES SHALL BE FINISHED WITH SHALLOW (/"uv.") CONSTANT DEPTH 45n CHAMFERS AT THE SURFACE. THE LONGITUDINAL REINFORCING BARS FOR THE CONCRETE BARRIERS SHALL BE CONTINUOUS BETWEEN BRIDGE EXPANSION JOINTS. WHERE SPLICES ARE REQUIRED, THE LENGTH OF THE LAP SHALL BE SUFFICIENT TO DEVELOP EACH BAR.

NOTES

1. MINIMUM TOTAL LENGTH OF BARRIER MOMENT SLAB IS 30 ft. WHEN PLACED UNDER ASPHALT.
2. PLACE EXPANSION JOINTS IN BARRIER TO MATCH WITH PAVEMENT JOINTS. DO NOT LOCATE vTHE BARRIER EXPANSION JOINT WITHIN 6 ft. FROM CENTERLINE OF LIGHT POLE OR 2 ft. FROM vCENTERLINE OF JUNCTION BOX.
3. HIGHWAY JOINT SEALANT - ASTM D6690, TYPE II APPEARING ON THE DEPARTMENT'S vAPPROVED LIST.
4. LAP LENGTH FOR BARRIER LONGITUDINAL BARS IS 3'-10".
5. ALL COSTS ASSOCIATED WITH CONCRETE BARRIER AND MOMENT SLAB TO BE PAID UNDER ITEM 606.30420208.

SLEEPY HOLLOW
LOCAL DEVELOPMENT CORPORATION

WSP USA INC.
500 Summit Lake Drive, Suite 450
Valhalla, NY 10595
(914) 747-1120

ENGINEER OF RECORD:

SCOTT C. GIBSON
070904
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 EAST PARCEL PROJECT - PHASE II

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

ISSUE DATE: 01/2023

PROJECT NUMBER: I188137H

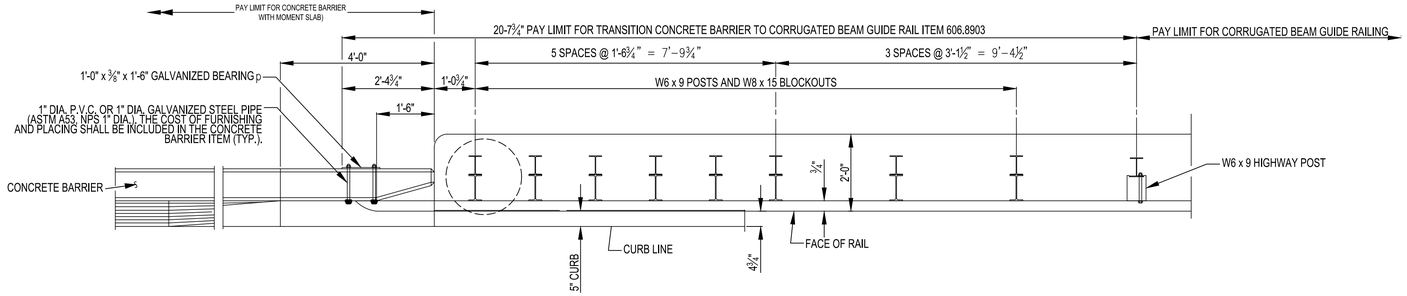
SCALE: NOT TO SCALE

DRAWING NAME: **BARRIER AND MOMENT SLAB DETAILS**

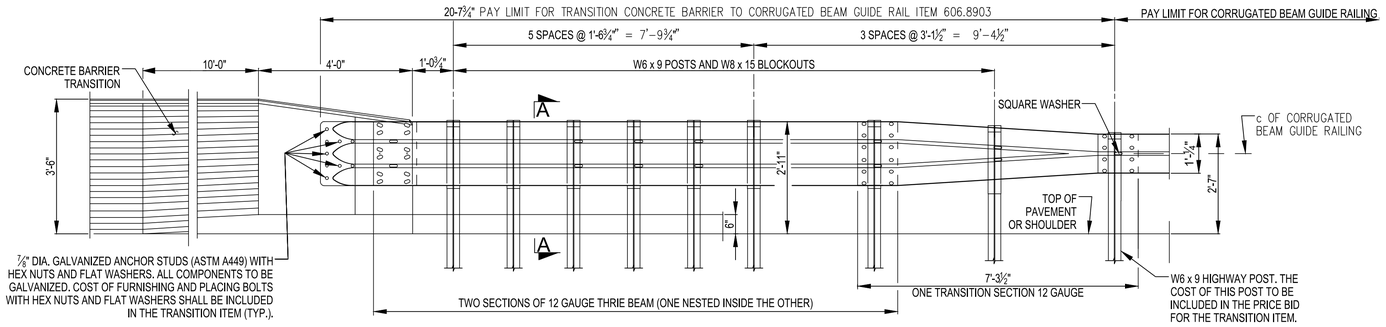
DRAWING NUMBER: STR121

SHEET NUMBER: 62

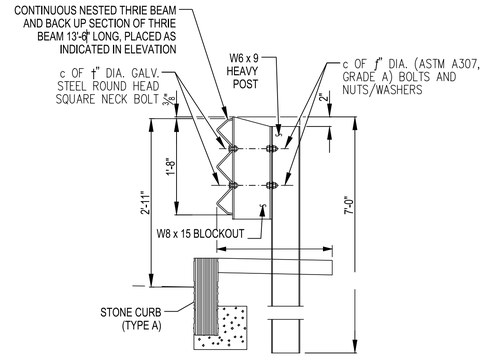
Drawing Path\Name: C:\Users\US\DS\779121\opposed\Local\Temp\AcPublish_22212\BARRIER AND MOMENT SLAB DETAILS.dwg Printed: Jan 03, 2023, 4:24pm Layout: Plan View



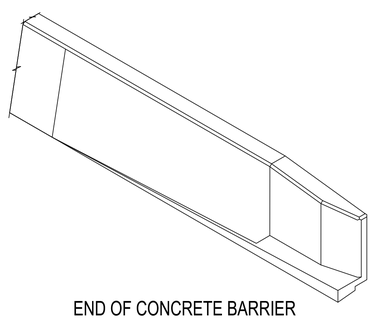
PLAN



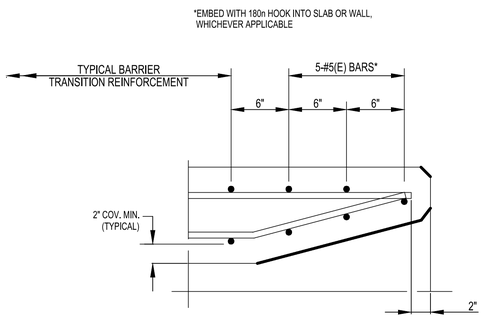
ELEVATION
CONCRETE BARRIER TRANSITION TO CORRUGATED BEAM GUIDE RAILING



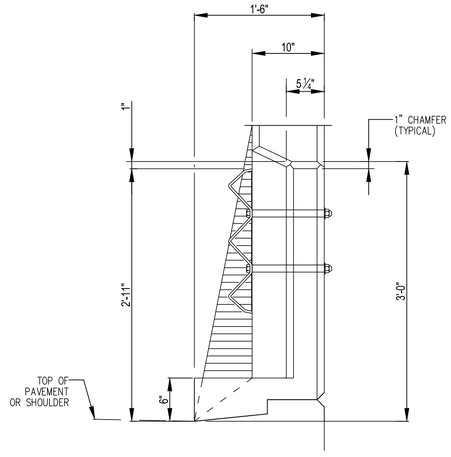
SECTION A-A
POST ELEVATION



END OF CONCRETE BARRIER
(SHOWING SLOPE AND FLARE)



REINFORCEMENT PLAN
(TRANSITION CONCRETE BARRIER END)



BARRIER END VIEW

SLEEPY HOLLOW
LOCAL DEVELOPMENT CORPORATION

WSP USA INC.
500 Summit Lake Drive, Suite 450
Valhalla, NY 10595
(914) 747-1120

ENGINEER OF RECORD:

STATE OF NEW YORK · SCOTT C. GRIGG · LICENSED · 070904 · PROFESSIONAL ENGINEER

NEW YORK STATE LICENSED
PROFESSIONAL ENGINEER

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KEY PLAN:

REVISIONS:

PROJECT NAME:

SLEEPY HOLLOW EAST PARCEL PROJECT - PHASE II

VILLAGE OF SLEEPY HOLLOW
WESTCHESTER COUNTY, NEW YORK

ISSUE DATE: 01/2023

PROJECT NUMBER: I188137H

SCALE: NOT TO SCALE

DRAWING NAME: **BARRIER TO GUIDERAIL TRANSITION DETAILS 1**

DRAWING NUMBER: STR122

SHEET NUMBER: 63

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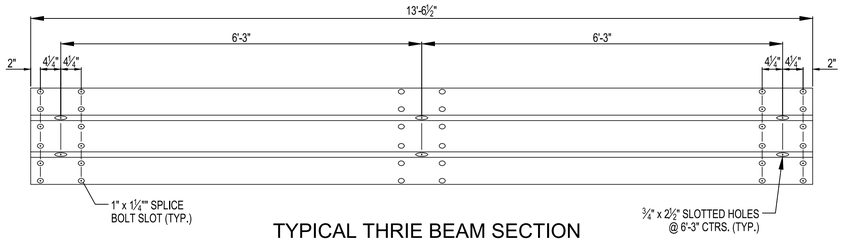
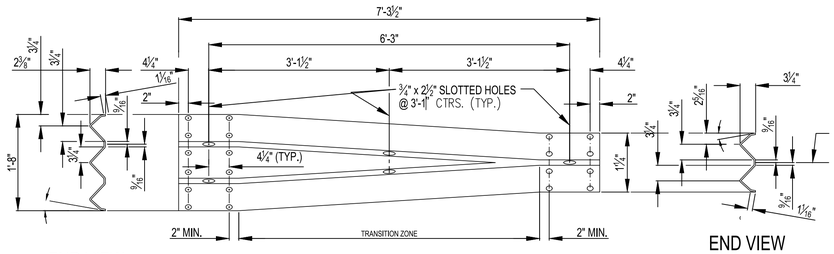


