Stormwater
Pollution Prevention Plan

HSC Milton, LLC

Proposed Retail Development

NYS Route 9W
Town of Marlborough
Ulster County, NY

November 23, 2020

Prepared by:

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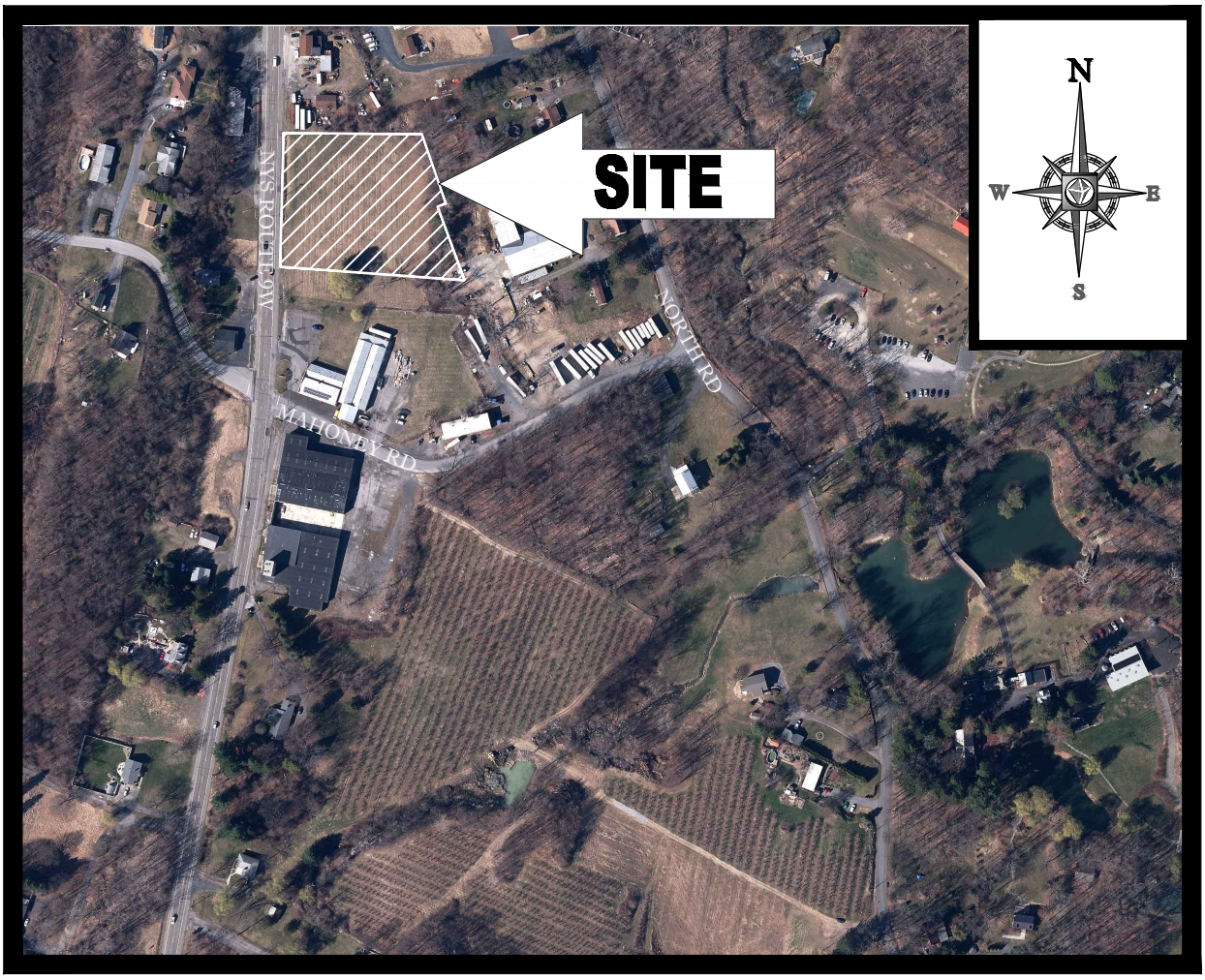

VICINITY MAP

SCALE: NONE

HSC MILTON, LLC

N.Y.S. ROUTE 9W
TOWN OF MARLBOROUGH
ULSTER COUNTY
STATE OF NEW YORK

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SECTION

I. Introduction

HSC Milton, LLC is proposing to construct a new 9,100+/- square foot retail building along with associated parking, access drive, and utilities on a 2.6 +/- parcel of land located along the eastern side NYS Route 9W, 425 feet north North of the intersection with Mahoney Road, in the Town of Marlborough, Ulster County, New York.

The 2.6+/- acre project site is situated on NYS Route 9W as depicted on the site plans prepared by Bohler Engineering, included as part of this report.

This report will address the required components for a Stormwater Pollution Prevention Plan (SWPPP) as specified by the New York State Department of Environmental Conservation SPDES General Permit for Stormwater Discharges from Construction Activity Permit No. GP-0-20-001.

II. Background Information

A. Existing Conditions

The 2.6 +/- acre parcel is currently open grassed land with a small wooded section running along the north and eastern property boundaries.

The topography of the site is sloped such that stormwater flows from the eastern side of the property to the west. It then flows offsite to an existing NYS DOT roadside ditch with culverts.

The land uses in the immediate vicinity of the site include residential property and existing commercial properties.

B. Proposed Conditions

The scope of the project includes the construction of a new 9,100+/- square foot commercial retail building with associated paved areas and utilities. An access drive is proposed on NYS Route 9W. The remaining areas will be open greenspace, undisturbed woodland areas and stormwater management areas. The stormwater will be directed to the design point to mimic existing stormwater flow paths. The surrounding topography will remain as it currently exists.

HSC Milton, LLC will be responsible for all construction activities, post construction operations and maintenance of the system and all responsibilities specified in the SWPPP.

New parking, landscaping, lighting, utility improvements, stormwater management facilities and other miscellaneous site improvement are proposed as shown on the enclosed Site Development Plans prepared by Bohler Engineering MA, LLC.

III. Construction Drawings:

Included in this report are the following drawings:

- **Site Survey** – Existing condition for the parcel including all required existing information (watercourses, topography, vegetation, utilities, property boundaries, etc.).
- **Site Plan** – Comprehensive plan of all proposed improvements
- **Grading and Drainage Plan** – Plan illustrates existing and proposed slopes, proposed stormwater quantity and quality mitigation measures and limits of disturbance.
- **Utility Plan** – Plan includes detailed design information for the installation of all proposed utilities resulting in the disturbance of soil for this project.
- **Erosion and Sediment Control Plan** – Erosion and sediment control measures to be in place and inspected, prior to commencement of construction. The proposed measures were designed in accordance with the New York Guidelines for Urban Erosion and Sediment Control. Proposed measures include inlet protection, silt fence along the project perimeter, temporary stone outlet sediment traps, stabilized construction entrance and construction sequencing.
- **Landscaping Plan** – Included are all proposed landscaping for the project.

IV. Soil Description:

Data supplied by the USDA Natural Resources Conservation Service (NRCS) indicates that site soils are primarily classified as MgB – Mardin- Nassau complex, 3 to 8 percent slopes classified as Hydrologic Soil Group D.

Soils were modeled as Hydrologic Soil Group D.

V. Construction Phasing:

Construction sequencing, limits of clearing and grading, utility and infrastructure installation and all other associated activities resulting in soil disturbance are detailed on the Erosion and Sediment Control, Grading and Drainage and Utility Plans.

VI. Pollution Prevention Measures:

Pollution Prevention measures during construction are detailed on the SWPPP / Erosion and Sediment Control Plan. Construction waste will be disposed in on-site construction dumpsters immediately. The dumpsters shall be located such that any stormwater run-off will be directed to a sediment trap. Any materials or chemicals considered to be hazardous shall be covered or stored in construction trailers to ensure no discharge to stormwater will occur.

VII. Soil Stabilization Measures:

Initial clearing and grading will commence once the proposed erosion and sediment control practices are in place as detailed on the erosion and sediment control plan and approved by the SWPPP Monitoring Professional. All grading and excavation will be conducted such that associated stormwater run-off is directed to the temporary sediment trap. The trap will be abandoned when the drainage structures are in place with proper inlet protection installed and all disturbed areas are stabilized.

VIII. Erosion and Sediment Control Practices:

Specific types, sizes, lengths and dimensions for all erosion control practices and sizing for temporary sediment basins are detailed on the Erosion and Sediment Control Plan and Detail Sheet. All temporary erosion control practices shall be in place prior to construction and shall remain until the limits of disturbed areas are stabilized.

IX. Maintenance Schedule:

Maintenance of the proposed erosion and sediment control practices are detailed on the Erosion and Sediment Control Plan. Included in this report are Construction Inspection and Operations and Maintenance Checklists. The operator is ultimately responsible for inspection and maintenance during construction. Stabilization must be achieved prior to removal of temporary erosion and sediment control devices and filing of the NYSDEC Notice of Termination (NOT). The SWPPP Monitoring Professional must inspect and approve final stabilization prior to filing of the NOT. Following the NOT filing, which terminates permit coverage, the Property Owner or any subsequent owner shall follow the guidelines set forth in this report and will be responsible for operations and maintenance over the lifetime of the facility.

X. Receiving Waters:

The proposed drainage system is designed to treat and release storm water below the pre-development flow rate for all subject storm events. Storm water discharges off site and ultimately discharges to and unnamed tributary of the Hudson River. The subject parcel is not located within the 100-year flood plain according to FEMA's Flood Map Service Center.

XI. SWPPP Implementation:

HSC Milton LLC as the operator, shall have each contractor and sub-contractors identify at least one (1) person responsible for SWPPP Implementation. This person must be trained and certified by the NYSDEC as stated on Page 12, Part III.A.6 of the NYSDEC General Permit GP-0-15-002 included in the appendix of this report. HSC Milton, LLC. as the operator, shall designate an inspector meeting the qualifications as set forth on page 18, Part IV of the General Permit. The inspector shall be responsible for the construction

phase of the project and the implementation of the pollution prevention measures set forth in this report. The designated individual shall have a complete understanding of all components of the stormwater management system. Delineation of SWPPP implementation responsibilities for the construction phase of the project are detailed in the Erosion and Sediment Control Plan. The plan details structural practices proposed to divert flows from exposed soils, store flows, and limit run-off and discharge of pollutants from exposed areas of the site during construction. HSC Milton, LLC. shall also designate a qualified representative for the post development inspection and monitoring. The inspector shall follow the guidelines of the Operations and Maintenance Checklists included in this report. The inspector shall keep a continuous record of all inspection checklists, maintenance and repairs and shall make them available to the Town and The NYSDEC at their request.

XII. Stormwater Run-off Characteristics:

Existing and proposed data describing stormwater run-off characteristics are included in the Stormwater Management Report, prepared by Bohler Engineering. This report is included in the Appendix.

XIII. Archeological Sensitive Area

The Cultural Resource Information Systems Mapping shows the subject site is not located within an archeological sensitive area.

XIV. Construction Activities Meeting Conditions in Table 2 of Appendix B

This project includes construction activities that involve soil disturbances of one (1) or more acres of land and meets the criteria under Table 2 described in the permit section referenced above. Therefore, the following information is provided:

1. Descriptions of each post-construction stormwater control practice are included in the Stormwater Management Report and are detailed on the Grading and Drainage Plan included in the Appendix of this report.
2. Hydrologic and hydraulic analysis for all structural components of the stormwater control system for all applicable design storms are included in the Stormwater Management Report.
3. Comparison of pre and post development stormwater run-off conditions is included in the Stormwater Management Report.
4. Dimensions, materials and installation details for all post construction stormwater control practices are specified on the enclosed Grading and Drainage Plan.
5. A maintenance schedule is detailed on the Erosion and Sediment Control Plan and in the Operations and Maintenance Checklists included in this report.

XV. SWPPP Development – 6 Step Process:

1. Site Planning - Green Infrastructure
2. WQv Determination
3. Apply GI Practices and Standard SMP's with RRv Capacity
4. Determine minimum RRv
5. Apply Standard SMP's to address remaining WQv, if required
6. Apply volume and peak control

1. Site Planning – Green Infrastructure:

A. Preservation of Natural Resources:

1. Preservation of Undisturbed Areas

Construction and/or silt fence shall be constructed along the perimeter of the limits of disturbance of the site. The operator and contractors shall be instructed not to disturb any soil of vegetation beyond the limits of construction as noted on the plans. The size of the site and undisturbed area does not justify the delineation of permanent conservation easements.

2. Preservation of Buffers

There are not any existing buffers surrounding the site. Therefore, delineation of permanent conservation easements is not warranted.

3. Reduction of Clearing and Grading

The limits of clearing and grading have been proposed at a minimum needed to construct the proposed facility.

4. Locating Development in Less Sensitive Areas

The proposed development will not result in adverse impact to sensitive resource areas such as floodplains, steep slopes, erodible soils, wetlands, mature forests and critical habitats.

5. Open Space Design

The proposed layout of this facility has been designed as conservatively as practical to reduce impervious coverage, preserve open space and protect water resources, while maintaining adequate space for access, parking and building area needed for the proposed use.

6. Soil Restoration / Preservation

The majority of the green space within the limits of disturbance will be the area of the proposed stormwater management areas. The original properties and porosity of the

soil will be maintained within the limits of the basins by surrounding this area with construction fence to ensure no heavy equipment is allowed in this area. This will enhance the runoff reduction performance of practice and thus reduce the generation of runoff.

B. Reduction of Impervious Cover

1. Roadway Reduction

Roadway reduction is not applicable to this project.

2. Sidewalk Reduction

Sidewalk reduction is not applicable to this project.

3. Driveway Reduction

The access drives have been designed at a minimum width and length to provide safe access through the site.

4. Cul-de-sac Reduction

Cul-de-sac reduction is not applicable to this project.

5. Building Footprint Reduction

The building footprint has been designed at a minimum footprint to meet the needs of the intended use.

6. Parking Reduction

The parking areas have been designed to provide the minimum number of spaces needed for the intended use.

2. Determining Water Quality Volume:

The Water Quality Volume (WQv) has been calculated and is shown in the details section of the Storm Water Management Report.

3. Runoff Reduction:

The Runoff Reduction Volume (RRv) Criteria has been satisfied by providing the required minimum RRv in the proposed infiltration basin which is outlined in the Stormwater Management Report.

4. Minimum RRv:

The minimum Runoff Reduction Volume (RRv) Criteria has been satisfied by providing the required minimum RRv for the site in a standard practice with RRv capability as detailed in the Stormwater Management Report.

5. Apply SMP's to address remaining WQv:

The remainder of the WQv has been treated in a standard practice with RRv capability as detailed in the Stormwater Management Report.

6. Apply volume and peak rate control practices:

Additional volume and peak rate controls are provided by the proposed detention basin.

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SPDES GENERAL PERMIT
FOR STORMWATER DISCHARGES

From

CONSTRUCTION ACTIVITY

Permit No. GP- 0-20-001

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

of the Environmental Conservation Law

Effective Date: January 29, 2020

Expiration Date: January 28, 2025

John J. Ferguson

Chief Permit Administrator

1-23-20

Authorized Signature

Date

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

PREFACE

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

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

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

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

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Part 1. PERMIT COVERAGE AND LIMITATIONS

A. Permit Application

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

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

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

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

B. Effluent Limitations Applicable to Discharges from Construction Activities

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

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

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

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

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

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

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

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

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

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

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

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

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

b. **Soil Stabilization**. In areas where soil disturbance activity has temporarily or permanently ceased, the application of soil stabilization measures must be initiated by the end of the next business day and completed within fourteen (14) days from the date the current soil disturbance activity ceased. For construction sites that *directly discharge* to one of the 303(d) segments

listed in Appendix E or is located in one of the watersheds listed in Appendix C, the application of soil stabilization measures must be initiated by the end of the next business day and completed within seven (7) days from the date the current soil disturbance activity ceased. See Appendix A for definition of *Temporarily Ceased*.

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

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

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

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

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

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

(i) Wastewater from washout of concrete;

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

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

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

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

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

C. Post-construction Stormwater Management Practice Requirements

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

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

a. Sizing Criteria for New Development

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

c. Sizing Criteria for Redevelopment Activity

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

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

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

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

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

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

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

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

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

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

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

D. Maintaining Water Quality

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

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

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

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

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

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

E. Eligibility Under This General Permit

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

d. Documentation that:

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

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

Part II. PERMIT COVERAGE

A. How to Obtain Coverage

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

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

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

B. Notice of Intent (NOI) Submittal

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

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

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

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

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

C. Permit Authorization

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

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

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

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

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

c. the final SWPPP has been prepared, and

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

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

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

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

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

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

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

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

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

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

D. General Requirements For Owners or Operators With Permit Coverage

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

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

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

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

a. The *owner or operator* shall have a *qualified inspector* conduct **at least** two (2) site inspections in accordance with Part IV.C. of this permit every seven (7) calendar days, for as long as greater than five (5) acres of soil remain disturbed. The two (2) inspections shall be separated by a minimum of two (2) full calendar days.

b. In areas where soil disturbance activity has temporarily or permanently ceased, the application of soil stabilization measures must be initiated by the end of the next business day and completed within seven (7) days from the date the current soil disturbance activity ceased. The soil stabilization measures selected shall be in conformance with the technical standard, New York State Standards and Specifications for Erosion and Sediment Control, dated November 2016.

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

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

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

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

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

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

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

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

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

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

F. Change of Owner or Operator

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

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

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

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

Part III. STORMWATER POLLUTION PREVENTION PLAN (SWPPP)

A. General SWPPP Requirements

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

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

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

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

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

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

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

d. to document the final construction conditions.

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

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

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

   "I hereby certify under penalty of law that I understand and agree to comply with the terms and conditions of the SWPPP and agree to implement any corrective actions identified by the *qualified inspector* during a site inspection. I also understand that the *owner or operator* must comply with

the terms and conditions of the most current version of the New York State Pollutant Discharge Elimination System ("SPDES") general permit for stormwater *discharge*s from *construction activities* and that it is unlawful for any person to cause or contribute to a violation of *water quality standards*. Furthermore, I am aware that there are significant penalties for submitting false information, that I do not believe to be true, including the possibility of fine and imprisonment for knowing violations"

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

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

B. Required SWPPP Contents

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

e. Infiltration test results, when required; and

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

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

C. Required SWPPP Components by Project Type

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

Part IV. INSPECTION AND MAINTENANCE REQUIREMENTS

A. General Construction Site Inspection and Maintenance Requirements

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

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

B. Contractor Maintenance Inspection Requirements

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

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

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

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

C. Qualified Inspector Inspection Requirements

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

a. Date and time of inspection;

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

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

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

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

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

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

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

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

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

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

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

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

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

Part V. TERMINATION OF PERMIT COVERAGE

A. Termination of Permit Coverage

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

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

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

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

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

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

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

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

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

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

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

c. for post-construction stormwater management practices that are privately owned, the *owner or operator* has a mechanism in place that requires operation and maintenance of the practice(s) in accordance with the operation and maintenance plan, such as a deed covenant in the *owner or operator's* deed of record,

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

Part VI. REPORTING AND RETENTION RECORDS

A. Record Retention

The *owner or operator* shall retain a copy of the NOI, NOI Acknowledgment Letter, SWPPP, MS4 SWPPP Acceptance form and any inspection reports that were prepared in conjunction with this permit for a period of at least five (5) years from the date that the Department receives a complete NOT submitted in accordance with Part V. of this general permit.

B. Addresses

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

Part VII. STANDARD PERMIT CONDITIONS

A. Duty to Comply

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

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

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

B. Continuation of the Expired General Permit

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

C. Enforcement

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

D. Need to Halt or Reduce Activity Not a Defense

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

E. Duty to Mitigate

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

F. Duty to Provide Information

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

G. Other Information

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

H. Signatory Requirements

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

I. Property Rights

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

J. Severability

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

K. Requirement to Obtain Coverage Under an Alternative Permit

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

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

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

L. Proper Operation and Maintenance

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

M. Inspection and Entry

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

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

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

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

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

N. Permit Actions

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

O. Definitions

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

P. Re-Opener Clause

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

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

Q. Penalties for Falsification of Forms and Reports

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

R. Other Permits

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

APPENDIX A – Acronyms and Definitions

Acronyms

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

Definitions

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Final Stabilization - means that all soil disturbance activities have ceased and a uniform, perennial vegetative cover with a density of eighty (80) percent over the entire pervious surface has been established; or other equivalent stabilization measures, such as permanent landscape mulches, rock rip-rap or washed/crushed stone have been applied on all disturbed areas that are not covered by permanent structures, concrete or pavement.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

APPENDIX B – Required SWPPP Components by Project Type

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

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

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

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

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

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

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

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

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

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

Table 2

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

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

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

Table 2 (Continued)

