STORMWATER POLLUTION PREVENTION PLAN (SWPPP)

October 2022

PROJECT:

DOMESTIC WATER LINE IMPROVEMENTS WESTCHESTER COUNTY AIRPORT TOWNS OF HARRISON AND NORTH CASTLE AND VILLAGE OF RYE BROOK, NEW YORK

AGREEMENT No.

Prepared for:

WESTCHESTER COUNTY

Prepared by:



4 W RED OAK LANE SUITE 315 WHITE PLAINS, NEW YORK, 10604

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1.0 <u>INTRODUCTION</u>

This Stormwater Pollution Prevention Plan (SWPPP) has been prepared in accordance with the requirement and the specifications presented in the New York State Department of Environmental Conservation (NYSDEC) SPEDES General Permit GP-0-20-001 for Stormwater Discharges for Construction Activities.

The SWPPP describes the practices and procedures necessary to minimize pollutants in stormwater discharge. The SWPPP was designed in conformance with the criteria established in the New York State Stormwater Management Design Manual and the New York State Standards and Specifications for Erosion and Sediment Control.

Site Owner/Operator

The owner/operator for the construction activities is responsible to oversee the installation and maintenance of all stormwater pollution prevention measures proposed in this report. (Appendix C)

Westchester County Dept. of Public Works and Transportation 148 Martine Ave #500 White Plains, New York, 10601 (914) 995-2547

2.0 SWPPP DEVELOPMENT AND REVIEW

SWPPP Development

The SWPPP was developed by D&B Engineers and Architects (Appendix D) in accordance with accepted engineering practices to provide the following information:

- Potential sources of stormwater pollution from the construction site;
- Protective measures to minimize the transport of sediment and pollutants during construction:

- Outline the owner and contractor responsibility to maintain the post stormwater managements in compliance with the SPEDES Permit GP-0-20-001;
- Outlines the owner and contractor responsibility to maintain the post stormwater management practices in compliance with SPEDES Permit No. GP-0-20-001.

Soil erosion and sediment control drawings were prepared by D&B Engineers & Architects in accordance with the New York State Standards and Specifications for Erosion and Sediment Control Manual (Appendix E for checklist and Appendix I for drawings).

SWPPP Review and Update

This SWPPP shall be kept on-site during construction and will be made available for review by the designer, contractor, sub-contractor, and applicable regulatory agencies that have jurisdiction over the construction site. If necessary, these regulatory agencies may notify the owner that the SWPPP is not in compliance with the required regulations. If the SWPPP is in need of revision, the owner or operator shall make the required revisions to the SWPPP, within 14 calendar days of notification by the regulatory agency. The owner shall also submit a written certification that the revisions have been made and will be implemented. If the owner or operator does not respond to the notice, owner or operator coverage under SPEDES Permit No. GP-0-20-001 may be suspended.

3.0 EXISTING SITE CONDITIONS

The project is located in the Village of Harrison, Town of Harrison and North Castle, Westchester County, New York, east of the interstate 684.

The project site is identified as:

Section 119.03, Block 1, Tax Lot 6

Section 97, Block 971, Tax Lot 8

The site location is depicted on the USGS Topographic New York Quadrangle (Appendix A Figure 1). The terrain at the project sites is level to gently sloped, with no significant changes in grade. Information about the soil in the project area can be found on Appendix A for Westchester County Airport and New King Street, as well as Tower Road.

Existing flood information for the project site was reviewed. Based on the FEMA FIRMette Flood Maps, the project area is not in an area of potential flood hazard. Refer to Appendix A Figure 3.

4.0 PROJECT DISCRIPTION

The project includes the construction of $\pm 5,200$ LF of new DIP 12" water mains, meter vault, and two (2) new backflow preventer (BFP) buildings along Tower Road, Westchester County Airport, Airport Road and New King Street.

The work on Tower Rd, east of Route 120, will consist of one new BFP building. The existing building will be demolished and a new BFP building will be placed in a new location on site. 46 LF of watermain will be installed following the demolition of the existing BFP building.

The new water main will begin at the Westchester County Airport on Airport Perimeter Road. The main will continue along Airport Road where it meets the new BFP building and will continue along Airport Road. Prior to the BFP building the new water main tees and meets the PRV building and continue to New King Street. The main will be used to serve the buildings on New King Street in the future.

5.0 STORMWATER MANAGEMENT

The proposed development will disturb approximately .5 acres, based on water main installation, addition of one (1) PRV and two (2) BFP buildings. Since the ground disturbance area is less than 1-acre, the project is <u>not</u> required to meet the water quantity and water quality requirements of New York State Stormwater Management Design Manual but is required to file a Notice of Intent (NOI) with the NYSDEC, since it is located in the NYC watershed.

Contractor must provide erosion control Best Management Practices (BMPs) during construction to minimize sediment from entering surrounding water bodies. (Appendix B).

6.0 SOIL EROSION AND SEDIMENT CONTROL

During construction, both temporary and permanent soil erosions measures shall be enforced, to minimize impact to the surrounding areas.

Soil erosion will be controlled by:

- Keeping stockpiles less than 15 feet high and keeping the sides of the slopes of the stockpiles at or less than 2:1; and
- Construction a 50 ft long x 20' wide crushed stone stabilized construction entrance as the points of ingress and egress for construction vehicles.

6.1 Potential Sources of Pollution

Construction activities that have the potential to contribute sediment to storm water discharges include:

- Grading and site excavation operations
- Soil import/export operations
- Vehicle tracking
- Topsoil stripping and stockpiling

The following is a list of construction materials that will be used and activities that will be performed that will have the potential to contribute to pollutants, other than sediment, or storm runoff:

- Vehicle fluids including oil, grease, petroleum, and coolants
- Cement material associated with concrete operations
- Mortar mix
- Raw landscaping materials and wastes (topsoil, plant materials, herbicides, fertilizers, mulch, pesticides)
- Sanitary facilities
- General litter and debris
- Other hazardous material

6.2 Pollution Prevention Measures

The construction will require the excavation and regrading of soils on site. The total area of disturbance is approximately .5 acres. During construction, temporary and permanent soil erosion and sediment control measures shall be implemented, to minimize impacts to the surrounding areas and waterbodies, following these guidelines:

- Minimizing disturbed areas and providing temporary seeding and mulching as required if construction operations cease for more than 7 days within any previous area.
- Constructing a stabilized construction access at the points of egress and ingress for
 construction vehicles. Stabilized construction entrances will be at least 50-feet long and a
 minimum of 16-feet wide and will consist of a layer 3-inch clean stone or recycled
 concrete equivalent at least 12-inches thick. The stabilized construction site entrances

- will be installed before construction begins on site. The entrances will remain until all areas of the site have been stabilized.
- All construction and demolition debris shall be placed in appropriate containers and removed from site.
- Maintain temporary fence enclosures of construction activity on property for safety purposes.
- Installation of temporary stormwater inlet protection structures on all existing drainage structures adjacent to the site and all newly developed drainage structures as constructed.
- Placing inlet filters over the grate of each existing drainage structure adjacent to the
 project and over each stormwater inlet or catch basin as it is constructed to prevent
 sedimentation within the storm sewer system.
- Cleaning inlet filters and the upstream sides of all silt fencing after each erosion producing storm.
- Erosion control measures (i.e., silt fence) will be implemented and maintained on a regular basis during construction until permanent restoration is completed. Installing silt fence barriers along the perimeter of site, along the base of slopes and around the perimeter of topsoil stockpiles. The repair and/or replacement of perimeter controls and covers will be conducted as needed to keep them in functioning condition.
- Water spraying to minimize dust generated by the transferring of material, stockpiles, and
 truck movement on paved and unpaved surface areas. Dirt haul roads will be sprinkled
 with water or given a surface of crushed stone or woodchips as required. Vehicles will be
 cleaned, as necessary, prior to using public streets. Paved roads will be sprinkled with
 water.

- Stockpile stabilization and slope stabilization. Keeping topsoil stockpiles less than 15
 feet high and keeping side slopes at or less than 2:1. Stockpiles are to be protected during
 the entire construction site period. Stockpiles will be located in designated areas away
 from concentrated flows of storm water, drainage courses and inlets.
- Any chemicals will be securely stored in approved containers in order to prevent any accidental release.

6.3 SWPPP Implementation

The Contractor shall be responsible for installing, constructing, repairing, inspecting, and maintaining the erosion and sediment control practices including SWPPP. (Appendix G). The operator shall agree to have a qualified professional conduct an assessment of the site prior to construction commencing and certify that the appropriate erosion and sediment control practices have been adequately placed. When construction commences, construction inspections shall be conducted by the qualified professional at least every 7 days. (Appendix F). The operator shall maintain a record of all weekly inspections in a site log book, to be kept on siter and made available upon request of permitting authorities.

7.0 CONSTRUCTION SEQUENCE

Construction will be completed in a single-phase. Single-phase construction allows for an entire project to be completed in a continuous schedule with no lapses or breaks. Construction will follow normally expected construction standards.

The contractor will be responsible for installing and maintaining the required relevant sediment and erosion control measures in accordance with the details provided on the Erosion and Sediment Control Plan or as may be required by actual field conditions during construction and/or as directed by the engineer. All erosion and sediment control measures will be installed in accordance with the Erosion and Sediment Control Plan and/or pursuant to the prevailing "New York Guidelines for Urban Erosion and Sediment Control" manual.

Specific control measures include not permitting site construction activity (earthwork) during heavy rain, frozen conditions, or wet conditions.

The following sequence of activities comprises the construction work to be conducted at the site:

- All erosion and sediment control measures will be implemented as required prior to any ground disturbance to prevent the transport of sediment to offsite areas (i.e., adjacent properties or roadway).
 - a. Installation of sediment barriers (silt fence) along the limits of disturbance for the duration of the work and in addition to temporary construction entrance.
 - b. Drainage inlets will be protected from sediment buildup through the use of sediment barriers and sediment traps as required.
- 2. Clearing and grubbing of vegetation.
- 3. Demolition of existing structures.
- 4. Provide silt fence along the bottom of all slopes for stabilization.
- 5. Stabilize all stockpiled materials by seeding and/or construction straw bale dikes around the base of the stockpiled material.

- 6. After construction is completed, all remaining disturbed areas shall be permanently stabilized.
- 7. At the conclusion of construction phase, clean out all drainage systems of any accumulated sediment of construction debris.

Ongoing Construction Activities:

- Proper maintenance of erosion control measures will be ensured by daily follow-up inspections after heavy or prolonged storms.
- 2. Maintenance measures to be installed include, but are not limited to, cleaning of sediment basins or traps; cleaning or repair of sediment barriers; repair/replacement of damaged silt fencing, replacement of damaged haybales, and cleaning and repair of inlet protection.
- 3. Supplemental hay bales and silt fencing will be required to be stored on-site in case initial hay-bales and silt fencing become damaged or are not working properly.
- 4. Immediately clean all materials that are spilled, dropped, washed, or tracked onto any paved surfaces (roadways, parking lot, sidewalks, walkways, etc.) resulting from the contractor's work.

8.0 OPERATION AND MAINTENANCE PLAN FOR POST-CONSTRUCTION STORMWATER MANAGEMENT PRACTICES

Post-construction stormwater management practices (SMPs) are permanent measures installed during construction that are designed to reduce or eliminate pollutant discharges from the site after construction is completed.

Prior to filing the Notice of Intent (Appendix H) or the end of the permit term, the qualified inspector shall perform a final site inspection to certify that the site has undergone final stabilization. The Owner will then be required to submit a written Operation and

Maintenance Assessment annually, prepared by a New York State Licensed Professional Engineer stating that the final stabilizing structure(s) continuously functions as designed.

Routine maintenance is required for the following components of the stormwater management system.

- Catchbasins
- Manholes
- Trench Drains
- Culverts

The above components should be inspected after each major storm event (greater than 2-year, 24-hour rainfall) and no longer than every three months (seasonally).

9.0 <u>CONCLUSION</u>

The project improvements indicated on the design drawings and shown in this report, demonstrate that the stormwater management practices selected are in conformance with the requirements of the New York State Stormwater Design Manual and the New York State Department of Environmental Conservation (NYSDEC) General Permit (GP-0-20-001).