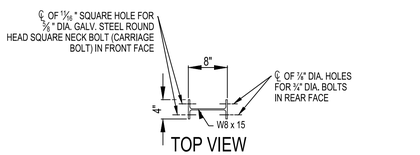
TYPICAL THRIE BEAM SECTION



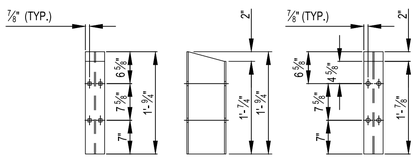
END VIEW
OF TRANSITION

TRANSITION SECTION

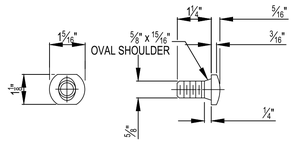
END VIEW
OF TRANSITION



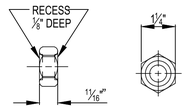
TOP VIEW



SIDE VIEW
THRIE BEAM BLOCKOUT DETAIL

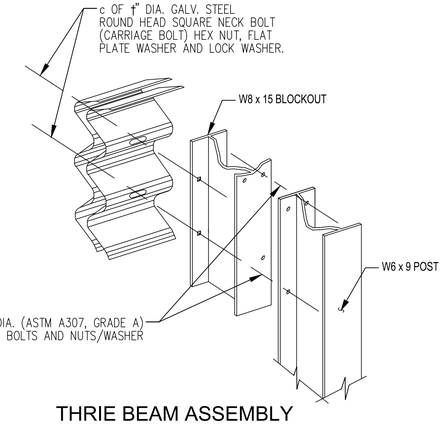


SPLICE BOLT
ASTM A307, GRADE A

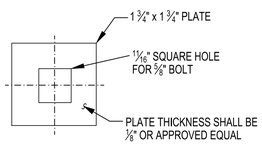


HEX NUT
ASTM A563 GRADE A OR BETTER

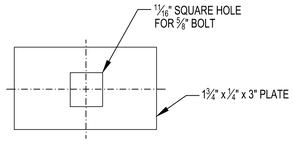
BEAM SPLICE HARDWARE
NOT TO SCALE



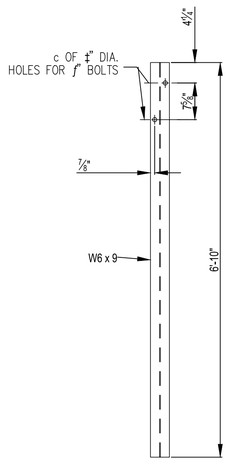
THRIE BEAM ASSEMBLY
NOT TO SCALE



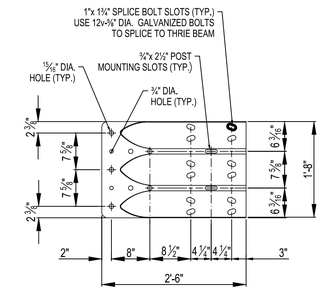
SQUARE WASHER



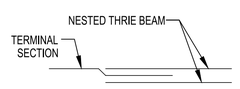
FLAT PLATE WASHER



POST DETAIL



MODIFIED TERMINAL CONNECTOR



TYPICAL SPLICE LAYOUT
NOT TO SCALE

SLEEPY HOLLOW
LOCAL DEVELOPMENT CORPORATION

WSP USA INC.
500 Summit Lake Drive, Suite 450
Valhalla, NY 10595
(914) 747-1120

ENGINEER OF RECORD:

STATE OF NEW YORK
SCOTT C. GRIEB
070904
LICENSED PROFESSIONAL ENGINEER

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 EAST PARCEL PROJECT - PHASE II

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

ISSUE DATE: 01/2023

PROJECT NUMBER: I188137H

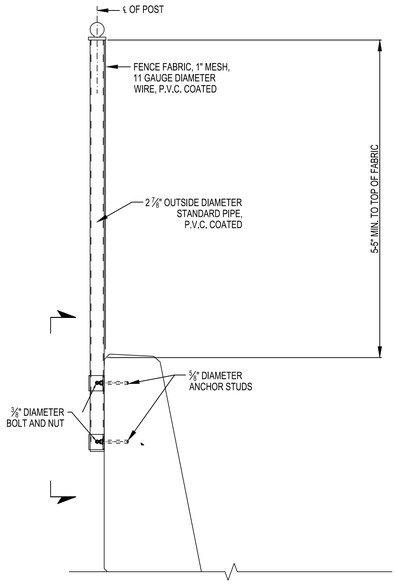
SCALE: NOT TO SCALE

DRAWING NAME: **BARRIER TO GUIDERAIL TRANSITION DETAILS 2**

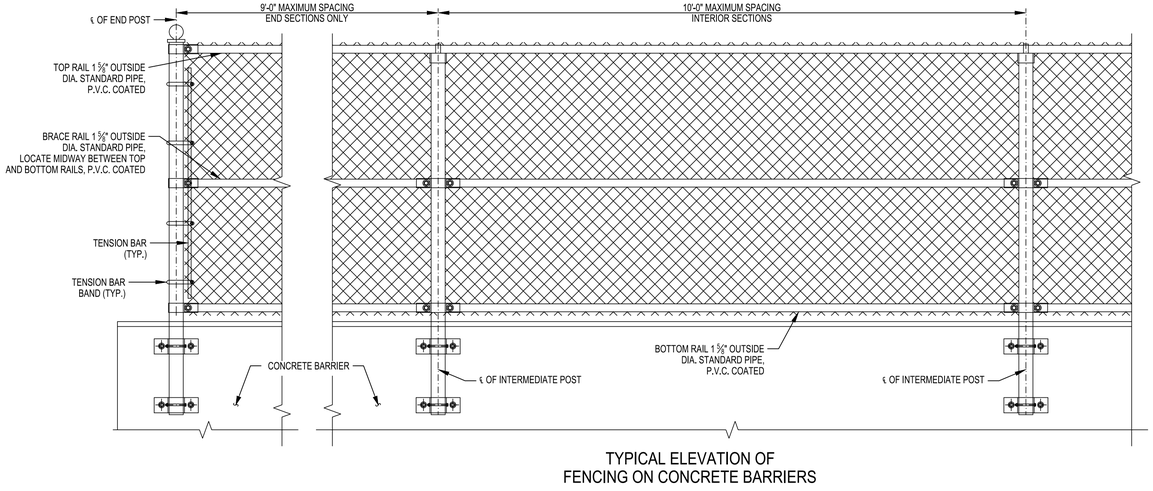
DRAWING NUMBER: STR123

SHEET NUMBER: 64

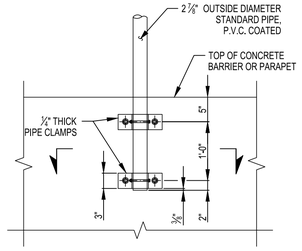
Drawing Path\Name: C:\Users\US05779121\cppdata\local\temp\AcPublish_22212\BARRIER AND MOMENT SLAB DETAILS.dwg Printed: Jan 03, 2023, 4:29pm Layout: TRANSITION 2



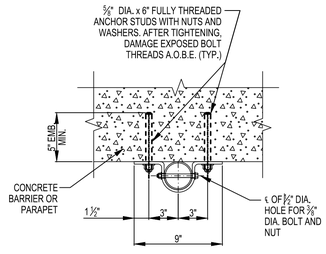
FENCING ON BARRIER



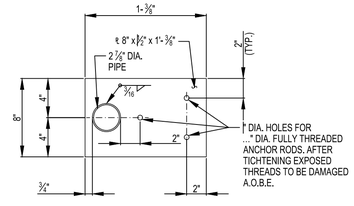
TYPICAL ELEVATION OF
FENCING ON CONCRETE BARRIERS



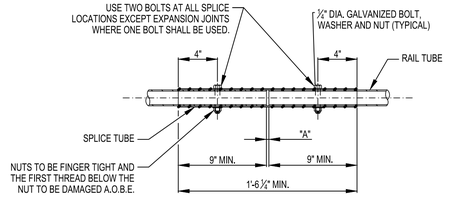
SECTION A-A



SECTION B-B



SECTION C-C



NOTE:
"A" = ¼" EXCEPT FOR EXPANSION JOINT LOCATIONS WHERE THIS DIMENSION SHALL BE SET EQUAL TO THE JOINT OPENING PLUS ¼" MIN.

TYPICAL RAIL SPLICE DETAIL

NOTES:

1. THE INTERIOR SECTIONS OF FENCE POSTS SHALL BE PLACED SO THAT THE SPACING OF THE POSTS IS UNIFORM AND DOES NOT EXCEED 10'-0".
2. THE FULLY THREADED ANCHOR STUDS FOR THE FENCE POST MAY BE DRILLED AND GROUTED OR PRE-LOCATED AND CAST INTO THE BARRIER .
3. DRILLING AND GROUTING OF FULLY THREADED ANCHOR STUDS SHALL BE IN ACCORDANCE WITH NYSDOT STANDARD SPECIFICATIONS SECTION 586 - MISCELLANEOUS STRUCTURAL RECONSTRUCTION.
4. IT IS PERMISSIBLE TO INSTALL SHIM PLATES BEHIND THE VERTICAL FENCE POSTS TO ACHIEVE PLUMB. SHIMS MUST HAVE † DIA. HOLES MATCHING THE PIPE CLAMP FOR THE † DIA. ANCHOR STUDS. SHIMS SHALL BE OF STAINLESS STEEL (ASTM A666). THE REQUIRED QUANTITY AND THICKNESS OF SHIMS WILL BE DETERMINED IN FIELD.

SLEEPY HOLLOW
LOCAL DEVELOPMENT CORPORATION

WSP USA INC.
500 Summit Lake Drive, Suite 450
Valhalla, NY 10595
(914) 747-1120

ENGINEER OF RECORD:

SCOTT C. GRIGG
STATE OF NEW YORK
070904
LICENSED PROFESSIONAL ENGINEER

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 EAST PARCEL PROJECT - PHASE II