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

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

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

APPENDIX C – Watersheds Requiring Enhanced Phosphorus Removal

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

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

Figure 1 - New York City Watershed East of the Hudson

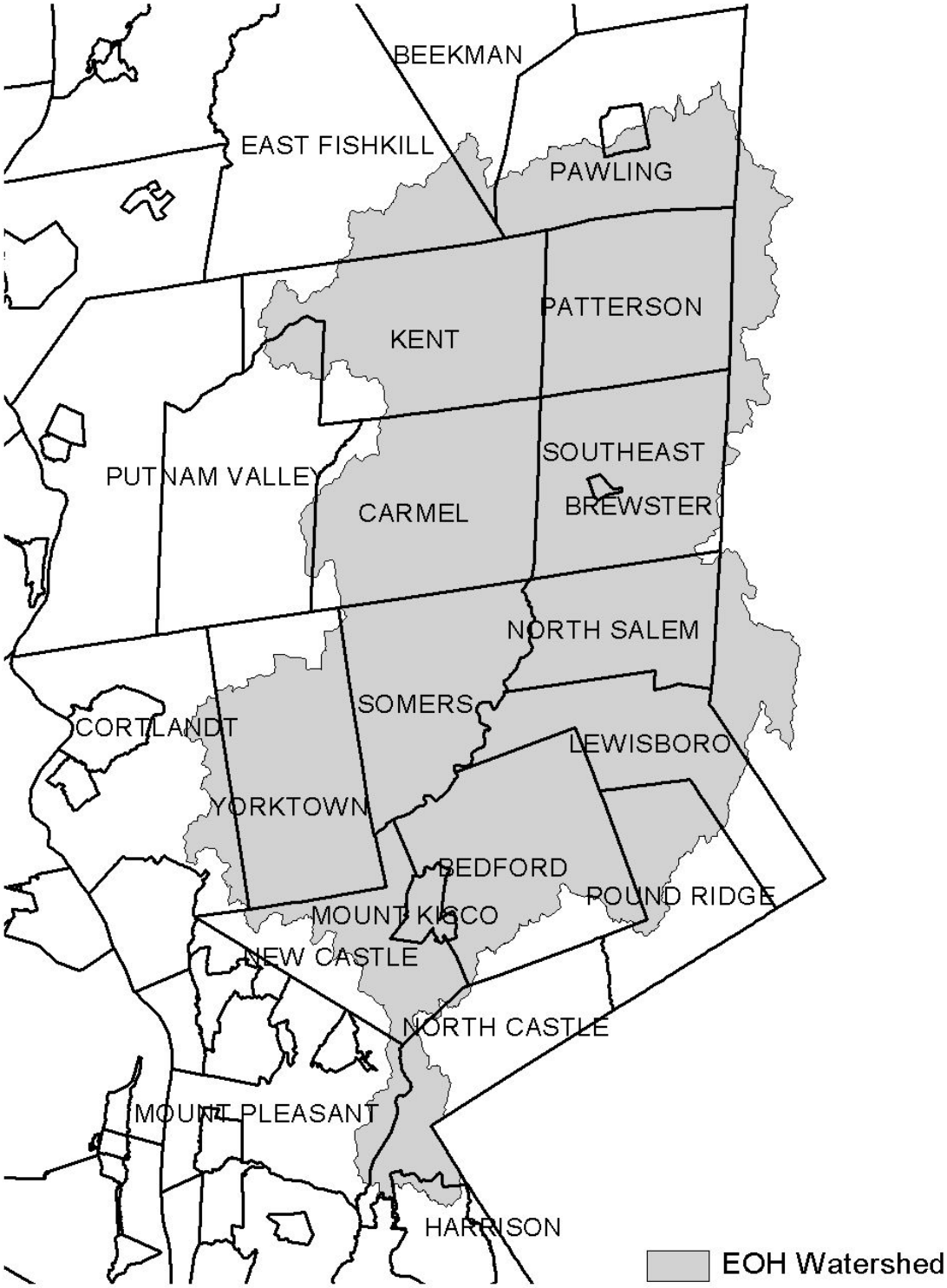


Figure 2 - Onondaga Lake Watershed

Figure 3 - Greenwood Lake Watershed

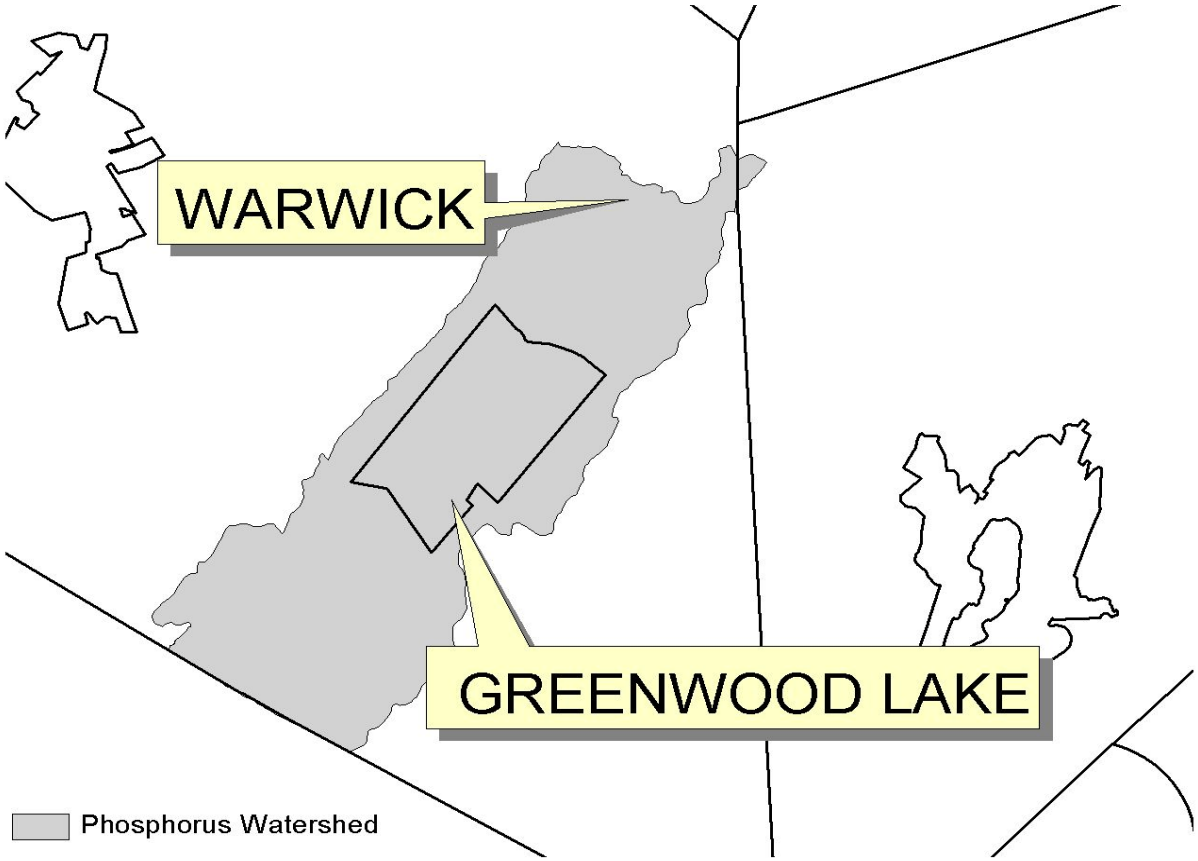


Figure 4 - Oscawana Lake Watershed

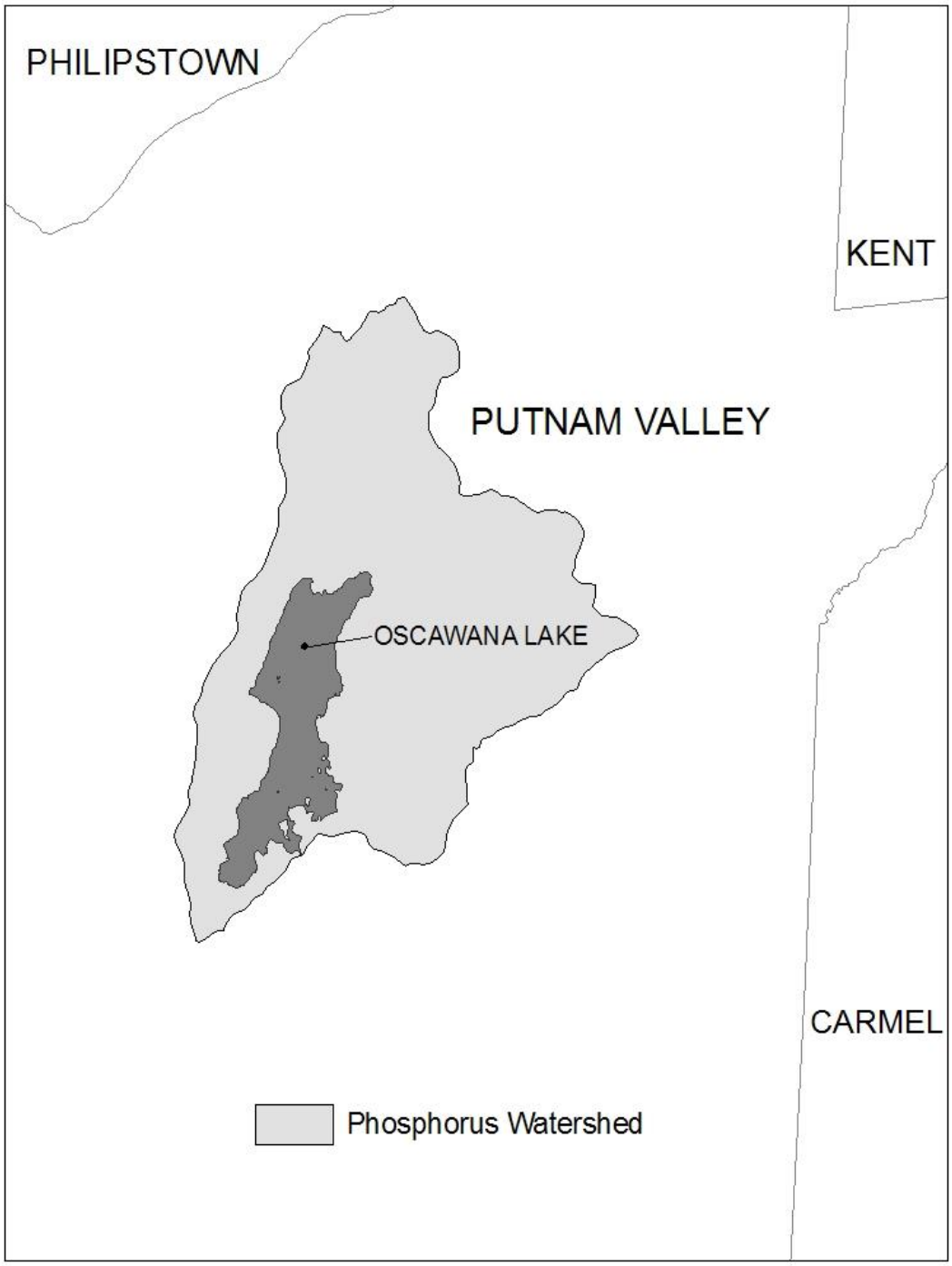
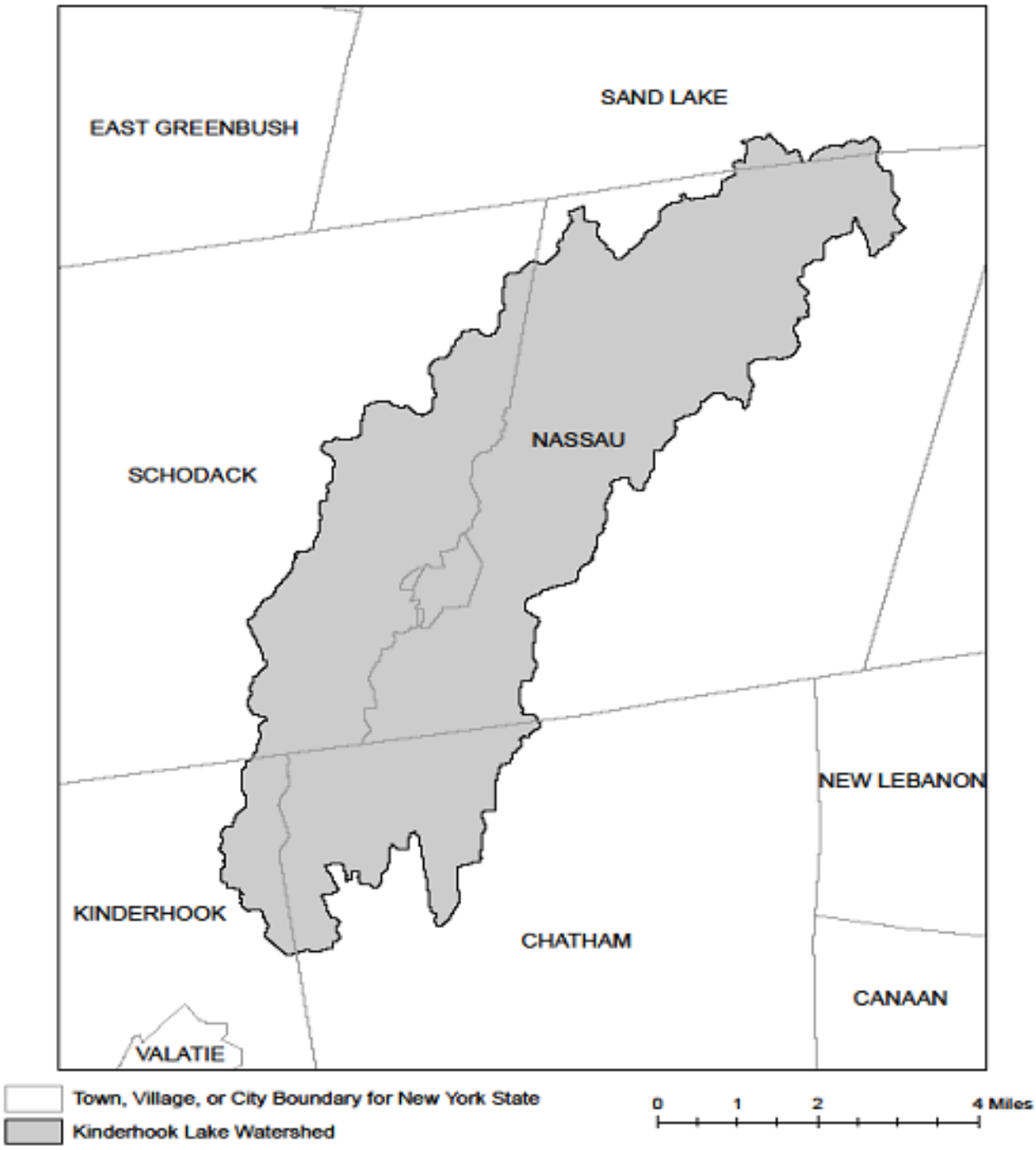


Figure 5 - Kinderhook Lake Watershed



APPENDIX D – Watersheds with Lower Disturbance Threshold

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

APPENDIX F – List of NYS DEC Regional Offices

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

B. NYSDEC NOTICE OF INTENT (NOI) AND NOTICE OF TERMINATION FORMS

0644089821

NOTICE OF INTENT

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

NYR _____
(for DEC use only)

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

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

-IMPORTANT-
RETURN THIS FORM TO THE ADDRESS ABOVE
OWNER/OPERATOR MUST SIGN FORM

Owner/Operator Information

Owner/Operator (Company Name/Private Owner Name/Municipality Name)
HSC MILTON, LLC

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

Owner/Operator Contact Person First Name
SCOTT

Owner/Operator Mailing Address
805 TRIONE STREET

City
DAPHNE

State
AL

Zip
36526 -

Phone (Owner/Operator)
251 - 380 - 7699

Fax (Owner/Operator)
- -

Email (Owner/Operator)

FED TAX ID
82-4065709 (not required for individuals)

Project Site Information

Project/Site Name
HSC MILTON LLC-DOLLAR GENERAL

Street Address (NOT P.O. BOX)
NYS ROUTE 9W

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

City/Town/Village (THAT ISSUES BUILDING PERMIT)
TOWN OF MARLBOROUGH

State: NY
Zip: 12547-
County: ULSTER
DEC Region: 3

Name of Nearest Cross Street
MAHONEY ROAD

Distance to Nearest Cross Street (Feet)
425

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

Tax Map Numbers
Section-Block-Parcel
103.001-2-74

Tax Map Numbers

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

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

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

X Coordinates (Easting)
-73960
Ex. -73.749

Y Coordinates (Northing)
41166700
Ex. 42.652

2. What is the nature of this construction project?

● **New Construction**

○ **Redevelopment with increase in impervious area**

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

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

Pre-Development Existing Land Use

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

Post-Development Future Land Use

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

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

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

Total Site Area	Total Area To Be Disturbed	Existing Impervious Area To Be Disturbed	Future Impervious Area Within Disturbed Area
2.62.6	1.61.6	0.00.0	0.70.7

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

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

A	B	C	D
0 %	0 %	0 %	100 %

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

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

Start Date 03/01/2021 - **End Date** 09/01/2021

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

Name

9a. Type of waterbody identified in Question 9?

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

9b. How was the wetland identified?

- ○ Regulatory Map
- ○ Delineated by Consultant
- ○ Delineated by Army Corps of Engineers
- ○ Other (identify)

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

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

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

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

.

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

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

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

NYS DOT

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

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

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

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

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

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

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

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

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

SWPPP Preparer: Bohler Engineering - William Goebel, PE

Contact Name (Last, Space, First): Mlodzianowski Caryn

Mailing Address: 17 Computer Drive West

City: Albany

State: NY Zip: 12205-

Phone: 518-438-9900 Fax: 518-438-9900

Email: cmlodzianowski@bohlereng.com

SWPPP Preparer Certification

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

First Name: William **MI**: D

Last Name: Goebel

Signature

Date / /

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

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

Temporary Structural

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

Biotechnical

- ○ Brush Matting
- ○ Wattling

Vegetative Measures

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

Permanent Structural

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

Other

Post-construction Stormwater Management Practice (SMP) Requirements

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

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

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

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

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

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

Total WQv Required

0.0087 **acre-feet**

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

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

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

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

	Total Contributing Area (acres)		Total Contributing Impervious Area(acres)
RR Techniques (Area Reduction)			
○ Conservation of Natural Areas (RR-1)		and/or	
○ Sheetflow to Riparian Buffers/Filters Strips (RR-2)		and/or	
○ Tree Planting/Tree Pit (RR-3)		and/or	
○ Disconnection of Rooftop Runoff (RR-4)		and/or	
RR Techniques (Volume Reduction)			
○ Vegetated Swale (RR-5)			
○ Rain Garden (RR-6)			
○ Stormwater Planter (RR-7)			
○ Rain Barrel/Cistern (RR-8)			
○ Porous Pavement (RR-9)			
○ Green Roof (RR-10)			
Standard SMPs with RRv Capacity			
○ Infiltration Trench (I-1)			
● Infiltration Basin (I-2)			0.701771
○ Dry Well (I-3)			
○ Underground Infiltration System (I-4)			
○ Bioretention (F-5)			
○ Dry Swale (O-1)			
Standard SMPs			
○ Micropool Extended Detention (P-1)			
○ Wet Pond (P-2)			
○ Wet Extended Detention (P-3)			
○ Multiple Pond System (P-4)			
○ Pocket Pond (P-5)			
○ Surface Sand Filter (F-1)			
○ Underground Sand Filter (F-2)			
○ Perimeter Sand Filter (F-3)			
○ Organic Filter (F-4)			
○ Shallow Wetland (W-1)			
○ Extended Detention Wetland (W-2)			
○ Pond/Wetland System (W-3)			
○ Pocket Wetland (W-4)			
○ Wet Swale (O-2)			

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

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

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

Name

Manufacturer

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

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

Total RRv provided

0.0087 **acre-feet**

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

● **Yes** ○ **No**

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

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

Minimum RRv Required

. **acre-feet**

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

○ **Yes** ○ **No**

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

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

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

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

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

WQv Provided

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

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

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

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

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

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

CPv Required

0.101414 **acre-feet**

CPv Provided

0.108282 **acre-feet**

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

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

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

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

Total Overbank Flood Control Criteria (Qp)

Pre-Development

6.269290 **CFS**

Post-development

2.023030 **CFS**

Total Extreme Flood Control Criteria (Qf)

Pre-Development

13.136600 **CFS**

Post-development

8.784740 **CFS**

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

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

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

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

HSC MILTON LLC

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

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

- ○ Air Pollution Control
- ○ Coastal Erosion
- ○ Hazardous Waste
- ○ Long Island Wells
- ○ Mined Land Reclamation
- ○ Solid Waste
- ○ Navigable Waters Protection / Article 15
- ○ Water Quality Certificate
- ○ Dam Safety
- ○ Water Supply
- ○ Freshwater Wetlands/Article 24
- ○ Tidal Wetlands
- ○ Wild, Scenic and Recreational Rivers
- ○ Stream Bed or Bank Protection / Article 15
- ○ Endangered or Threatened Species(Incidental Take Permit)
- ○ Individual SPDES
- ○ SPDES Multi-Sector GP [N][Y][R][ ][ ][ ][ ][ ][ ]
- ○ Other [ ]
- ○ None

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

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

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

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

Owner/Operator Certification

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

Print First Name **MI**

Print Last Name

Owner/Operator Signature

Date / /

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

SWPPP Preparer Certification Form

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

Project Site Information

Project/Site Name

MILTON - DOLLAR GENERAL

Owner/Operator Information

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

HSC MILTON, LLC

Certification Statement – SWPPP Preparer

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

Caryn		Mlodzianowski
First name	MI	Last Name

Signature

Date

Revised: January 2020

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: HSC MILTON LLC

2. Street Address: 805 TRIONE STREET

3. City/State/Zip: DAPHNE AL 36526

4. Contact Person: SCOTT RHEAMS | 4a.Telephone: 251-380-7699

5. Contact Person E-Mail:

II. Project Site Information

5. Project/Site Name: MILTON - DOLLAR GENERAL

6. Street Address: NYS ROUTE 9W

7. City/Zip: MARLBOROUGH 12547

8. County: ULSTER

III. Reason for Termination

9a. ☐ All disturbed areas have achieved final stabilization in accordance with the general permit and SWPPP.
***Date final stabilization completed** (month/year): _____

9b. ☐ Permit coverage has been transferred to new owner/operator. Indicate new owner/operator's permit identification number: NYR ___ ___ ___ ___ ___ ___
(Note: Permit coverage can not be terminated by owner identified in I.1. above until new owner/operator obtains coverage under the general permit)

9c. ☐ Other (Explain on Page 2)

IV. Final Site Information:

10a. Did this construction activity require the development of a SWPPP that includes post-construction stormwater management practices? ☐ yes ☐ no (If no, go to question 10f.)

10b. Have all post-construction stormwater management practices included in the final SWPPP been constructed? ☐ yes ☐ no (If no, explain on Page 2)

10c. Identify the entity responsible for long-term operation and maintenance of practice(s)?

_____

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

10d. Has the entity responsible for long-term operation and maintenance been given a copy of the operation and maintenance plan required by the general permit? ☐ yes ☐ no

10e. Indicate the method used to ensure long-term operation and maintenance of the post-construction stormwater management practice(s):

☐ Post-construction stormwater management practice(s) and any right-of-way(s) needed to maintain practice(s) have been deeded to the municipality.

☐ Executed maintenance agreement is in place with the municipality that will maintain the post-construction stormwater management practice(s).

☐ For post-construction stormwater management practices that are privately owned, the deed of record has been modified to include a deed covenant that requires operation and maintenance of the practice(s) in accordance with the operation and maintenance plan.

☐ For post-construction stormwater management practices that are owned by a public or private institution (e.g. school, college, university), or government agency or authority, policy and procedures are in place that ensures operation and maintenance of the practice(s) in accordance with the operation and maintenance plan.

10f. Provide the total area of impervious surface (i.e. roof, pavement, concrete, gravel, etc.) constructed within the disturbance area? _____ (acres)

11. Is this project subject to the requirements of a regulated, traditional land use control MS4? ☐ yes ☐ no
(If Yes, complete section VI - "MS4 Acceptance" statement

V. Additional Information/Explanation:
(Use this section to answer questions 9c. and 10b., if applicable)

VI. MS4 Acceptance - MS4 Official (principal executive officer or ranking elected official) or Duly Authorized Representative (Note: Not required when 9b. is checked -transfer of coverage)

I have determined that it is acceptable for the owner or operator of the construction project identified in question 5 to submit the Notice of Termination at this time.

Printed Name:

Title/Position:

Signature:	Date:

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

VII. Qualified Inspector Certification - Final Stabilization:

I hereby certify that all disturbed areas have achieved final stabilization as defined in the current version of the general permit, and that all temporary, structural erosion and sediment control measures have been removed. Furthermore, I understand that certifying false, incorrect or inaccurate information is a violation of the referenced permit and the laws of the State of New York and could subject me to criminal, civil and/or administrative proceedings.

Printed Name:	
Title/Position:	
Signature:	Date:

VIII. Qualified Inspector Certification - Post-construction Stormwater Management Practice(s):

I hereby certify that all post-construction stormwater management practices have been constructed in conformance with the SWPPP. Furthermore, I understand that certifying false, incorrect or inaccurate information is a violation of the referenced permit and the laws of the State of New York and could subject me to criminal, civil and/or administrative proceedings.

Printed Name:	
Title/Position:	
Signature:	Date:

IX. Owner or Operator Certification

I hereby certify that this document was prepared by me or under my direction or supervision. My determination, based upon my inquiry of the person(s) who managed the construction activity, or those persons directly responsible for gathering the information, is that the information provided in this document is true, accurate and complete. Furthermore, I understand that certifying false, incorrect or inaccurate information is a violation of the referenced permit and the laws of the State of New York and could subject me to criminal, civil and/or administrative proceedings.

Printed Name:	
Title/Position:	
Signature:	Date:

(NYS DEC Notice of Termination - January 2010)

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

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

MS4 Stormwater Pollution Prevention Plan (SWPPP) Acceptance Form

for

Construction Activities Seeking Authorization Under SPDES General Permit

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

I. Project Owner/Operator Information	
1. Owner/Operator Name:	HSC MILTON LLC
2. Contact Person:	SCOTT RHEAMS
3. Street Address:	805 TRIONE STREET
4. City/State/Zip:	DAPHNE, AL 36526
II. Project Site Information	
5. Project/Site Name:	MILTON - DOLLAR GENERAL
6. Street Address:	NYS ROUTE 9W
7. City/State/Zip:	MARLBOROUGH NY 12547
III. Stormwater Pollution Prevention Plan (SWPPP) Review and Acceptance Information	
8. SWPPP Reviewed by:	
9. Title/Position:	
10. Date Final SWPPP Reviewed and Accepted:	
IV. Regulated MS4 Information	
11. Name of MS4:	
12. MS4 SPDES Permit Identification Number: NYR20A	
13. Contact Person:	
14. Street Address:	
15. City/State/Zip:	
16. Telephone Number:	

MS4 SWPPP Acceptance Form - continued

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

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

Printed Name:

Title/Position:

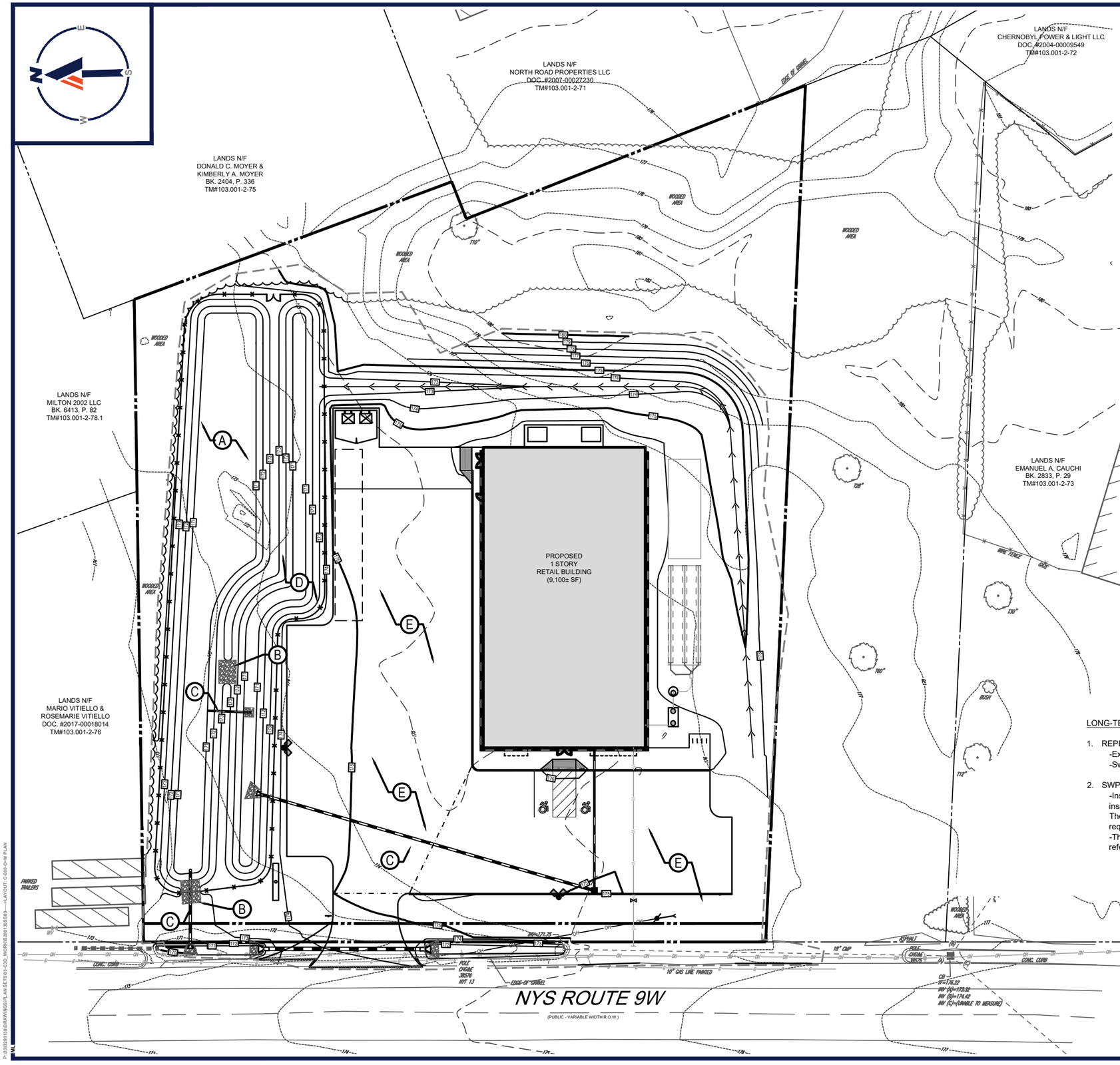
Signature:

Date:

VI. Additional Information

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

C. INSPECTION NOTES, STORMWATER MANAGEMENT GENERAL OPERATION AND MAINTENANCE PLAN, CONSTRUCTION / OPERATION AND MAINTENANCE / INSPECTION REPORT FORMS, INSPECTOR CERTIFICATION FORM, AND CONSTRUCTION SITE INSPECTION AND MAINTENANCE LOG BOOK



MAJOR AREAS OF PRACTICE

A. INFILTRATION BASINS
B. EMERGENCY OVERFLOW
C. STORM DRAIN PIPES
D. SETTLING BASIN
E. PAVED PARKING AND ACCESS DRIVES

SHORT-TERM MEASURES (FREQUENCY: AT LEAST ONCE A MONTH)

1. INFILTRATION BASIN SYSTEM (A):
   -Inspect, clean and repair as needed per the Infiltration Basin Operation, Maintenance and Management Inspection Checklist included in this section of the SWPPP.
2. INSPECT EMERGENCY OVERFLOW (B):
   -Observe and record evidence of discharge occurring from outlet.
   -Check stone and surrounding area for signs of erosion.
   -Repair and / or replace stone as needed.
3. STORM/DRAIN PIPES (C):
   -Check roof outlet pipes for obstructions and dispose off-site as needed.
   -Check storm pond outlet pipes for obstructions and dispose off-site as needed.
4. SETTLING BASIN (D)
   -Inspect basin surface area.
   -Remove accumulated debris/floatables manually or by other approved means, if required.
   -Dispose of debris off-site.
   -Remove sediment accumulation and dispose off-site if required.