10.0 REFERENCES

- 1. New York State Stormwater Management Design Manual
- 2. FEMA FIRMette Maps

Appendix A Figures

Figure 1 USGS Site Map

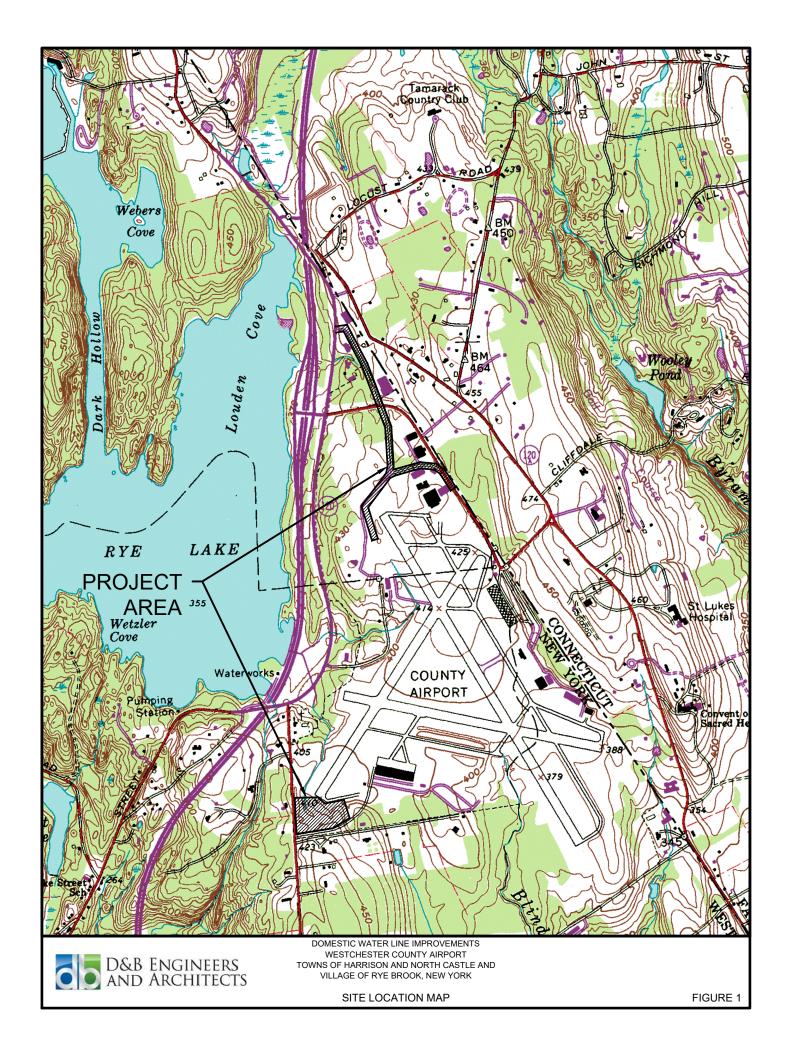


Figure 2 Soils Map and Information



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
State of Connecticut,
and Westchester
County, New York



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.

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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.

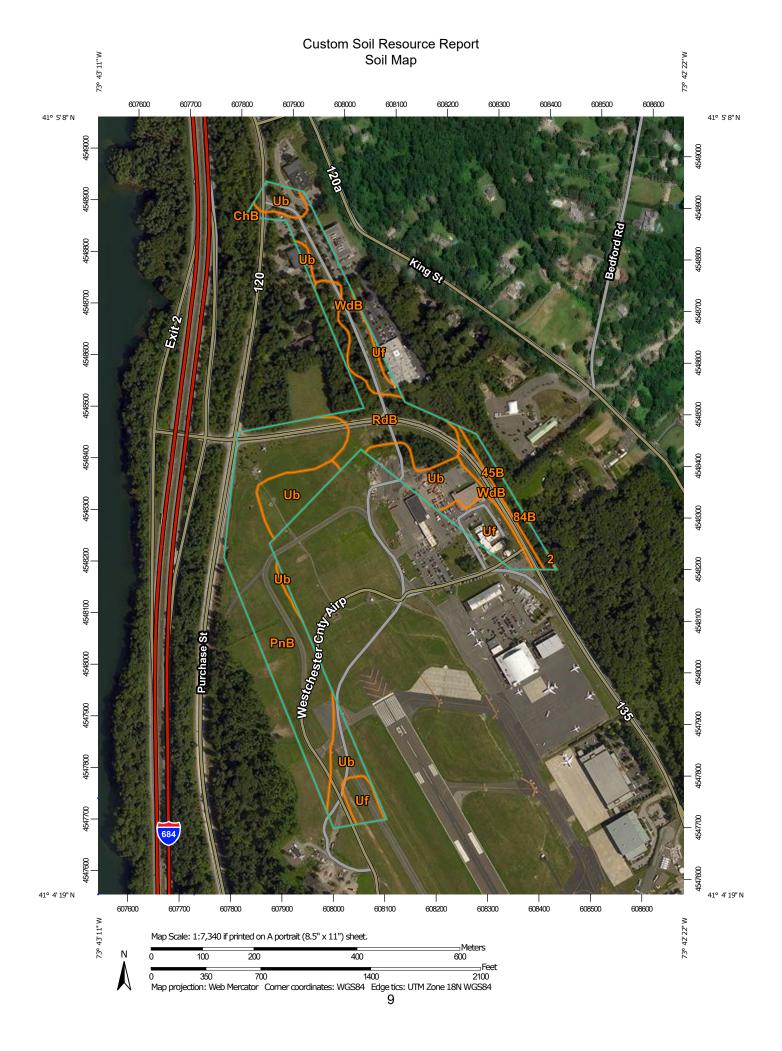
Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree 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.



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

(0)

Blowout

 \boxtimes

Borrow Pit

Ж

Clay Spot

 \Diamond

Closed Depression

Ċ

Gravel Pit

...

Gravelly Spot

0

Landfill Lava Flow

٨.

Marsh or swamp

2

Mine or Quarry

9

Miscellaneous Water
Perennial Water

0

Rock Outcrop

+

Saline Spot

. .

Sandy Spot

_

Severely Eroded Spot

Λ :

Sinkhole

Ø

Sodic Spot

Slide or Slip

Spoil Area



Stony Spot

Δħ

Very Stony Spot

8

Wet Spot Other

Δ.

Special Line Features

Water Features

_

Streams and Canals

Transportation

11a115µ

Rails

~

Interstate Highways

US Routes

 \sim

Major Roads

~

Local Roads

Background

10

Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:12.000.

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: State of Connecticut Survey Area Data: Version 20, Jun 9, 2020

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

Your area of interest (AOI) includes more than one soil survey area. These survey areas may have been mapped at different scales, with a different land use in mind, at different times, or at different levels of detail. This may result in map unit symbols, soil properties, and interpretations that do not completely agree across soil survey area boundaries.

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

Date(s) aerial images were photographed: Dec 31, 2009—Oct 16, 2017

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background

MAP LEGEND

MAP INFORMATION

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		
2	Ridgebury fine sandy loam, 0 to 3 percent slopes	0.0	0.0%		
45B	Woodbridge fine sandy loam, 3 to 8 percent slopes	1.6	3.5%		
84B	Paxton and Montauk fine sandy loams, 3 to 8 percent slopes	0.0	0.0%		
Subtotals for Soil Survey Area		1.7	3.6%		
Totals for Area of Interest		46.7	100.0%		

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
ChB	Charlton fine sandy loam, 3 to 8 percent slopes	0.0	0.0%
PnB	Paxton fine sandy loam, 3 to 8 percent slopes	17.4	37.2%
RdB	Ridgebury complex, 3 to 8 percent slopes	6.8	14.6%
Ub	Udorthents, smoothed	10.3	22.1%
Uf	Urban land	4.3	9.2%
WdB	Woodbridge loam, 3 to 8 percent slopes	6.2	13.4%
Subtotals for Soil Survey A	rea	45.1	96.4%
Totals for Area of Interest		46.7	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.

State of Connecticut

2—Ridgebury fine sandy loam, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: 2w69f

Elevation: 0 to 1,480 feet

Mean annual precipitation: 36 to 71 inches Mean annual air temperature: 39 to 55 degrees F

Frost-free period: 140 to 240 days

Farmland classification: Farmland of statewide importance

Map Unit Composition

Ridgebury and similar soils: 85 percent

Minor components: 15 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Ridgebury

Setting

Landform: Hills, ground moraines, drainageways, depressions, drumlins

Landform position (two-dimensional): Toeslope, footslope Landform position (three-dimensional): Base slope, head slope

Down-slope shape: Concave Across-slope shape: Concave

Parent material: Coarse-loamy lodgment till derived from gneiss, granite, and/or

schist

Typical profile

Oe - 0 to 1 inches: moderately decomposed plant material

A - 1 to 6 inches: fine sandy loam Bw - 6 to 10 inches: sandy loam

Bg - 10 to 19 inches: gravelly sandy loam Cd - 19 to 66 inches: gravelly sandy loam

Properties and qualities

Slope: 0 to 3 percent

Depth to restrictive feature: 15 to 35 inches to densic material

Drainage class: Poorly drained

Runoff class: Very high

Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately

low (0.00 to 0.14 in/hr)

Depth to water table: About 0 to 6 inches

Frequency of flooding: None Frequency of ponding: None

Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm) Available water capacity: Low (about 3.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 4w

Hydrologic Soil Group: D

Ecological site: F144AY009CT - Wet Till Depressions

Hydric soil rating: Yes

Minor Components

Woodbridge

Percent of map unit: 9 percent

Landform: Drumlins, hills, ground moraines

Landform position (two-dimensional): Footslope, summit Landform position (three-dimensional): Crest, base slope

Down-slope shape: Convex Across-slope shape: Linear Hydric soil rating: No

Whitman

Percent of map unit: 5 percent

Landform: Depressions, ground moraines, drumlins, drainageways, hills

Landform position (two-dimensional): Toeslope Landform position (three-dimensional): Base slope

Down-slope shape: Concave Across-slope shape: Concave

Hydric soil rating: Yes

Leicester

Percent of map unit: 1 percent

Landform: Depressions, drainageways, hills, ground moraines Landform position (two-dimensional): Toeslope, footslope Landform position (three-dimensional): Base slope

Down-slope shape: Linear, concave

Across-slope shape: Concave

Hydric soil rating: Yes

45B—Woodbridge fine sandy loam, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: 2t2ql

Elevation: 0 to 1,470 feet

Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F

Frost-free period: 140 to 240 days

Farmland classification: All areas are prime farmland

Map Unit Composition

Woodbridge, fine sandy loam, and similar soils: 82 percent

Minor components: 18 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Woodbridge, Fine Sandy Loam

Setting

Landform: Hills, drumlins, ground moraines

Landform position (two-dimensional): Backslope, footslope, summit

Landform position (three-dimensional): Side slope

Down-slope shape: Concave Across-slope shape: Linear

Parent material: Coarse-loamy lodgment till derived from gneiss, granite, and/or

schist

Typical profile

Ap - 0 to 7 inches: fine sandy loam

Bw1 - 7 to 18 inches: fine sandy loam

Bw2 - 18 to 30 inches: fine sandy loam

Cd - 30 to 65 inches: gravelly fine sandy loam

Properties and qualities

Slope: 3 to 8 percent

Depth to restrictive feature: 20 to 39 inches to densic material

Drainage class: Moderately well drained

Runoff class: Medium

Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately

low (0.00 to 0.14 in/hr)

Depth to water table: About 18 to 30 inches

Frequency of flooding: None Frequency of ponding: None

Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm) Available water capacity: Low (about 3.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 2w

Hydrologic Soil Group: C/D

Ecological site: F144AY037MA - Moist Dense Till Uplands

Hydric soil rating: No

Minor Components

Paxton

Percent of map unit: 10 percent

Landform: Drumlins, hills, ground moraines

Landform position (two-dimensional): Backslope, summit, shoulder Landform position (three-dimensional): Side slope, crest, nose slope

Down-slope shape: Linear, convex Across-slope shape: Convex Hydric soil rating: No

Ridgebury

Percent of map unit: 8 percent

Landform: Ground moraines, depressions, drainageways, hills Landform position (two-dimensional): Toeslope, backslope, footslope Landform position (three-dimensional): Base slope, head slope, dip

Down-slope shape: Concave Across-slope shape: Concave Hydric soil rating: Yes

84B—Paxton and Montauk fine sandy loams, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: 2t2qn

Elevation: 0 to 1,570 feet

Mean annual precipitation: 36 to 71 inches Mean annual air temperature: 39 to 55 degrees F

Frost-free period: 140 to 240 days

Farmland classification: All areas are prime farmland

Map Unit Composition

Paxton and similar soils: 55 percent Montauk and similar soils: 30 percent

Minor components: 15 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Paxton

Setting

Landform: Hills, drumlins, ground moraines

Landform position (two-dimensional): Summit, shoulder, backslope Landform position (three-dimensional): Side slope, crest, nose slope

Down-slope shape: Convex, linear Across-slope shape: Convex

Parent material: Coarse-loamy lodgment till derived from gneiss, granite, and/or

schist

Typical profile

Ap - 0 to 8 inches: fine sandy loam Bw1 - 8 to 15 inches: fine sandy loam Bw2 - 15 to 26 inches: fine sandy loam

Cd - 26 to 65 inches: gravelly fine sandy loam

Properties and qualities

Slope: 3 to 8 percent

Depth to restrictive feature: 18 to 39 inches to densic material

Drainage class: Well drained Runoff class: Medium

Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately

low (0.00 to 0.14 in/hr)

Depth to water table: About 18 to 37 inches

Frequency of flooding: None Frequency of ponding: None

Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm) Available water capacity: Low (about 3.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 2s

Hydrologic Soil Group: C

Ecological site: F144AY007CT - Well Drained Dense Till Uplands

Hydric soil rating: No

Description of Montauk

Setting

Landform: Drumlins, hills Down-slope shape: Convex Across-slope shape: Linear

Parent material: Coarse-loamy lodgment till derived from gneiss, granite, and/or

schist

Typical profile

A - 0 to 4 inches: fine sandy loam
Bw1 - 4 to 14 inches: fine sandy loam
Bw2 - 14 to 25 inches: sandy loam

2Cd1 - 25 to 39 inches: gravelly loamy coarse sand 2Cd2 - 39 to 60 inches: gravelly sandy loam

Properties and qualities

Slope: 3 to 8 percent

Depth to restrictive feature: 20 to 38 inches to densic material

Drainage class: Well drained

Runoff class: Low

Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately

high (0.00 to 0.20 in/hr)

Depth to water table: About 24 to 30 inches

Frequency of flooding: None Frequency of ponding: None

Available water capacity: Low (about 3.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 2e