VILLAGE OF SLEEPY HOLLOW
WESTCHESTER COUNTY, NEW YORK

ISSUE DATE: 01/2023

PROJECT NUMBER: **I188137H**

SCALE: **NOT TO SCALE**

DRAWING NAME: **FENCING ON CONCRETE BARRIER DETAILS**

DRAWING NUMBER: **STR124**

SHEET NUMBER: 65

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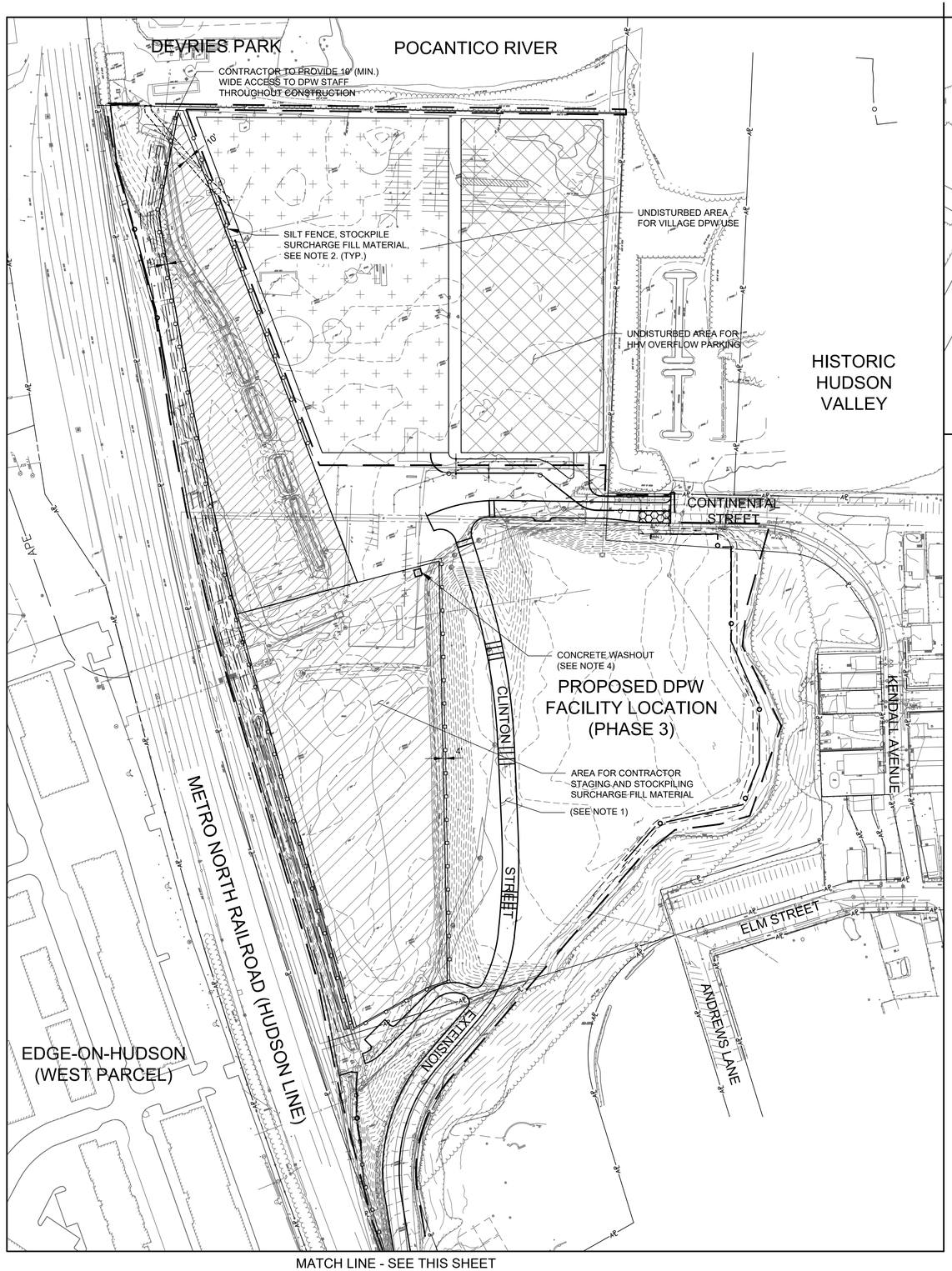
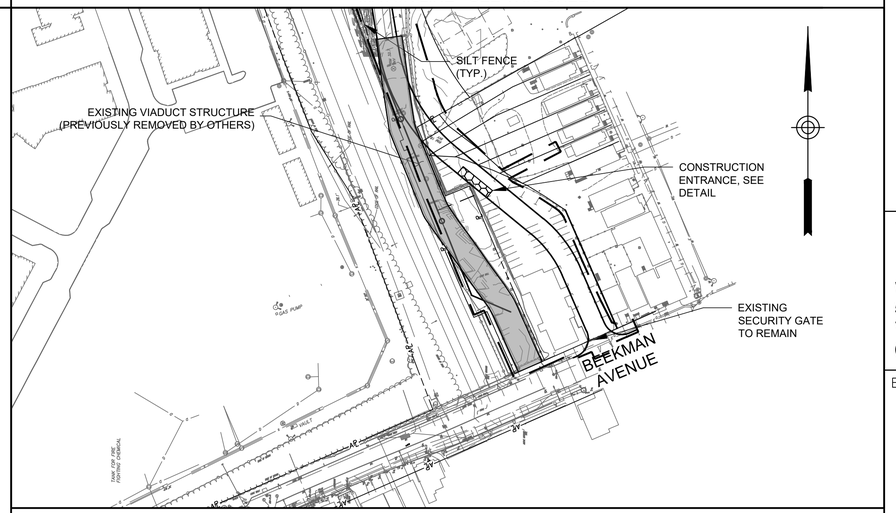


MATCH LINE - SEE THIS SHEET



LEGEND:

- LIMIT OF DISTURBANCE
- PROPOSED ROADWAYS (SEE NOTE 1)
- AREA REQUIRING ACCESS FOR MNR AND DPW STAFF THROUGHOUT CONSTRUCTION
- SILT FENCE
- APPROXIMATE LIMIT OF EXISTING VIADUCT TO BE REMOVED
- CONSTRUCTION ENTRANCE

NOTE:

1. FOR LIMITS OF PROPOSED ROADWAY WORK, SEE SITE PLANS.
2. THE CONTRACTOR SHALL INSTALL INLET PROTECTION AT EXISTING AND PROPOSED CATCH BASINS UNTIL ADEQUATE TURF ESTABLISHMENT HAS BEEN APPROVED BY THE ENGINEER.
3. THE CONTRACTOR SHALL MAINTAIN ADEQUATE SOIL EROSION CONTROL MEASURES AROUND THE STOCKPILED FILL MATERIAL.
4. THE CONCRETE WASHOUT AREA SHALL BE 8' x 8' (MIN.) AND HAVE A LINED TO PREVENT LEACHING (10 MILS MIN. THICKNESS). IF EXCAVATED, WASHOUT MUST BE 2' DEEP WITH 2:1 SLOPES. EARTHEN BERMS, STONE OR SANDBAGS WITH SILT FENCE OR HAY BALES SHALL SURROUND THE WASHOUT AREA AND BE LOCATED 100' (MIN.) FROM ANY WETLANDS, DRAINAGE SWALES, INLETS, STREAMS OR OTHER SURFACE WATERS. IF PRE-FABRICATED WASHOUTS ARE USED, THEY MUST BE SELF-CONTAINED AND SIZED APPROPRIATELY BASED ON CONCRETE POUR FREQUENCIES.
5. ALL EXISTING AND PROPOSED STORM WATER DRAINAGE INLETS SHALL HAVE INLET PROTECTION UNTIL UPSTREAM SLOPES HAVE BEEN ESTABLISHED AND AS DIRECTED BY THE ENGINEER, SEE GRADING AND UTILITIES PLANS FOR LOCATIONS.
6. FOR LIMITS OF CLEARING AND GRUBBING, SEE EXISTING CONDITIONS AND REMOVAL PLANS.
7. SITE ACCESS INTO AND OUT OF THE SITE SHALL BE MAINTAINED DURING CONSTRUCTION. ACCESS TO HHV OVERFLOW PARKING TO BE PROVIDED DURING SCHEDULED EVENTS. ACCESS TO THE SLEEPY HOLLOW DPW STORAGE AREA SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION. CONSTRUCTION ENTRANCES SHALL BE PLACED IN APPROPRIATE LOCATIONS AND RELOCATED AS REQUIRED DUE TO CONTRACTOR'S STAGING OPERATIONS.

0 100 200
SCALE IN FEET

SLEEPY HOLLOW
LOCAL DEVELOPMENT CORPORATION

WSP USA INC.
500 Summit Lake Drive, Suite 450
Valhalla, NY 10595
(914) 747-1120

ENGINEER OF RECORD:

STATE OF NEW YORK · SCOTT C. GRIGGS · LICENSED · 070904 · PROFESSIONAL ENGINEER

NEW YORK STATE LICENSED PROFESSIONAL ENGINEER

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KEY PLAN:

REVISIONS:

PROJECT NAME:

SLEEPY HOLLOW EAST PARCEL PROJECT - PHASE II

VILLAGE OF SLEEPY HOLLOW WESTCHESTER COUNTY, NEW YORK

ISSUE DATE: 01/2023

PROJECT NUMBER: I188137H

SCALE: 1"=100'-0"

DRAWING NAME: **OVERALL SOIL EROSION & SEDIMENT CONTROL PLAN**

DRAWING NUMBER: ESC101

SHEET NUMBER: 66

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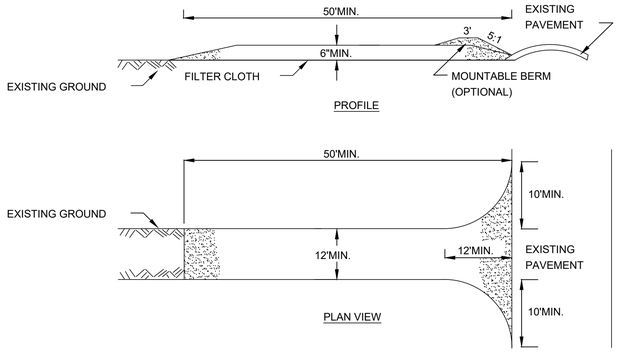
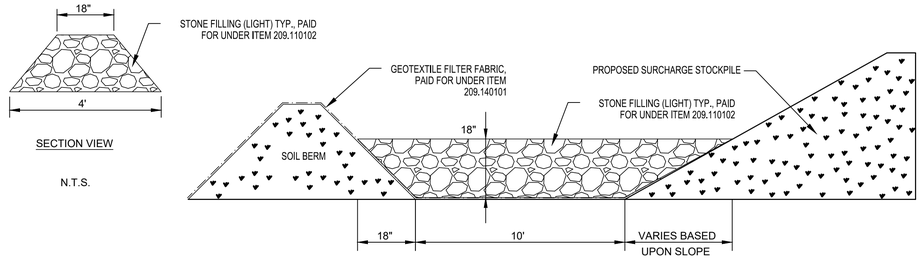


CONSTRUCTION SPECIFICATIONS

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 CONSTRUCTION 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.

CONSTRUCTION ENTRANCE DETAIL
PAID FOR UNDER ITEM 209.22

N.T.S.

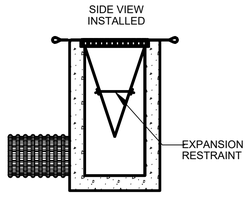


NOTES:

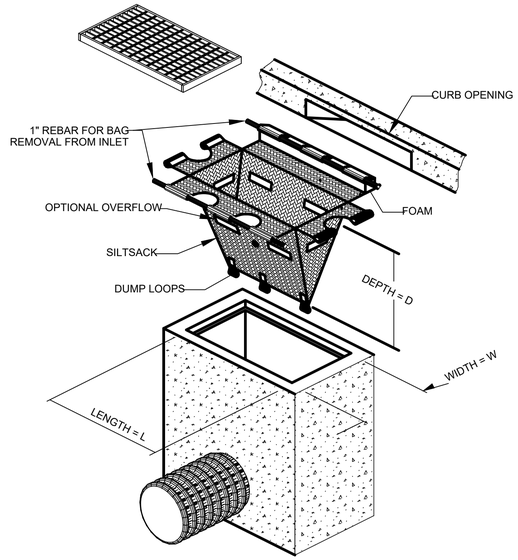
1. STONE CHECK DAMS SHALL BE PLACED AT FIFTY (50) FOOT INTERVALS OR AS OTHRWISE SHOWN ON PLANS.