LONG-TERM MEASURES (FREQUENCY: TWICE YEARLY)

1. REPEAT SHORT TERM INSPECTION ITEMS:
   -Extensive inspection of all short term inspection items.
   -Sweep paved parking and access areas and dispose of debris off-site (E).
2. SWPPP INSPECTION:
   -Inspection of entire system shall be conducted and a report shall be prepared by a qualified inspector meeting the requirements as set forth in the General Permit, included in the SWPPP. The report shall include a description of all inspection findings, actions completed and actions required to date.
   -The SWPPP Inspection Forms shall be completed and kept on-site by the owner for future reference for the lifetime of the facility.

BOHLER
SITE CIVIL AND CONSULTING ENGINEERING
LANDSCAPE ARCHITECTURE
PROGRAM MANAGEMENT
LANDSCAPE ARCHITECTURE
SUSTAINABLE DESIGN
PERMITTING SERVICES
TRANSPORTATION SERVICES

REVISIONS

REV	DATE	COMMENT	DRAWN BY / CHECKED BY
1	12/10/20	PER TOWN AND DOT COMMENT	MDL

811 Know what's below. Call before you dig.
ALWAYS CALL 811
It's fast. It's free. It's the law.

PRELIMINARY

THIS DRAWING IS INTENDED FOR MUNICIPAL AND/OR AGENCY REVIEW AND APPROVAL. IT IS NOT INTENDED AS A CONSTRUCTION DOCUMENT UNLESS INDICATED OTHERWISE.

PROJECT No.:	B200130
DRAWN BY:	~ NCN ~
CHECKED BY:	~ CVM / CEB ~
DATE:	08/14/2020
CAD I.D.:	B200130SS00

PROJECT:

PROPOSED SITE PLAN DOCUMENTS

FOR

HSC MILTON LLC.

PROPOSED DEVELOPMENT

MAP #103.1, BLOCK #2, LOT #74
NYS ROUTE 9W
TOWN OF MARLBOROUGH
ULSTER COUNTY
STATE OF NEW YORK

BOHLER
17 COMPUTER DRIVE WEST
ALBANY, NY 12205
Phone: (518) 438-9900
Fax: (518) 438-0900
www.BohlerEngineering.com

W.D. GOEBEL
PROFESSIONAL ENGINEER
MASSACHUSETTS LICENSE No. 42644
RHODE ISLAND LICENSE No. 7268
CONNECTICUT LICENSE No. 21854
NEW HAMPSHIRE LICENSE No. 10445
MAINE LICENSE No. 9490
NEW YORK LICENSE No. 075654-1
FLORIDA LICENSE No. 85202

SHEET TITLE:

LONG TERM MAINTENANCE PLAN

SHEET NUMBER:

C-000

REVISION 1 - 12/10/2020

P:\2020\200130\DRAWINGS\PLAN SET\SS\3-CSD_WORKS\200130SS00——LAYOUT: C-000-OVR PLAN

INSPECTION CERTIFICATION FORM

Name | New York SPDES Permit number *(fill in when obtained)*

Certification:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Signature | Date | Title

Infiltration Basin Construction Inspection Checklist

Project:
Location:
Site Status:

Date:

Time:

Inspector:

CONSTRUCTION SEQUENCE	SATISFACTORY/ UNSATISFACTORY	COMMENTS
1. Pre-Construction		
Runoff diverted		
Soil permeability tested		
Groundwater / bedrock depth		
2. Excavation		
Size and location		
Side slopes stable		
Excavation does not compact subsoils		
3. Embankment		
Barrel		
Anti-seep collar or Filter diaphragm		
Fill material		

CONSTRUCTION SEQUENCE	SATISFACTORY/ UNSATISFACTORY	COMMENTS
4. Final Excavation		
Drainage area stabilized		
Sediment removed from facility		
Basin floor tilled		
Facility stabilized		
5. Final Inspection		
Pretreatment facility in place		
Inlets / outlets		
Contributing watershed stabilized before flow is routed to the factility		

Comments:

Actions to be Taken:

Infiltration Trench Operation, Maintenance, and Management Inspection Checklist

Project:
Location:
Site Status:

Date:

Time:

Inspector:

MAINTENANCE ITEM	SATISFACTORY / UNSATISFACTORY	COMMENTS
1. Debris Cleanout (Monthly)		
Trench surface clear of debris		
Inflow pipes clear of debris		
Overflow spillway clear of debris		
Inlet area clear of debris		
2. Sediment Traps or Forebays (Annual)		
Obviously trapping sediment		
Greater than 50% of storage volume remaining		
3. Dewatering (Monthly)		
Trench dewaters between storms		
4. Sediment Cleanout of Trench (Annual)		
No evidence of sedimentation in trench		
Sediment accumulation doesn't yet require cleanout		
5. Inlets (Annual)		

MAINTENANCE ITEM	SATISFACTORY / UNSATISFACTORY	COMMENTS
Good condition		
No evidence of erosion		
6. Outlet/Overflow Spillway (Annual)		
Good condition, no need for repair		
No evidence of erosion		
7. Aggregate Repairs (Annual)		
Surface of aggregate clean		
Top layer of stone does not need replacement		
Trench does not need rehabilitation		

Comments:

Actions to be Taken:

CONSTRUCTION SITE INSPECTION AND MAINTENANCE LOG BOOK

Table of Contents

I. **PRE-CONSTRUCTION MEETING DOCUMENTS**

Project Name _____

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

Name of Operator _____

Prime Contractor _____

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

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

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

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

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

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

1 Refer to "Qualified Inspector" inspection requirements in the current SPDES General Permit for Stormwater Discharges from Construction Activity for complete list of inspection requirements.

2 "Commencement of construction" means the initial removal of vegetation and disturbance of soils associated with clearing, grading or excavating activities or other construction activities.

3 "Final stabilization" means that all soil-disturbing activities at the site have been completed and a uniform, perennial vegetative cover with a density of eighty (80) percent has been established or equivalent stabilization measures (such as the use of mulches or geotextiles) have been employed on all unpaved areas and areas not covered by permanent structures.

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

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

Yes No NA

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

2. Resource Protection

Yes No NA

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

3. Surface Water Protection

Yes No NA

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

4. Stabilized Construction Access

Yes No NA

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

5. Sediment Controls

Yes No NA

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

6. Pollution Prevention for Waste and Hazardous Materials

Yes No NA

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

II. **CONSTRUCTION DURATION INSPECTIONS**

a. **Directions:**

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

Required Elements:

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

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

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

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

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

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

SITE PLAN/SKETCH

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

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

Maintaining Water Quality

Yes No NA

[ ] [ ] [ ] Is there an increase in turbidity causing a substantial visible contrast to natural conditions at the outfalls?
[ ] [ ] [ ] Is there residue from oil and floating substances, visible oil film, or globules or grease at the outfalls?
[ ] [ ] [ ] All disturbance is within the limits of the approved plans.
[ ] [ ] [ ] Have receiving lake/bay, stream, and/or wetland been impacted by silt from project?

Housekeeping

1. General Site Conditions

Yes No NA

[ ] [ ] [ ] Is construction site litter, debris and spoils appropriately managed?
[ ] [ ] [ ] Are facilities and equipment necessary for implementation of erosion and sediment control in working order and/or properly maintained?
[ ] [ ] [ ] Is construction impacting the adjacent property?
[ ] [ ] [ ] Is dust adequately controlled?

2. Temporary Stream Crossing

Yes No NA

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

3. Stabilized Construction Access

Yes No NA

[ ] [ ] [ ] Stone is clean enough to effectively remove mud from vehicles.
[ ] [ ] [ ] Installed per standards and specifications?
[ ] [ ] [ ] Does all traffic use the stabilized entrance to enter and leave site?
[ ] [ ] [ ] Is adequate drainage provided to prevent ponding at entrance?

Runoff Control Practices

1. Excavation Dewatering

Yes No NA

[ ] [ ] [ ] Upstream and downstream berms (sandbags, inflatable dams, etc.) are installed per plan.
[ ] [ ] [ ] Clean water from upstream pool is being pumped to the downstream pool.
[ ] [ ] [ ] Sediment laden water from work area is being discharged to a silt-trapping device.
[ ] [ ] [ ] Constructed upstream berm with one-foot minimum freeboard.

Runoff Control Practices (continued)

2. Flow Spreader

Yes No NA

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

3. Interceptor Dikes and Swales

Yes No NA

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

4. Stone Check Dam

Yes No NA

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

5. Rock Outlet Protection

Yes No NA

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

Soil Stabilization

1. Topsoil and Spoil Stockpiles

Yes No NA

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

2. Revegetation

Yes No NA

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

Sediment Control Practices

1. Silt Fence and Linear Barriers

Yes No NA

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

Sediment Control Practices (continued)

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

Yes No NA

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

Sediment accumulation ___% of design capacity.

3. Temporary Sediment Trap

Yes No NA

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

Sediment accumulation is ___% of design capacity.

4. Temporary Sediment Basin

Yes No NA

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

Sediment accumulation is ___% of design capacity.

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

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

CONSTRUCTION DURATION INSPECTIONS

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

The Operator shall amend the SWPPP whenever:

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

Modification & Reason:

SPDES GENERAL PERMIT GP-0-20-001
SWPPP CONSTRUCTION INSPECTION LOG

DATE	REASON	ASSESSMENT

D. CONTRACTOR / OWNER CERTIFICATION FORMS, CONSTRUCTION ACTIVITY FORM

CONTRACTOR CERTIFICATION FORM

Retail Development

NYS Route 9W
Town of Marlborough
Ulster County, NY

Contractor responsible for the implementation of the SWPPP:

Company Name	Business Telephone Number
Business Address	City, State, Zip Code
Business Facsimile	E-mail Address

CERTIFICATION:

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

Signature	Date
Printed Name	Title
Company Name	Business Telephone Number
Business Address	City, State, Zip Code

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Owner/Operator Certification Form

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

Project/Site Name: Milton - Dollar General

eNOI Submission Number: _____

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

Certification Statement - Owner/Operator

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

Owner/Operator First Name M.I. Last Name

_____

Signature

_____

Date

CONSTRUCTION ACTIVITY FORM

NOTE: The contractor is responsible for maintaining an accurate and complete log of construction activities, including, but not limited to, commencement of stabilization, major grading activities, timeframes when construction ceases on a portion of site (temporary or permanent) until the Notice of Termination (NOT) is filed.

MAJOR STABILIZATION AND GRADING ACTIVITIES

Construction Activity	Contractor Name	Start Date	End Date	Location

E. NYSOPRHP MAP

CRIS
Cultural Resource Information System

HOME SUBMIT SEARCH COMMUNICATE

Welcome Guest User | Contact Us | FAQ | Help | Sign Out

Version 1.2.3, December 4th, 2019

F. STORMWATER MANAGEMENT REPORT

Stormwater Management Report

HSC Milton, LLC

Proposed Retail Development

NYS Route 9W
Town of Marlborough
Ulster County, NY

November 23, 2020

Prepared by:

17 Computer Drive West, Albany, NY 12205
Phone: (518) 438-9900
Fax: (518) 438-0900

www.bohlereng.com

No. B200130

TABLE OF CONTENTS

SECTION

I. Introduction

HSC Milton, LLC is proposing to construct a new 9,100+/- square foot retail building along with associated parking, access drive, and utilities on a 2.6 +/- parcel of land located along the eastern side NYS Route 9W, 425 feet north North of the intersection with Mahoney Road, in the Town of Marlborough, Ulster County, New York.

The 2.6+/- acre project site is situated on NYS Route 9W as depicted on the site plans prepared by Bohler Engineering, included as part of this report.

This report will briefly discuss the proposed site development and provide a detailed analysis of the existing and proposed site conditions and the proposed stormwater management system. Hydraulic calculations included in this report were generated for the 1, 10 and 100 year storm events utilizing the SCS TR-20 and HydroCad Stormwater modeling software.

II. Existing Stormwater Conditions Summary:

The 2.6 +/- acre parcel is currently open grassed land with a small wooded section running along the north and eastern property boundaries.

The proposed project site was analyzed as one watershed with two sub catchment areas designated as Watershed Area E-1A and E-1B. The watersheds have unique flow paths and therefore have been analyzed individually.

The topography of the site is sloped such that stormwater flows from the eastern side of the property to the west. It then flows offsite to an existing NYS DOT roadside ditch with culverts.

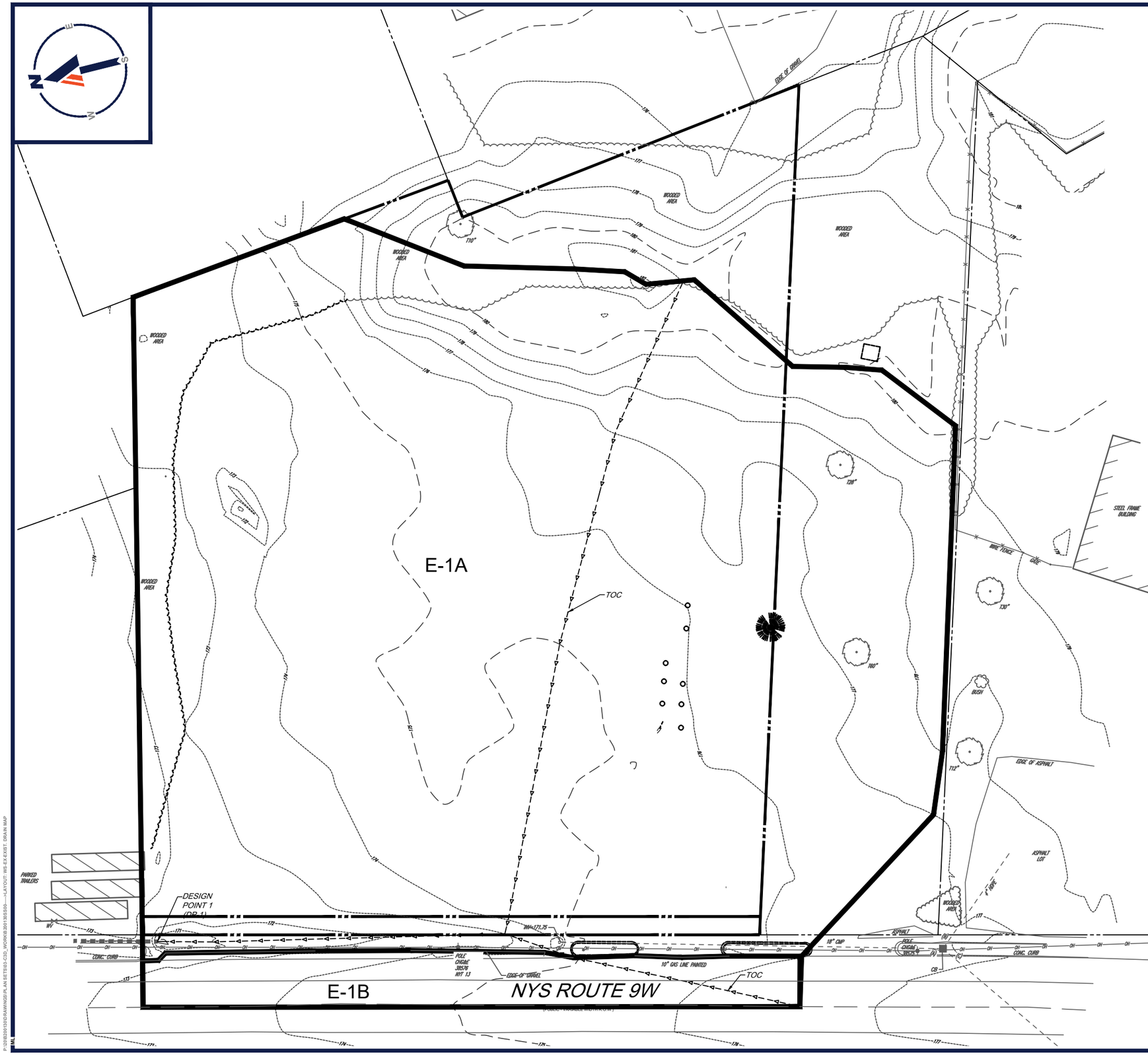
Watershed Area E-1A is comprised of approximately 2.3 acres of greenspace with A portion of woods along the north and eastern property boundaries.

Stormwater from this area travels westerly via overland and shallow concentrated flow towards an existing drainage ditch along NYS Route 9W, the western edge of the property, where it travels north along the ditch to the design point 1, (DP-1).

Watershed Area E-1B is comprised of approximately 0.15 acres of impervious area from NYS Route 9W.

Stormwater from this area travels easterly via overland flow towards an existing drainage ditch along NYS Route 9W, the western edge of the property, where it travels north along the ditch to the design point 1, (DP-1).

The existing watershed area and topography are illustrated on the Existing Watershed Plan included on the next page of this report.



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REV	DATE	COMMENT	DRAWN BY / CHECKED BY
1	12/10/20	PER TOWN AND DOT COMMENT	MDL / -

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DRAWN BY:	~ NCN ~
CHECKED BY:	~ CVM / CEB ~
DATE:	08/14/2020
CAD I.D.:	B200130SS00

PROJECT:

PROPOSED SITE PLAN DOCUMENTS

FOR

HSC MILTON LLC.

PROPOSED DEVELOPMENT

MAP #103.1, BLOCK #2, LOT #74
NYS ROUTE 9W
TOWN OF MARLBOROUGH
ULSTER COUNTY
STATE OF NEW YORK

BOHLER
17 COMPUTER DRIVE WEST
ALBANY, NY 12205
Phone: (518) 438-9900
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SHEET TITLE:

EXISTING CONDITIONS WATERSHED MAP

SHEET NUMBER:

WS-EX

REVISION 1 - 12/10/2020

P:\2020\200130\DRAWINGS\PLAN SETS\01-CSD_WORKS 2001305S00-----LAYOUT WS-EX EXIST. DRAIN MAP.DWG

III. Proposed Stormwater Conditions Summary:

The proposed development is designed to mimic the existing drainage patterns and reduce the discharge flow rate from the pre-developed to post-developed condition.

The proposed project site was analyzed as one watershed area with two sub catchments designated as Watershed Area P-1A and P-1B. The watersheds have unique flow paths and therefore have been analyzed individually.

Watershed Area P-1A is approximately 2.1 acres comprised of impervious material such as the building, drives, walks and parking areas along with seeded or sodded grass areas used for stormwater management along with undisturbed woodlands.

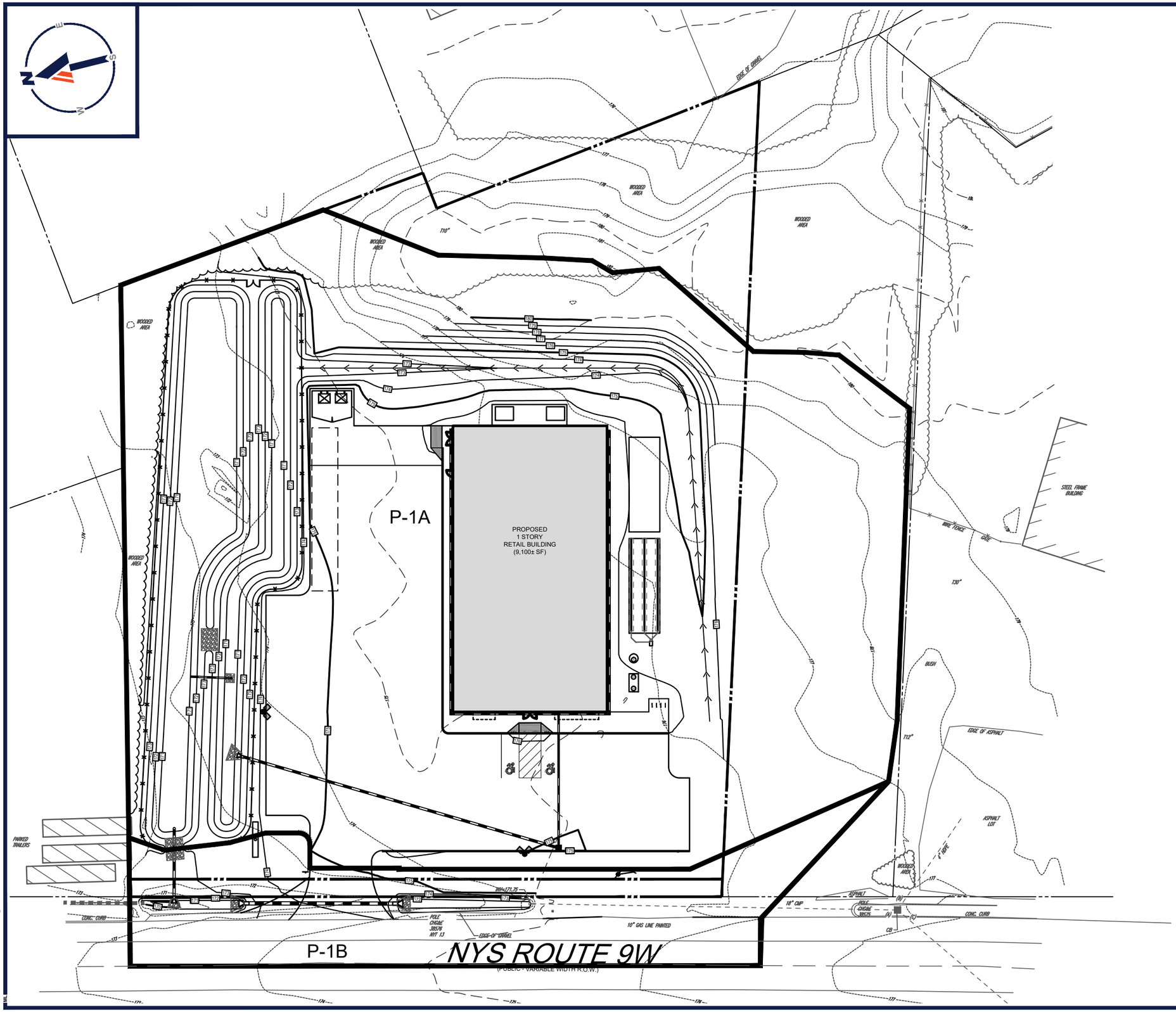
Stormwater from this area travels via overland flow either directly, via a catch basin or diversion swale into a settlement basin for pretreatment. The pretreatment basin has an overflow that has been set at an elevation to contain 100% of the WQv additionally this basin contains a dewatering device as outlined within Section 5 of the NYS Standards and Specifications for Erosion and Sediment Control.

Once the settling basin reaches the design capacity it overflows into an infiltration / detention basin that is designed to meet the RRV and WQV requirements for the project. This pond allows stormwater to exfiltrate into the soil. A standpipe is located within the basin for stormwater above and beyond the water quality volume to exit the pond and a reduced rate. An overflow spillway for extreme storm events allows discharge towards the existing drainage ditch along NYS Route 9W. Where stormwater travels offsite through the Design point 1.

The infiltration basin has been designed per the NYSDEC Stormwater Management Design Manual for an infiltration basin (I-2).

Watershed Area P-1B is approximately 0.34 acre comprised of seeded or sodded greenspaces and existing impervious areas from NYS Route 9W. Stormwater from this area travels via overland flow to the existing drainage ditch along NYS Route 9W. Where stormwater travels offsite through the Design point 1.

The proposed watershed area and topography are illustrated on the Proposed Watershed Plan included on the next page of this report.



P:\2020\B20130\SD\DRAWINGS\PLAN SETS\03--C3D_WORK\B20130SS00---LAYOUT_WS-PR-PROP_DRAIN MAP

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DRAWN BY:	~ NCN ~
CHECKED BY:	~ CVM / CEB ~
DATE:	08/14/2020
CAD I.D.:	B20130SS00

PROJECT:

PROPOSED SITE PLAN DOCUMENTS

FOR

HSC MILTON LLC.

PROPOSED DEVELOPMENT

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SHEET TITLE:

PROPOSED CONDITIONS WATERSHED MAP

SHEET NUMBER:

WS-PR

REVISION 1 - 12/10/2020

Conclusion:

The proposed development has been designed to release stormwater at a rate not to exceed pre-development conditions for each storm event. The facility is designed to provide stormwater detention storage, discharge control and quality treatment.

The stormwater management system is designed to meet the objectives set forth in the NYSDEC Stormwater Management Design Manual. Uniform sizing criteria were calculated as follows:

- The 90% Rule Water Quality Volume (WQv) is discharged to (I-2) infiltration basins. The infiltration basins have been designed per the requirements set forth by the NYSDEC. WQv calculations and requirements are illustrated on the enclosed detail sheet.

- The minimum Runoff Reduction Volume (RRv) requirement has been achieved by providing more than the minimum required RRv of the WQv provided in the proposed infiltration basins.