Hydrologic Soil Group: C

Ecological site: F144AY007CT - Well Drained Dense Till Uplands

Hydric soil rating: No

Minor Components

Ridgebury

Percent of map unit: 5 percent

Landform: Hills, ground moraines, depressions, drainageways
Landform position (two-dimensional): Toeslope, backslope, footslope
Landform position (three-dimensional): Base slope, head slope, dip

Down-slope shape: Concave Across-slope shape: Concave

Hydric soil rating: Yes

Woodbridge

Percent of map unit: 5 percent

Landform: Hills, drumlins, ground moraines

Landform position (two-dimensional): Backslope, footslope, summit

Landform position (three-dimensional): Side slope

Down-slope shape: Concave Across-slope shape: Linear Hydric soil rating: No

Charlton

Percent of map unit: 5 percent

Landform: Hills

Down-slope shape: Linear Across-slope shape: Linear Hydric soil rating: No

Westchester County, New York

ChB—Charlton fine sandy loam, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: 2wh0n

Elevation: 0 to 1,440 feet

Mean annual precipitation: 36 to 71 inches Mean annual air temperature: 39 to 55 degrees F

Frost-free period: 140 to 240 days

Farmland classification: All areas are prime farmland

Map Unit Composition

Charlton and similar soils: 85 percent Minor components: 15 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Charlton

Setting

Landform: Hills, ground moraines, ridges

Landform position (two-dimensional): Backslope, shoulder, summit Landform position (three-dimensional): Crest, side slope, nose slope

Down-slope shape: Linear, convex Across-slope shape: Convex

Parent material: Coarse-loamy melt-out till derived from granite, gneiss, and/or

schist

Typical profile

Ap - 0 to 7 inches: fine sandy loam

Bw - 7 to 22 inches: gravelly fine sandy loam C - 22 to 65 inches: gravelly fine sandy loam

Properties and qualities

Slope: 3 to 8 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Well drained

Runoff class: Low

Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high

(0.14 to 14.17 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None Frequency of ponding: None

Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm) Available water capacity: Moderate (about 6.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 2e

Hydrologic Soil Group: B

Ecological site: F144AY034CT - Well Drained Till Uplands

Hydric soil rating: No

Minor Components

Sutton

Percent of map unit: 8 percent Landform: Ground moraines, hills

Landform position (two-dimensional): Footslope Landform position (three-dimensional): Base slope

Down-slope shape: Concave Across-slope shape: Linear Hydric soil rating: No

Paxton

Percent of map unit: 5 percent

Landform: Drumlins, hills, ground moraines

Landform position (two-dimensional): Backslope, summit, shoulder

Landform position (three-dimensional): Side slope, crest

Down-slope shape: Linear, convex Across-slope shape: Convex Hydric soil rating: No

Leicester

Percent of map unit: 1 percent

Landform: Drainageways, depressions

Down-slope shape: Linear Across-slope shape: Concave

Hydric soil rating: Yes

Chatfield

Percent of map unit: 1 percent

Landform: Hills, ridges

Landform position (two-dimensional): Backslope, shoulder, summit Landform position (three-dimensional): Crest, side slope, nose slope

Down-slope shape: Convex

Across-slope shape: Linear, convex

Hydric soil rating: No

PnB—Paxton fine sandy loam, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: 2t2qp

Elevation: 0 to 1,570 feet

Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F

Frost-free period: 140 to 240 days

Farmland classification: All areas are prime farmland

Map Unit Composition

Paxton and similar soils: 80 percent Minor components: 20 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Paxton

Setting

Landform: Drumlins, ground moraines, hills

Landform position (two-dimensional): Backslope, summit, shoulder Landform position (three-dimensional): Side slope, crest, nose slope

Down-slope shape: Linear, convex Across-slope shape: Convex

Parent material: Coarse-loamy lodgment till derived from gneiss, granite, and/or

schist

Typical profile

Ap - 0 to 8 inches: fine sandy loam
Bw1 - 8 to 15 inches: fine sandy loam
Bw2 - 15 to 26 inches: fine sandy loam
Cd - 26 to 65 inches: gravelly fine sandy loam

Properties and qualities

Slope: 3 to 8 percent

Depth to restrictive feature: 18 to 39 inches to densic material

Drainage class: Well drained Runoff class: Medium

Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately

low (0.00 to 0.14 in/hr)

Depth to water table: About 18 to 37 inches

Frequency of flooding: None Frequency of ponding: None

Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm) Available water capacity: Low (about 3.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 2s

Hydrologic Soil Group: C

Ecological site: F144AY007CT - Well Drained Dense Till Uplands

Hydric soil rating: No

Minor Components

Woodbridge

Percent of map unit: 9 percent

Landform: Hills, drumlins, ground moraines

Landform position (two-dimensional): Backslope, footslope, summit

Landform position (three-dimensional): Side slope

Down-slope shape: Concave Across-slope shape: Linear Hydric soil rating: No

Ridgebury

Percent of map unit: 6 percent

Landform: Drainageways, hills, ground moraines, depressions
Landform position (two-dimensional): Backslope, footslope, toeslope
Landform position (three-dimensional): Head slope, base slope, dip

Down-slope shape: Concave Across-slope shape: Concave

Hydric soil rating: Yes

Charlton

Percent of map unit: 5 percent

Landform: Hills

Down-slope shape: Linear Across-slope shape: Linear Hydric soil rating: No

RdB—Ridgebury complex, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: 2xfg2 Elevation: 10 to 1.180 feet

Mean annual precipitation: 36 to 71 inches Mean annual air temperature: 39 to 55 degrees F

Frost-free period: 145 to 240 days

Farmland classification: Farmland of statewide importance

Map Unit Composition

Ridgebury, loam, and similar soils: 50 percent

Ridgebury, somewhat poorly drained, and similar soils: 35 percent

Minor components: 15 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Ridgebury, Loam

Setting

Landform: Drainageways, hills, ground moraines, depressions, drumlins

Landform position (two-dimensional): Toeslope, footslope Landform position (three-dimensional): Base slope, head slope

Down-slope shape: Concave Across-slope shape: Concave

Parent material: Coarse-loamy lodgment till derived from gneiss, granite, and/or

schist

Typical profile

Oe - 0 to 1 inches: moderately decomposed plant material

A - 1 to 6 inches: loam

Bw - 6 to 10 inches: gravelly fine sandy loam Bg - 10 to 19 inches: gravelly fine sandy loam

Cd - 19 to 66 inches: gravelly loam

Properties and qualities

Slope: 3 to 8 percent

Depth to restrictive feature: 15 to 35 inches to densic material

Drainage class: Poorly drained

Runoff class: Very high

Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately

low (0.00 to 0.14 in/hr)

Depth to water table: About 0 to 6 inches

Frequency of flooding: None

Frequency of ponding: None

Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm) Available water capacity: Low (about 3.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 4w

Hydrologic Soil Group: D

Ecological site: F144AY009CT - Wet Till Depressions

Hydric soil rating: Yes

Description of Ridgebury, Somewhat Poorly Drained

Setting

Landform: Hills, ground moraines, depressions, drumlins, drainageways

Landform position (two-dimensional): Toeslope, footslope Landform position (three-dimensional): Head slope, base slope

Down-slope shape: Concave Across-slope shape: Concave

Parent material: Coarse-loamy lodgment till derived from gneiss, granite, and/or

schist

Typical profile

Oa - 0 to 1 inches: highly decomposed plant material

A - 1 to 7 inches: loam Bw - 7 to 13 inches: loam

Bg - 13 to 21 inches: fine sandy loam

Cd - 21 to 60 inches: gravelly fine sandy loam

Properties and qualities

Slope: 3 to 8 percent

Depth to restrictive feature: 15 to 35 inches to densic material

Drainage class: Somewhat poorly drained

Runoff class: Very high

Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately

low (0.00 to 0.14 in/hr)

Depth to water table: About 10 to 18 inches

Frequency of flooding: None Frequency of ponding: None

Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm) Available water capacity: Low (about 3.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 3w

Hydrologic Soil Group: D

Ecological site: F144AY009CT - Wet Till Depressions

Hydric soil rating: No

Minor Components

Woodbridge, loam

Percent of map unit: 5 percent

Landform: Ground moraines, drumlins, hills

Landform position (two-dimensional): Backslope, footslope, summit

Landform position (three-dimensional): Crest, side slope

Down-slope shape: Convex

Across-slope shape: Linear Hydric soil rating: No

Sun, very poorly drained

Percent of map unit: 5 percent Landform: Depressions Down-slope shape: Concave Across-slope shape: Concave

Hydric soil rating: Yes

Leicester, loam

Percent of map unit: 3 percent

Landform: Drainageways, hills, depressions, ground moraines Landform position (two-dimensional): Toeslope, footslope

Landform position (three-dimensional): Base slope

Down-slope shape: Linear, concave Across-slope shape: Concave

Hydric soil rating: Yes

Paxton

Percent of map unit: 2 percent

Landform: Hills, ground moraines, drumlins

Landform position (two-dimensional): Backslope, shoulder, summit

Landform position (three-dimensional): Side slope, crest

Down-slope shape: Convex, linear Across-slope shape: Linear, convex

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 capacity: 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

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

WdB—Woodbridge loam, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: 2w688

Elevation: 0 to 1,280 feet

Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F

Frost-free period: 145 to 240 days

Farmland classification: All areas are prime farmland

Map Unit Composition

Woodbridge, loam, and similar soils: 85 percent

Minor components: 15 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Woodbridge, Loam

Setting

Landform: Drumlins, hills, ground moraines

Landform position (two-dimensional): Summit, backslope, footslope

Landform position (three-dimensional): Side slope, crest

Down-slope shape: Convex

Across-slope shape: Linear

Parent material: Coarse-loamy lodgment till derived from gneiss, granite, and/or

schist

Typical profile

Ap - 0 to 6 inches: loam

Bw1 - 6 to 18 inches: gravelly loam Bw2 - 18 to 29 inches: gravelly loam Cd - 29 to 65 inches: gravelly loam

Properties and qualities

Slope: 3 to 8 percent

Depth to restrictive feature: 20 to 39 inches to densic material

Drainage class: Moderately well drained

Runoff class: Very high

Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately

low (0.00 to 0.14 in/hr)

Depth to water table: About 18 to 30 inches

Frequency of flooding: None Frequency of ponding: None

Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm) Available water capacity: Low (about 4.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 2w

Hydrologic Soil Group: C/D

Ecological site: F144AY037MA - Moist Dense Till Uplands

Hydric soil rating: No

Minor Components

Ridgebury

Percent of map unit: 7 percent

Landform: Drainageways, hills, ground moraines, depressions, drumlins

Landform position (two-dimensional): Toeslope, footslope Landform position (three-dimensional): Head slope, base slope

Down-slope shape: Concave Across-slope shape: Concave

Hydric soil rating: Yes

Paxton

Percent of map unit: 7 percent

Landform: Ground moraines, drumlins, hills

Landform position (two-dimensional): Summit, shoulder, backslope

Landform position (three-dimensional): Crest, side slope

Down-slope shape: Linear, convex Across-slope shape: Convex Hydric soil rating: No

Sutton

Percent of map unit: 1 percent Landform: Hills, ground moraines

Landform position (two-dimensional): Footslope Landform position (three-dimensional): Base slope

Down-slope shape: Concave Across-slope shape: Linear

Hydric soil rating: No



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



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.

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PnB—Paxton fine sandy loam, 3 to 8 percent slopes	
PnC—Paxton fine sandy loam, 8 to 15 percent slopes	14
Ub—Udorthents, smoothed	

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.



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

(o)

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

Slide or Slip

Severely Eroded Spot

Sinkhole

Sodic Spot

Spoil Area



Stony Spot



Very Stony Spot



Wet Spot Other



Special Line Features

Water Features

Streams and Canals

Transportation

Rails

Interstate Highways

US Routes



Major Roads



Local Roads

Background

Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:12.000.

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

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

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

Source of Map: Natural Resources Conservation Service Web Soil Survey URL:

Coordinate System: Web Mercator (EPSG:3857)

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

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

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

Soil map units are labeled (as space allows) for map scales 1:50.000 or larger.