STONE CHECK DAM DETAIL (ITEM 209.110102)

N.T.S.



INSTALLATION DETAIL



INLET SEDIMENT CONTROL DEVICE WITH CURB DEFLECTOR
PAID FOR UNDER ITEMS 209.11000011 & 209.12000011

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

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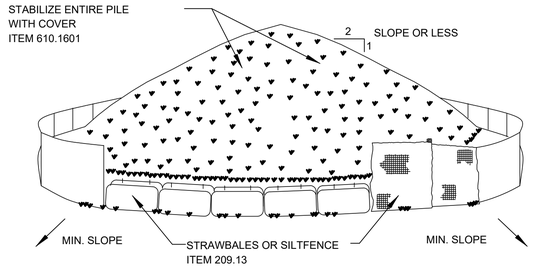

INSTALLATION NOTES:

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.

SOIL STOCKPILING DETAIL
(PAID FOR UNDER ITEM 203.02)

N.T.S.

SLEEPY HOLLOW
LOCAL DEVELOPMENT CORPORATION

WSP USA INC.
500 Summit Lake Drive, Suite 450
Valhalla, NY 10595
(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 EAST PARCEL PROJECT - PHASE II

VILLAGE OF SLEEPY HOLLOW WESTCHESTER COUNTY, NEW YORK

ISSUE DATE: 01/2023

PROJECT NUMBER:	SCALE:
I188137H	AS SHOWN

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

DRAWING NUMBER:	SHEET NUMBER:
ESCD101	67

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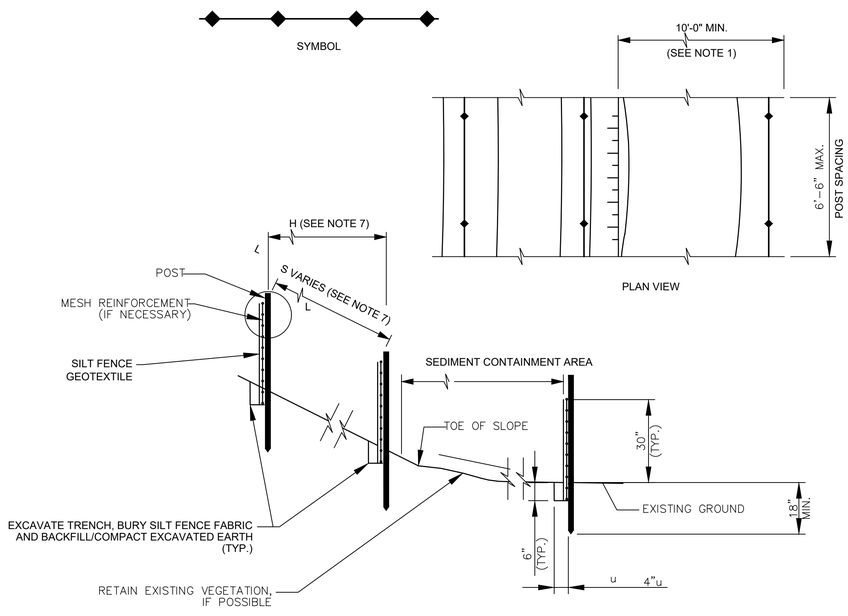

SECTION

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.

SLOPE INSTALLATION

NOTES:

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-SEED DO NOT SEED PREPARED AREA. CELL-O-SEED MUST BE INSTALLED WITH PAPER SIDE DOW
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" (30cm) OF RECP's EXTENDED BEYOND THE UP-SLOPE PORTION OF THE TRENCH. ANCHOR THE N 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 COMPACTED 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 PLACED THROUGH EACH OF THE COLORED DOTS CORRESPONDING TO 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 EXCEEDS 1:3.

PHOTODEGRADABLE EROSION CONTROL BLANKET DETAIL

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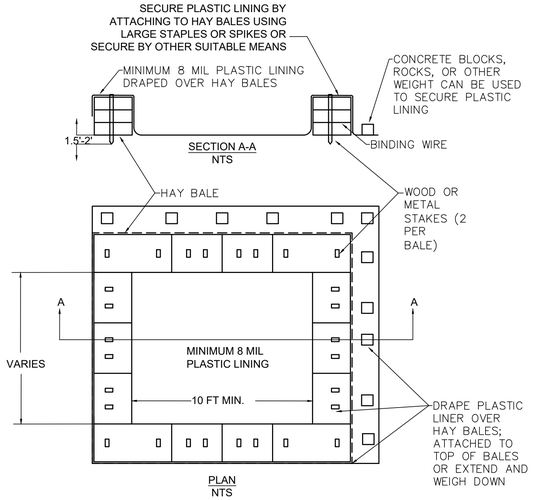

CONCRETE WASHOUT NOTES:

1. CONCRETE WASHOUT PITS SHALL BE UTILIZED FOR ALL CONCRETE WORK TO PREVENT DISCHARGE TO DRAINAGE SYSTEMS, STREAMS, WETLANDS AND/OR INFILTRATION TO GROUND WATER IN ACCORDANCE WITH SECTION 107-12 OF THE STANDARD SPECIFICATIONS. WASH OUT PITS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE 2016 NEW YORK STATE STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL.
2. WASH OUT PITS SHALL BE SELF-CONTAINED AND LINED WITH PLASTIC LINING WITH A MINIMUM THICKNESS OF 8 MILS. ACCUMULATED, HARDENED CONCRETE MAY BE DISPOSED OF IN A SPOIL SITE. ANY EXCESS WASH WATER SHALL BE PUMPED AND TRANSPORTED TO AN APPROPRIATE DISPOSAL FACILITY.
3. THE COST FOR THE WASH OUT PIT, COLLECTION, TRANSPORTATION AND DISPOSAL OF THESE MATERIALS SHALL BE INCLUDED IN THE UNIT PRICES BID FOR RELATED ITEMS.

NOTE:
PORTABLE CONCRETE WASHOUT AREAS SUCH AS THOSE MANUFACTURED BY OUTPAK MAY BE SUBSTITUTED PROVIDED THE CAPACITY IS NOT EXCEEDED. LOCATION RESTRICTIONS MUST BE MET.

HAY BALE ABOVE GRADE CONCRETE WASHOUT DETAIL

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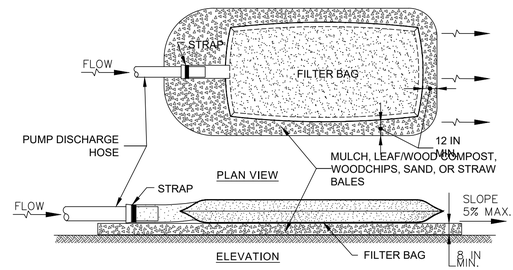


CONSTRUCTION SPECIFICATIONS

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/FT²	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.

SLEEPY HOLLOW
LOCAL DEVELOPMENT CORPORATION

WSP USA INC.
500 Summit Lake Drive, Suite 450
Valhalla, NY 10595
(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 EAST PARCEL PROJECT - PHASE II

VILLAGE OF SLEEPY HOLLOW
WESTCHESTER COUNTY, NEW YORK

ISSUE DATE: 01/2023

PROJECT NUMBER: I188137H

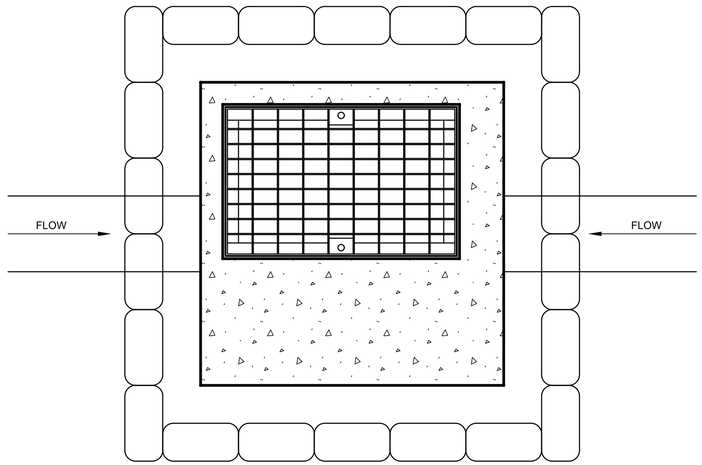
SCALE: AS SHOWN

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

DRAWING NUMBER: ESCD102

SHEET NUMBER: 68

Drawing Path\Name: C:\bms\wsp-pb--us--pw--02\joseph.byrne@wsp.com\d0376323\Erosion Details.dwg Printed: Dec 09, 2022, 5:15pm Layout: ESCD-2

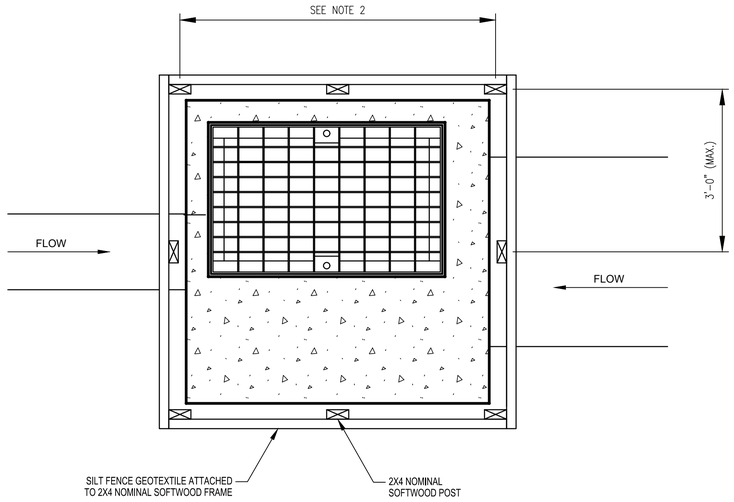


PLAN

CROSS SECTION

DRAINAGE STRUCTURE INLET PROTECTION (GRAVEL BAG) - TEMPORARY (ITEM 209.1702)

N.T.S.



PLAN

CROSS SECTION

DRAINAGE STRUCTURE INLET PROTECTION (SILT FENCE) - TEMPORARY (ITEM 209.1701)

N.T.S.