- Channel Protection Volume (Cpv) was calculated using the 24-hour extended detention of post developed 1 year, 24 hour storm event.

- Overbank Flood (Qp) protection was designed to control the peak discharge from the 10-year storm to the 10-year predevelopment rates. These calculations can be found in the 10-year storm analysis for each watershed and the total site volume comparison included in the report. 100% of the Qp is captured and treated on-site.

- Extreme Storm (Qf) protection was designed to control the peak discharge from the 100-year storm to rates less than the 100-year predevelopment rates by detaining the post development runoff. These calculations can be found in the 100-year storm analysis for each watershed and the total site volume comparison included in the report.

The proposed stormwater management system as designed will serve to mitigate the effects of the development of the parcel, such that the proposed use will not adversely affect any downstream or adjacent properties.

WATERSHED 1 - PRE-DEVELOPMENT AND POST DEVELOPMENT STORM WATER DISCHARGE COMPARISON TABLE			
STORM EVENT	PRE-DEVELOPMENT PEAK DISCHARGE (CFS)	POST-DEVELOPMENT PEAK DISCHARGE (CFS)	% REDUCTION PRE TO POST
1 YEAR	2.33	0.62	73%
10 YEAR	6.29	2.03	68%
100 YEAR	13.60	8.74	36%

Extreme Precipitation Tables

Northeast Regional Climate Center

Data represents point estimates calculated from partial duration series. All precipitation amounts are displayed in inches.

Smoothing	Yes
State	New York
Location	
Longitude	73.960 degrees West
Latitude	41.669 degrees North
Elevation	0 feet
Date/Time	Tue, 17 Nov 2020 13:25:11 -0500

Extreme Precipitation Estimates

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.32	0.49	0.60	0.79	0.99	1.23	**1yr**	0.85	1.16	1.41	1.74	2.13	2.61	2.96	**1yr**	2.31	2.85	3.31	3.97	4.58	**1yr**
2yr	0.38	0.58	0.73	0.96	1.20	1.50	**2yr**	1.04	1.39	1.72	2.12	2.59	3.16	3.56	**2yr**	2.80	3.43	3.92	4.62	5.25	**2yr**
5yr	0.45	0.70	0.88	1.17	1.50	1.89	**5yr**	1.30	1.72	2.17	2.67	3.25	3.94	4.49	**5yr**	3.49	4.32	4.95	5.71	6.46	**5yr**
10yr	0.51	0.80	1.01	1.37	1.78	2.25	**10yr**	1.53	2.02	2.59	3.19	3.87	4.67	5.36	**10yr**	4.13	5.15	5.90	6.71	7.57	**10yr**
25yr	0.59	0.95	1.21	1.67	2.22	2.84	**25yr**	1.92	2.50	3.28	4.03	4.88	5.83	6.77	**25yr**	5.16	6.51	7.46	8.30	9.33	**25yr**
50yr	0.68	1.09	1.40	1.96	2.64	3.39	**50yr**	2.27	2.95	3.92	4.81	5.80	6.91	8.08	**50yr**	6.11	7.77	8.92	9.76	10.93	**50yr**
100yr	0.78	1.26	1.62	2.30	3.13	4.05	**100yr**	2.70	3.47	4.69	5.75	6.91	8.18	9.65	**100yr**	7.24	9.28	10.67	11.49	12.82	**100yr**
200yr	0.89	1.45	1.88	2.69	3.72	4.84	**200yr**	3.21	4.09	5.61	6.87	8.23	9.70	11.54	**200yr**	8.58	11.09	12.76	13.52	15.03	**200yr**
500yr	1.08	1.77	2.31	3.35	4.69	6.12	**500yr**	4.05	5.08	7.11	8.68	10.36	12.15	14.61	**500yr**	10.75	14.05	16.20	16.77	18.58	**500yr**

Lower Confidence Limits

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.28	0.43	0.53	0.71	0.87	1.04	**1yr**	0.75	1.01	1.21	1.53	1.93	2.39	2.53	**1yr**	2.12	2.43	3.05	3.58	4.09	**1yr**
2yr	0.37	0.57	0.70	0.94	1.16	1.37	**2yr**	1.01	1.34	1.55	1.99	2.51	3.05	3.47	**2yr**	2.70	3.34	3.82	4.55	5.17	**2yr**
5yr	0.41	0.64	0.79	1.09	1.38	1.60	**5yr**	1.19	1.57	1.81	2.34	2.91	3.67	4.14	**5yr**	3.25	3.99	4.66	5.39	6.12	**5yr**
10yr	0.46	0.71	0.88	1.23	1.58	1.79	**10yr**	1.37	1.75	2.03	2.61	3.24	4.18	4.74	**10yr**	3.70	4.55	5.36	6.10	6.94	**10yr**
25yr	0.53	0.81	1.01	1.44	1.90	2.06	**25yr**	1.64	2.01	2.34	2.91	3.73	4.96	5.64	**25yr**	4.39	5.42	6.41	7.20	8.22	**25yr**
50yr	0.60	0.91	1.13	1.63	2.19	2.28	**50yr**	1.89	2.23	2.63	3.23	4.16	5.65	6.43	**50yr**	5.00	6.18	7.31	8.16	9.33	**50yr**
100yr	0.68	1.02	1.28	1.85	2.53	2.55	**100yr**	2.19	2.50	2.96	3.58	4.66	6.45	7.33	**100yr**	5.71	7.05	8.35	9.24	10.62	**100yr**
200yr	0.77	1.16	1.47	2.12	2.96	2.84	**200yr**	2.55	2.77	3.32	3.99	5.20	7.35	8.35	**200yr**	6.50	8.03	9.51	10.48	12.08	**200yr**
500yr	0.92	1.37	1.76	2.56	3.65	3.29	**500yr**	3.15	3.21	3.89	4.61	6.04	8.76	9.93	**500yr**	7.75	9.55	11.31	12.36	14.36	**500yr**

Upper Confidence Limits

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.35	0.54	0.66	0.88	1.09	1.31	**1yr**	0.94	1.28	1.48	1.89	2.36	2.88	3.22	**1yr**	2.55	3.10	3.63	4.23	4.90	**1yr**
2yr	0.40	0.61	0.75	1.02	1.26	1.50	**2yr**	1.08	1.47	1.70	2.20	2.75	3.28	3.70	**2yr**	2.90	3.56	4.05	4.71	5.34	**2yr**
5yr	0.49	0.75	0.93	1.28	1.63	1.92	**5yr**	1.41	1.88	2.22	2.83	3.58	4.25	4.88	**5yr**	3.76	4.69	5.25	6.08	6.83	**5yr**
10yr	0.58	0.89	1.10	1.54	1.99	2.34	**10yr**	1.72	2.29	2.71	3.48	4.39	5.22	6.04	**10yr**	4.62	5.81	6.45	7.40	8.24	**10yr**
25yr	0.73	1.10	1.37	1.96	2.58	3.04	**25yr**	2.23	2.98	3.56	4.72	5.76	6.88	8.03	**25yr**	6.09	7.72	8.51	9.63	10.57	**25yr**
50yr	0.86	1.31	1.63	2.34	3.15	3.72	**50yr**	2.72	3.64	4.39	5.85	7.06	8.47	9.98	**50yr**	7.50	9.60	10.53	11.77	12.79	**50yr**
100yr	1.02	1.55	1.94	2.80	3.84	4.56	**100yr**	3.31	4.45	5.40	7.27	8.66	10.45	12.41	**100yr**	9.25	11.93	13.04	14.39	15.46	**100yr**
200yr	1.21	1.82	2.31	3.35	4.67	5.56	**200yr**	4.03	5.44	6.66	9.02	10.64	12.88	15.44	**200yr**	11.40	14.85	16.18	17.63	18.70	**200yr**
500yr	1.53	2.28	2.93	4.26	6.06	7.26	**500yr**	5.23	7.10	8.77	12.02	13.98	16.98	20.65	**500yr**	15.03	19.85	21.57	23.08	24.09	**500yr**

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Version 1.7 Total Water Quality Volume Calculation
Last Updated: 10/02/2015 WQv(acre-feet) = [(P)(Rv)(A)] /12

Is this project subject to Chapter 10 of the NYS Design Manual (i.e. WQv is equal to post-development 1 year runoff volume)?.....	

Design Point:		
P=	1.40	*inch*

Breakdown of Subcatchments

Catchment Number	Total Area *(Acres)*	Impervious Area *(Acres)*	Percent Impervious *%*	Rv	WQv *(ft^3)*	Description
1	2.10	0.71	34%	0.35	3,781	
2						
3						
4						
5						
6						
7						
8						
9						
10						
Subtotal (1-30)	2.10	0.71	34%	0.35	**3,781**	**Subtotal 1**
Total	2.10	0.71	34%	0.35	**3,781**	**Initial WQv**

Identify Runoff Reduction Techniques By Area

Technique	Total Contributing Area *(Acre)*	Contributing Impervious Area *(Acre)*	Notes
Conservation of Natural Areas	0.00	0.00	*minimum 10,000 sf*
Riparian Buffers	0.00	0.00	*maximum contributing length 75 feet to 150 feet*
Filter Strips	0.00	0.00	
Tree Planting	0.00	0.00	*Up to 100 sf directly connected impervious area may be subtracted per tree*
Total	**0.00**	**0.00**	

Recalculate WQv after application of Area Reduction Techniques

	Total Area *(Acres)*	Impervious Area *(Acres)*	Percent Impervious *%*	Runoff Coefficient Rv	WQv *(ft^3)*
"<<Initial WQv"	2.10	0.71	34%	0.35	3,781
Subtract Area	0.00	0.00			
WQv adjusted after Area Reductions	**2.10**	**0.71**	34%	0.35	3,781
Disconnection of Rooftops		0.00			
Adjusted WQv after Area Reduction and Rooftop Disconnect	2.10	0.71	34%	0.35	**3,781**
WQv reduced by Area Reduction techniques					0

Runoff Reduction Volume and Treated volumes						
	Runoff Reduction Techiques/Standard SMPs		**Total Contributing Area**	**Total Contributing Impervious Area**	**WQv Reduced (RRv)**	**WQv Treated**
			(acres)	**(acres)**	**cf**	**cf**
Area/Volume Reduction	Conservation of Natural Areas	RR-1	0.00	0.00		
	Sheetflow to Riparian Buffers/Filter Strips	RR-2	0.00	0.00		
	Tree Planting/Tree Pit	RR-3	0.00	0.00		
	Disconnection of Rooftop Runoff	RR-4		0.00		
	Vegetated Swale	RR-5	0.00	0.00	0	
	Rain Garden	RR-6	0.00	0.00	0	
	Stormwater Planter	RR-7	0.00	0.00	0	
	Rain Barrel/Cistern	RR-8	0.00	0.00	0	
	Porous Pavement	RR-9	0.00	0.00	0	
	Green Roof (Intensive & Extensive)	RR-10	0.00	0.00	0	
Standard SMPs w/RRv Capacity	Infiltration Trench	I-1	0.00	0.00	0	0
	Infiltration Basin	I-2	2.10	0.71	3781	0
	Dry Well	I-3	0.00	0.00	0	0
	Underground Infiltration System	I-4	0.00			
	Bioretention & Infiltration Bioretention	F-5	0.00	0.00	0	0
	Dry swale	O-1	0.00	0.00	0	0
Standard SMPs	Micropool Extended Detention (P-1)	P-1				
	Wet Pond (P-2)	P-2				
	Wet Extended Detention (P-3)	P-3				
	Multiple Pond system (P-4)	P-4				
	Pocket Pond (p-5)	P-5				
	Surface Sand filter (F-1)	F-1				
	Underground Sand filter (F-2)	F-2				
	Perimeter Sand Filter (F-3)	F-3				
	Organic Filter (F-4	F-4				
	Shallow Wetland (W-1)	W-1				
	Extended Detention Wetland (W-2	W-2				
	Pond/Wetland System (W-3)	W-3				
	Pocket Wetland (W-4)	W-4				
	Wet Swale (O-2)	O-2				
Totals by Area Reduction →			0.00	0.00	0	
Totals by Volume Reduction →			0.00	0.00	0	
Totals by Standard SMP w/RRV →			2.10	0.71	3781	0
Totals by Standard SMP →			0.00	0.00		0
Totals (Area + Volume + all SMPs) →			2.10	0.71	3,781	0
	Impervious Cover √	okay				

Minimum RRv

Enter the Soils Data for the site		
Soil Group	Acres	S
A		55%
B		40%
C		30%
D	**2.10**	20%
Total Area	2.1	
Calculate the Minimum RRv		
S =	**0.20**	
Impervious =	0.71	*acre*
Precipitation	1.4	*in*
Rv	0.95	
Minimum RRv	**686**	***ft3***
	0.02	af

Infiltration Basin Worksheet

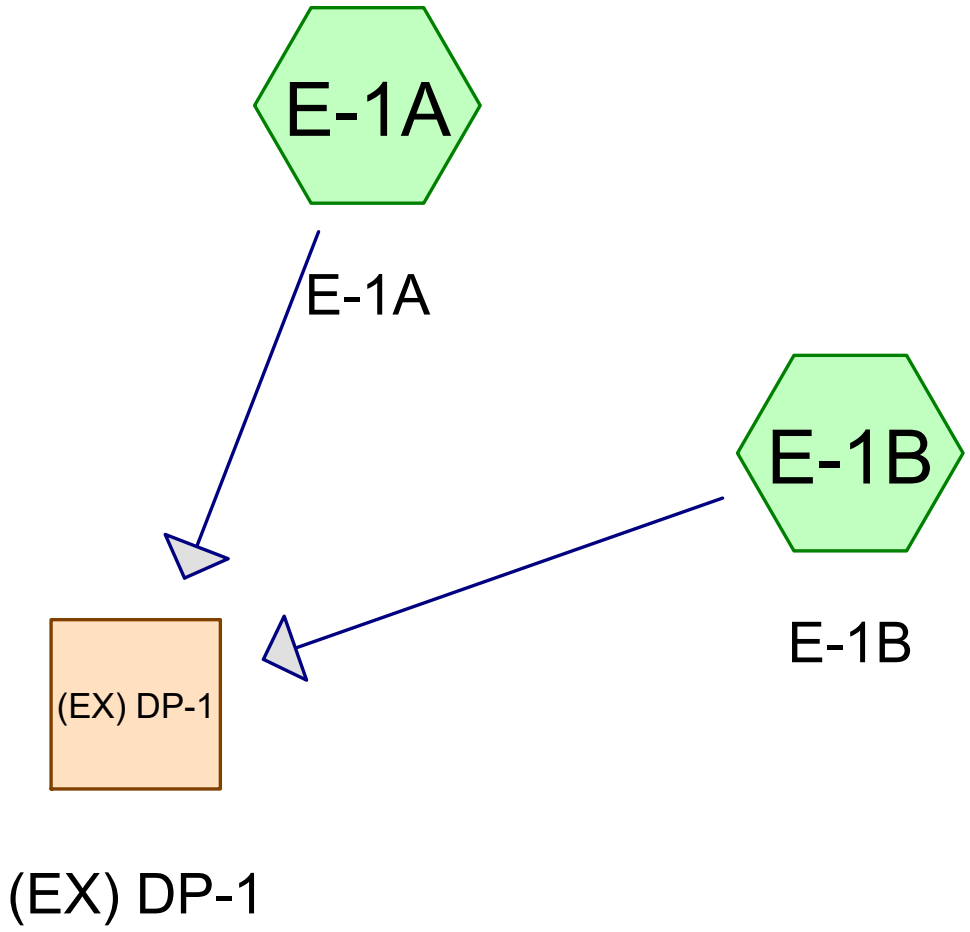
Design Point:	

Enter Site Data For Drainage Area to be Treated by Practice							
Catchment Number	**Total Area** *(Acres)*	**Impervious Area** *(Acres)*	**Percent Impervious** *%*	**Rv**	**WQv** *(ft^3)*	**Precipitation** *(in)*	**Description**
1	2.10	0.71	0.34	0.35	3781.01	1.40	
Enter Impervious Area Reduced by Disconnection of Rooftops			34%	0.35	3,781	<<WQv after adjusting for Disconnected Rooftops	
Enter the portion of the WQv that is not reduced for all practices routed to this practice.						*ft^3*	

Pretreatment Techniques to Prevent Clogging			
Infiltration Rate	6.00	*in/hour*	*Okay*
Pretreatment Sizing	100	*% WQv*	*25% minimum;* *50% if >2 in/hr* *100% if >5in/hour*
Pretreatment Required Volume	3,781	*ft^3*	
Pretreatment Provided	3,864	*ft^3*	
Pretreatment Techniques utilized	*Sedimentation Basin*		

Size An Infiltration Basin			
Design Volume	3,781	*ft^3*	WQv
Basal Area Required	1,891	*ft^2*	*Infiltration practices shall be designed to exfiltrate the entire WQv through the floor of each practice.*
Basal Area Provided	3,865	*ft^2*	
Design Depth	2.00	*ft*	
Volume Provided	7,730	*ft^3*	*Storage Volume provided in infiltration basin area (not including pretreatment.*

Determine Runoff Reduction			
RRv	**3,781**	***ft^3***	***90% of the storage provided in the basin or WQv whichever is smaller***
Volume Treated	0	*ft^3*	*This is the portion of the WQv that is not reduced/infiltrated*
Sizing √	OK		*The infiltration basin must provide storage equal to or greater than the WQv of the contributing area.*



Subcat Reach Pond Link

Routing Diagram for DG Milton- All Conditions-Infil
Prepared by Bohler Engineering, Printed 11/23/2020

Area Listing (selected nodes)

Area (acres)	CN	Description (subcatchment-numbers)
2.099	80	>75% Grass cover, Good, HSG D (E-1A)
0.153	98	Unconnected pavement, HSG D (E-1B)
0.195	77	Woods, Good, HSG D (E-1A)
2.446	**81**	**TOTAL AREA**

Summary for Subcatchment E-1A: E-1A

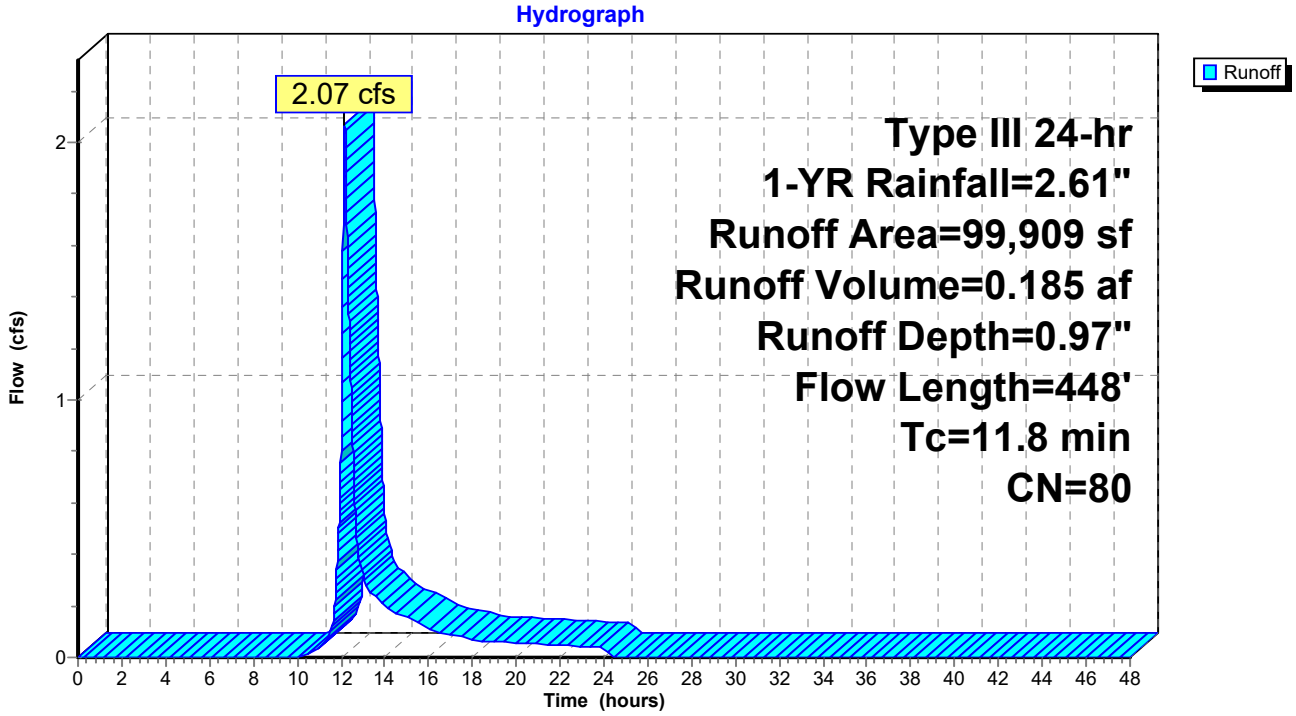
Runoff = 2.07 cfs @ 12.17 hrs, Volume= 0.185 af, Depth= 0.97"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 1-YR Rainfall=2.61"

Area (sf)	CN	Description
8,496	77	Woods, Good, HSG D
91,413	80	>75% Grass cover, Good, HSG D
99,909	80	Weighted Average
99,909		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.1	100	0.0450	0.23		**Sheet Flow, 1-Sheet-Grass** Grass: Short n= 0.150 P2= 3.16"
3.5	196	0.0178	0.93		**Shallow Concentrated Flow, 2-SCF-Grass** Short Grass Pasture Kv= 7.0 fps
1.2	152	0.0190	2.07		**Shallow Concentrated Flow, 3-SCF-Ditch** Grassed Waterway Kv= 15.0 fps
11.8	448	Total			

Subcatchment E-1A: E-1A



Summary for Subcatchment E-1B: E-1B

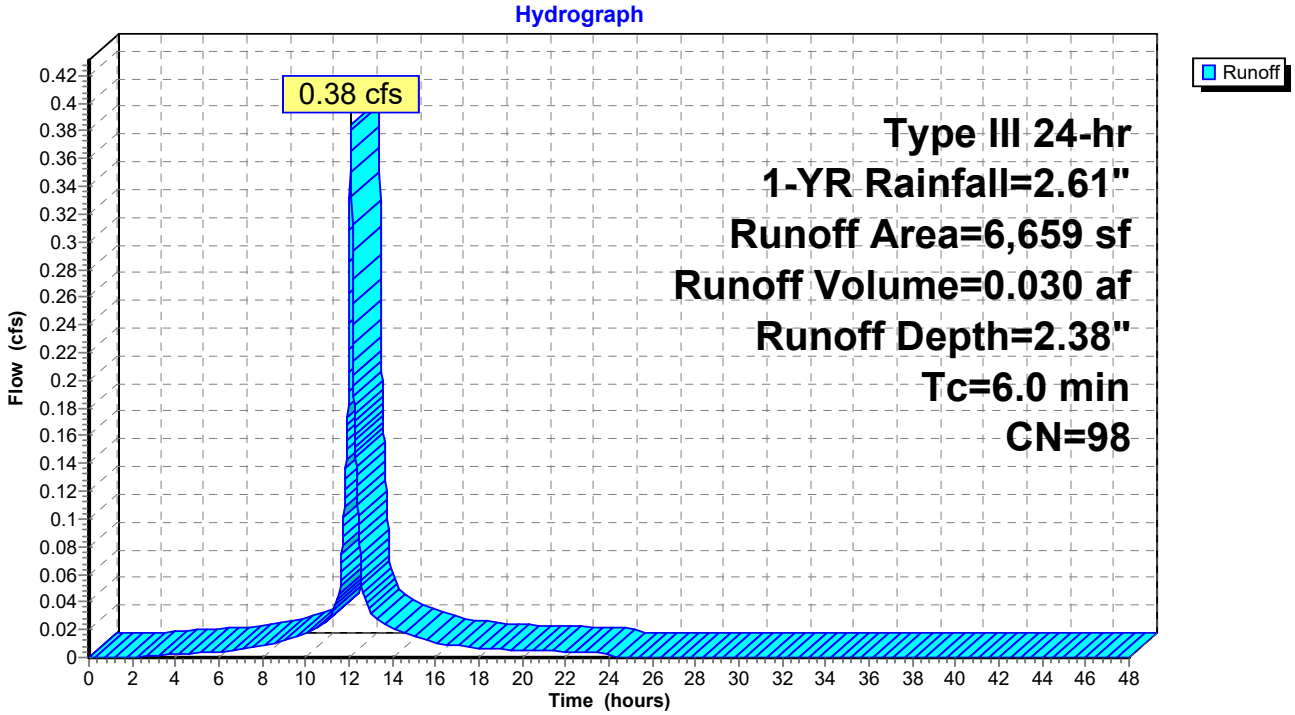
Runoff = 0.38 cfs @ 12.08 hrs, Volume= 0.030 af, Depth= 2.38"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 1-YR Rainfall=2.61"

Area (sf)	CN	Description
6,659	98	Unconnected pavement, HSG D
6,659		100.00% Impervious Area
6,659		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment E-1B: E-1B