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

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

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
PnB	Paxton fine sandy loam, 3 to 8 percent slopes	0.3	14.6%
PnC	Paxton fine sandy loam, 8 to 15 percent slopes	0.0	1.3%
Ub	Udorthents, smoothed	2.0	84.1%
Totals for Area of Interest		2.4	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

PnB—Paxton fine sandy loam, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: 2t2qp

Elevation: 0 to 1,570 feet

Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F

Frost-free period: 140 to 240 days

Farmland classification: All areas are prime farmland

Map Unit Composition

Paxton and similar soils: 80 percent Minor components: 20 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Paxton

Setting

Landform: Drumlins, ground moraines, hills

Landform position (two-dimensional): Backslope, summit, shoulder Landform position (three-dimensional): Side slope, crest, nose slope

Down-slope shape: Linear, convex Across-slope shape: Convex

Parent material: Coarse-loamy lodgment till derived from gneiss, granite, and/or

schist

Typical profile

Ap - 0 to 8 inches: fine sandy loam
Bw1 - 8 to 15 inches: fine sandy loam
Bw2 - 15 to 26 inches: fine sandy loam
Cd - 26 to 65 inches: gravelly fine sandy loam

Properties and qualities

Slope: 3 to 8 percent

Depth to restrictive feature: 18 to 39 inches to densic material

Drainage class: Well drained Runoff class: Medium

Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately

low (0.00 to 0.14 in/hr)

Depth to water table: About 18 to 37 inches

Frequency of flooding: None Frequency of ponding: None

Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm) Available water capacity: Low (about 3.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 2s

Hydrologic Soil Group: C

Ecological site: F144AY007CT - Well Drained Dense Till Uplands

Hydric soil rating: No

Minor Components

Woodbridge

Percent of map unit: 9 percent

Landform: Hills, drumlins, ground moraines

Landform position (two-dimensional): Backslope, footslope, summit

Landform position (three-dimensional): Side slope

Down-slope shape: Concave Across-slope shape: Linear Hydric soil rating: No

Ridgebury

Percent of map unit: 6 percent

Landform: Drainageways, hills, ground moraines, depressions
Landform position (two-dimensional): Backslope, footslope, toeslope
Landform position (three-dimensional): Head slope, base slope, dip

Down-slope shape: Concave Across-slope shape: Concave

Hydric soil rating: Yes

Charlton

Percent of map unit: 5 percent

Landform: Hills

Down-slope shape: Linear Across-slope shape: Linear Hydric soil rating: No

PnC—Paxton fine sandy loam, 8 to 15 percent slopes

Map Unit Setting

National map unit symbol: 2w66y

Elevation: 0 to 1,320 feet

Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F

Frost-free period: 140 to 240 days

Farmland classification: Farmland of statewide importance

Map Unit Composition

Paxton and similar soils: 85 percent Minor components: 15 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Paxton

Setting

Landform: Ground moraines, drumlins, hills Landform position (two-dimensional): Backslope Landform position (three-dimensional): Side slope

Down-slope shape: Linear, convex Across-slope shape: Convex

Parent material: Coarse-loamy lodgment till derived from gneiss, granite, and/or schist

Typical profile

Ap - 0 to 8 inches: fine sandy loam
Bw1 - 8 to 15 inches: fine sandy loam
Bw2 - 15 to 26 inches: fine sandy loam
Cd - 26 to 65 inches: gravelly fine sandy loam

Properties and qualities

Slope: 8 to 15 percent

Depth to restrictive feature: 20 to 39 inches to densic material

Drainage class: Well drained Runoff class: Medium

Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately

low (0.00 to 0.14 in/hr)

Depth to water table: About 18 to 37 inches

Frequency of flooding: None Frequency of ponding: None

Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm) Available water capacity: Low (about 4.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 3e

Hydrologic Soil Group: C

Ecological site: F144AY007CT - Well Drained Dense Till Uplands

Hydric soil rating: No

Minor Components

Charlton

Percent of map unit: 7 percent

Landform: Hills

Landform position (two-dimensional): Backslope Landform position (three-dimensional): Side slope

Down-slope shape: Convex Across-slope shape: Convex

Hydric soil rating: No

Woodbridge

Percent of map unit: 6 percent

Landform: Ground moraines, drumlins, hills

Landform position (two-dimensional): Backslope, footslope, summit

Landform position (three-dimensional): Side slope

Down-slope shape: Concave Across-slope shape: Linear Hydric soil rating: No

Ridgebury

Percent of map unit: 2 percent

Landform: Drumlins, hills, ground moraines, depressions, drainageways

Landform position (two-dimensional): Toeslope, footslope Landform position (three-dimensional): Base slope, head slope

Down-slope shape: Concave, linear Across-slope shape: Concave, linear

Hydric soil rating: Yes

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 capacity: 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

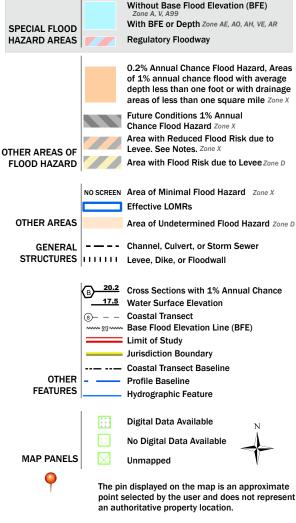
Figure 3 FEMA Flood Maps

National Flood Hazard Layer FIRMette



Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT



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 12/23/2020 at 12:28 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.



National Flood Hazard Layer FIRMette



Legend SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT Without Base Flood Elevation (BFE) With BFE or Depth Zone AE, AO, AH, VE, AR SPECIAL FLOOD HAZARD AREAS Regulatory Floodway 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 OTHER AREAS OF FLOOD HAZARD Area with Flood Risk due to Levee Zone D NO SCREEN Area of Minimal Flood Hazard Zone X Effective LOMRs OTHER AREAS Area of Undetermined Flood Hazard Zone D - - - Channel, Culvert, or Storm Sewer **GENERAL** STRUCTURES | LILLI Levee, Dike, or Floodwall 20.2 Cross Sections with 1% Annual Chance 17.5 Water Surface Elevation **Coastal Transect** Base Flood Elevation Line (BFE) Limit of Study Jurisdiction Boundary **Coastal Transect Baseline** OTHER **Profile Baseline FEATURES** Hydrographic Feature Digital Data Available No Digital Data Available

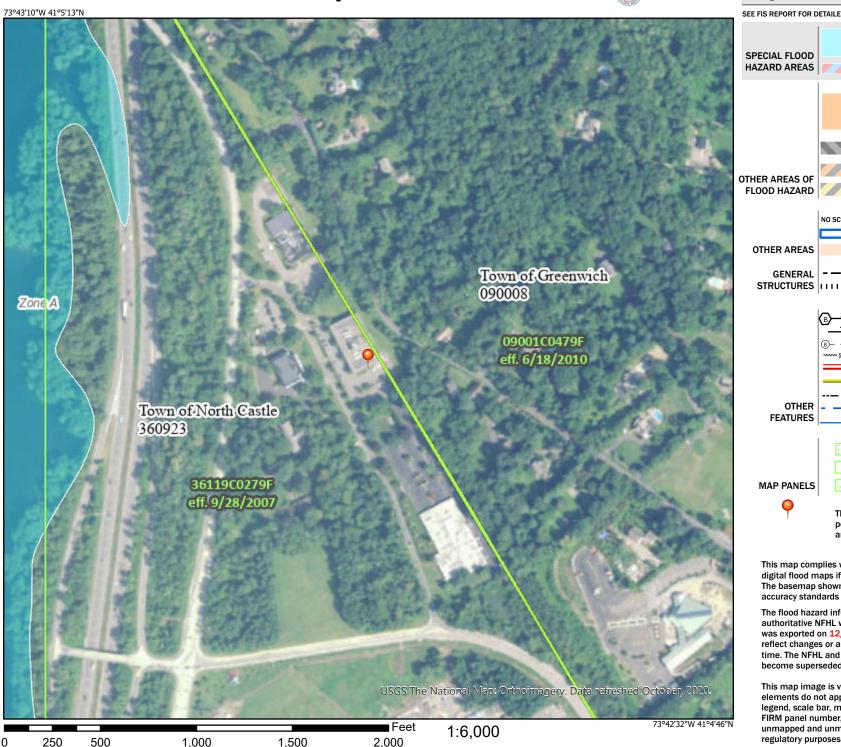
PANELS Unmapped

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

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 12/28/2020 at 3:50 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.

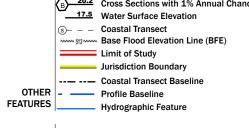
This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.



National Flood Hazard Layer FIRMette



Legend SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT Without Base Flood Elevation (BFE) With BFE or Depth Zone AE, AO, AH, VE, AR SPECIAL FLOOD HAZARD AREAS Regulatory Floodway 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 OTHER AREAS OF FLOOD HAZARD Area with Flood Risk due to Levee Zone D NO SCREEN Area of Minimal Flood Hazard Zone X Effective LOMRs OTHER AREAS Area of Undetermined Flood Hazard Zone D - - - Channel, Culvert, or Storm Sewer **GENERAL** STRUCTURES | LILLI Levee, Dike, or Floodwall 20.2 Cross Sections with 1% Annual Chance 17.5 Water Surface Elevation



Digital Data Available

No Digital Data Available

Unmapped

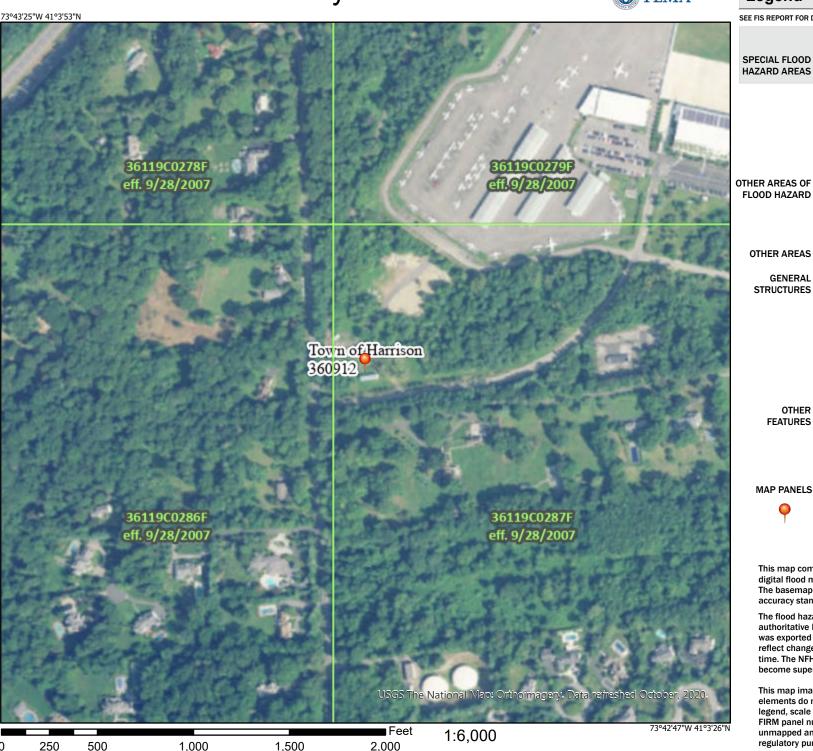
The _I

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 12/23/2020 at 12:26 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.



Appendix B Notice of Intent

NOI for coverage under Stormwater General Permit for Construction Activity

version 1.35

(Submission #: HPN-6XCF-BWR6R, version 1)

Details

Originally Started By Jovena Gjuraj

Alternate Identifier Westchester County Airport

Submission ID HPN-6XCF-BWR6R

Submission Reason New

Status Draft

Form Input

Owner/Operator Information

Owner/Operator Name (Company/Private Owner/Municipality/Agency/Institution, etc.)

Westchester County

Owner/Operator Contact Person Last Name (NOT CONSULTANT)

Greechan

Owner/Operator Contact Person First Name

Hugh

Owner/Operator Mailing Address

148 Martine Avneue

City

White Plains

State

New York

Zip

10601

Phone

914-995-3361

Email

jadc@westchestergov.com

Federal Tax ID

NONE PROVIDED

Project Location

Project/Site Name

Westchester County Airport

Street Address (Not P.O. Box)

240 Airport Rd

Side of Street

East

City/Town/Village (THAT ISSUES BUILDING PERMIT)

Westchester County

State

NY

Zip

10604

DEC Region

3

County

WESTCHESTER

Name of Nearest Cross Street

Route 120

Distance to Nearest Cross Street (Feet)

NONE PROVIDED

Project In Relation to Cross Street

East

Tax Map Numbers Section-Block-Parcel

119.03,1,6

Tax Map NumbersNONE PROVIDED

1. Coordinates

Provide the Geographic Coordinates for the project site. The two methods are:

- Navigate to the project location on the map (below) and click to place a marker and obtain the XY coordinates.
- The "Find Me" button will provide the lat/long for the person filling out this form. Then pan the map to the correct location and click the map to place a marker and obtain the XY coordinates.

Navigate to your location and click on the map to get the X,Y coordinates 41.06835136607617,-73.7087345123291

Project Details

2. What is the nature of this project?

Redevelopment with no increase in impervious area

3. Select the predominant land use for both pre and post development conditions.

Pre-Development Existing Landuse

Other: Airport

Post-Development Future Land Use

Other: Airport

3a. If Single Family Subdivision was selected in question 3, enter the number of subdivision lots.

NONE PROVIDED

4. In accordance with the larger common plan of development or sale, enter the total project site acreage, the acreage to be disturbed and the future impervious area (acreage)within the disturbed area.

*** ROUND TO THE NEAREST TENTH OF AN ACRE. ***

Total Site Area (acres)

702

Total Area to be Disturbed (acres)

0.5

Existing Impervious Area to be Disturbed (acres)

0.22

Future Impervious Area Within Disturbed Area (acres) 0.22

5. Do you plan to disturb more than 5 acres of soil at any one time?

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

A (%)

0

B (%)

C (%) 100

D (%)

7. Is this a phased project?

No

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

Start Date

04/03/2023

End Date

09/01/2024

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

Rye Lake

9a. Type of waterbody identified in question 9?

Lake Off Site

Other Waterbody Type Off Site Description

NONE PROVIDED

9b. If "wetland" was selected in 9A, how was the wetland identified?

NONE PROVIDED

10. Has the surface waterbody(ies in question 9 been identified as a 303(d) segment in Appendix E of GP-0-20-001?

No

11. Is this project located in one of the Watersheds identified in Appendix C of GP-0-20-001?

Yes

12. Is the project located in one of the watershed areas associated with AA and AA-S classified waters?

Yes

If No, skip question 13.