INLET PROTECTION: NOTES:

1. THE PRIMARY PURPOSE OF DRAINAGE STRUCTURE INLET PROTECTION IS TO PREVENT SEDIMENT FROM ENTERING A DRAINAGE SYSTEM BY PONDING WATER WHICH ALLOWS SEDIMENT TO FALL OUT OF SUSPENSION.
2. GRAVEL BAGS ARE FILLED WITH CLEAN STONE RATHER THAN SAND TO PREVENT SEDIMENT FROM ENTERING A DRAINAGE SYSTEM IF BAGS ARE DAMAGED DURING USE.
3. THE TOP OF THE INLET PROTECTION SHALL BE SET AT THE MAXIMUM DESIRED WATER LEVEL BASED ON FIELD LOCATION AND CONDITIONS.
4. APPROVED SILT FENCE GEOTEXTILES ARE LISTED ON THE NYSDOT APPROVED LIST.
5. SILT FENCE GEOTEXTILE SHALL BE A SINGLE CONTINUOUS PIECE TO ELIMINATE JOINTS.
6. OVERLAP GEOTEXTILE TO ELIMINATE ANY OPENING.
7. SPACE SILT FENCE POSTS EVENLY AROUND INLET WITH A MAXIMUM SPACING OF 3'. DRIVE POSTS A MINIMUM OF 18" INTO GROUND. WIRE MESH MAY BE REQUIRED BEHIND GEOTEXTILE TO PROVIDE SUPPORT.
8. SILT FENCE GEOTEXTILE SHALL BE EMBEDDED 12" AND BACKFILLED. GEOTEXTILE SHALL BE SECURELY FASTENED TO POSTS AND FRAME.
9. GRAVEL BAGS SHALL BE INDIVIDUALLY TIED, DOUBLE BAGGED AND INVERSELY INSERTED. GRAVEL BAGS SHALL LAP THE JOINTS BETWEEN THE BAGS IN THE LAYER BELOW.
10. COST OF EXCAVATION FOR INSTALLATION SHALL BE INCLUDED IN THE PRICE BID FOR ITEM.
11. MEASURES SHALL BE INSPECTED EVERY SEVEN (7) CALENDAR DAYS, AFTER EACH RAINFALL OF 0.25"OR MORE WITHIN A 24 HOUR PERIOD, OR DAILY DURING PROLONGED RAINFALL.
12. MEASURES SHALL BE CLEANED AND REPAIRED AS REQUIRED. SEDIMENT SHALL BE REMOVED WHEN ACCUMULATION REACHES ONE-HALF OF THE MEASURE HEIGHT, SEDIMENT SHALL BE DISPOSED OF AS UNSUITABLE MATERIAL.
13. MAXIMUM DRAINAGE AREA FOR DRAINAGE STRUCTURE INLET PROTECTION IS ONE ACRE.

SLEEPY HOLLOW
LOCAL DEVELOPMENT CORPORATION

WSP USA INC.
500 Summit Lake Drive, Suite 450
Valhalla, NY 10595
(914) 747-1120

ENGINEER OF RECORD:

STATE OF NEW YORK SCOTT C. GRIBBIN LICENSED PROFESSIONAL ENGINEER 070904

NEW YORK STATE LICENSED PROFESSIONAL ENGINEER

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KEY PLAN:

REVISIONS:

PROJECT NAME:

SLEEPY HOLLOW EAST PARCEL PROJECT - PHASE II

VILLAGE OF SLEEPY HOLLOW
WESTCHESTER COUNTY, NEW YORK

ISSUE DATE: 01/2023

PROJECT NUMBER: 1188137H

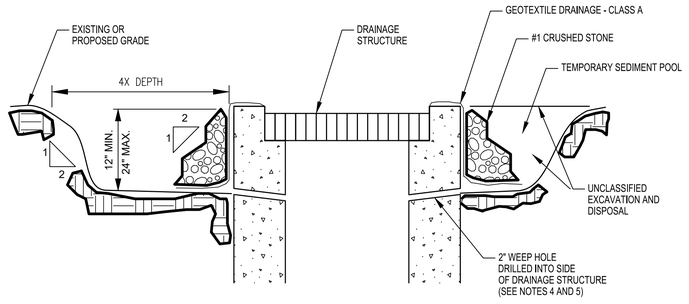
SCALE: AS SHOWN

DRAWING NAME: **EROSION & SEDIMENT CONTROL DETAILS - 3**

DRAWING NUMBER: ESCD103

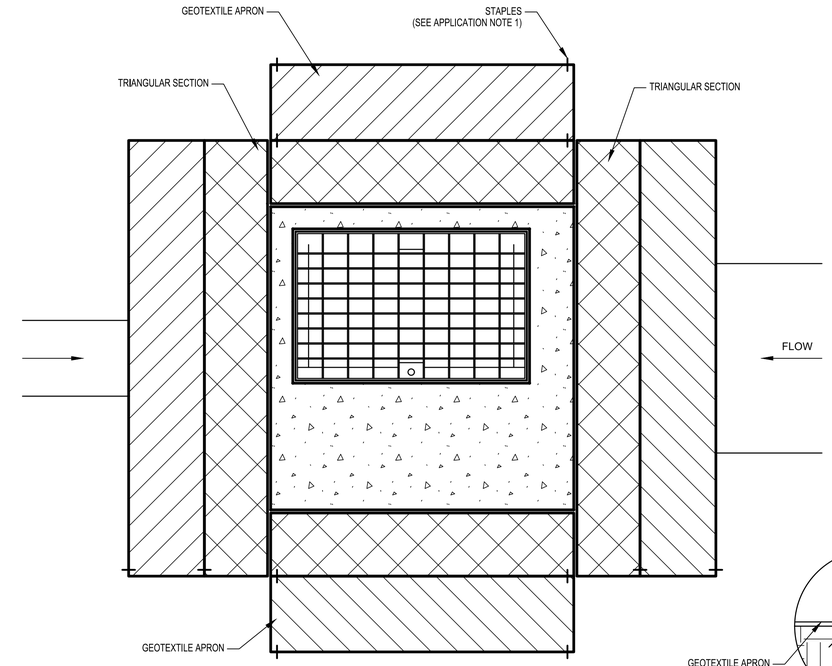
SHEET NUMBER: 69

Drawing Path\Name: C:\sma\wsp--pb--us--pw--02\joseph.tyrock@wsp.com\d0376332\Erosion Details.dwg Printed: Dec 09, 2022, 5:16pm Layout: ESCD--3

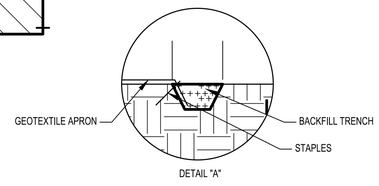


DRAINAGE STRUCTURE INLET PROTECTION - EXCAVATED (TEMPORARY) ITEM 209.1705

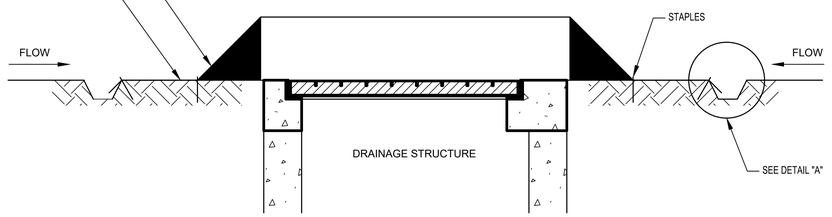
N.T.S.



PLAN VIEW



DETAIL "A"



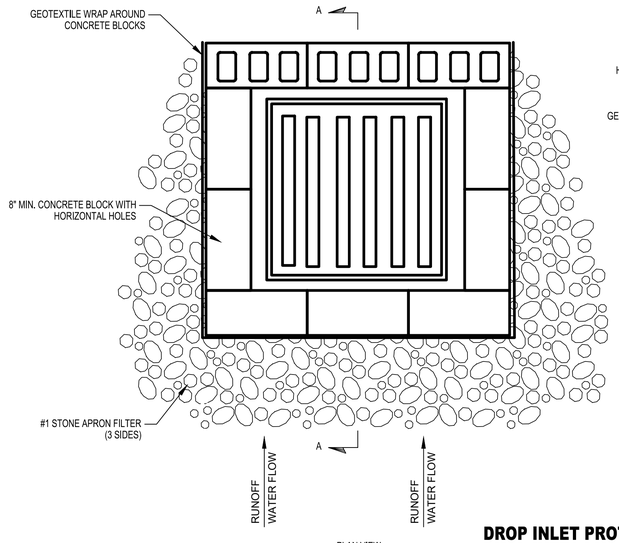
CROSS SECTION

DRAINAGE STRUCTURE INLET PROTECTION - TEMPORARY (ITEM 209.1703)

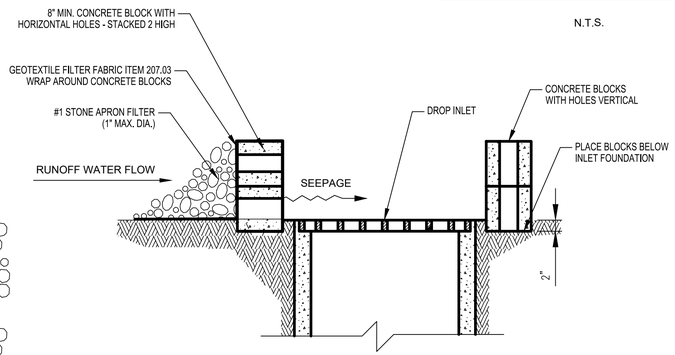
N.T.S.

NOTES:

1. SECURE THE ENDS OF THE APRON FOR THE PREFABRICATED DRAINAGE STRUCTURE INLET PROTECTION WITH STAPLES AS DETAILED IN THE PLAN VIEW OR AS RECOMMENDED BY THE MANUFACTURER'S LITERATURE.
2. MEASURES SHALL BE INSPECTED EVERY SEVEN (7) DAYS, AFTER EACH RAINFALL OF ½" OR MORE WITHIN A 24 HOUR PERIOD, OR DAILY DURING PROLONGED RAINFALL. MEASURES SHALL BE CLEANED AND REPAIRED AS REQUIRED.
3. SEDIMENT SHALL BE REMOVED WHEN ACCUMULATION REACHES ONE-HALF OF THE MEASURE HEIGHT. SEDIMENT SHALL BE DISPOSED OF AS UNSUITABLE MATERIAL.
4. WEEP HOLES SHALL BE PROTECTED BY GEOTEXTILE AND STONE.
5. UPON STABILIZATION OF CONTRIBUTING AREA, WEEP HOLES SHALL BE SEALED AND GEOTEXTILE REMOVED.
6. MAINTENANCE SHALL INCLUDE REPAIR AND RE-BUILDING INLET PROTECTION AS NEEDED TO ENSURE THAT IT FUNCTIONS AS ORIGINALLY INTENDED.
7. INLET PROTECTION - EXCAVATED, FOR THIS PROJECT, SHALL BE INSTALLED AT DRAINAGE LOW POINTS AS SHOWN ON THE PLANS AND AS DETERMINED BY THE ENGINEER.