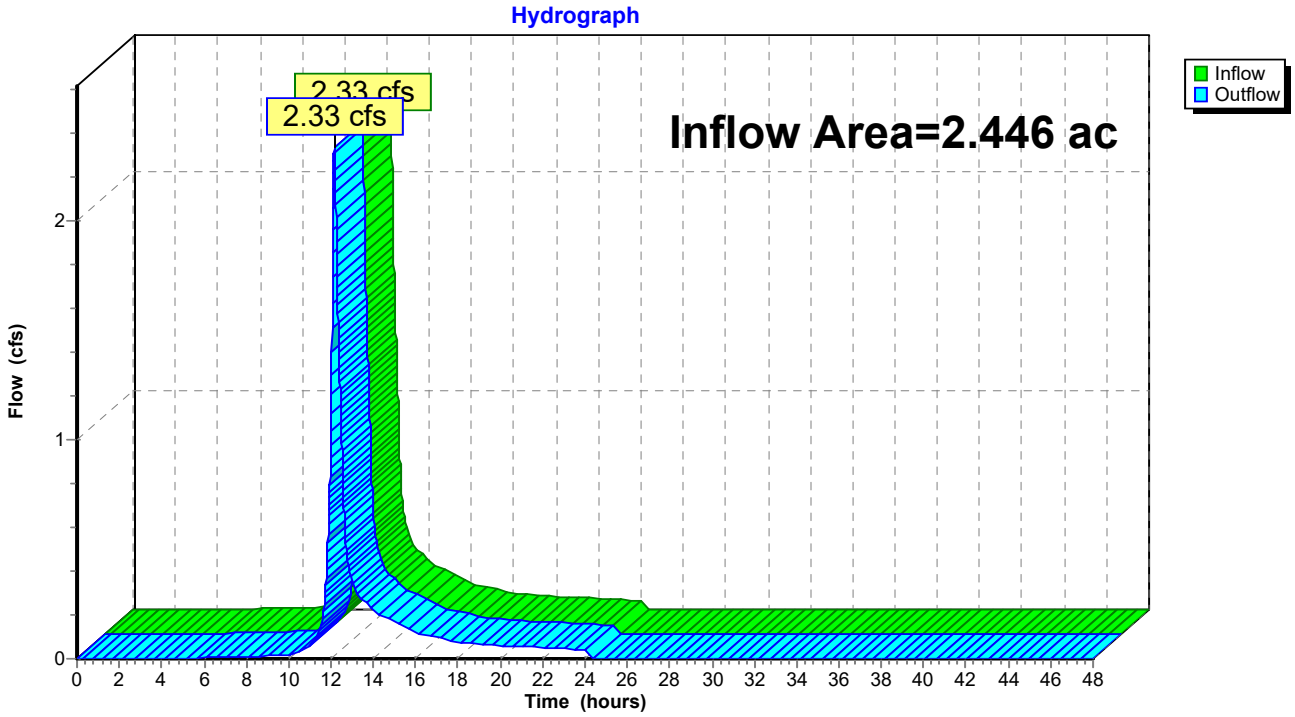


Summary for Reach (EX) DP-1: (EX) DP-1

Inflow Area = 2.446 ac, 6.25% Impervious, Inflow Depth = 1.05" for 1-YR event
Inflow = 2.33 cfs @ 12.16 hrs, Volume= 0.215 af
Outflow = 2.33 cfs @ 12.16 hrs, Volume= 0.215 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3

Reach (EX) DP-1: (EX) DP-1



Summary for Subcatchment E-1A: E-1A

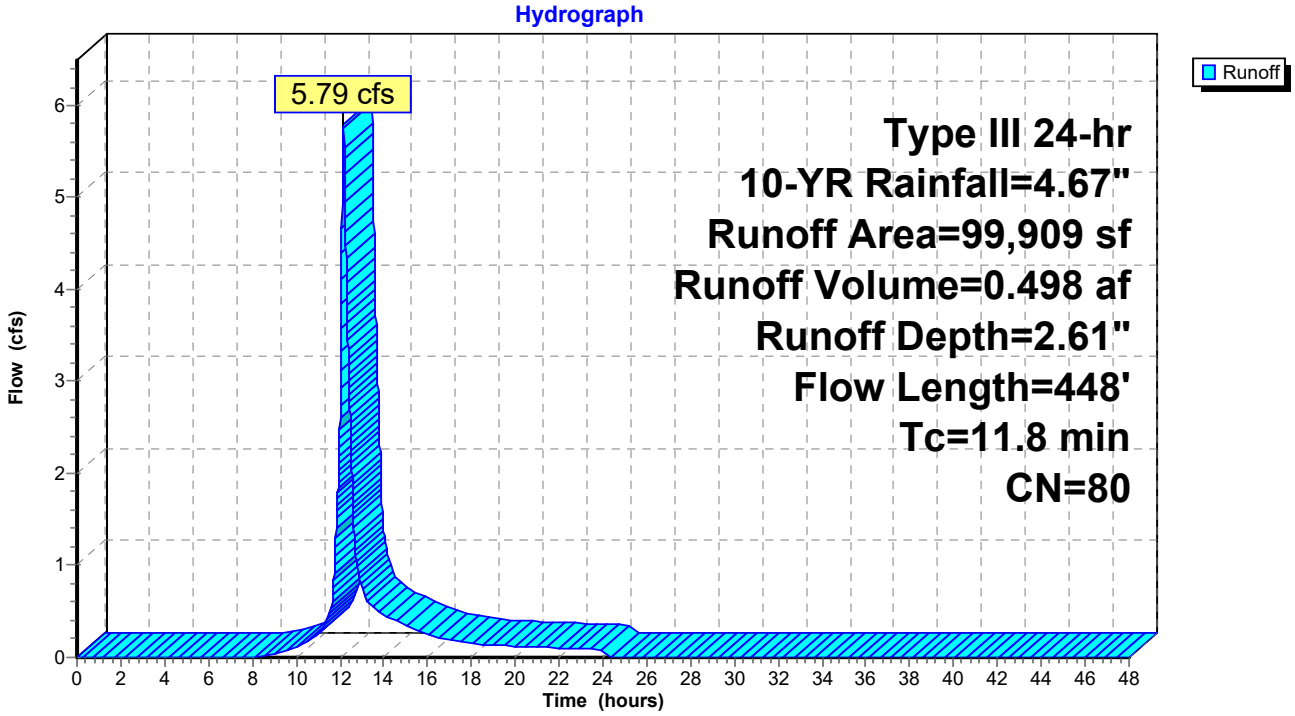
Runoff = 5.79 cfs @ 12.16 hrs, Volume= 0.498 af, Depth= 2.61"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YR Rainfall=4.67"

Area (sf)	CN	Description
8,496	77	Woods, Good, HSG D
91,413	80	>75% Grass cover, Good, HSG D
99,909	80	Weighted Average
99,909		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.1	100	0.0450	0.23		**Sheet Flow, 1-Sheet-Grass** Grass: Short n= 0.150 P2= 3.16"
3.5	196	0.0178	0.93		**Shallow Concentrated Flow, 2-SCF-Grass** Short Grass Pasture Kv= 7.0 fps
1.2	152	0.0190	2.07		**Shallow Concentrated Flow, 3-SCF-Ditch** Grassed Waterway Kv= 15.0 fps
11.8	448	Total			

Subcatchment E-1A: E-1A



Summary for Subcatchment E-1B: E-1B

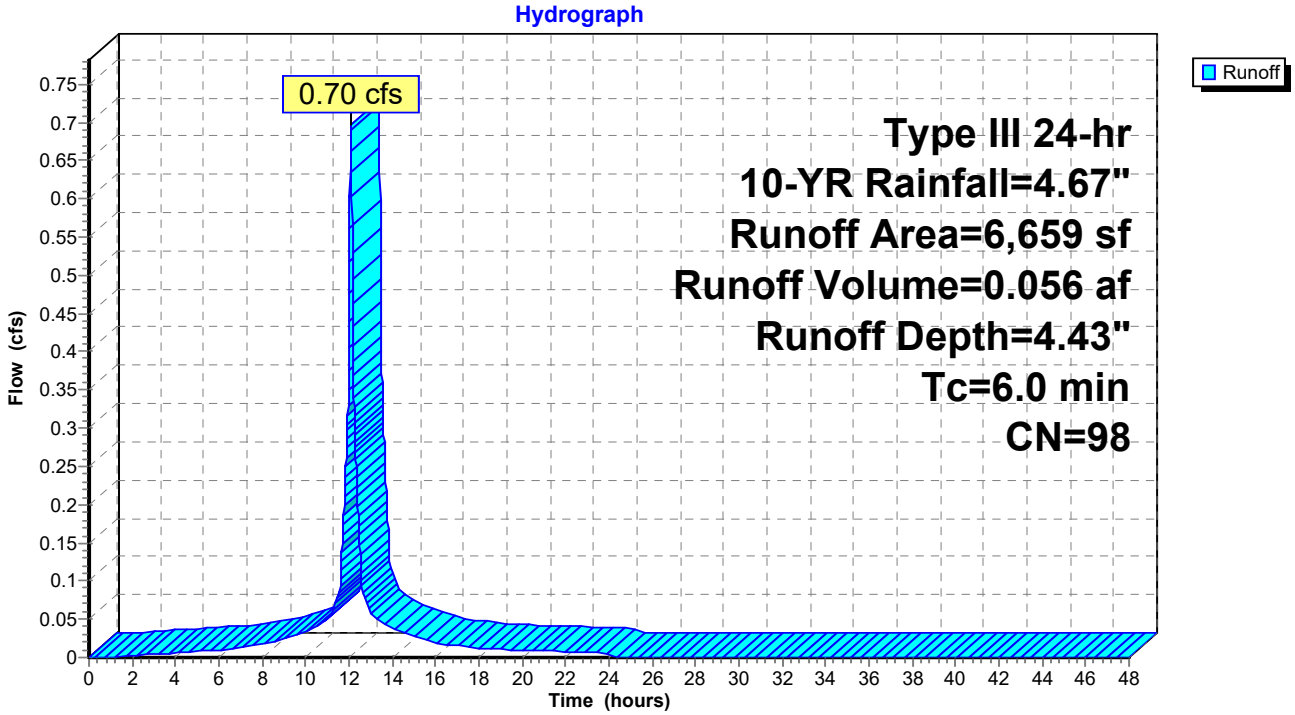
Runoff = 0.70 cfs @ 12.08 hrs, Volume= 0.056 af, Depth= 4.43"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YR Rainfall=4.67"

Area (sf)	CN	Description
6,659	98	Unconnected pavement, HSG D
6,659		100.00% Impervious Area
6,659		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment E-1B: E-1B

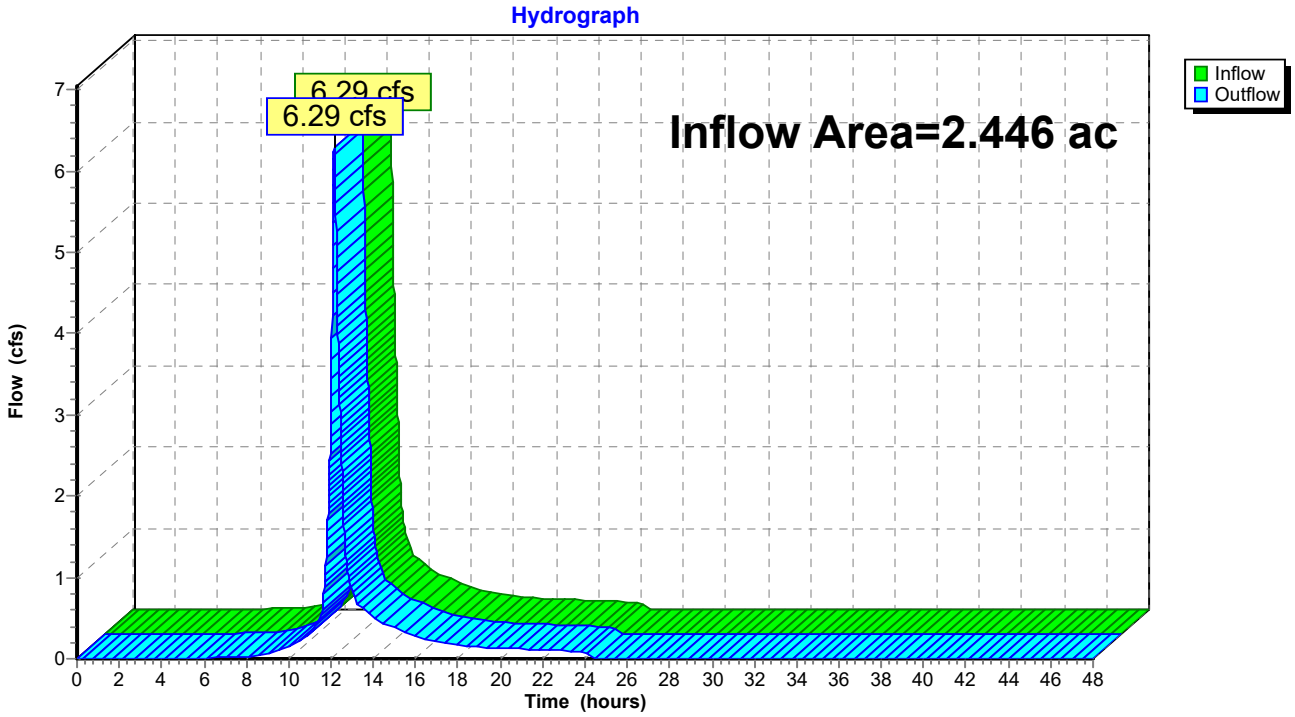


Summary for Reach (EX) DP-1: (EX) DP-1

Inflow Area = 2.446 ac, 6.25% Impervious, Inflow Depth = 2.72" for 10-YR event
Inflow = 6.29 cfs @ 12.15 hrs, Volume= 0.555 af
Outflow = 6.29 cfs @ 12.15 hrs, Volume= 0.555 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3

Reach (EX) DP-1: (EX) DP-1



Summary for Subcatchment E-1A: E-1A

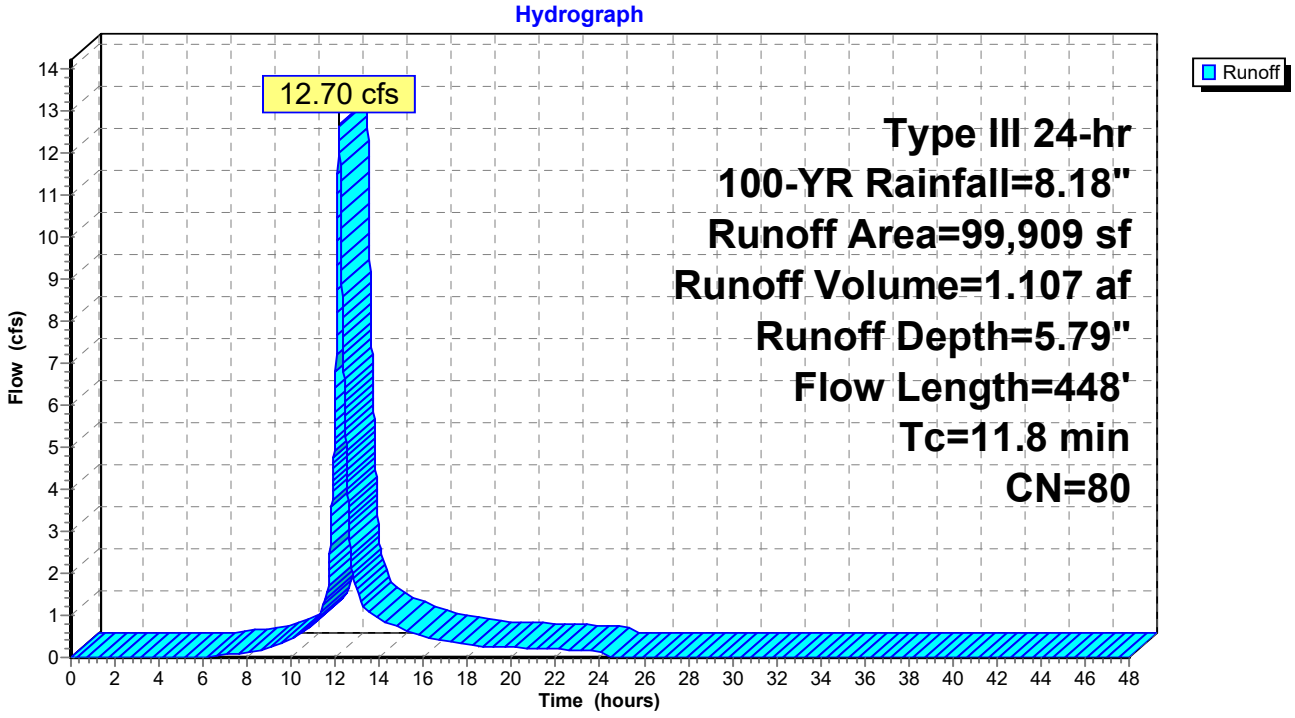
Runoff = 12.70 cfs @ 12.16 hrs, Volume= 1.107 af, Depth= 5.79"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-YR Rainfall=8.18"

Area (sf)	CN	Description
8,496	77	Woods, Good, HSG D
91,413	80	>75% Grass cover, Good, HSG D
99,909	80	Weighted Average
99,909		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.1	100	0.0450	0.23		**Sheet Flow, 1-Sheet-Grass** Grass: Short n= 0.150 P2= 3.16"
3.5	196	0.0178	0.93		**Shallow Concentrated Flow, 2-SCF-Grass** Short Grass Pasture Kv= 7.0 fps
1.2	152	0.0190	2.07		**Shallow Concentrated Flow, 3-SCF-Ditch** Grassed Waterway Kv= 15.0 fps
11.8	448	Total			

Subcatchment E-1A: E-1A



Summary for Subcatchment E-1B: E-1B

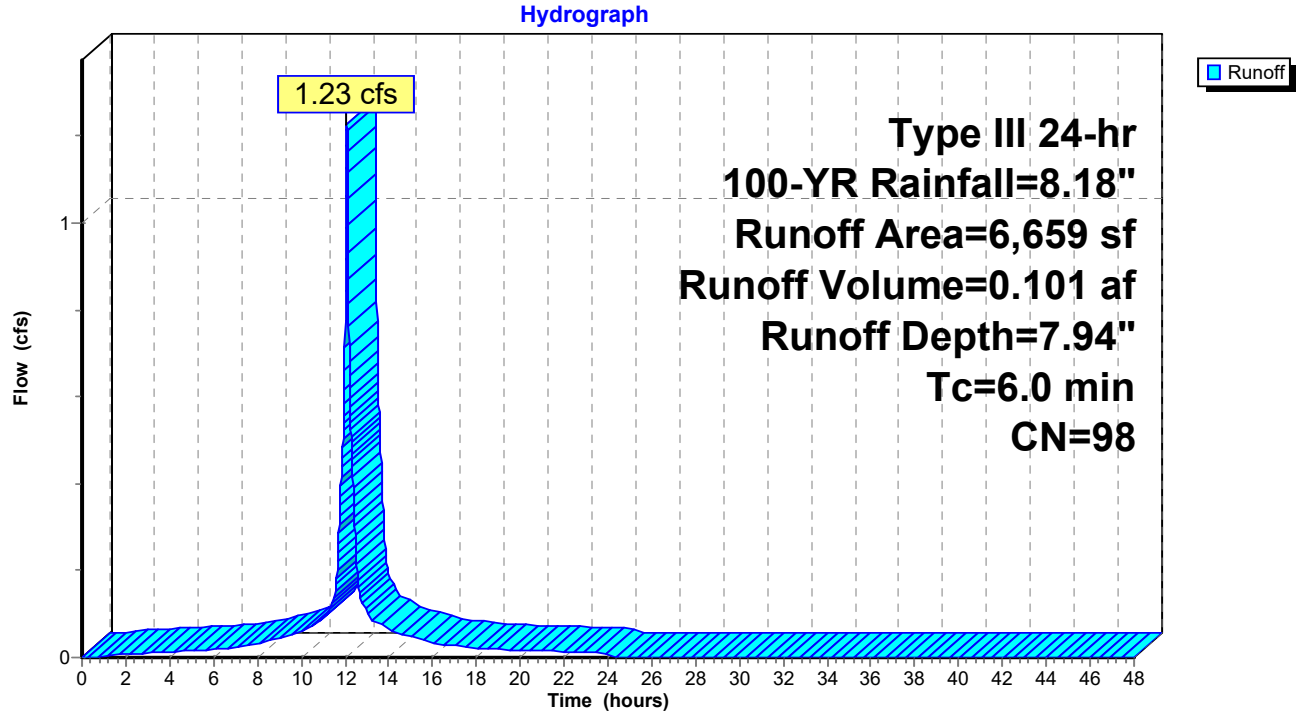
Runoff = 1.23 cfs @ 12.08 hrs, Volume= 0.101 af, Depth= 7.94"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-YR Rainfall=8.18"

Area (sf)	CN	Description
6,659	98	Unconnected pavement, HSG D
6,659		100.00% Impervious Area
6,659		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment E-1B: E-1B

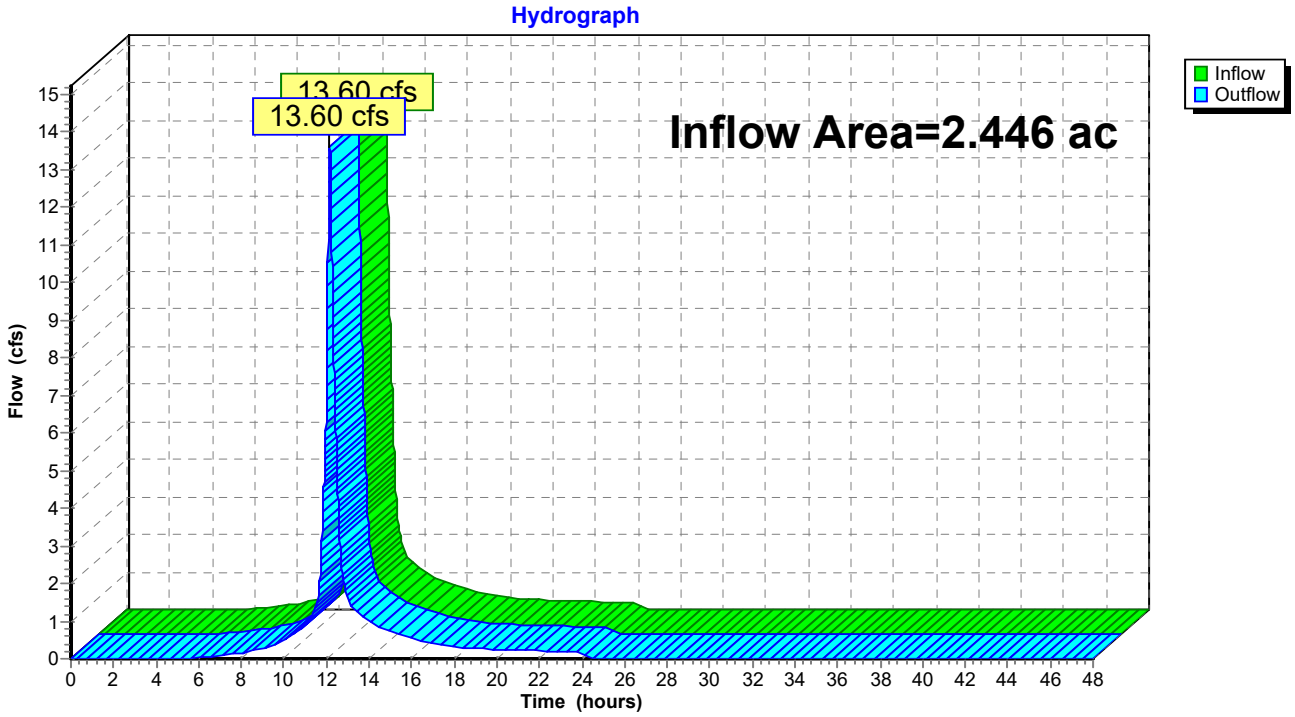


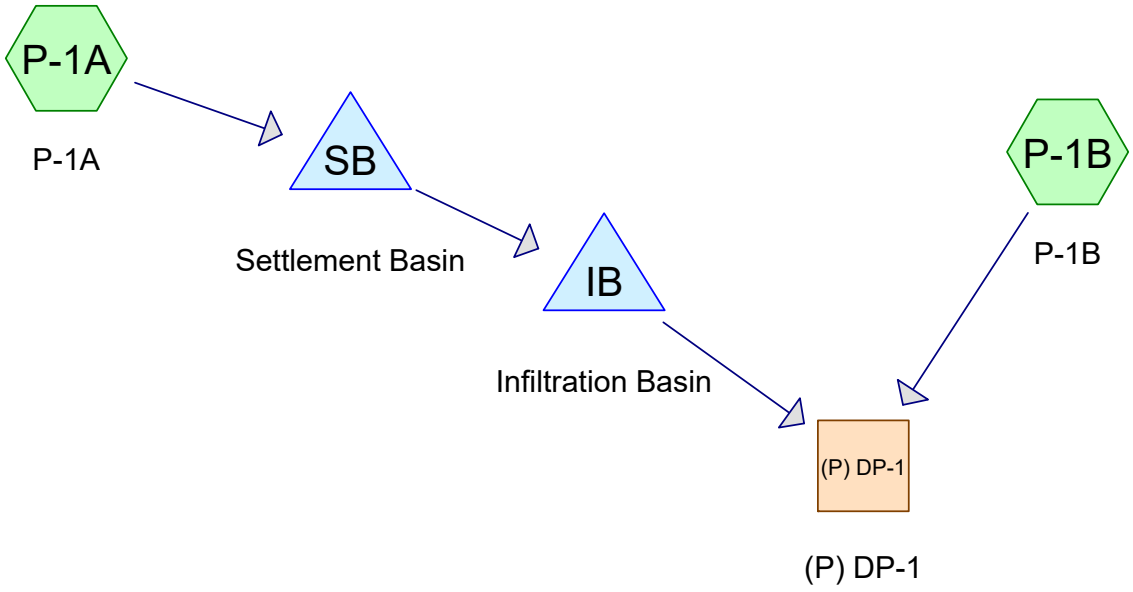
Summary for Reach (EX) DP-1: (EX) DP-1

Inflow Area = 2.446 ac, 6.25% Impervious, Inflow Depth = 5.93" for 100-YR event
Inflow = 13.60 cfs @ 12.15 hrs, Volume= 1.209 af
Outflow = 13.60 cfs @ 12.15 hrs, Volume= 1.209 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3

Reach (EX) DP-1: (EX) DP-1





Subcat Reach Pond Link

Routing Diagram for DG Milton- All Conditions-Infil
Prepared by Bohler Engineering, Printed 11/23/2020

Area Listing (selected nodes)

Area (acres)	CN	Description (subcatchment-numbers)
1.440	80	>75% Grass cover, Good, HSG D (P-1A, P-1B)
0.877	98	Unconnected pavement, HSG D (P-1A, P-1B)
0.129	77	Woods, Good, HSG D (P-1A)
2.446	**86**	**TOTAL AREA**