13. Does this construction activity disturb land with no existing impervious cover and where the Soil Slope Phase is identified as D (provided the map unit name is inclusive of slopes greater than 25%), E or F on the USDA Soil Survey? NO

If Yes, what is the acreage to be disturbed? NONE PROVIDED

- 14. Will the project disturb soils within a State regulated wetland or the protected 100 foot adjacent area?

 No
- 15. Does the site runoff enter a separate storm sewer system (including roadside drains, swales, ditches, culverts, etc)?
 No
- 16. What is the name of the municipality/entity that owns the separate storm sewer system?

NONE PROVIDED

- 17. Does any runoff from the site enter a sewer classified as a Combined Sewer?
- 18. Will future use of this site be an agricultural property as defined by the NYS Agriculture and Markets Law?

No

19. Is this property owned by a state authority, state agency, federal government or local government?

Yes

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

Required SWPPP Components

- 21. Has the required Erosion and Sediment Control component of the SWPPP been developed in conformance with the current NYS Standards and Specifications for Erosion and Sediment Control (aka Blue Book)?
 Yes
- 22. Does this construction activity require the development of a SWPPP that includes the post-construction stormwater management practice component (i.e. Runoff Reduction, Water Quality and Quantity Control practices/techniques)?

If you answered No in question 22, skip question 23 and the Post-construction Criteria and Post-construction SMP Identification sections.

23. Has the post-construction stormwater management practice component of the SWPPP been developed in conformance with the current NYS Stormwater Management Design Manual?

NONE PROVIDED

24. The Stormwater Pollution Prevention Plan (SWPPP) was prepared by: Professional Engineer (P.E.)

SWPPP Preparer

D&B Engineers and Architects

Contact Name (Last, Space, First)

Merklin, William

Mailing Address

330 Crossways Park Drive

City

Woodbury

State

New York

Zip

11797

Phone

516-364-9890

Email

bmerklin@db-eng.com

Download SWPPP Preparer Certification Form

Please take the following steps to prepare and upload your preparer certification form:

- 1) Click on the link below to download a blank certification form
- 2) The certified SWPPP preparer should sign this form

- 3) Scan the signed form
- 4) Upload the scanned document

Download SWPPP Preparer Certification Form

Please upload the SWPPP Preparer Certification

NONE PROVIDED Comment
NONE PROVIDED

Erosion & Sediment Control Criteria

25. Has a construction sequence schedule for the planned management practices been prepared?

Yes

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

Temporary Structural

Dust Control
Construction Road Stabilization
Silt Fence
Stabilized Construction Entrance
Storm Drain Inlet Protection

Biotechnical

None

Vegetative Measures

Protecting Vegetation Seeding

Permanent Structural

None

Other

NONE PROVIDED

Post-Construction Criteria

- * IMPORTANT: Completion of Questions 27-39 is not required if response to Question 22 is No.
- 27. Identify all site planning practices that were used to prepare the final site plan/layout for the project.

NONE PROVIDED

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

NONE PROVIDED

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

NONE PROVIDED

29. Post-construction SMP Identification

Use the Post-construction SMP Identification section to identify the RR techniques (Area Reduction), RR techniques(Volume Reduction) and Standard SMPs with RRv Capacity that were used to reduce the Total WQv Required (#28).

Identify the SMPs to be used by providing the total impervious area that contributes runoff to each technique/practice selected. For the Area Reduction Techniques, provide the total contributing area (includes pervious area) and, if applicable, the total impervious area that contributes runoff to the technique/practice.

Note: Redevelopment projects shall use the Post-Construction SMP Identification section to identify the SMPs used to treat and/or reduce the WQv required. If runoff reduction techniques will not be used to reduce the required WQv, skip to question 33a after identifying the SMPs.

30. Indicate the Total RRv provided by the RR techniques (Area/Volume Reduction) and Standard SMPs with RRv capacity identified in question 29. (acre-feet) NONE PROVIDED

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

NONE PROVIDED

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

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

NONE PROVIDED

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

NONE PROVIDED

If Yes, go to guestion 33.

Note: Use the space provided in question #39 to summarize the specific site limitations and justification for not reducing 100% of WQv required (#28). A detailed evaluation of the specific site limitations and justification for not reducing 100% of the WQv required (#28) must also be included in the SWPPP.

If No, sizing criteria has not been met; therefore, NOI can not be processed. SWPPP preparer must modify design to meet sizing criteria.

33. SMPs

Use the Post-construction SMP Identification section to identify the Standard SMPs and, if applicable, the Alternative SMPs to be used to treat the remaining total WQv (=Total WQv Required in #28 - Total RRv Provided in #30).

Also, provide the total impervious area that contributes runoff to each practice selected.

NOTE: Use the Post-construction SMP Identification section to identify the SMPs used on Redevelopment projects.

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

NONE PROVIDED

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

- **34. Provide the sum of the Total RRv provided (#30) and the WQv provided (#33a).** NONE PROVIDED
- 35. Is the sum of the RRv provided (#30) and the WQv provided (#33a) greater than or equal to the total WQv required (#28)?

 NONE PROVIDED

If Yes, go to question 36.

If No, sizing criteria has not been met; therefore, NOI can not be processed. SWPPP preparer must modify design to meet sizing criteria.

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

CPv Required (acre-feet)

NONE PROVIDED

CPv Provided (acre-feet)

NONE PROVIDED

36a. The need to provide channel protection has been waived because: NONE PROVIDED

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

Overbank Flood Control Criteria (Qp)

Pre-Development (CFS)

NONE PROVIDED

Post-Development (CFS)

NONE PROVIDED

Total Extreme Flood Control Criteria (Qf)

Pre-Development (CFS)

NONE PROVIDED

Post-Development (CFS)

NONE PROVIDED

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

NONE PROVIDED

38. Has a long term Operation and Maintenance Plan for the post-construction stormwater management practice(s) been developed?

NONE PROVIDED

If Yes, Identify the entity responsible for the long term Operation and Maintenance NONE PROVIDED

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

NONE PROVIDED

Post-Construction SMP Identification

Runoff Reduction (RR) Techniques, Standard Stormwater Management Practices (SMPs) and Alternative SMPs

Identify the Post-construction SMPs to be used by providing the total impervious area that contributes runoff to each technique/practice selected. For the Area Reduction Techniques, provide the total contributing area (includes pervious area) and, if applicable, the total impervious area that contributes runoff to the technique/practice.

RR Techniques (Area Reduction)

Round to the nearest tenth

Total Contributing Acres for Conservation of Natural Area (RR-1)NONE PROVIDED

Total Contributing Impervious Acres for Conservation of Natural Area (RR-1)
NONE PROVIDED

Total Contributing Acres for Sheetflow to Riparian Buffers/Filter Strips (RR-2)NONE PROVIDED

Total Contributing Impervious Acres for Sheetflow to Riparian Buffers/Filter Strips (RR-2)

NONE PROVIDED

Total Contributing Acres for Tree Planting/Tree Pit (RR-3)

NONE PROVIDED

Total Contributing Impervious Acres for Tree Planting/Tree Pit (RR-3)

NONE PROVIDED

Total Contributing Acres for Disconnection of Rooftop Runoff (RR-4)

NONE PROVIDED

RR Techniques (Volume Reduction)

Total Contributing Impervious Acres for Disconnection of Rooftop Runoff (RR-4)

NONE PROVIDED

Total Contributing Impervious Acres for Vegetated Swale (RR-5)

NONE PROVIDED

Total Contributing Impervious Acres for Rain Garden (RR-6)

NONE PROVIDED

Total Contributing Impervious Acres for Stormwater Planter (RR-7)

NONE PROVIDED

Total Contributing Impervious Acres for Rain Barrel/Cistern (RR-8)

NONE PROVIDED

Total Contributing Impervious Acres for Porous Pavement (RR-9)

NONE PROVIDED

Total Contributing Impervious Acres for Green Roof (RR-10)

NONE PROVIDED

Standard SMPs with RRv Capacity

Total Contributing Impervious Acres for Infiltration Trench (I-1)

NONE PROVIDED

Total Contributing Impervious Acres for Infiltration Basin (I-2)

NONE PROVIDED

Total Contributing Impervious Acres for Dry Well (I-3)

NONE PROVIDED

Total Contributing Impervious Acres for Underground Infiltration System (I-4)
NONE PROVIDED

Total Contributing Impervious Acres for Bioretention (F-5)NONE PROVIDED

Total Contributing Impervious Acres for Dry Swale (O-1)

NONE PROVIDED

Standard SMPs

Total Contributing Impervious Acres for Micropool Extended Detention (P-1)
NONE PROVIDED

Total Contributing Impervious Acres for Wet Pond (P-2)NONE PROVIDED

Total Contributing Impervious Acres for Wet Extended Detention (P-3)NONE PROVIDED

Total Contributing Impervious Acres for Multiple Pond System (P-4)NONE PROVIDED

Total Contributing Impervious Acres for Pocket Pond (P-5)NONE PROVIDED

Total Contributing Impervious Acres for Surface Sand Filter (F-1)NONE PROVIDED

Total Contributing Impervious Acres for Underground Sand Filter (F-2)NONE PROVIDED

Total Contributing Impervious Acres for Perimeter Sand Filter (F-3)NONE PROVIDED

Total Contributing Impervious Acres for Organic Filter (F-4)NONE PROVIDED

Total Contributing Impervious Acres for Shallow Wetland (W-1)
NONE PROVIDED

Total Contributing Impervious Acres for Extended Detention Wetland (W-2)NONE PROVIDED

Total Contributing Impervious Acres for Pond/Wetland System (W-3)NONE PROVIDED

Total Contributing Impervious Acres for Pocket Wetland (W-4)NONE PROVIDED

Total Contributing Impervious Acres for Wet Swale (O-2)NONE PROVIDED

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

Total Contributing Impervious Area for HydrodynamicNONE PROVIDED

Total Contributing Impervious Area for Wet VaultNONE PROVIDED

Total Contributing Impervious Area for Media FilterNONE PROVIDED

"Other" Alternative SMP? NONE PROVIDED

Total Contributing Impervious Area for "Other"NONE PROVIDED

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

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

Manufacturer of Alternative SMP NONE PROVIDED

Name of Alternative SMP
NONE PROVIDED

Other Permits

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

None

If SPDES Multi-Sector GP, then give permit ID NONE PROVIDED

If Other, then identify NONE PROVIDED

41. Does this project require a US Army Corps of Engineers Wetland Permit? Yes

If "Yes," then indicate Size of Impact, in acres, to the nearest tenth NONE PROVIDED

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

NONE PROVIDED

MS4 SWPPP Acceptance

43. Is this project subject to the requirements of a regulated, traditional land use control MS4?

Yes - Please attach the MS4 Acceptance form below

If No, skip question 44

44. Has the "MS4 SWPPP Acceptance" form been signed by the principal executive officer or ranking elected official and submitted along with this NOI?

NONE PROVIDED

MS4 SWPPP Acceptance Form Download

Download form from the link below. Complete, sign, and upload. MS4 SWPPP Acceptance Form

MS4 Acceptance Form Upload

NONE PROVIDED

Comment

NONE PROVIDED

Owner/Operator Certification

Owner/Operator Certification Form Download

Download the certification form by clicking the link below. Complete, sign, scan, and upload the form.

Owner/Operator Certification Form (PDF, 45KB)

Upload Owner/Operator Certification Form

NONE PROVIDED Comment

NONE PROVIDED

Appendix C Owner/Operator Certification Form



Owner/Operator Certification Form

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

Project/Site Name: _____

eNOI Submission Number:					
eNOI Submitted by:	Owner/Operator	SWPPP Preparer	Other		
Certification Statemen	t - 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	e M.I.	Last Name			
Signature Date					

Appendix D SWPPP Preparer Certification Form



SWPPP Preparer Certification Form

Discharges From Construction Action (GP-0-20-001)		
Project Site Information Project/Site Name		
Owner/Operator Information Owner/Operator (Company Nar	me/Priv	/ate Owner/Municipality Name)
Certification Statement – SWPPP F	Prepar	er
I hereby certify that the Stormwater Polliproject has been prepared in accordance GP-0-20-001. Furthermore, I understand information is a violation of this permit a could subject me to criminal, civil and/or	e with d that c nd the	the terms and conditions of the certifying false, incorrect or inaccurate laws of the State of New York and
First name	MI	Last Name
Signature		Date

Revised: January 2020

Appendix E Erosion and Sediment Control Plan Review Checklist

APPENDIX E EROSION AND SEDIMENT CONTROL PLAN REVIEW CHECKLIST

Project Name	Site Location				
Applicant's Name & Address					
General					
including topography, vegetation an the site and key properties; notations	ded that describes the proposed project of d drainage; adjacent and off-site areas a s of critical areas such as steep slopes, c l disturbed area and, areas not to be dist	ffected by thannels or	the project; wetlands; th	description of e overall phas	the soils on
I. <u>Construction Drawings</u>	<u>5</u>				
Are the following items shown	on the construction drawings:	Yes	<u>No</u>		
1. Vicinity Map with scale and a	north arrow				
2. Legend, scales, N arrow on p	lan view				
3. Existing and proposed topogr with contours labeled with spots					
4. Scope of the plan noted in the	e Title Block				
5. Limits of clearing and grading	g shown, and methods of spoil disposal				
6. Existing vegetation delineated	d				
7. Soil boundaries shown on the	e existing and proposed plan views				
8. Existing drainage patterns, 10 and sub-areas shown, runoff out					
9. Existing and proposed develor improvements shown	opment facilities/				
10. Location of Erosion and Sec with construction, with dimension	liment control practices as phased ons and material specifications				
11. Phasing plan with 5 acre thr	eshold limits shown				
12. Stockpile locations, staging points, and concrete trunk wash					
13. Street profiles, utility location and, easement delineations show					
14. Soil Restoration Plan detail	ed on the site plan				