PLAN VIEW



NOTE: THIS METHOD OF INLET PROTECTION OR APPROVED EQUAL IS APPLICABLE WHEN HEAVY FLOWS ARE EXPECTED AND WHERE AN OVERFLOW CAPACITY IS NECESSARY TO PREVENT EXCESSIVE PONDING AROUND THE STRUCTURE.

SECTION A-A

DROP INLET PROTECTION - CONCRETE BLOCK (ITEM 209.17010008)

N.T.S.

SLEEPY HOLLOW
LOCAL DEVELOPMENT CORPORATION

WSP USA INC.
500 Summit Lake Drive, Suite 450
Valhalla, NY 10595
(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 EAST PARCEL PROJECT - PHASE II

VILLAGE OF SLEEPY HOLLOW WESTCHESTER COUNTY, NEW YORK

ISSUE DATE: 01/2023

PROJECT NUMBER: I188137H

SCALE: AS SHOWN

DRAWING NAME: **EROSION & SEDIMENT CONTROL DETAILS - 4**

DRAWING NUMBER: ESCD104

SHEET NUMBER: 70

Drawing Path\Name: C:\prm\wsp--pb--us--pw--02\joseph.tyrone@wsp.com\d0376332\Erosion Details.dwg Printed: Dec 09, 2022, 5:15pm Layout: ESCD--4

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: Village of Sleepy Hollow

2. Street Address: 28 Beekman Avenue, 2nd Floor

3. City/State/Zip: Sleepy Hollow, NY 10591

4. Contact Person: Anthony Giaccio | 4a.Telephone: 914-366-5105

4b. Contact Person E-Mail: agiaccio@villageofsleepyhollow.org

II. Project Site Information

5. Project/Site Name: East Parcel Redevelopment (Sleepy Hollow Commons) - Phase 2

6. Street Address: 100 Continental Street

7. City/Zip: Sleepy Hollow, NY 10591

8. County: Westchester

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

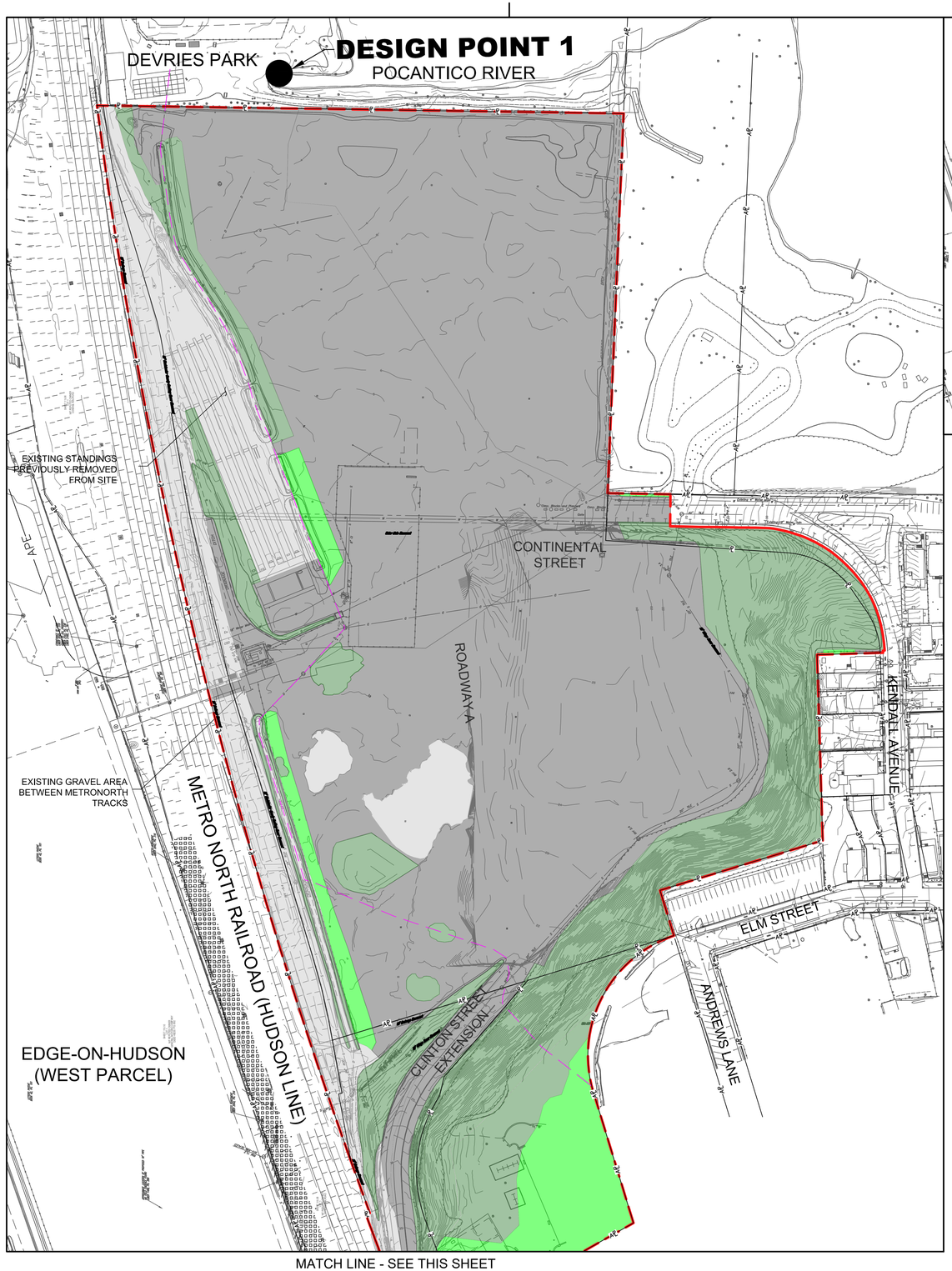
I hereby certify that this document was prepared by me or under my direction or supervision. My determination, based upon my inquiry of the person(s) who managed the construction activity, or those persons directly responsible for gathering the information, is that the information provided in this document 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.

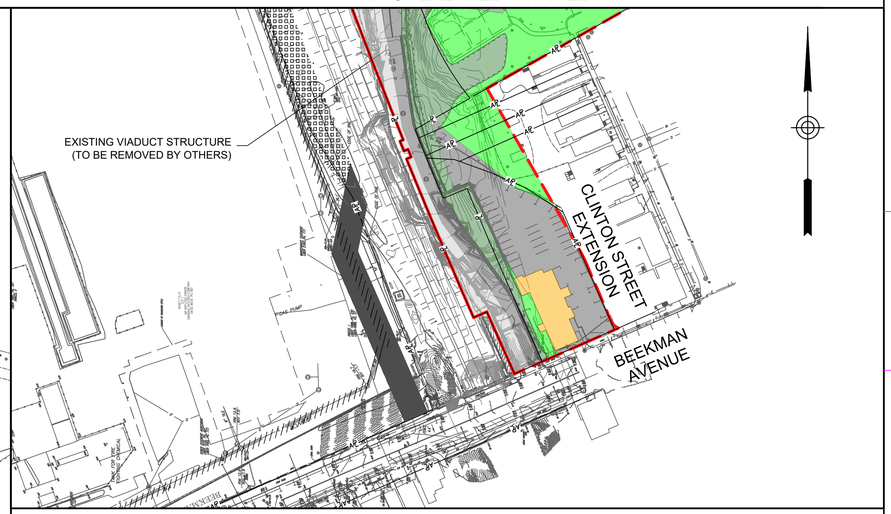
Printed Name:	
Title/Position:	
Signature:	Date:

(NYS DEC Notice of Termination - January 2015)

Appendix H

Drainage Area Maps





LEGEND

- GRASS
- PAVEMENT
- BUILDING
- WOODS
- WATER
- GRAVEL/SLIGHT IMPERVIOUS
- BOUNDARY
- TIME OF CONCENTRATION PATH

0 100 200
SCALE IN FEET

SLEEPY HOLLOW
LOCAL DEVELOPMENT CORPORATION

WSP USA INC.
500 Summit Lake Drive, Suite 400
Valhalla, NY 10595
(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 EAST PARCEL PROJECT - PHASE II

VILLAGE OF SLEEPY HOLLOW WESTCHESTER COUNTY, NEW YORK

ISSUE DATE: OCTOBER 2021

PROJECT NUMBER: 188137H

SCALE: 1"=100'-0"

DRAWING NAME: **DRAINAGE AREA MAP EXISTING CONDITIONS**

DRAWING NUMBER: DA-101

SHEET NUMBER: 1 OF 2

Drawing Path\Name: C:\Xmit\wsp-pb-us-pw-021\Joseph.tyrol@wsp.com\60402269\Overall Drainage Area\PRE_for SSA_2010_SWPPP.dwg Printed: Oct 27, 2021, 5:30pm Layout: Overall

MATCH LINE - SEE THIS SHEET

LEGEND

- GRASS
- PAVEMENT
- BUILDING
- WOODS
- WATER
- GRAVEL/SLIGHT IMPERVIOUS
- BOUNDARY
- TIME OF CONCENTRATION PATH

NOTES:

1. PHASE 2 WORK INCLUDES ROADWAY A, THE EXTENSION OF CLINTON STREET AND CONTINENTAL STREET, THE DPW FACILITY SITE, UTILITIES AND DRAINAGE.
2. PROGRAM AREAS OUTSIDE BEYOND THOSE MENTIONED IN PHASE 2 HAVE NOT BEEN FINALIZED AT THE TIME OF THIS REPORT. AREAS REPRESENTED ON THIS MAP ARE APPROXIMATE AND CONSERVATIVE BASED ON CONVERSATIONS WITH THE LOCAL DEVELOPMENT CORPORATION AND AND CONCEPTUAL DESIGN PLANS.