Summary for Subcatchment P-1A: P-1A

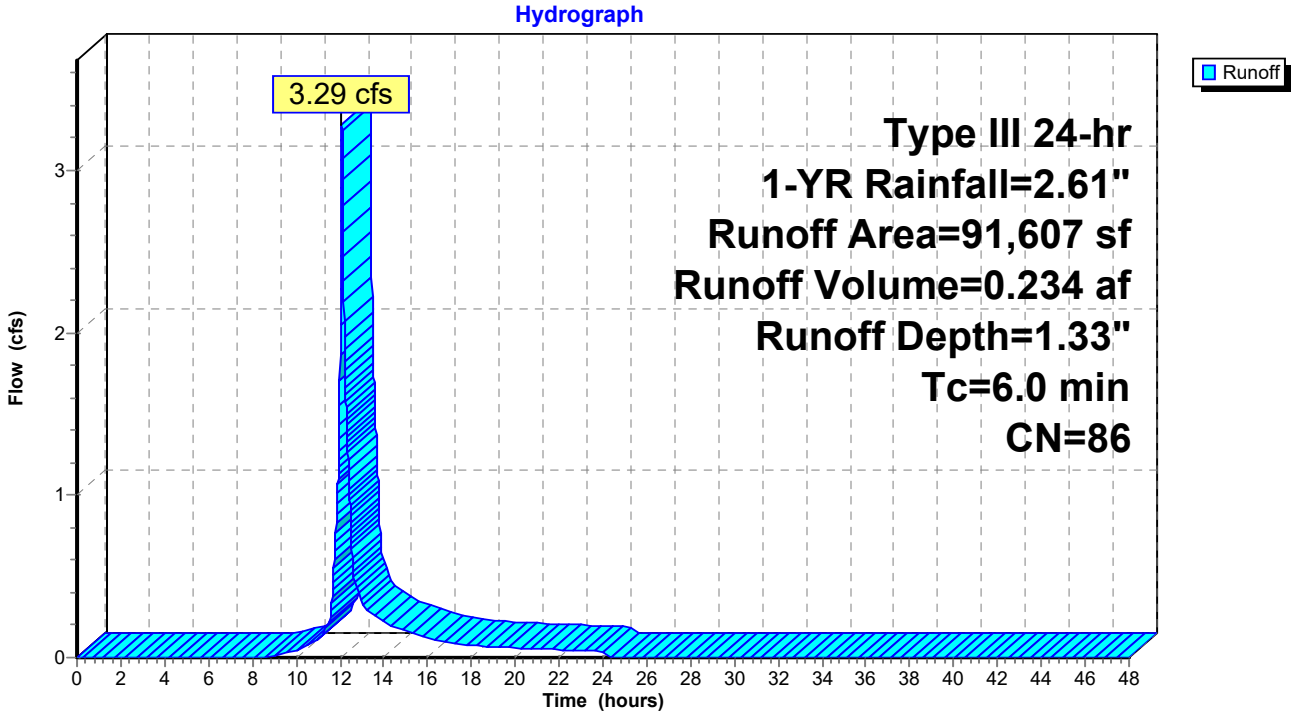
Runoff = 3.29 cfs @ 12.09 hrs, Volume= 0.234 af, Depth= 1.33"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 1-YR Rainfall=2.61"

Area (sf)	CN	Description
30,890	98	Unconnected pavement, HSG D
5,639	77	Woods, Good, HSG D
55,078	80	>75% Grass cover, Good, HSG D
91,607	86	Weighted Average
60,717		66.28% Pervious Area
30,890		33.72% Impervious Area
30,890		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment P-1A: P-1A



Summary for Subcatchment P-1B: P-1B

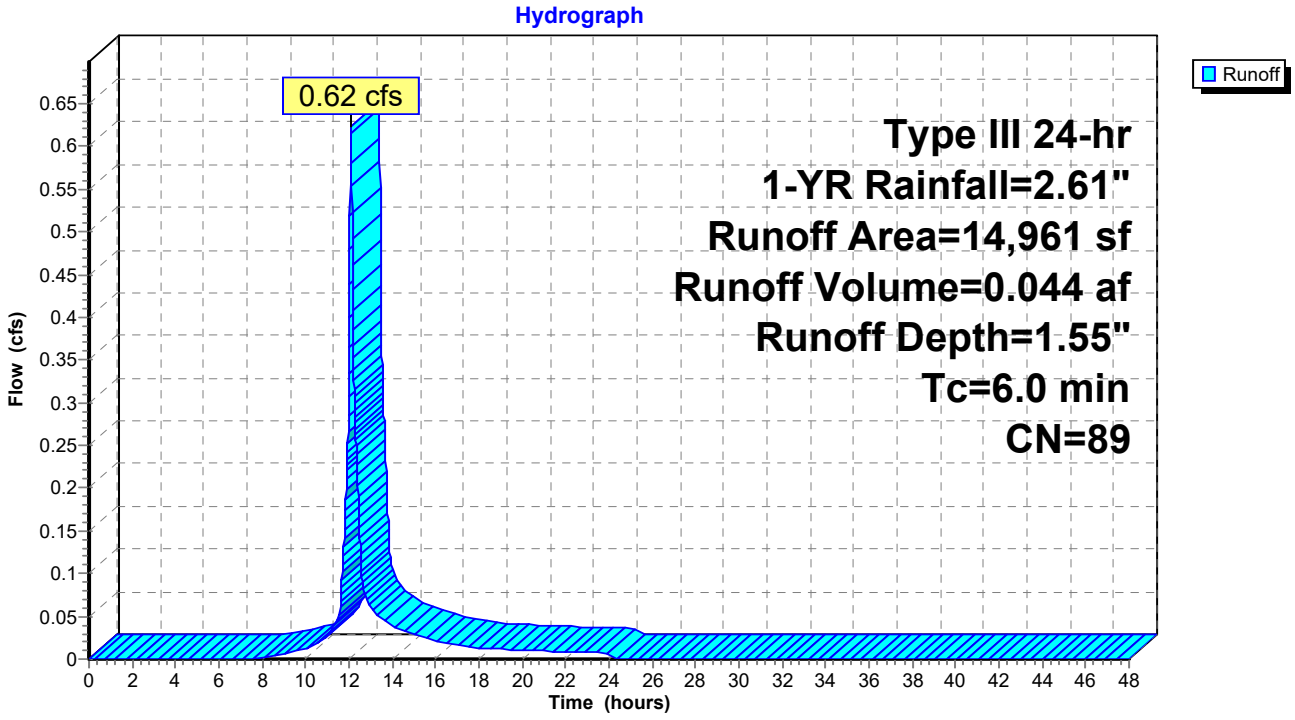
Runoff = 0.62 cfs @ 12.09 hrs, Volume= 0.044 af, Depth= 1.55"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 1-YR Rainfall=2.61"

Area (sf)	CN	Description
7,326	98	Unconnected pavement, HSG D
7,635	80	>75% Grass cover, Good, HSG D
14,961	89	Weighted Average
7,635		51.03% Pervious Area
7,326		48.97% Impervious Area
7,326		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment P-1B: P-1B

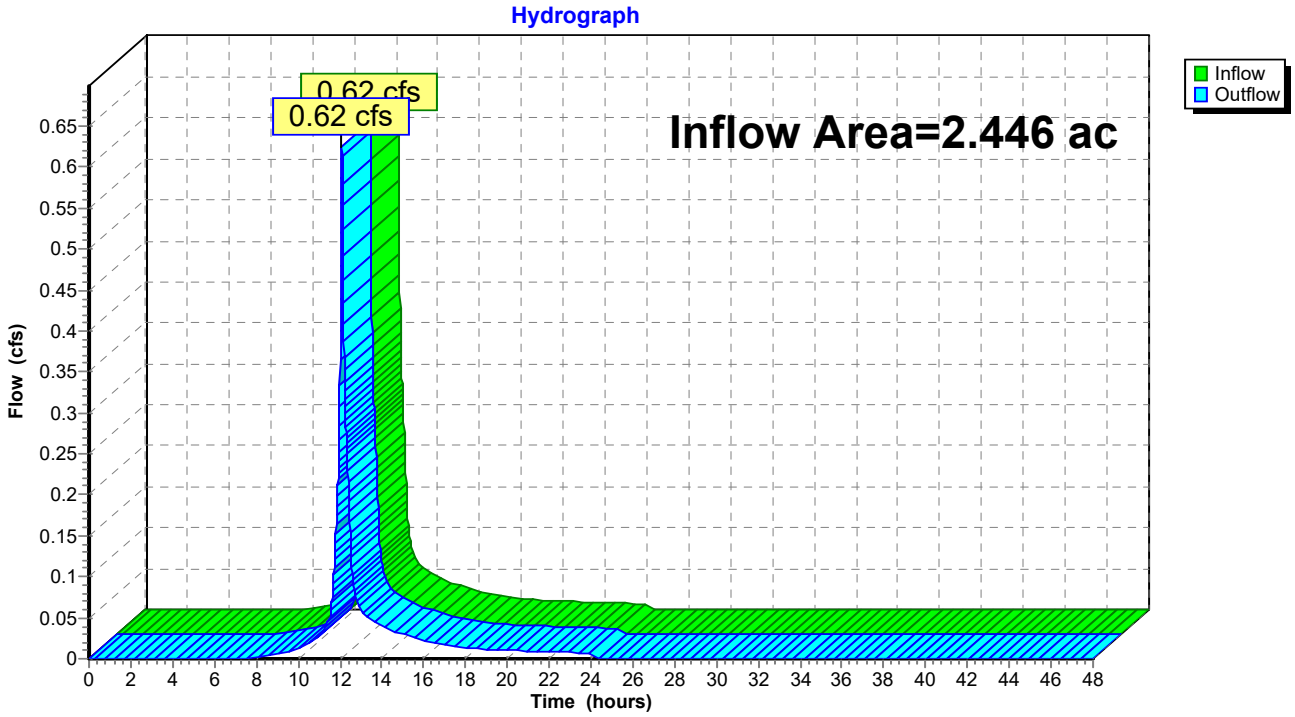


Summary for Reach (P) DP-1: (P) DP-1

Inflow Area = 2.446 ac, 35.86% Impervious, Inflow Depth = 0.22" for 1-YR event
Inflow = 0.62 cfs @ 12.09 hrs, Volume= 0.044 af
Outflow = 0.62 cfs @ 12.09 hrs, Volume= 0.044 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3

Reach (P) DP-1: (P) DP-1



Summary for Pond IB: Infiltration Basin

Inflow Area = 2.103 ac, 33.72% Impervious, Inflow Depth = 0.78" for 1-YR event
Inflow = 0.93 cfs @ 12.46 hrs, Volume= 0.136 af
Outflow = 0.63 cfs @ 12.66 hrs, Volume= 0.136 af, Atten= 33%, Lag= 11.9 min
Discarded = 0.63 cfs @ 12.66 hrs, Volume= 0.136 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 171.05' @ 12.66 hrs Surf.Area= 4,524 sf Storage= 216 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 1.0 min (936.1 - 935.1)

Volume	Invert	Avail.Storage	Storage Description
#1	171.00'	16,307 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

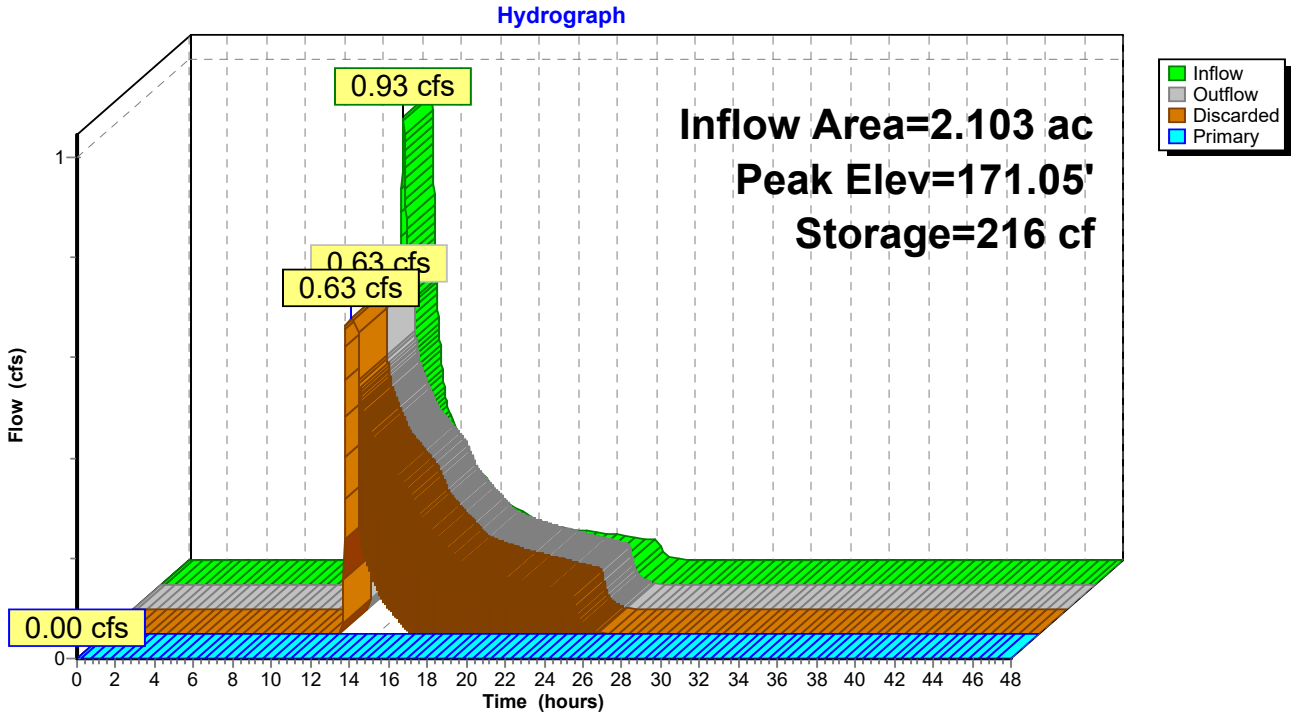
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
171.00	4,447	0	0
172.00	6,040	5,244	5,244
173.00	7,689	6,865	12,108
173.50	9,106	4,199	16,307

Device	Routing	Invert	Outlet Devices
#1	Discarded	171.00'	**6.000 in/hr Exfiltration over Surface area**
#2	Primary	170.80'	**12.0" Round Culvert** L= 31.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 170.80' / 170.50' S= 0.0097 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#3	Device 2	171.80'	**12.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Primary	172.50'	**8.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Discarded OutFlow Max=0.63 cfs @ 12.66 hrs HW=171.05' (Free Discharge)
└**1=Exfiltration** (Exfiltration Controls 0.63 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=171.00' TW=0.00' (Dynamic Tailwater)
├**2=Culvert** (Passes 0.00 cfs of 0.15 cfs potential flow)
│└**3=Orifice/Grate** (Controls 0.00 cfs)
└**4=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond IB: Infiltration Basin



Summary for Pond SB: Settlement Basin

Inflow Area = 2.103 ac, 33.72% Impervious, Inflow Depth = 1.33" for 1-YR event
Inflow = 3.29 cfs @ 12.09 hrs, Volume= 0.234 af
Outflow = 0.93 cfs @ 12.46 hrs, Volume= 0.136 af, Atten= 72%, Lag= 22.3 min
Primary = 0.93 cfs @ 12.46 hrs, Volume= 0.136 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 172.72' @ 12.46 hrs Surf.Area= 4,276 sf Storage= 4,742 cf

Plug-Flow detention time= 215.2 min calculated for 0.136 af (58% of inflow)
Center-of-Mass det. time= 103.4 min (935.1 - 831.7)

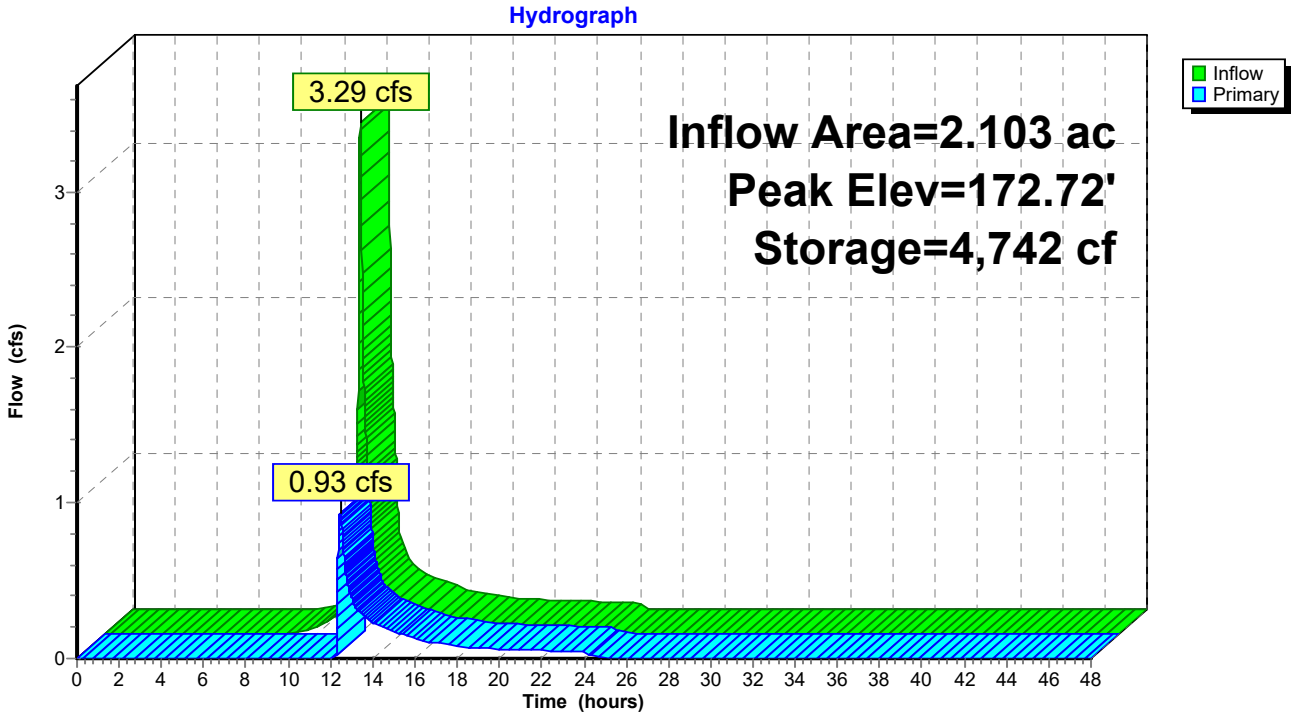
Volume	Invert	Avail.Storage	Storage Description
#1	171.00'	8,887 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
171.00	1,384	0	0
172.00	2,938	2,161	2,161
173.00	4,808	3,873	6,034
173.50	6,602	2,853	8,887

Device	Routing	Invert	Outlet Devices
#1	Primary	172.60'	**10.0' long x 4.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.38 2.54 2.69 2.68 2.67 2.67 2.65 2.66 2.66 2.68 2.72 2.73 2.76 2.79 2.88 3.07 3.32

Primary OutFlow Max=0.93 cfs @ 12.46 hrs HW=172.72' TW=171.02' (Dynamic Tailwater)
1=Broad-Crested Rectangular Weir (Weir Controls 0.93 cfs @ 0.81 fps)

Pond SB: Settlement Basin



Summary for Subcatchment P-1A: P-1A

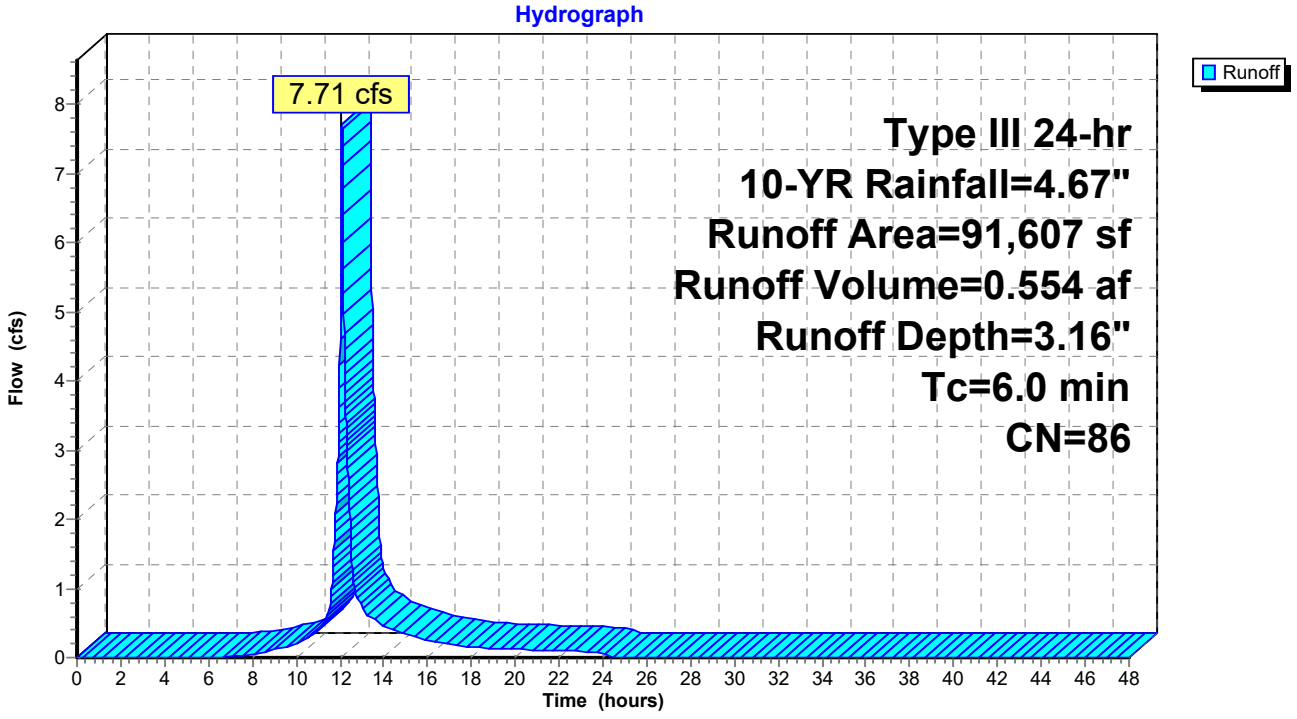
Runoff = 7.71 cfs @ 12.09 hrs, Volume= 0.554 af, Depth= 3.16"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YR Rainfall=4.67"

Area (sf)	CN	Description
30,890	98	Unconnected pavement, HSG D
5,639	77	Woods, Good, HSG D
55,078	80	>75% Grass cover, Good, HSG D
91,607	86	Weighted Average
60,717		66.28% Pervious Area
30,890		33.72% Impervious Area
30,890		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment P-1A: P-1A



Summary for Subcatchment P-1B: P-1B

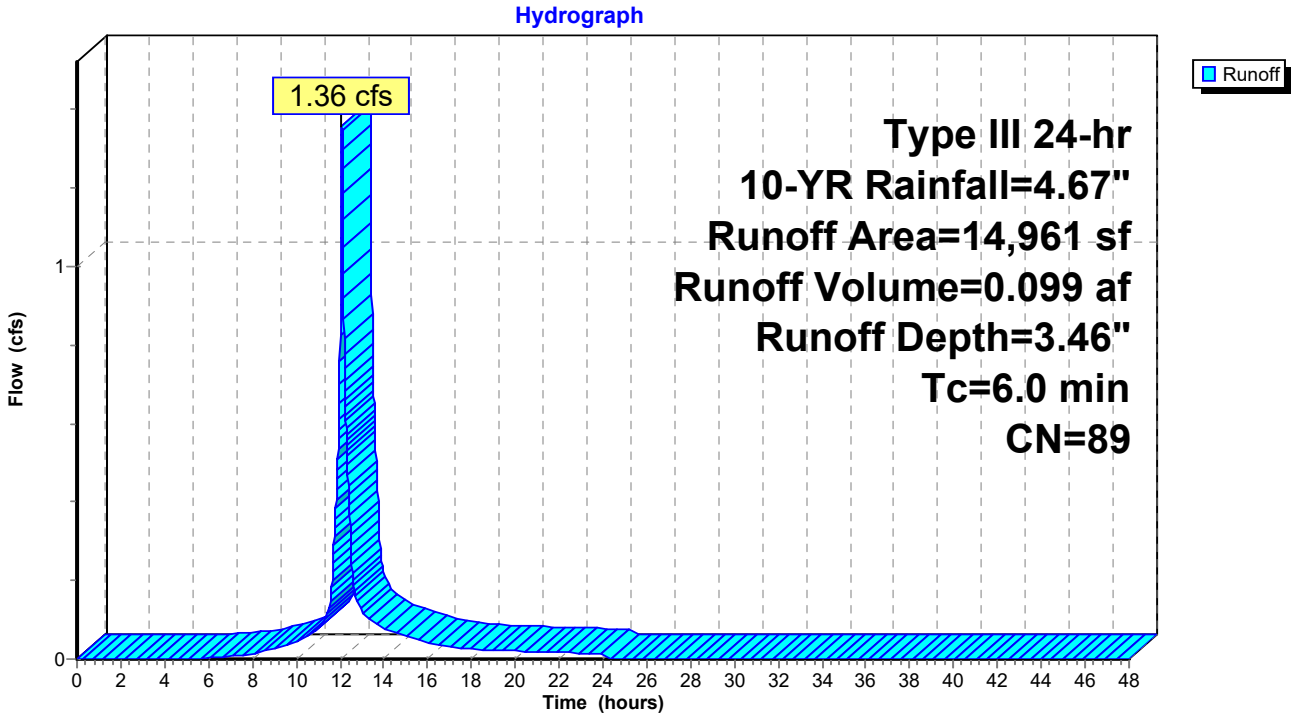
Runoff = 1.36 cfs @ 12.09 hrs, Volume= 0.099 af, Depth= 3.46"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YR Rainfall=4.67"