II.	Construction Notes & Details	<u>Yes</u>	<u>No</u>
	1. Specific sequence of operation given for each phase		
	2. Inspection and maintenance schedule shown for the specific practices		
	3. Design details show all dimensions and installation details necessary for construction		
	4. Implementation schedule for E&S practices is provided with removal criteria stated		
	5. Site pollution and construction waste management plan incorporated in the notes		
	6. Site Inspections during construction are noted on the drawings and are in accordance with the General Permit for Stormwater Discharges from Construction Activities		
III	Erosion & Sediment Control Practices		
A.	General	Yes	<u>No</u>
	1. Practice meets purpose and design criteria		
	2. Standard details and construction notes are provided		
	3. Special timing of practice noted if applicable		
	4. Provisions for traffic crossings shown on the drawings where necessary		
В.	Practices Controlling Runoff	<u>Yes</u>	<u>No</u>
	1. Positive drainage is maintained with contributing drainage area shown		
	2. Flow grades properly stabilized		
	3. Adequate outlet or discharge condition stabilized		
	4. Necessary dimensions, gradations, calculations, and materials shown		
C.	Practices Stabilizing Soil	<u>Yes</u>	<u>No</u>
	1. Seeding rates and areas properly shown on the drawings		
	2. Mulch materials and rates specified on the drawings		
	3. Sequencing and timing provisions limit soil exposure to 7 to 14 days as appropriate		

C.	Practices Stabilizing Soil (cont'd)	<u>Yes</u>	<u>No</u>
	4. Rolled Erosion Control Products (RECP's) used are specified to location and appropriate weight/tie down		
	5. All soil seed bed preparation and amendments are specified on the drawings or in the specifications		
	6. The seeding dates are specified to cover the entire year for both temporary and permanent seedings		
	7. Maximum created slopes are no steeper than 2 foot horizontal to 1 foot vertical with Cut and Fill slopes shown		
D.	Practices Controlling Sediment	Yes	<u>No</u>
	1. Sediment traps/basins are sized in accordance with criteria		
	2. The contributing drainage area is shown on the grading plan		
	3. All scaled dimensions and volumes are shown on the plan		
	4. Maintenance requirements and clean out elevations established for all sediment control practices (50% capacity)		
	5. All access points of the project are shown to be stabilized		
	6. Storm drain inlets adequately protected		
	7. Buffer filter strips are appropriately sited and installed		
	7. Silt fences are shown on the contour lines with no more than one quarter acre per 100 foot drainage to it		
	8. Temporary sediment traps are not being used at locations of future stormwater infiltration facilities		
	9. Dewatering devices for traps and basins are adequately designed with details shown on the plans		
	10. Geotextile filter bags are properly sited, sized, and have their maintenance requirements detailed on the drawings		
	11. Turbidity curtains are properly located with installation, anchoring, and maintenance details shown on the plans		

Additional Comments and Notes			
Plan Reviewed By:	Date:		
-			
J. W. 1 Co.		27	1 201

Appendix F 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 inspector¹ conduct an assessment of the site prior to the commencement of construction² 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 stabilization³ 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 &}quot;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 &}quot;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.

CONSTRUCTION DURATION INSPECTIONS Page 1 of _____ 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

Ye	s 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
гэ	гэ	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?
Ho	usek	keeping
1.	Ger	neral Site Conditions
		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.	Ten	nporary Stream Crossing
Ye	s 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.
	Stal s No	pilized Construction Access
		[] 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?
Ru	noff	Control Practices
1.	Exc	eavation Dewatering
		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.

CONSTRUCTION DURATION INSPECTIONS

Page 4 of _____

Sediment Control Practices (continued)

2.	Sto	rm Drain Inlet Protection (Use for Stone & Block; Filter Fabric; Curb; or, Excavated; Filter Sock of
	Ma	nufactured practices)
Yes	s 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 1 acre 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.
		nt accumulation% of design capacity.
3.	Ten	nporary Sediment Trap
		NA 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.
		nt accumulation is% of design capacity.
4.	Ten	nporary Sediment Basin
Yes	s 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.
		nt accumulation is% of design capacity.
<u>Not</u>	<u>te</u> :	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 G Contractor/Subcontractor SPDES Permit Certification

CONR 5 (10/19)

Contractor / Subcontractor SPDES Permit Certification

Contract No.:	PIN:
Description:	
· · · · · · · · · · · · · · · · · · ·	
County:	
Check Applicable Box:	☐ Prime Contractor ☐ Subcontractor
Name of Contractor/ Subcontractor:	
Address:	
City:	State: ZIP:
Phone:	
	the Contractor/Subcontractor will be responsible (e.g. 203, 207,
requires the Prime Contractor and subco Plan (SWPPP), the General Permit cond signed prior to performing any contract w	General Permit for Stormwater Discharges from Construction Activities ontractors to certify they understand the Stormwater Pollution Prevention litions, and their responsibilities for compliance. The certification must be work. The certification shall be signed by an Owner, Principal, President, ordance with the signature requirements of 102-05 <i>Proposal Submission</i>
SWPPP and agree to implement any correl also understand that the owner or operate of the New York State Pollutant Discharge from construction activities and that it is unstandards. Furthermore, I am aware that the	understand and agree to comply with the terms and conditions of the active actions identified by the qualified inspector during a site inspection. For must comply with the terms and conditions of the most current version and Elimination System ("SPDES") general permit for stormwater discharges allowful for any person to cause or contribute to a violation of water quality there are significant penalties for submitting false information, that I do illity of fine and imprisonment for knowing violations."
Signature:	Date:
Name:	Title:
performing earthwork or soil-disturbing act responsible for implementing the SWPPP and disturbance activities. These activities include and installation and maintenance of Erosion & NYSDEC-endorsed Erosion & Sediment Contr Professional Engineer, registered licensed Lar	tivities to identify at least one trained individual from each company who will be who shall be on-site on a daily basis when the company is performing soil clearing, grubbing, grading, filling, excavation, stockpiling, demolition, landscaping, Sediment Control practices. Training must consist of 4 hours of ol Training every 3 years. (Training is not required if the individual is a licensed adscape Architect, or CPESC.) Provide the information below for trained individuals implementation on this Contract (attach a separate sheet if needed for additional
Trained Individual Name/Title:	
Name of Training Course:	
Trainee Number:	Date of Training:
Trained Individual Name/Title:	
Name of Training Course:	
Trainee Number:	Date of Training:

Appendix H Notice of Termination

New York State Department of Environmental Conservation Division of Water

625 Broadway, 4th Floor

Albany, New York 12233-3505

(NOTE: Submit completed form to address above)

NOTICE OF TERMINATION for Storm Water Discharges Authorized under the SPDES General Permit for Construction Activity

Please indicate your permit identification number: NYR			
I. Owner or Operator Information			
1. Owner/Operator Name:			
2. Street Address:			
3. City/State/Zip:			
4. Contact Person:	4a.Telephone:		
4b. Contact Person E-Mail:			
II. Project Site Information			
5. Project/Site Name:			
6. Street Address:			
7. City/Zip:			
8. County:			
III. Reason for Termination			
9a. □ All disturbed areas have achieved final stabilization in accordance with the general permit and SWPPP. *Date final stabilization completed (month/year):			
9b. Permit coverage has been transferred to new owner/operator. Indicate new owner/operator's permit identification number: NYR			
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 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? (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

Date:

question 5 to submit the Notice of Termination at this time.

Printed Name:
Title/Position:

Signature:

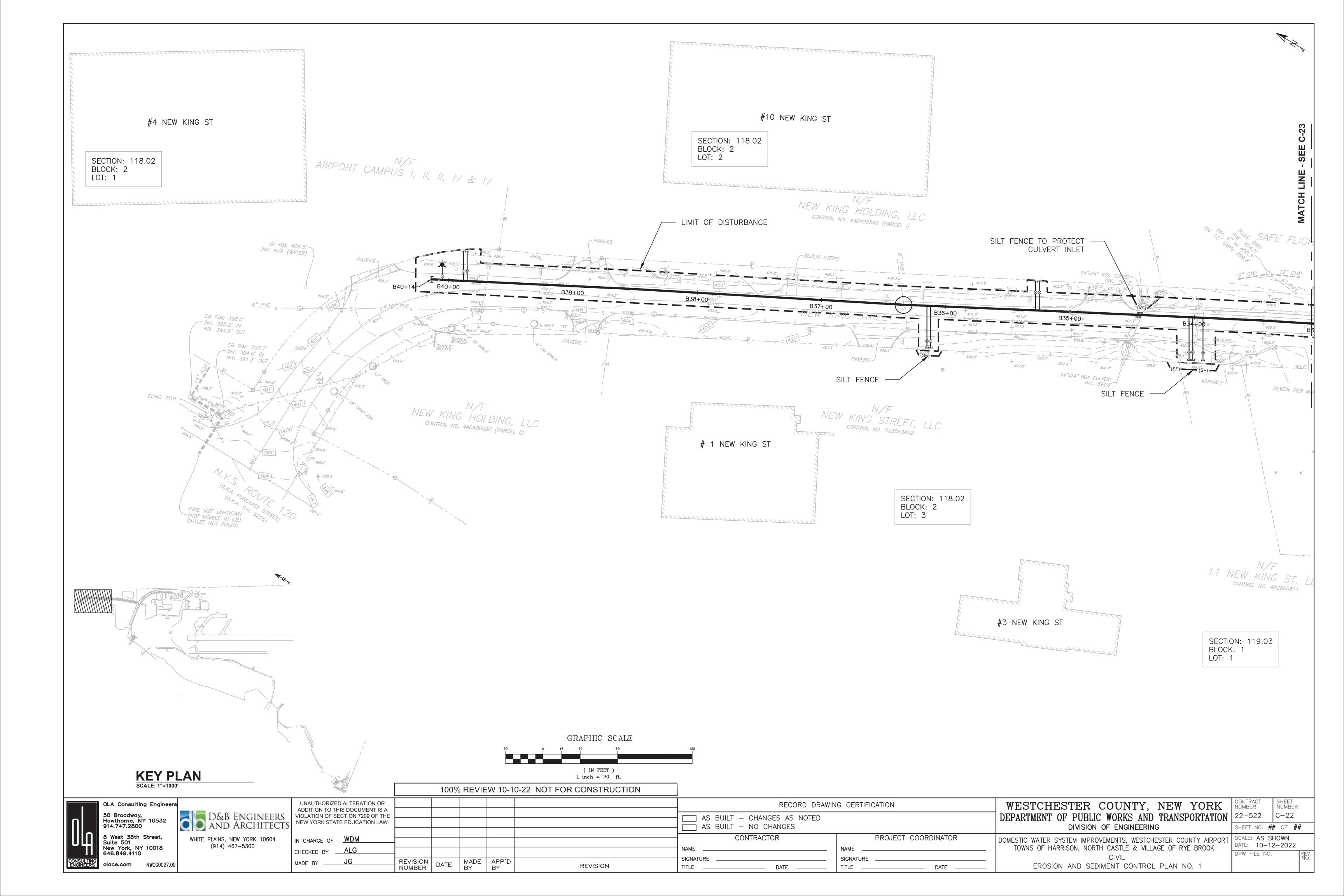
NOTICE OF TERMINATION for Storm Water Discharges Authorized under the SPDES General Permit for Construction Activity - continued

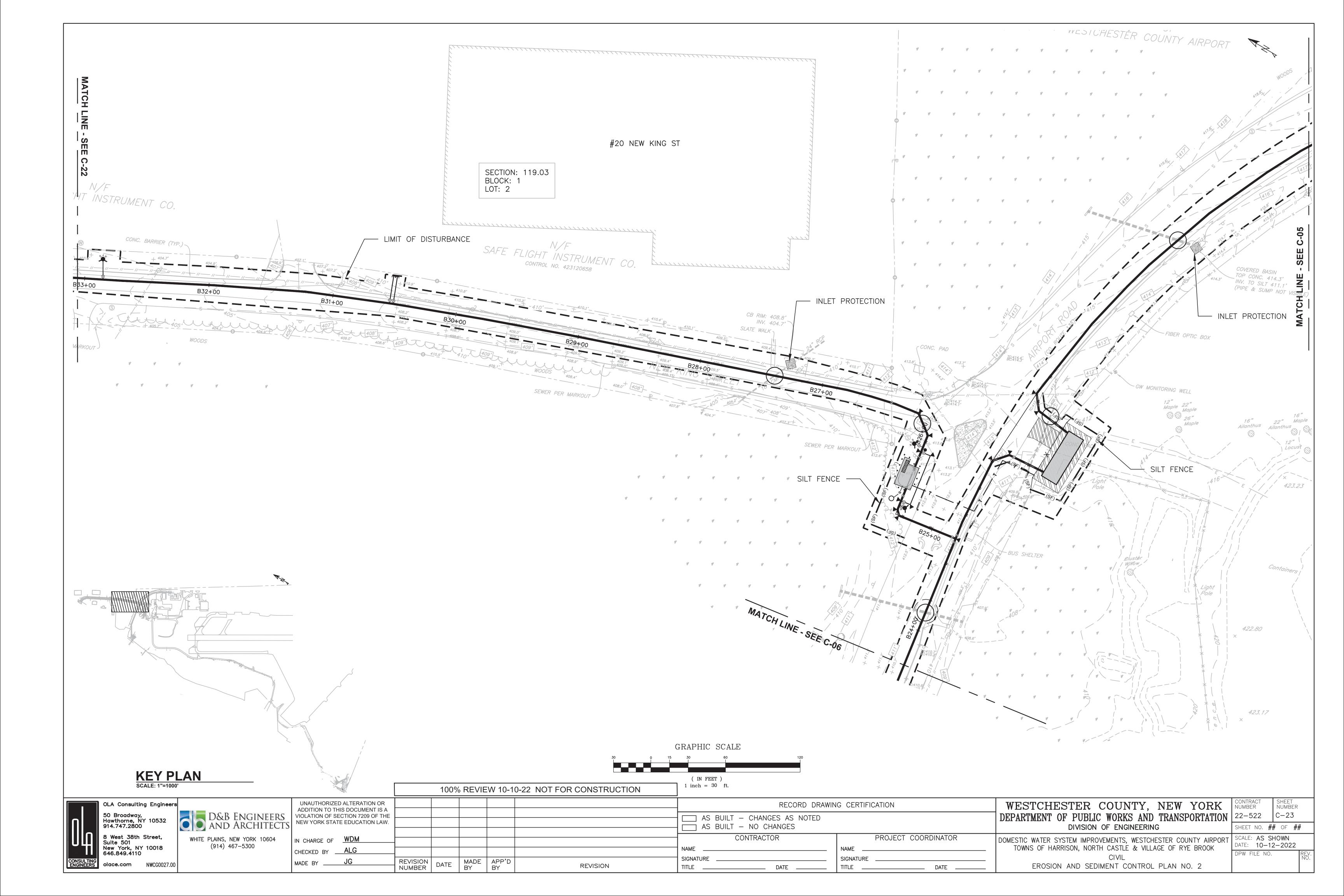
VII. Qualified Inspector Certification - Final Stabilization:

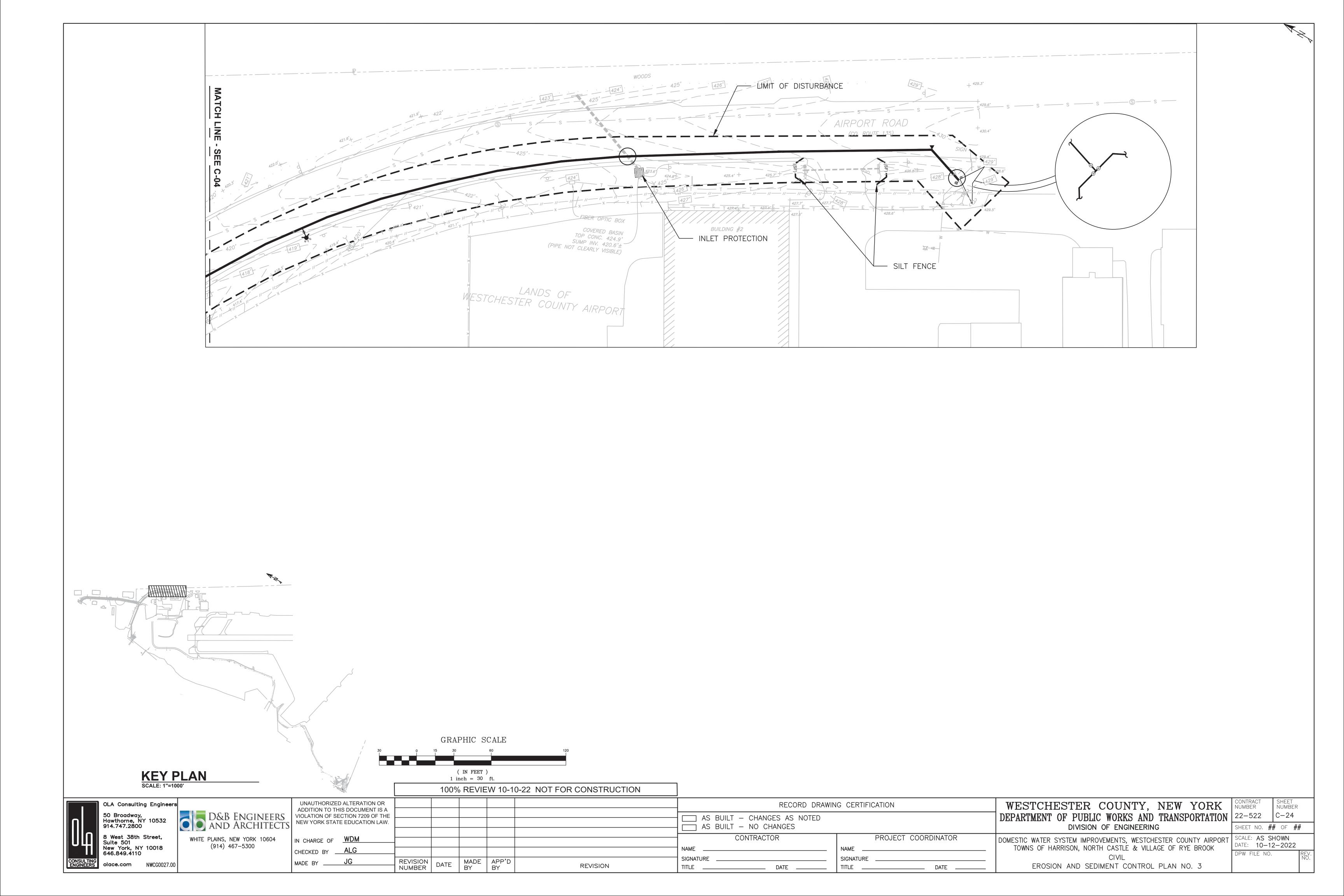
I hereby certify that all disturbed areas have achieved final stabilization as of the general permit, and that all temporary, structural erosion and sedin been removed. Furthermore, I understand that certifying false, incorrect oriolation of the referenced permit and the laws of the State of New York a criminal, civil and/or administrative proceedings.	nent control measures have or inaccurate information is a			
Printed Name:				
Title/Position:				
Signature:	Date:			
VIII. Qualified Inspector Certification - Post-construction Stormwat	er 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:			

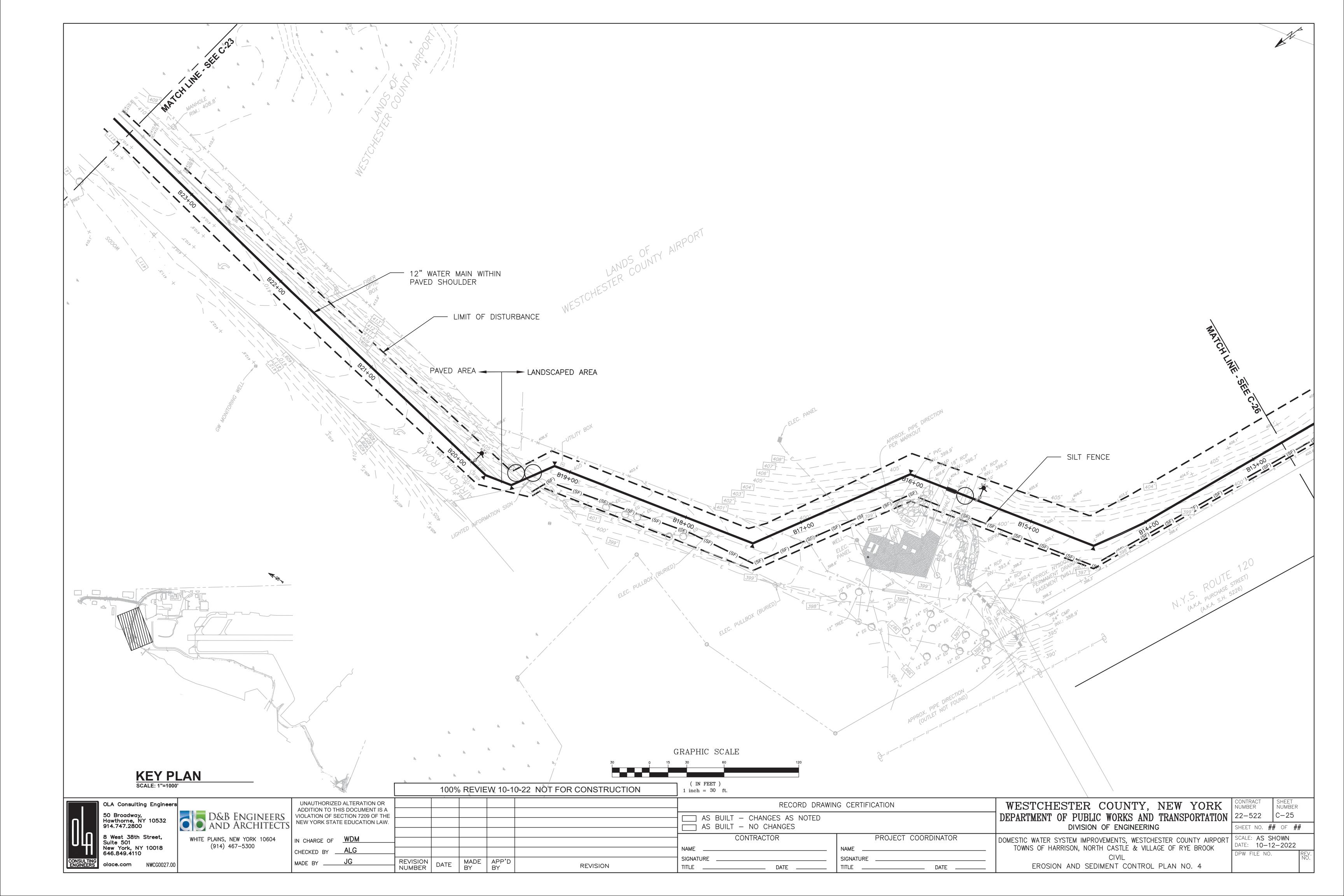
(NYS DEC Notice of Termination - January 2015)

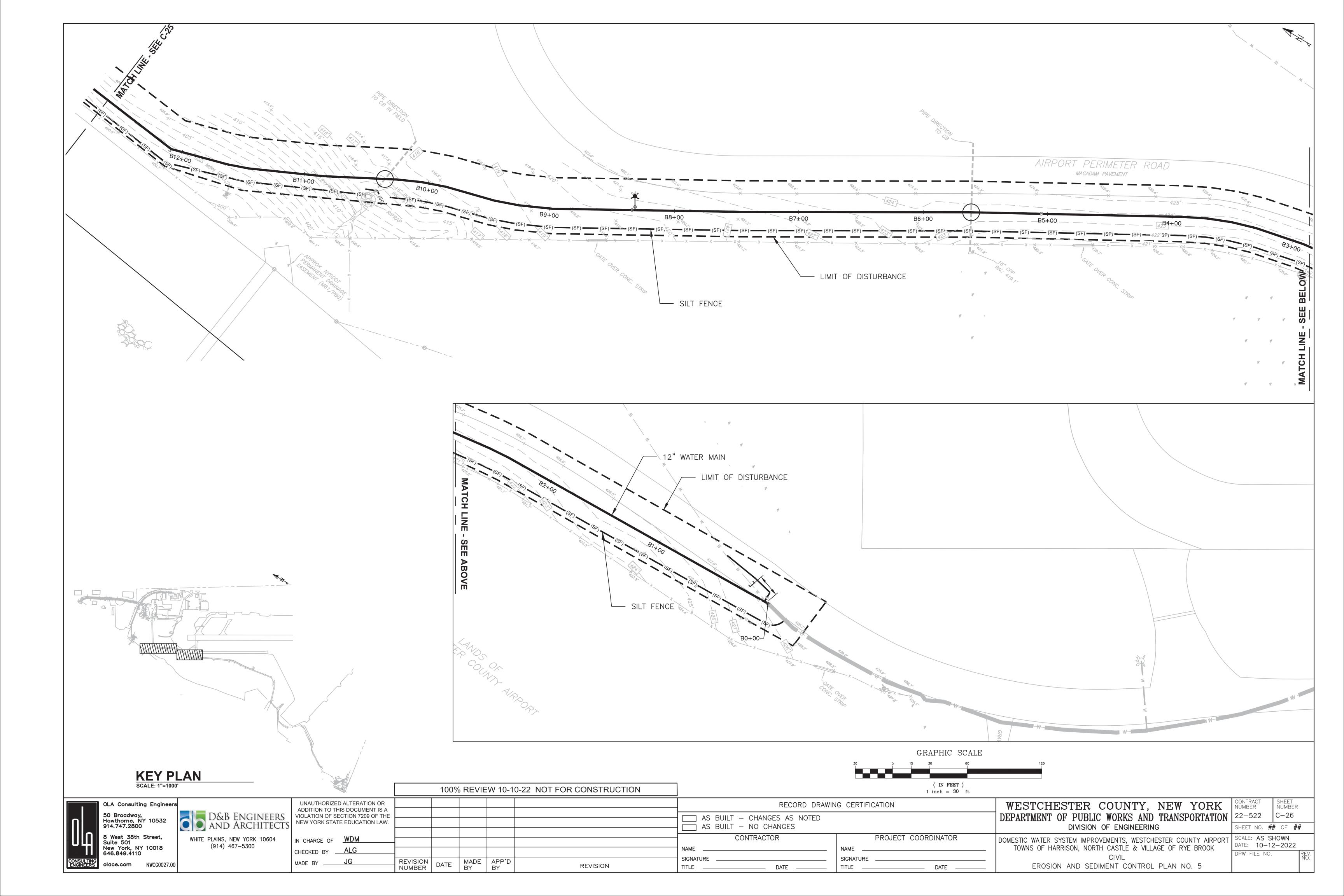
Appendix I Erosion and Sediment Control Plans