0 100 200
SCALE IN FEET

SLEEPY HOLLOW
LOCAL DEVELOPMENT CORPORATION

VILLAGE OF SLEEPY HOLLOW 1874

WSP USA INC.
500 Summit Lake Drive, Suite 400
Valhalla, NY 10595
(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 EAST PARCEL PROJECT - PHASE II

VILLAGE OF SLEEPY HOLLOW WESTCHESTER COUNTY, NEW YORK

ISSUE DATE: OCTOBER 2021

PROJECT NUMBER: 188137H

SCALE: **1"=100'-0"**

DRAWING NAME: **DRAINAGE AREA MAP PROPOSED CONDITIONS**

DRAWING NUMBER: **DA-102**

SHEET NUMBER: **2** OF 2

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Appendix I

NOAA Point Precipitation Frequency Estimates &

FEMA Flood Insurance Rate Maps

NOAA Atlas 14, Volume 10, Version 3
Location name: Tarrytown, New York, USA*
Latitude: 41.0873°, Longitude: -73.8656°
Elevation: 27.4 ft**
* source: ESRI Maps
** source: USGS

POINT PRECIPITATION FREQUENCY ESTIMATES

Sanja Perica, Sandra Pavlovic, Michael St. Laurent, Carl Trypaluk, Dale Unruh, Orlan Wilhite

NOAA, National Weather Service, Silver Spring, Maryland

PF_tabular | PF_graphical | Maps_&_aerials

PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches/hour)[1]

Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	**4.42** (3.48-5.54)	**5.16** (4.07-6.49)	**6.38** (5.00-8.05)	**7.40** (5.77-9.37)	**8.80** (6.61-11.6)	**9.86** (7.26-13.2)	**10.9** (7.78-15.2)	**12.1** (8.18-17.2)	**13.7** (8.87-20.1)	**14.9** (9.43-22.4)
10-min	**3.13** (2.47-3.93)	**3.65** (2.88-4.60)	**4.52** (3.54-5.70)	**5.24** (4.09-6.65)	**6.23** (4.69-8.21)	**6.98** (5.14-9.38)	**7.76** (5.51-10.7)	**8.57** (5.80-12.2)	**9.69** (6.29-14.3)	**10.6** (6.68-15.9)
15-min	**2.45** (1.93-3.08)	**2.87** (2.26-3.61)	**3.55** (2.78-4.48)	**4.11** (3.21-5.22)	**4.89** (3.68-6.44)	**5.48** (4.03-7.36)	**6.08** (4.32-8.43)	**6.72** (4.55-9.59)	**7.60** (4.93-11.2)	**8.28** (5.24-12.5)
30-min	**1.70** (1.34-2.14)	**1.99** (1.56-2.50)	**2.45** (1.92-3.09)	**2.84** (2.21-3.60)	**3.37** (2.53-4.43)	**3.78** (2.77-5.06)	**4.19** (2.97-5.79)	**4.61** (3.12-6.58)	**5.19** (3.37-7.65)	**5.63** (3.56-8.47)
60-min	**1.09** (0.857-1.37)	**1.27** (0.999-1.60)	**1.56** (1.23-1.97)	**1.81** (1.41-2.29)	**2.15** (1.61-2.82)	**2.41** (1.77-3.22)	**2.67** (1.89-3.68)	**2.93** (1.99-4.18)	**3.29** (2.14-4.85)	**3.56** (2.25-5.35)
2-hr	**0.725** (0.576-0.905)	**0.836** (0.664-1.05)	**1.02** (0.806-1.28)	**1.17** (0.920-1.48)	**1.38** (1.04-1.80)	**1.54** (1.14-2.05)	**1.70** (1.21-2.34)	**1.87** (1.27-2.65)	**2.10** (1.37-3.08)	**2.28** (1.45-3.41)
3-hr	**0.560** (0.447-0.697)	**0.647** (0.515-0.806)	**0.789** (0.626-0.985)	**0.907** (0.715-1.14)	**1.07** (0.813-1.39)	**1.19** (0.885-1.59)	**1.32** (0.946-1.81)	**1.46** (0.991-2.05)	**1.64** (1.07-2.40)	**1.79** (1.14-2.67)
6-hr	**0.350** (0.281-0.432)	**0.410** (0.329-0.507)	**0.508** (0.405-0.630)	**0.589** (0.467-0.734)	**0.701** (0.537-0.910)	**0.785** (0.588-1.04)	**0.873** (0.632-1.20)	**0.972** (0.664-1.36)	**1.11** (0.730-1.62)	**1.23** (0.784-1.82)
12-hr	**0.208** (0.168-0.255)	**0.249** (0.201-0.306)	**0.318** (0.256-0.391)	**0.374** (0.299-0.464)	**0.452** (0.349-0.585)	**0.510** (0.385-0.675)	**0.572** (0.418-0.785)	**0.644** (0.442-0.899)	**0.750** (0.493-1.08)	**0.839** (0.537-1.23)
24-hr	**0.120** (0.098-0.147)	**0.147** (0.120-0.180)	**0.191** (0.155-0.234)	**0.228** (0.184-0.281)	**0.279** (0.216-0.359)	**0.316** (0.240-0.416)	**0.356** (0.263-0.488)	**0.404** (0.278-0.560)	**0.475** (0.313-0.681)	**0.536** (0.344-0.781)
2-day	**0.068** (0.056-0.083)	**0.084** (0.069-0.102)	**0.110** (0.089-0.133)	**0.131** (0.106-0.160)	**0.160** (0.125-0.205)	**0.182** (0.139-0.238)	**0.206** (0.152-0.280)	**0.234** (0.161-0.322)	**0.276** (0.182-0.393)	**0.312** (0.201-0.452)
3-day	**0.050** (0.041-0.060)	**0.061** (0.050-0.073)	**0.079** (0.065-0.096)	**0.094** (0.077-0.115)	**0.115** (0.091-0.147)	**0.131** (0.101-0.171)	**0.148** (0.110-0.200)	**0.168** (0.116-0.230)	**0.198** (0.131-0.281)	**0.224** (0.145-0.324)
4-day	**0.040** (0.033-0.048)	**0.049** (0.040-0.059)	**0.063** (0.052-0.076)	**0.075** (0.061-0.091)	**0.091** (0.072-0.116)	**0.104** (0.080-0.135)	**0.117** (0.087-0.158)	**0.133** (0.092-0.181)	**0.156** (0.104-0.221)	**0.177** (0.114-0.254)
7-day	**0.027** (0.023-0.032)	**0.033** (0.027-0.039)	**0.041** (0.034-0.050)	**0.049** (0.040-0.059)	**0.059** (0.047-0.075)	**0.067** (0.051-0.086)	**0.075** (0.056-0.100)	**0.084** (0.059-0.115)	**0.099** (0.066-0.139)	**0.111** (0.072-0.159)
10-day	**0.022** (0.018-0.026)	**0.026** (0.022-0.031)	**0.032** (0.027-0.039)	**0.038** (0.031-0.046)	**0.045** (0.036-0.057)	**0.051** (0.040-0.066)	**0.057** (0.043-0.076)	**0.064** (0.045-0.087)	**0.074** (0.050-0.104)	**0.083** (0.054-0.118)
20-day	**0.015** (0.013-0.018)	**0.018** (0.015-0.021)	**0.021** (0.018-0.025)	**0.024** (0.020-0.029)	**0.029** (0.023-0.036)	**0.032** (0.025-0.040)	**0.035** (0.026-0.046)	**0.039** (0.027-0.052)	**0.044** (0.029-0.061)	**0.048** (0.031-0.068)
30-day	**0.013** (0.011-0.015)	**0.014** (0.012-0.017)	**0.017** (0.014-0.020)	**0.019** (0.016-0.023)	**0.022** (0.018-0.028)	**0.025** (0.019-0.031)	**0.027** (0.020-0.035)	**0.030** (0.021-0.040)	**0.033** (0.022-0.045)	**0.035** (0.023-0.050)
45-day	**0.011** (0.009-0.012)	**0.012** (0.010-0.014)	**0.014** (0.012-0.016)	**0.015** (0.013-0.018)	**0.018** (0.014-0.022)	**0.019** (0.015-0.024)	**0.021** (0.016-0.027)	**0.023** (0.016-0.030)	**0.025** (0.017-0.034)	**0.026** (0.017-0.037)
60-day	**0.009** (0.008-0.011)	**0.010** (0.009-0.012)	**0.012** (0.010-0.014)	**0.013** (0.011-0.016)	**0.015** (0.012-0.018)	**0.016** (0.013-0.020)	**0.018** (0.013-0.023)	**0.019** (0.013-0.025)	**0.021** (0.014-0.028)	**0.022** (0.014-0.030)

[1] Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).

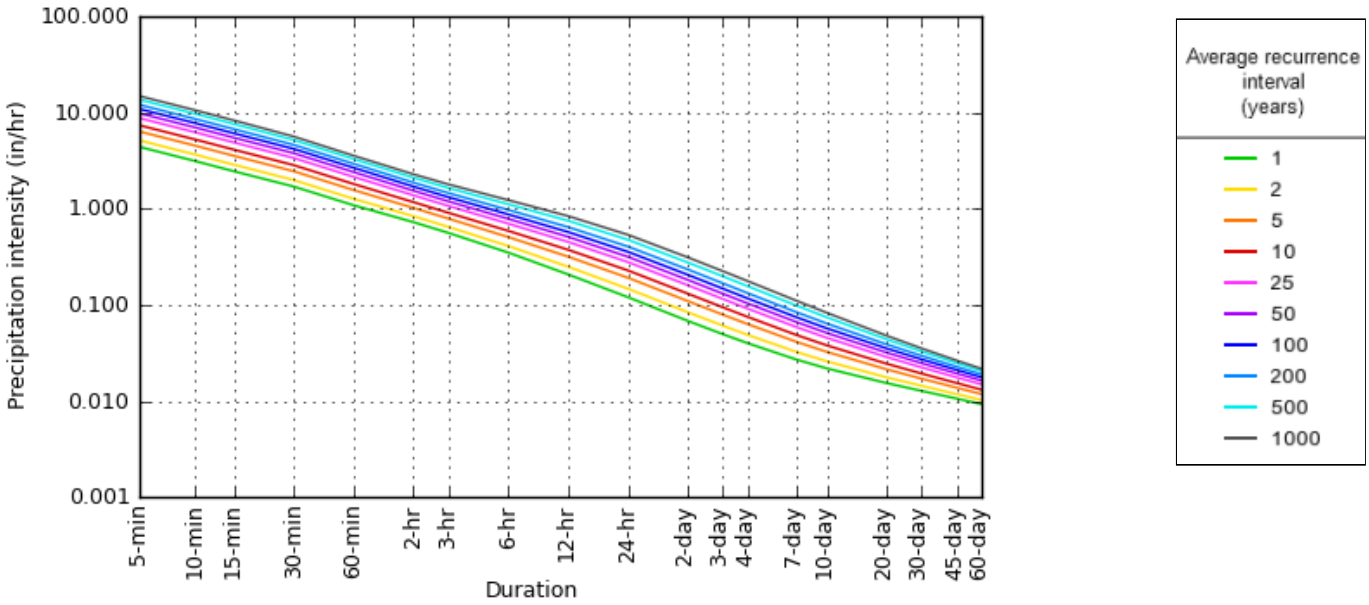
Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values.