Area (sf)	CN	Description
7,326	98	Unconnected pavement, HSG D
7,635	80	>75% Grass cover, Good, HSG D
14,961	89	Weighted Average
7,635		51.03% Pervious Area
7,326		48.97% Impervious Area
7,326		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment P-1B: P-1B

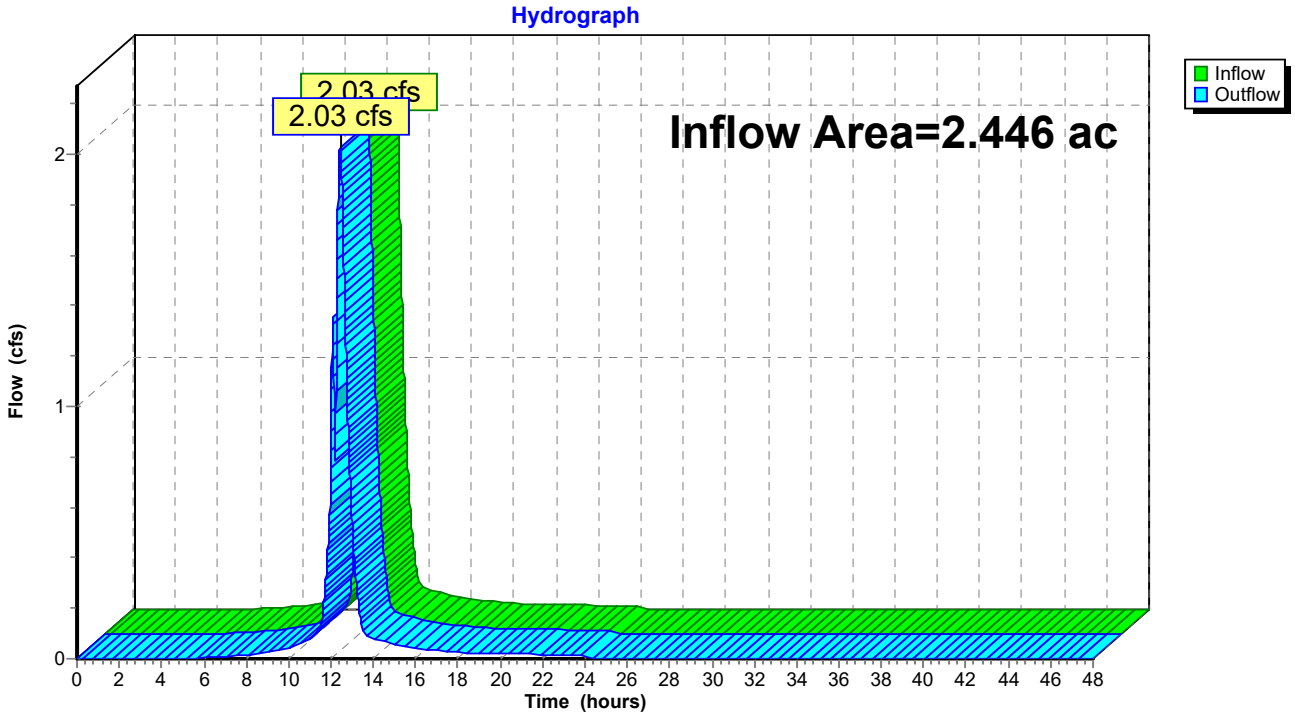


Summary for Reach (P) DP-1: (P) DP-1

Inflow Area = 2.446 ac, 35.86% Impervious, Inflow Depth = 0.86" for 10-YR event
Inflow = 2.03 cfs @ 12.43 hrs, Volume= 0.176 af
Outflow = 2.03 cfs @ 12.43 hrs, Volume= 0.176 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3

Reach (P) DP-1: (P) DP-1



Summary for Pond IB: Infiltration Basin

Inflow Area = 2.103 ac, 33.72% Impervious, Inflow Depth = 2.60" for 10-YR event
Inflow = 6.77 cfs @ 12.13 hrs, Volume= 0.456 af
Outflow = 2.52 cfs @ 12.46 hrs, Volume= 0.456 af, Atten= 63%, Lag= 19.9 min
Discarded = 0.86 cfs @ 12.46 hrs, Volume= 0.379 af
Primary = 1.66 cfs @ 12.46 hrs, Volume= 0.077 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 172.10' @ 12.46 hrs Surf.Area= 6,200 sf Storage= 5,838 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 42.9 min (895.0 - 852.1)

Volume	Invert	Avail.Storage	Storage Description
#1	171.00'	16,307 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

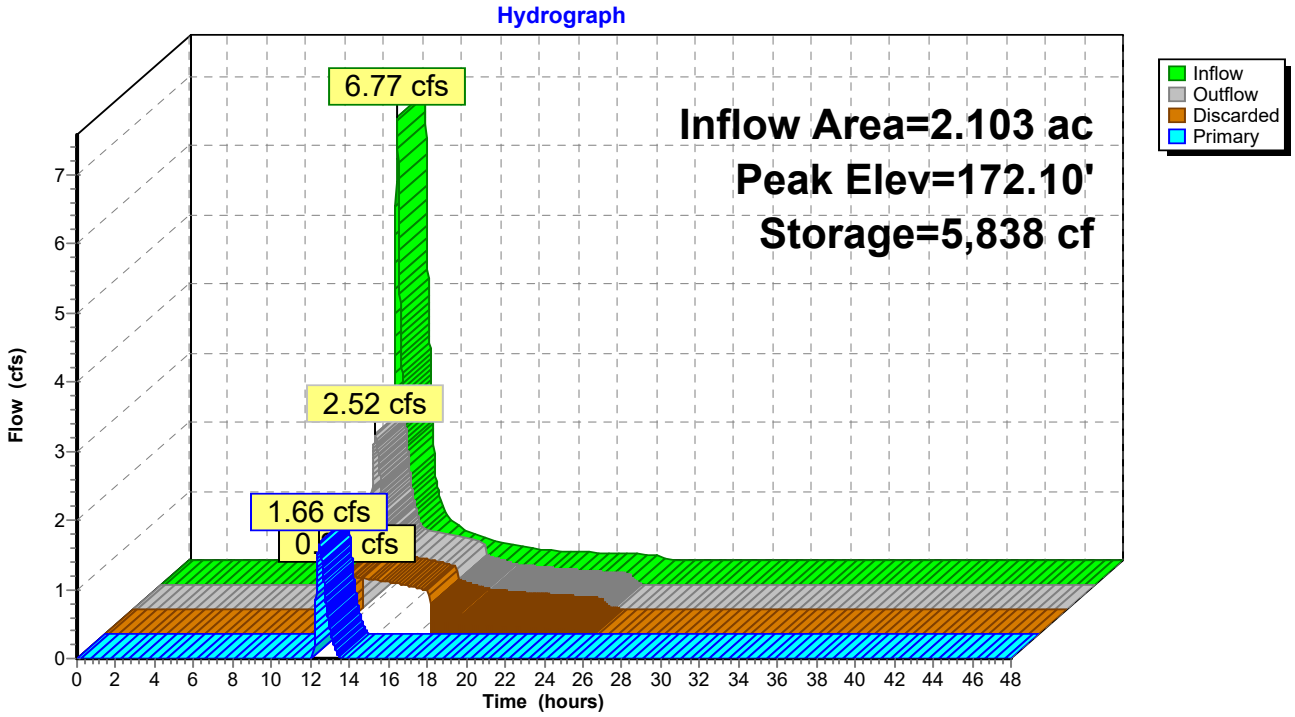
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
171.00	4,447	0	0
172.00	6,040	5,244	5,244
173.00	7,689	6,865	12,108
173.50	9,106	4,199	16,307

Device	Routing	Invert	Outlet Devices
#1	Discarded	171.00'	**6.000 in/hr Exfiltration over Surface area**
#2	Primary	170.80'	**12.0" Round Culvert** L= 31.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 170.80' / 170.50' S= 0.0097 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#3	Device 2	171.80'	**12.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Primary	172.50'	**8.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Discarded OutFlow Max=0.86 cfs @ 12.46 hrs HW=172.10' (Free Discharge)
└**1=Exfiltration** (Exfiltration Controls 0.86 cfs)

Primary OutFlow Max=1.66 cfs @ 12.46 hrs HW=172.10' TW=0.00' (Dynamic Tailwater)
└**2=Culvert** (Passes 1.66 cfs of 3.23 cfs potential flow)
└**3=Orifice/Grate** (Weir Controls 1.66 cfs @ 1.78 fps)
└**4=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond IB: Infiltration Basin



Summary for Pond SB: Settlement Basin

Inflow Area = 2.103 ac, 33.72% Impervious, Inflow Depth = 3.16" for 10-YR event
Inflow = 7.71 cfs @ 12.09 hrs, Volume= 0.554 af
Outflow = 6.77 cfs @ 12.13 hrs, Volume= 0.456 af, Atten= 12%, Lag= 2.6 min
Primary = 6.77 cfs @ 12.13 hrs, Volume= 0.456 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 173.01' @ 12.13 hrs Surf.Area= 4,855 sf Storage= 6,097 cf

Plug-Flow detention time= 115.8 min calculated for 0.456 af (82% of inflow)
Center-of-Mass det. time= 45.1 min (852.1 - 807.1)

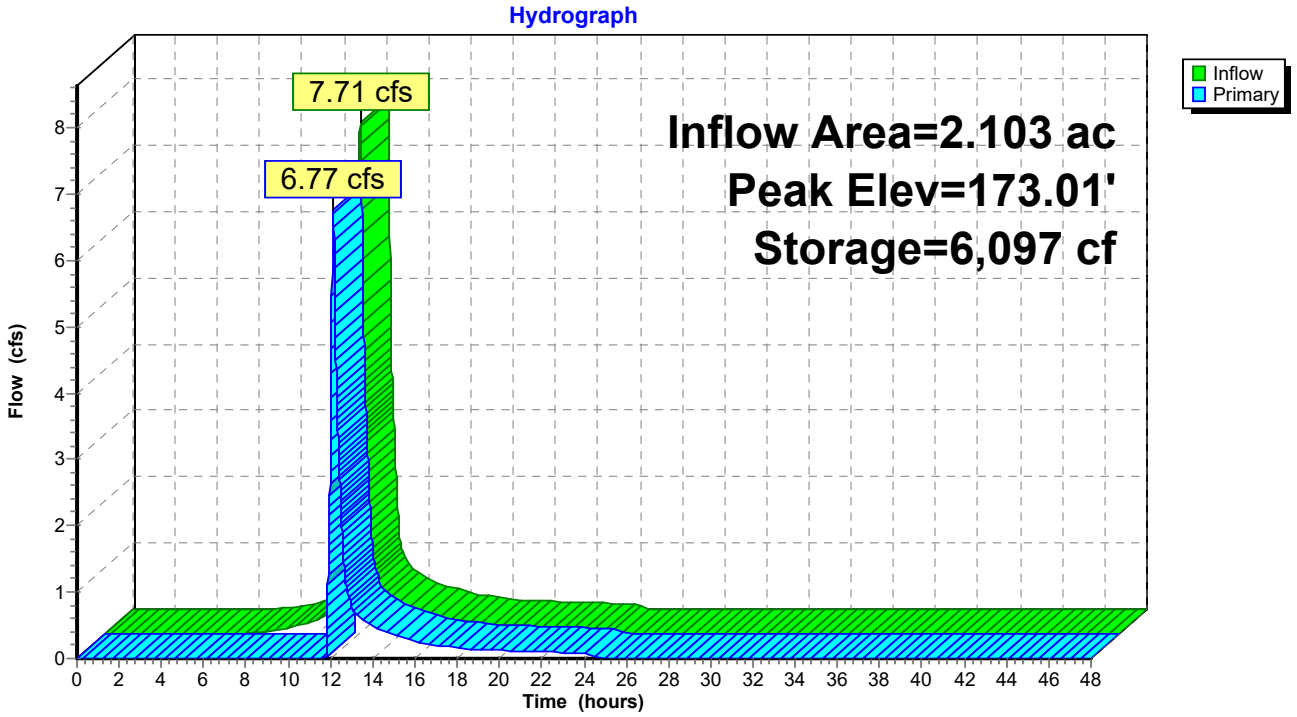
Volume	Invert	Avail.Storage	Storage Description
#1	171.00'	8,887 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
171.00	1,384	0	0
172.00	2,938	2,161	2,161
173.00	4,808	3,873	6,034
173.50	6,602	2,853	8,887

Device	Routing	Invert	Outlet Devices
#1	Primary	172.60'	**10.0' long x 4.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.38 2.54 2.69 2.68 2.67 2.67 2.65 2.66 2.66 2.68 2.72 2.73 2.76 2.79 2.88 3.07 3.32

Primary OutFlow Max=6.77 cfs @ 12.13 hrs HW=173.01' TW=171.56' (Dynamic Tailwater)
1=Broad-Crested Rectangular Weir (Weir Controls 6.77 cfs @ 1.64 fps)

Pond SB: Settlement Basin



Summary for Subcatchment P-1A: P-1A

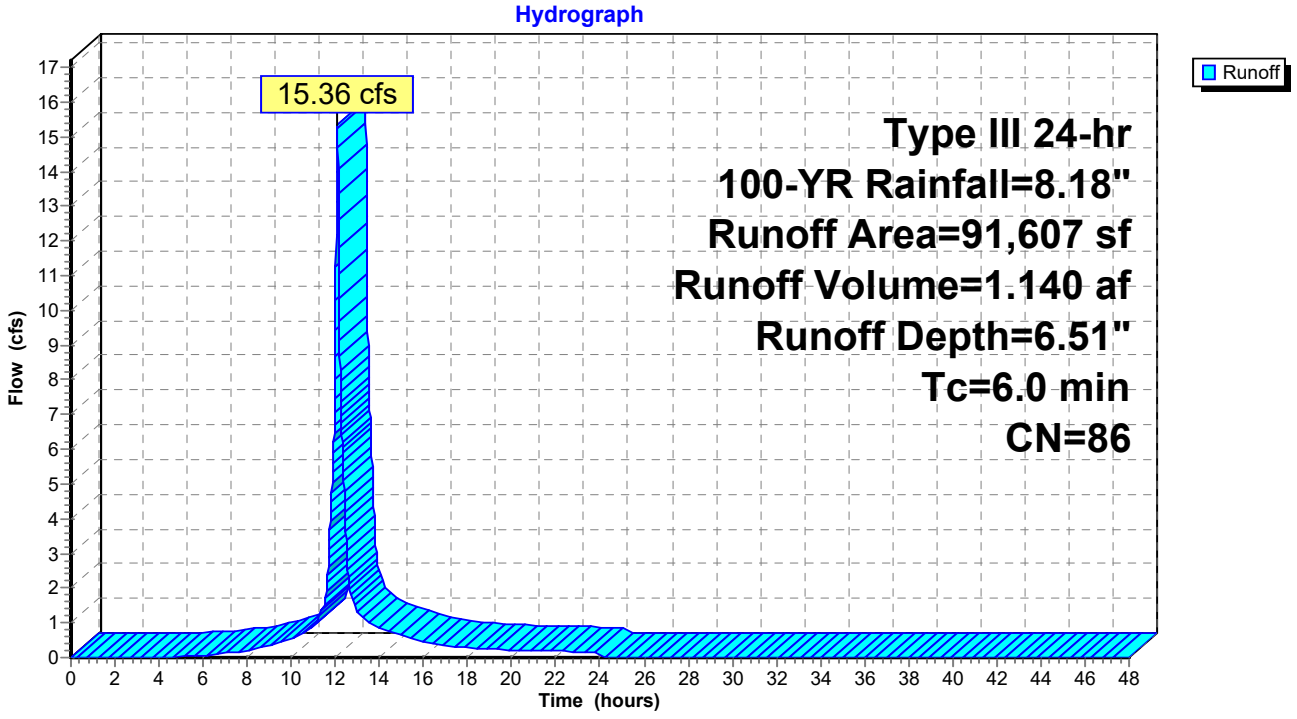
Runoff = 15.36 cfs @ 12.08 hrs, Volume= 1.140 af, Depth= 6.51"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-YR Rainfall=8.18"

Area (sf)	CN	Description
30,890	98	Unconnected pavement, HSG D
5,639	77	Woods, Good, HSG D
55,078	80	>75% Grass cover, Good, HSG D
91,607	86	Weighted Average
60,717		66.28% Pervious Area
30,890		33.72% Impervious Area
30,890		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment P-1A: P-1A



Summary for Subcatchment P-1B: P-1B

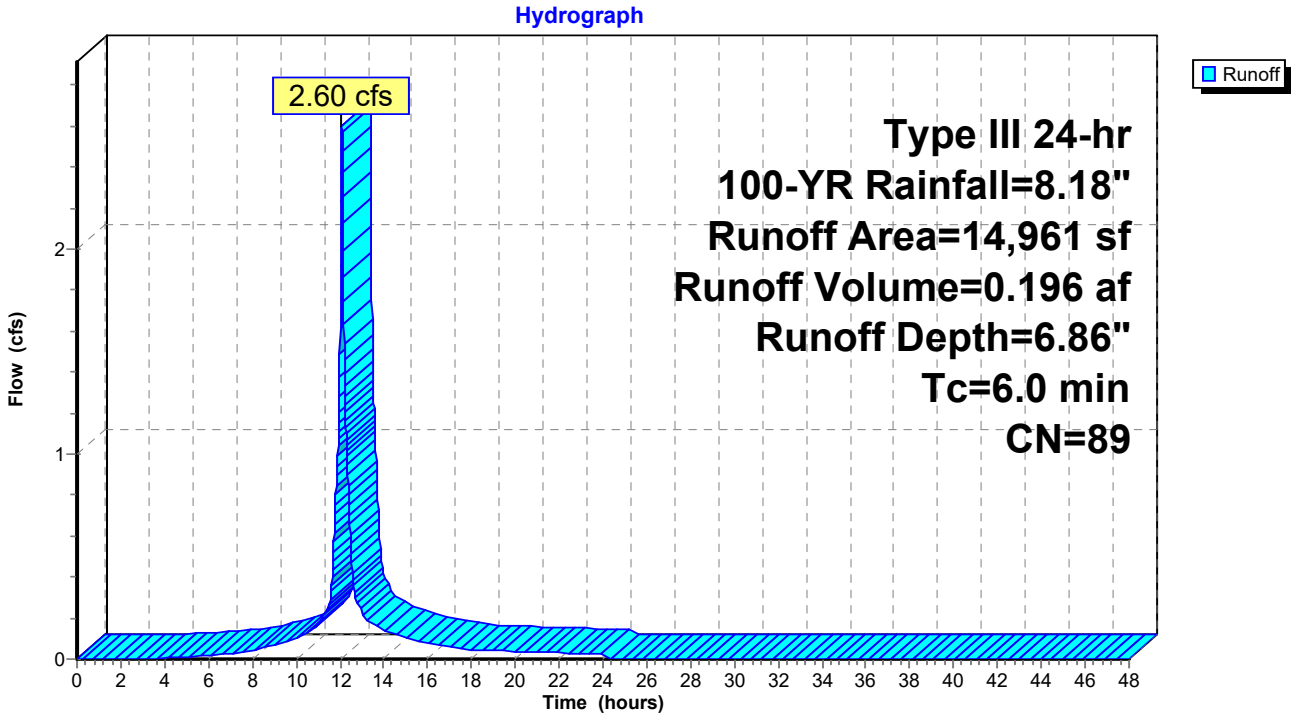
Runoff = 2.60 cfs @ 12.08 hrs, Volume= 0.196 af, Depth= 6.86"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-YR Rainfall=8.18"

Area (sf)	CN	Description
7,326	98	Unconnected pavement, HSG D
7,635	80	>75% Grass cover, Good, HSG D
14,961	89	Weighted Average
7,635		51.03% Pervious Area
7,326		48.97% Impervious Area
7,326		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment P-1B: P-1B

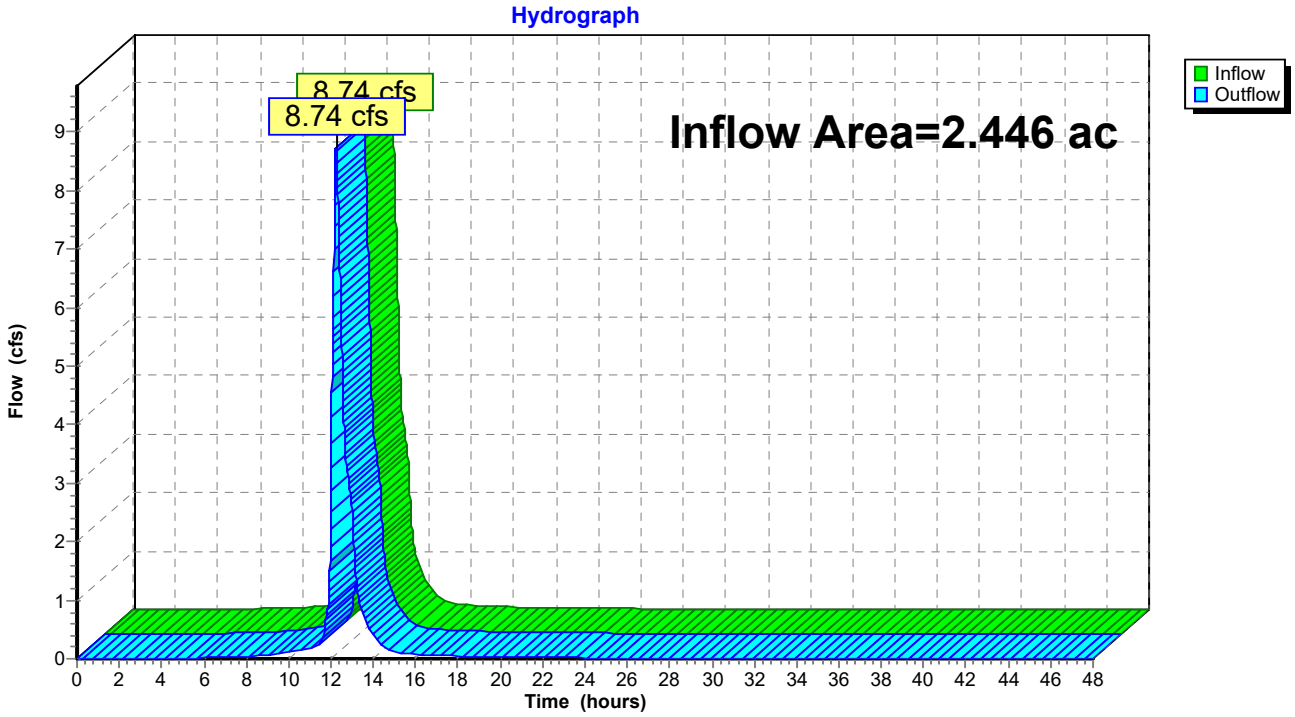


Summary for Reach (P) DP-1: (P) DP-1

Inflow Area = 2.446 ac, 35.86% Impervious, Inflow Depth = 3.07" for 100-YR event
Inflow = 8.74 cfs @ 12.24 hrs, Volume= 0.625 af
Outflow = 8.74 cfs @ 12.24 hrs, Volume= 0.625 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3

Reach (P) DP-1: (P) DP-1



Summary for Pond IB: Infiltration Basin

Inflow Area = 2.103 ac, 33.72% Impervious, Inflow Depth = 5.95" for 100-YR event
Inflow = 13.86 cfs @ 12.12 hrs, Volume= 1.042 af
Outflow = 8.54 cfs @ 12.25 hrs, Volume= 1.042 af, Atten= 38%, Lag= 7.7 min
Discarded = 1.03 cfs @ 12.25 hrs, Volume= 0.614 af
Primary = 7.52 cfs @ 12.25 hrs, Volume= 0.429 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 172.82' @ 12.25 hrs Surf.Area= 7,395 sf Storage= 10,762 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 36.9 min (856.8 - 819.9)

Volume	Invert	Avail.Storage	Storage Description
#1	171.00'	16,307 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

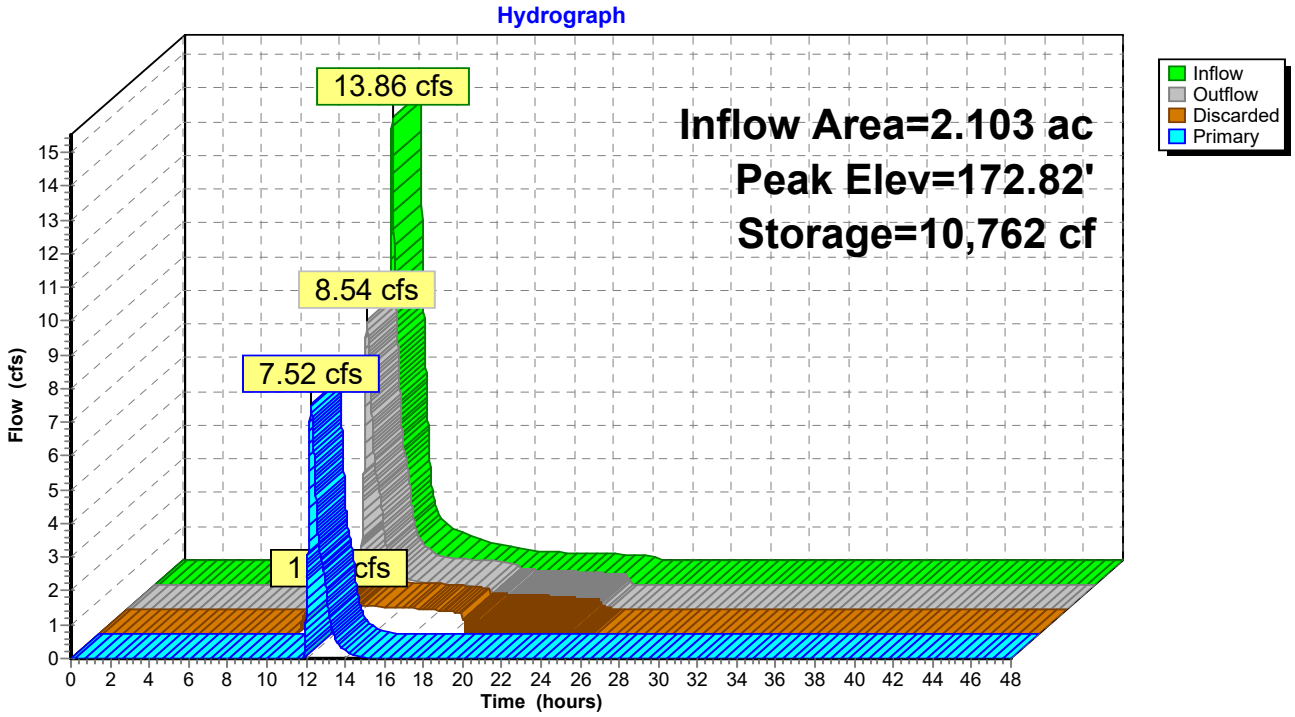
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
171.00	4,447	0	0
172.00	6,040	5,244	5,244
173.00	7,689	6,865	12,108
173.50	9,106	4,199	16,307