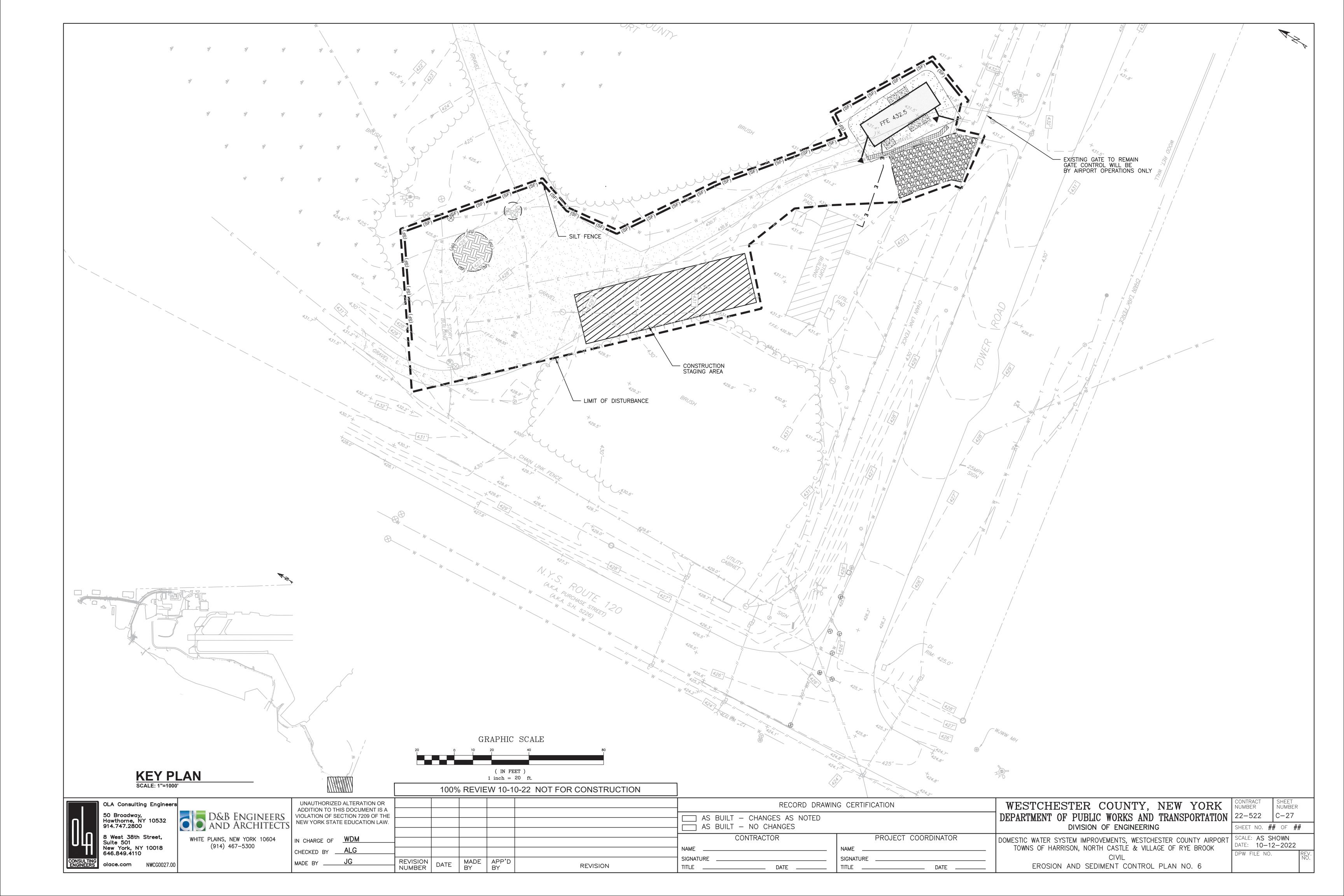


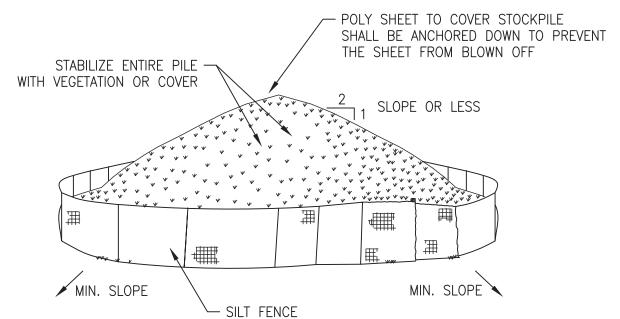










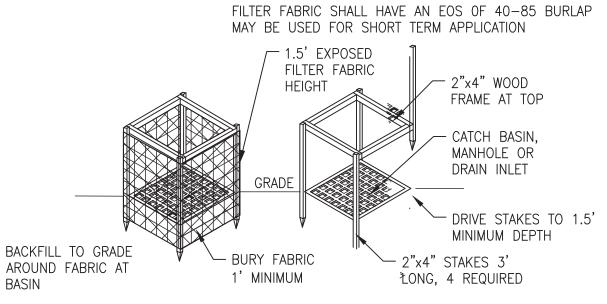


INSTALLATION NOTES:

- 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.
- 4. LOCATION CHOSEN TO BE APPROVED BY OWNER.

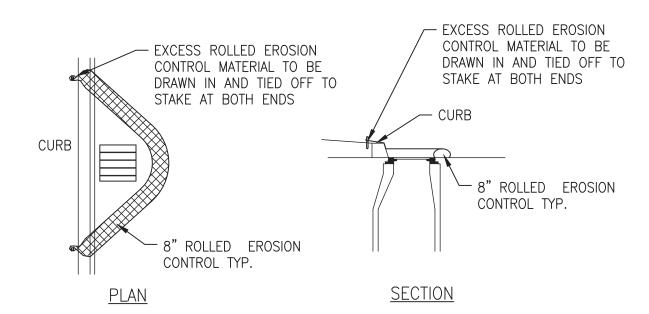


REPRODUCED FROM NEW YORK STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL

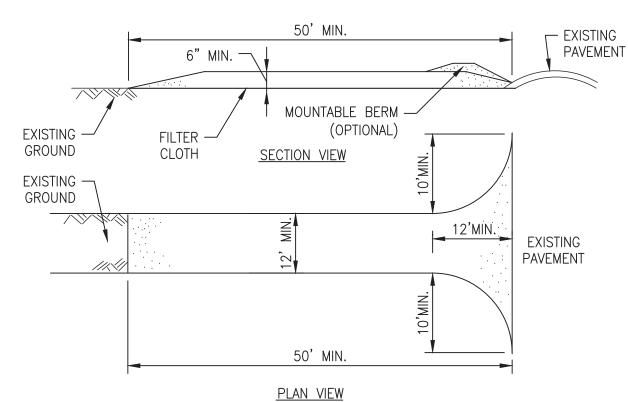


- 1. GENERAL AREA AROUND INLET ± 6 ' FROM FILTER FABRIC MAY BE EXCAVATED TO 1' DEPTH AS WATER POOL SEDIMENT TRAP
- 2. SET SILT FENCE PROTECTION AROUND INLET, FRAME OR AS CLOSE TO FRAME AS FEASIBLE FOR STABLE STAKING



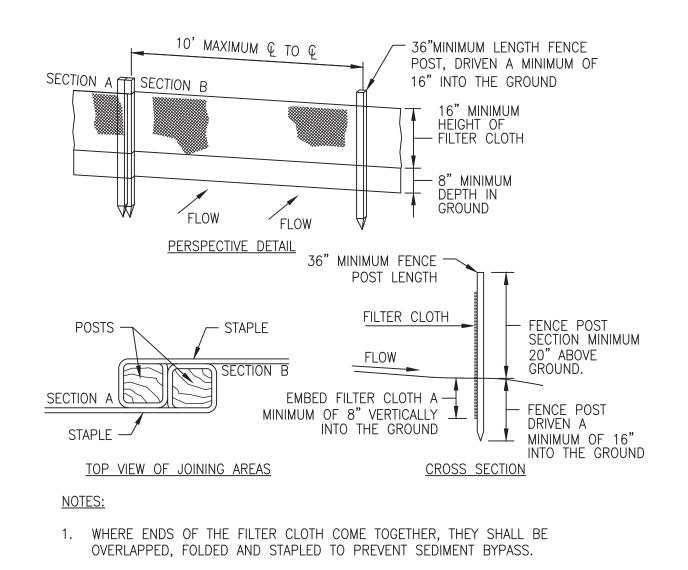






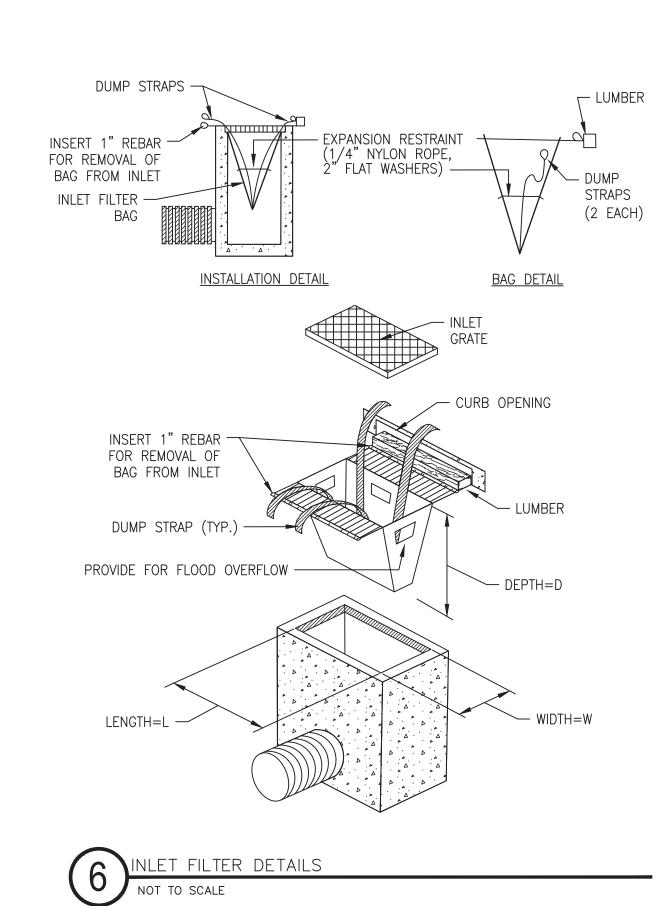
- 1. STONE SIZE USE 2" STONE. OR RECLAIMED OR RECYCLED CONCRETE EQUIVALENT. LENGTH - NOT LESS THAN 50 FEET AND THICKNESS - NOT LESS THAN SIX (6) INCHES.
- 2. WIDTH TWELVE (12) FOOT MINIMUM, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS. TWENTY-FOUR (24) FOOT IF SINGLE ENTRANCE TO SITE.
- 3. FILTER CLOTH WILL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING OF
- 4. 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.
- 5. 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 TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY.
- 6. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON A AREA STABILIZED WITH STONE AND WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE. 7. PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED AFTER EACH
- 8. STABILIZED CONSTRUCTION ENTRANCE'S SHALL BE PLACED SHALL BE COORDINATED WITH THE OWNER AND AT ALL CONSTRUCTION STAGING AREAS.





- 2. ALL SILT FENCES SHALL BE PLACED AS CLOSE TO THE CONTOUR AS POSSIBLE.
- 3. THE AREA BELOW THE FENCE MUST BE UNDISTURBED OR STABILIZED.
- 4. FENCE POSTS (FOR FABRIC UNITS): THE LENGTH SHALL BE A MINIMUM OF 36 INCHES LONG. WOOD POSTS 2 X 2 WITH A MINIMUM CROSS SECTIONAL AREA OF 3.0 SQUARE INCHES WILL BE OF SOUND QUALITY HARDWOOD. STEEL POSTS WILL BE STANDARD T OR U SECTION WEIGHT NOT LESS THAN 1.00 POUND PER LINEAR FOOT.





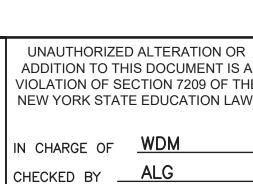


OLA Consulting Engineers 50 Broadway, Hawthorne, NY 10532 914.747.2800 8 West 38th Street, Suite 501 New York, NY 10018 646.849.4110

olace.com







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RECORD DRAWING CERTIFICATION AS BUILT - CHANGES AS NOTED □ AS BUILT - NO CHANGES CONTRACTOR PROJECT COORDINATOR NAME

____ DATE ____

SIGNATURE

DATE

WESTCHESTER COUNTY, NEW YORK DEPARTMENT OF PUBLIC WORKS AND TRANSPORTATION | 22-522 DIVISION OF ENGINEERING DOMESTIC WATER SYSTEM IMPROVEMENTS, WESTCHESTER COUNTY AIRPORT TOWNS OF HARRISON, NORTH CASTLE & VILLAGE OF RYE BROOK EROSION AND SEDIMENT CONTROL DETAILS

SHEET NUMBER C-28 SHEET NO. ## OF ## SCALE: AS SHOWN DATE: 10-12-2022 DPW FILE NO.