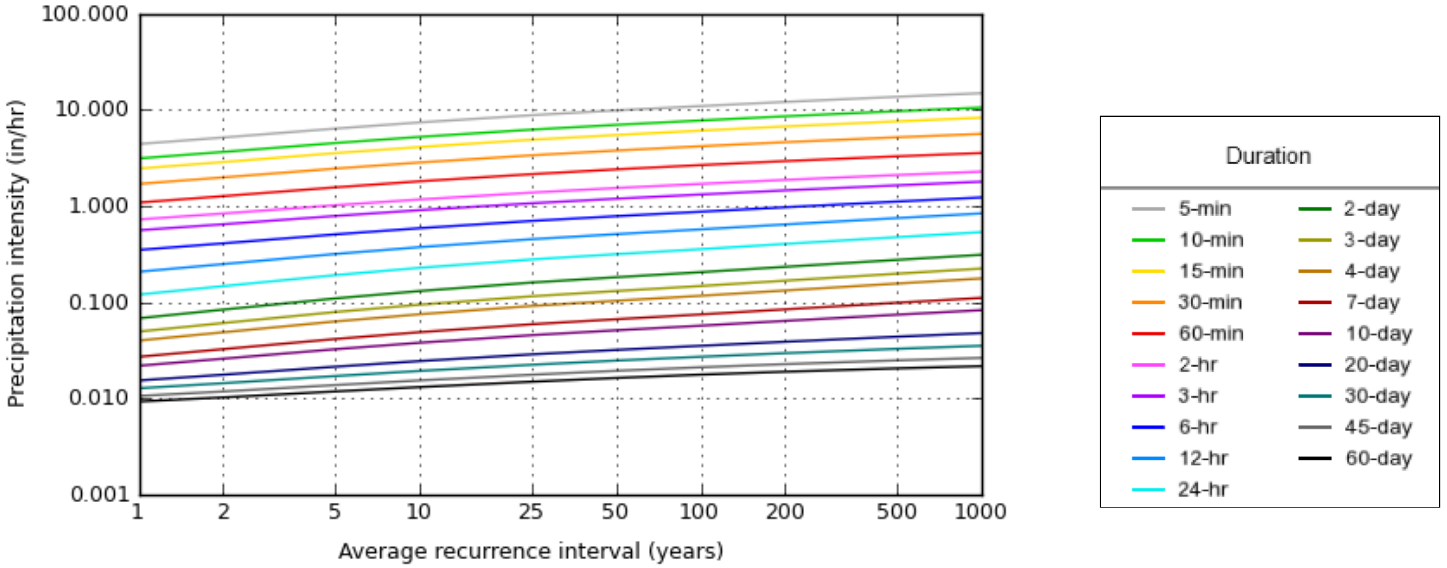
Please refer to NOAA Atlas 14 document for more information.

Back to Top

PF graphical

PDS-based intensity-duration-frequency (IDF) curves
Latitude: 41.0873°, Longitude: -73.8656°





NOAA Atlas 14, Volume 10, Version 3 Created (GMT): Fri Oct 22 03:45:51 2021

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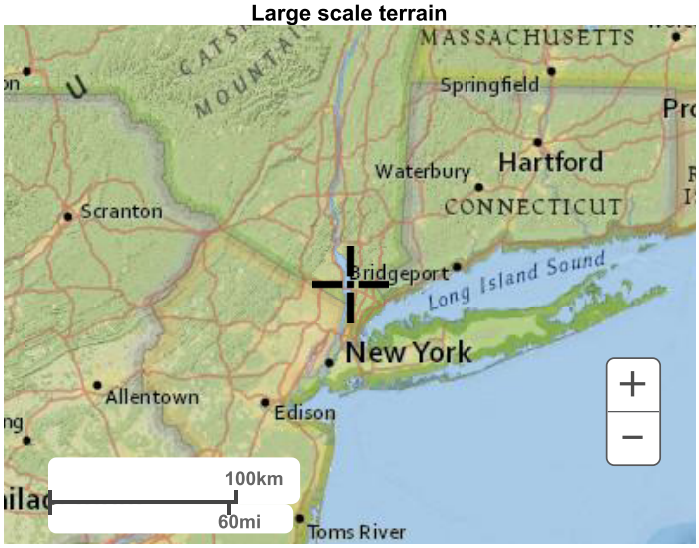
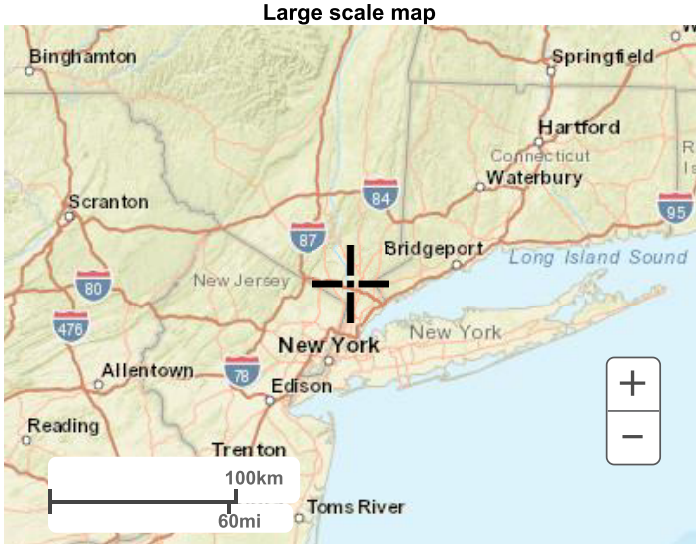
Maps & aerials

Small scale terrain

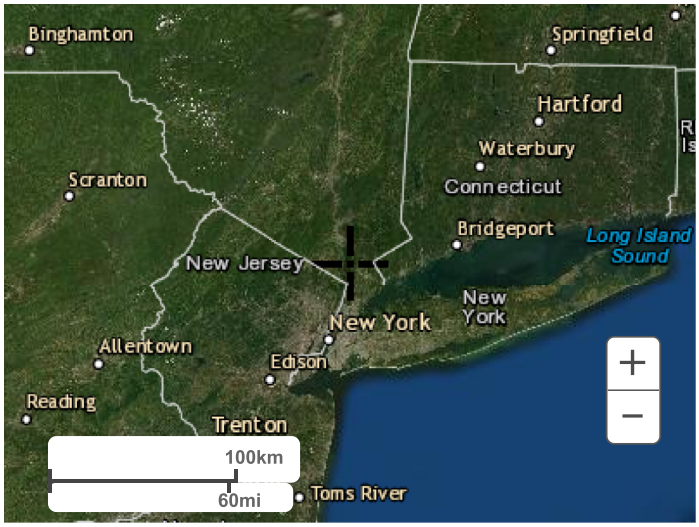
Large scale terrain



Large scale map



Large scale aerial



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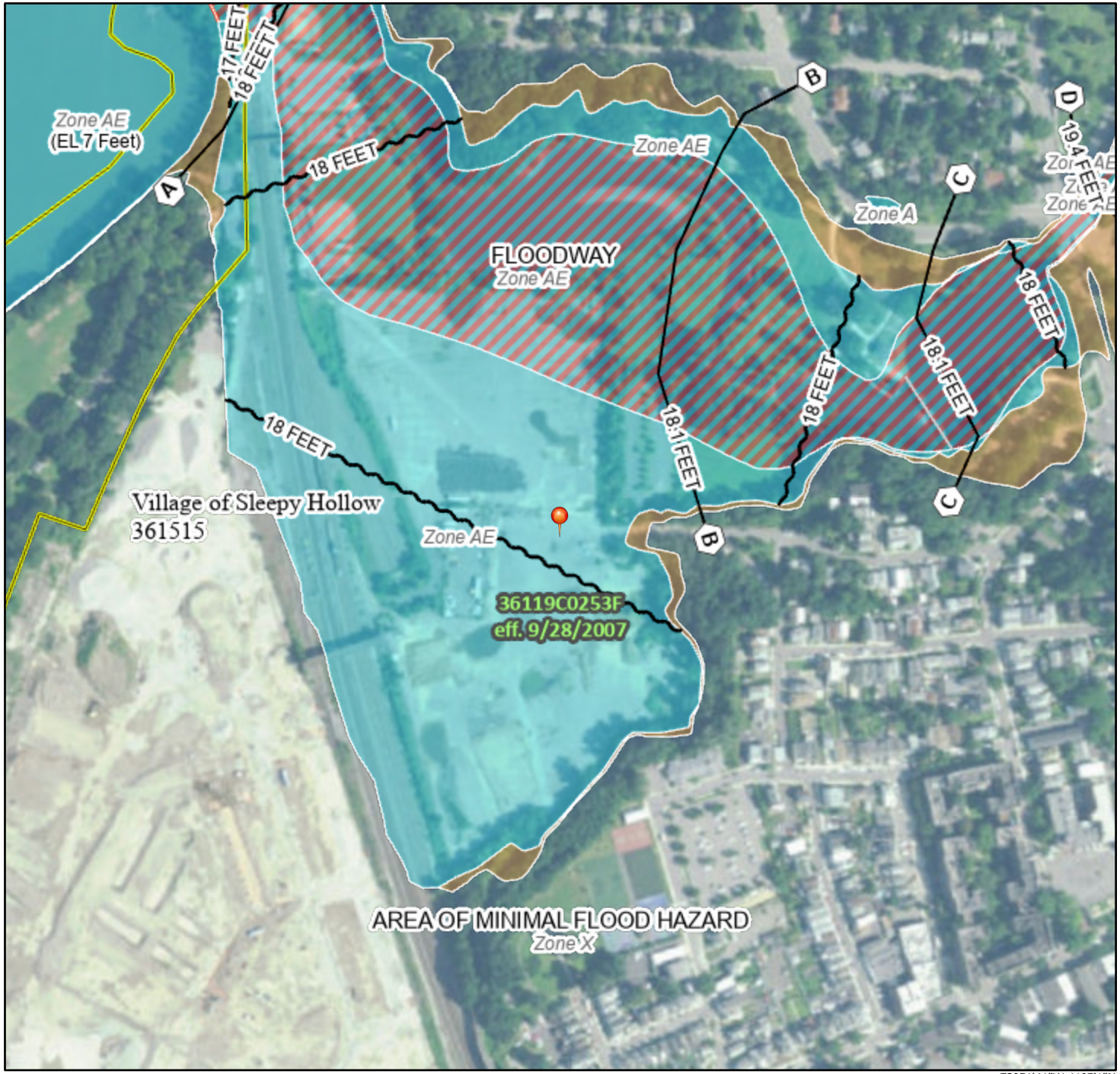
US Department of Commerce
National Oceanic and Atmospheric Administration
National Weather Service
National Water Center
1325 East West Highway
Silver Spring, MD 20910
Questions?: HDSC.Questions@noaa.gov

Disclaimer

National Flood Hazard Layer FIRMette

FEMA

73°52'19"W 41°5'28"N



73°51'41"W 41°5'1"N

0 250 500 1,000 1,500 2,000 Feet

1:6,000

Basemap: USGS National Map: Orthoimagery: Data refreshed October, 2020

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 Cross Sections with 1% Annual Chance
- 17.5 Water Surface Elevation
- Coastal Transect
- 513 Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 9/29/2021 at 5:14 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.