Device	Routing	Invert	Outlet Devices
#1	Discarded	171.00'	**6.000 in/hr Exfiltration over Surface area**
#2	Primary	170.80'	**12.0" Round Culvert** L= 31.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 170.80' / 170.50' S= 0.0097 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#3	Device 2	171.80'	**12.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Primary	172.50'	**8.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Discarded OutFlow Max=1.03 cfs @ 12.25 hrs HW=172.82' (Free Discharge)
└**1=Exfiltration** (Exfiltration Controls 1.03 cfs)

Primary OutFlow Max=7.52 cfs @ 12.25 hrs HW=172.82' TW=0.00' (Dynamic Tailwater)
└**2=Culvert** (Passes 3.82 cfs of 4.61 cfs potential flow)
└**3=Orifice/Grate** (Orifice Controls 3.82 cfs @ 4.87 fps)
└**4=Broad-Crested Rectangular Weir** (Weir Controls 3.69 cfs @ 1.44 fps)

Pond IB: Infiltration Basin



Summary for Pond SB: Settlement Basin

Inflow Area = 2.103 ac, 33.72% Impervious, Inflow Depth = 6.51" for 100-YR event
Inflow = 15.36 cfs @ 12.08 hrs, Volume= 1.140 af
Outflow = 13.86 cfs @ 12.12 hrs, Volume= 1.042 af, Atten= 10%, Lag= 2.3 min
Primary = 13.86 cfs @ 12.12 hrs, Volume= 1.042 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 173.24' @ 12.12 hrs Surf.Area= 5,680 sf Storage= 7,308 cf

Plug-Flow detention time= 76.2 min calculated for 1.042 af (91% of inflow)
Center-of-Mass det. time= 32.8 min (819.9 - 787.0)

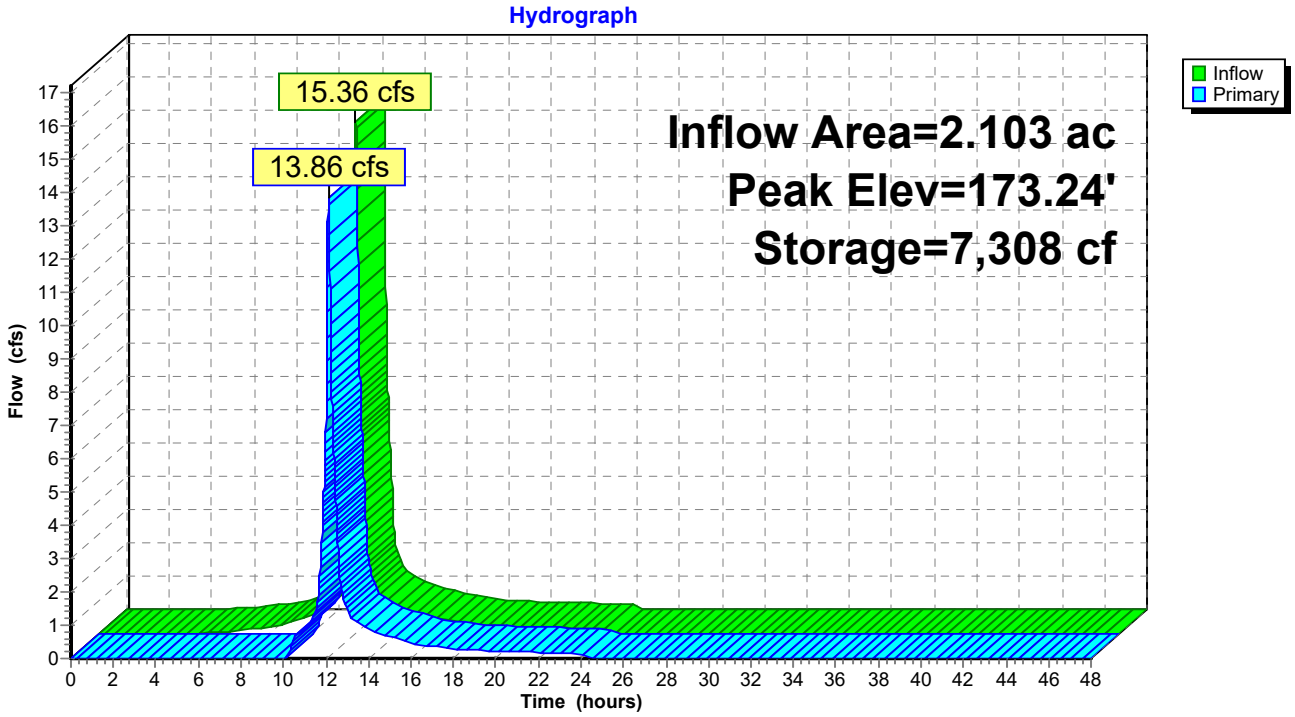
Volume	Invert	Avail.Storage	Storage Description
#1	171.00'	8,887 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
171.00	1,384	0	0
172.00	2,938	2,161	2,161
173.00	4,808	3,873	6,034
173.50	6,602	2,853	8,887

Device	Routing	Invert	Outlet Devices
#1	Primary	172.60'	**10.0' long x 4.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.38 2.54 2.69 2.68 2.67 2.67 2.65 2.66 2.66 2.68 2.72 2.73 2.76 2.79 2.88 3.07 3.32

Primary OutFlow Max=13.84 cfs @ 12.12 hrs HW=173.24' TW=172.56' (Dynamic Tailwater)
1=Broad-Crested Rectangular Weir (Weir Controls 13.84 cfs @ 2.15 fps)

Pond SB: Settlement Basin



United States Department of Agriculture

NRCS

Natural Resources Conservation Service

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

Custom Soil Resource Report for Ulster County, New York

September 10, 2020

Preface

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

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

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

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

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

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

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Contents

How Soil Surveys Are Made

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

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

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

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

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

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

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

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

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

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

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

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

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

Soil Map

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

Custom Soil Resource Report
Soil Map

Map Scale: 1:767 if printed on A portrait (8.5" x 11") sheet.

N

Meters
0 10 20 40 60

Feet
0 35 70 140 210

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

MAP LEGEND

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

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

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

Water Features
- Streams and Canals

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

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:15,800.

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: Ulster County, New York
Survey Area Data: Version 19, 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: Oct 7, 2013—Feb 26, 2017

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
MgB	Mardin-Nassau complex, 3 to 8 percent slopes	2.1	100.0%
Totals for Area of Interest		**2.1**	**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.

Ulster County, New York

MgB—Mardin-Nassau complex, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: 2v30k
Elevation: 330 to 2,460 feet
Mean annual precipitation: 31 to 70 inches
Mean annual air temperature: 39 to 52 degrees F
Frost-free period: 105 to 180 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Mardin and similar soils: 55 percent
Nassau and similar soils: 25 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Mardin

Setting

Landform: Mountains, hills
Landform position (two-dimensional): Summit, shoulder
Landform position (three-dimensional): Interfluve, side slope
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Loamy till

Typical profile

Ap - 0 to 8 inches: gravelly silt loam
Bw - 8 to 15 inches: gravelly silt loam
E - 15 to 20 inches: gravelly silt loam
Bx - 20 to 72 inches: gravelly silt loam

Properties and qualities

Slope: 3 to 8 percent
Surface area covered with cobbles, stones or boulders: 0.0 percent
Depth to restrictive feature: 14 to 26 inches to fragipan
Drainage class: Moderately well drained
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 13 to 24 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: Low (about 3.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2w
Hydrologic Soil Group: D
Ecological site: F144AY033MA - Shallow Dry Till Uplands
Hydric soil rating: No

Description of Nassau

Setting

Landform: Benches, ridges, till plains
Landform position (two-dimensional): Summit, footslope
Landform position (three-dimensional): Crest, side slope
Down-slope shape: Convex, concave
Across-slope shape: Convex, linear
Parent material: Channery loamy till derived mainly from local slate or shale

Typical profile

H1 - 0 to 6 inches: channery silt loam
H2 - 6 to 16 inches: very channery silt loam
H3 - 16 to 20 inches: unweathered bedrock

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: 10 to 20 inches to lithic bedrock
Drainage class: Somewhat excessively drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.57 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: Very low (about 1.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3s
Hydrologic Soil Group: D
Ecological site: F144AY033MA - Shallow Dry Till Uplands
Hydric soil rating: No

Minor Components

Volusia

Percent of map unit: 5 percent
Landform: Hills, mountains
Landform position (two-dimensional): Footslope, summit
Landform position (three-dimensional): Base slope, interfluve, side slope
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: No

Churchville

Percent of map unit: 5 percent
Landform: Lake plains, till plains
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Base slope, side slope, tread
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: No

Schoharie

Percent of map unit: 5 percent
Landform: Lake plains
Landform position (two-dimensional): Summit, footslope

Landform position (three-dimensional): Side slope, tread
Down-slope shape: Concave
Across-slope shape: Convex, linear
Hydric soil rating: No

Manlius

Percent of map unit: 5 percent
Landform: Benches, ridges, till plains
Landform position (two-dimensional): Shoulder, footslope
Landform position (three-dimensional): Crest, side slope
Down-slope shape: Convex, concave
Across-slope shape: Convex, linear
Hydric soil rating: No

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REPORT OF GEOTECHNICAL INVESTIGATION

PROPOSED RETAIL DEVELOPMENT
NEW YORK STATE ROUTE 9W
SECTION 103.1, BLOCK 2, LOT 74
HAMLET OF MILTON, TOWN OF MARLBOROUGH
ULSTER COUNTY, NEW YORK

Prepared for:

HSC MILTON, LLC
Post Office Box 130
805 Trione Street
Daphne, Alabama 36526

Prepared by:

WHITESTONE ASSOCIATES, INC.
16 Old Forge Road
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Richard W.M. McLaren, P.E.
Senior Consultant

Ryan R. Roy, P.E.
Principal, New England Region

Whitestone Project No.: GM2017414.000
October 21, 2020

WHITESTONE
ASSOCIATES, INC.
Environmental & Geotechnical Engineers & Consultants

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October 21, 2020

via email

HSC MILTON, LLC
Post Office Box 130
805 Trione Street
Daphne, Alabama 36526

Attention: Mr. Scott Rheams
Director of Development

Regarding: REPORT OF GEOTECHNICAL INVESTIGATION
PROPOSED RETAIL DEVELOPMENT
NEW YORK STATE ROUTE 9W
SECTION 103.1, BLOCK 2, LOT 74
HAMLET OF MILTON, TOWN OF MARLBOROUGH
ULSTER COUNTY, NEW YORK
WHITESTONE PROJECT NO.: GM2017414.000

Dear Mr. Rheams:

Whitestone Associates, Inc. (Whitestone) is pleased to submit the attached *Report of Geotechnical Investigation* for the above-referenced project. The report presents the results of Whitestone's site visit and subsurface exploration, and includes design recommendations for the proposed foundations, floor slab, pavements, and related earthwork associated with the proposed retail development.

Whitestone appreciates the opportunity to be of service to HSC Milton, LLC. Should you have questions regarding the attached report, please contact us at (860) 726-7889.

Sincerely,

WHITESTONE ASSOCIATES, INC.

Richard W.M. McLaren, P.E.
Senior Consultant

Ryan R. Roy, P.E.
Principal, New England Region

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Enclosures
Copy: Laurence W. Keller, P.E., Whitestone Associates, Inc.

REPORT OF
GEOTECHNICAL INVESTIGATION
PROPOSED RETAIL DEVELOPMENT
New York State Route 9W
Section 103.1, Block 2, Lot 74
Hamlet of Milton, Town of Marlborough
Ulster County, New York

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Ulster County, New York

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SECTION 1.0
Summary of Findings

Whitestone has completed an exploration and evaluation of the subsurface conditions for the proposed retail development located on the eastern side of New York State (NYS) Route 9W in the Hamlet of Milton, Town of Marlborough, Ulster County, New York.

Based on the September 15, 2020 (last revised) *Site Layout Plan* prepared by Bohler Engineering NY, PLLC (Bohler), the proposed development will include will include the construction of a single-story retail store with a footprint of approximately 9,100 square feet and associated pavements, landscaping, and utilities. Finished floor elevation is shown as elevation 176 feet above North American Vertical Datum of 1988 (NAVD), which is within approximately one foot of existing grade. A stormwater management (SWM) area is planned to the north of the proposed store. A septic field is planned immediately south of the proposed store.

The geotechnical investigation included performing a reconnaissance of the project site, advancing nine soil borings and four test pits, and collecting soil samples for laboratory testing and characterization. Infiltration testing was performed within the proposed SWM area. Preliminary percolation testing was performed within the proposed septic field. Site subsurface conditions generally consisted of topsoil overlying glacial till, which is generally underlain by shallow bedrock. However, a thin layer of existing fill was encountered above the glacial till in two test pits in the proposed SWM area. Groundwater was encountered in the explorations at the time of the investigation at depths ranging from about 6.5 feet below ground surface (fbgs) to 9.5 fbgs.

The results of the investigation indicate the site is suitable for conventional shallow foundations bearing on properly inspected and approved natural glacial till or compacted structural fill placed over the glacial till, or on crushed stone placed over the bedrock, and the subgrade reviewed by the geotechnical engineer, as specified in this report. The results of the investigation also indicate the site is suitable for a ground-supported floor slab deriving support from properly inspected and approved glacial till and/or compacted structural fill, as specified in this report. Additionally, the site conditions support the use of typical pavement sections using standard New York State Department of Transportation (NYSDOT) specified materials.

The above summary is intended to provide an overview of the geotechnical findings and recommendations and is not fully developed. Greater detail is presented in the following sections. The entire report must be read for comprehensive understanding of the information contained herein.

SECTION 2.0
Introduction

2.1 AUTHORIZATION

Mr. Scott Rheams, Director of Development, at Hix Snedeker Companies issued authorization to Whitestone to perform a geotechnical investigation for the proposed retail development on the eastern side of NYS Route 9W in the Hamlet of Milton, Town of Marlborough, Ulster County, New York. The geotechnical investigation was performed in general accordance with Whitestone's April 16, 2020 *Proposal*.

2.2 PURPOSE

The purpose of this exploration and analysis was to:

- ascertain the various soil profile components at test locations;
- estimate the engineering characteristics of the proposed foundation bearing and subgrade materials;
- provide geotechnical criteria for use by the design engineers in preparing the foundation, floor slab, and pavement design;
- provide recommendations for required earthwork and subgrade preparation;
- record groundwater and/or bedrock levels (if encountered) at the time of the investigation and discuss the potential impact on the proposed construction;
- perform infiltration testing and textural classification of site soils within the proposed SWM area;
- perform preliminary percolation testing and textural classification of site soils within the proposed septic field; and
- recommend additional investigation and/or analysis, if warranted.

2.3 SCOPE

The scope of the exploration and analysis included the subsurface exploration, field testing and sampling, infiltration and percolation testing, laboratory analyses, and a geotechnical engineering analysis and evaluation of the subsurface materials. This *Report of Geotechnical Investigation* is limited to addressing the site conditions related to the physical support of the proposed construction. Whitestone performed a *Phase I Environmental Site Assessment* concurrently with the geotechnical investigation. The environmental report was issued under separate cover.

2.3.1 Field Exploration

Field exploration of the project site was conducted by means of nine soil borings, identified as B-1 through B-9, advanced using an all terrain vehicle (ATV) mounted Mobile B-53 drill rig equipped with hollow stem augers. The soil borings were advanced to termination depths that ranged from approximately four fbgs to 14 fbgs. Soil borings were backfilled with excavated soils generated from the investigation. The borings locations are shown on the *Test Location Plan* included as Figure 1.

Four test pits, identified as TP-1 through TP-4, were excavated with a John Deere 50D compact excavator. The test pits were advanced to depths of 7.5 fbgs to 10 fbgs. The test pits were backfilled immediately after observing the soil and groundwater conditions. The test pit locations are shown on the *Test Location Plan* included as Figure 1.

Test locations were based on project information provided to Whitestone at the time of the investigation, including the aforementioned *Site Layout Plan*. The subsurface tests were conducted in the presence of a Whitestone representative, who performed field tests, recorded visual classifications, and collected samples of the various strata encountered. Test locations were established in the field using normal taping procedures and estimated right angles. These locations are presumed to be approximate.

Soil borings and Standard Penetration Tests (SPTs) were conducted in general accordance with ASTM International (ASTM) designation D1586. The Standard Penetration Resistance value (N) can be used as an indicator of the consistency of fine-grained soils and the relative density of coarse-grained soils. The N-value for various soil types can be correlated with the engineering behavior of earthworks and foundations.

Groundwater level observations, where encountered, were recorded during and immediately following the completion of the field operations prior to backfilling the explorations. Seasonal variations, temperature effects, and recent rainfall conditions may influence the levels of the groundwater, and the observed levels will depend on the permeability of the soils. Groundwater elevations derived from sources other than seasonally observed groundwater monitoring wells may not be representative of true groundwater levels.

2.3.2 Infiltration Testing

Infiltration tests, I-1 and I-2, were performed in general accordance with the procedures in the *NYS Stormwater Management Design Manual* within the proposed SWM basin, as shown on Figure 1. Casing four inches in diameter was installed to the appropriate depth in an augered hole and approximately two inches of clean stone placed in the bottom of the casing. The soil to be tested was pre-soaked for about two hours. Following testing, the casings were removed. The results are tabulated below.

SUMMARY OF INFILTRATION TESTING							
Location	Ground Elevation (ft)	Test Depth (ft)	Test Elevation (ft)	Infiltration Rate (in/hr)			
				Hour 1	Hour 2	Hour 3	Hour 4
I-1 (TP-1)	173.0	4.3	168.7	3.6	6.0	6.0	6.0
I-2 (TP-4)	174.0	4.6	169.4	7.2	9.6	9.6	9.6

2.3.3 Percolation Testing

Preliminary percolation tests, P-1, P-2, and P-3, were performed in the planned septic system area south of the proposed store. In general accordance with New York State Department of Health procedures, three hand-dug holes were excavated approximately three feet deep into the natural glacial till. The percolation test holes were pre-soaked for approximately four hours. The percolation rate at P-1, P-2, and P-3 was approximately 300 minutes per inch.

2.3.4 Laboratory Program

In addition to the field investigation, a supplemental laboratory program was conducted to determine additional, pertinent engineering characteristics of representative samples of on-site soils. The laboratory program was performed in general accordance with applicable ASTM standard test methods and included physical testing of proposed building foundation bearing and pavement subgrade strata.

Physical/Textural Analysis: Two representative samples of the encountered soils were subjected to a laboratory testing program that included moisture content determinations (ASTM D2216) and washed gradation analyses (ASTM D422) in order to perform supplementary engineering soil classifications in general accordance with ASTM D2487. The soil strata tested were classified by the Unified Soil Classification System (USCS). The results of the laboratory testing are summarized in the following table.

LABORATORY ANALYSIS SUMMARY					
Boring	Sample Number	Depth (fbgs)	Moisture Content (%)	Passing No. 200 Sieve (%)	USCS Classification
B-4	S-2	2.0 - 4.0	16.1	65.0	ML
TP-1	S-2	5.0	19.8	74.0	ML

Based on the results of the gradation testing, the US Department of Agriculture (USDA) textural analysis classifies the glacial till as “silt loam”.

The engineering classifications are useful when considered in conjunction with the additional site data to estimate properties of the soil types encountered and to predict soil behavior under construction and service loads. Laboratory test results are provided in Appendix B.

SECTION 3.0
Site Description

3.1 LOCATION AND DESCRIPTION

The subject property is located on the eastern side of NYS Route 9W, approximately 350 feet north of the intersection with Mahoney Road, in the Hamlet of Milton, Town of Marlborough, Ulster County, New York, Latitude 41.6696 North, Longitude 73.9599 West. The property, which is identified further as Section 103.1, Block 2, Lot 74, is an approximately 2.8-acre undeveloped parcel. The proposed development will occupy about two acres of the parcel.

The irregularly shaped site is bounded to the west by NYS Route 9W, to the north by a commercial building, to the east by small warehouses then N Road, and to the south by an industrial building, then Mahoney Road. Access to the site will be from NYS Route 9W. The site of the proposed construction is shown on the *Test Location Plan* included as Figure 1.

3.2 EXISTING CONDITIONS

Existing Development: At the time of Whitestone's investigation, the subject site was undeveloped, agricultural land, with a wooded perimeter.

Topography: Based on a review of the *USGS 7.5 Minute Series Poughkeepsie Quadrangle, New York* (2019) and the September 15, 2020 (last revised) *Site Layout Plan*, and Whitestone's visual observations, the site generally slopes down to the north from about 177 feet above NAVD to around 173 feet above NAVD. However, there is a higher area up to about 182 feet above NAVD on the eastern side of the site that is mainly outside the development area.

Utilities: The site was not serviced by utilities at the time of the investigation. The utility information contained in this report is presented for general discussion only and is not intended for construction purposes.

Site Drainage: Surface run-off would follow site topography and flow to the north.

3.3 SITE GEOLOGY

According to the University of the State of New York, The State Education Department *Surficial Geologic Map of New York, Lower Hudson Sheet* (1989), the site is underlain by glacial till and shallow bedrock. The University of the State of New York, The State Education Department *Geologic Map of New York, Lower Hudson Sheet* (1970) indicates that the subject site is underlain by Ordovician-aged shale and graywacke of the Austin Glen Formation, part of the Eugeosynclinal (Allochthonous) Sequence.

3.4 PROPOSED CONSTRUCTION

Based on the aforementioned *Site Layout Plan*, the proposed development will include the construction of a single-story retail store with a footprint of approximately 9,100 square feet and associated pavements, landscaping, and utilities. Finished floor elevation is shown as elevation 176 feet above NAVD, which is within approximately one foot of existing grade. A SWM area is planned to the north of the proposed store. A septic field is planned immediately south of the proposed store.

Whitestone anticipates the proposed building will be a single-story, masonry and metal-framed structure constructed with a ground-supported concrete floor slab and no basement. Maximum column and wall loads are expected to be on the order of

- interior column loads - 30.0 kips;
- load bearing walls - 2.0 kips per linear foot; and
- floor slab loads - 100 pounds per square foot.

The scope of Whitestone's investigation and the professional advice contained in this report were generated based on the project details and loading noted herein. Revisions or additions to the design details enumerated in this report should be brought to the attention of Whitestone for additional evaluation as warranted.

SECTION 4.0
Subsurface Conditions

Details of the subsurface materials encountered are presented on the *Records of Subsurface Exploration* in Appendix A of this report. The subsurface soil conditions encountered in the test locations consisted of the strata, as described below, generally in order of increasing depth.

4.1 SUBSURFACE SOIL CONDITIONS

Surface Cover Materials: The explorations encountered six inches to eight inches of topsoil at the ground surface. Sandy subsoil, four inches to six inches thick, was encountered beneath the topsoil in borings B-6 and B-8, respectively.

Existing Fill (intermittent): Beneath the surface cover materials, test pits TP-1 and TP-2 encountered a thin layer of existing fill, consisting of brown sandy silt with gravel, cobbles, debris. The existing fill extended to a depth of 1.5 fbgs. A former topsoil layer, 12 inches thick, was encountered below the existing fill.

Glacial Till: Beneath the surface cover materials or existing fill, the explorations encountered glacial till, consisting of brown to gray, dense to very dense (occasionally and surficially medium dense), sandy silt with gravel (USGS: ML), cobbles, boulders and intermittent surficial silty sand with gravel (USCS: SM), cobbles, and boulders. SPT N-values recorded within the glacial till were variable, ranging from 11 blows per foot (bpf) to 90 bpf. Borings B-6 through B-9 terminated in this stratum at depths of four fbgs to nine fbgs. The test pits terminated in this stratum at depths of 7.5 fbgs to 10 fbgs.

Weathered and Apparent Bedrock: Beneath the glacial till, borings B-2 and B-3 encountered highly weathered shale bedrock at depths of eight fbgs and 3.5 fbgs, respectively. Borings B-1, B-3, B-4, and B-5 encountered auger refusal on apparent bedrock at depths ranging from six fbgs to 14 fbgs. Bedrock was not sampled through rock coring efforts, but was inferred by refusal of the hollow stem augers. Rock coring techniques would be required to further characterize the nature and extent of the refusal materials.

4.2 GROUNDWATER

Static groundwater was encountered during the exploration at depths ranging from 6.5 fbgs to 9.5 fbgs. There were indications of a seasonal high groundwater table in test pit TP-2 at a depth of six fbgs. Static and perched/trapped water conditions generally will fluctuate seasonally and following periods of precipitation.

SECTION 5.0
Conclusions and Recommendations

5.1 GENERAL

The results of the investigation indicate the site is suitable for conventional shallow foundations designed to bear on properly inspected and approved natural glacial till or structural fill placed on the glacial till, or to bear on crushed stone placed over the weathered or competent bedrock. The subgrade should be reviewed by the geotechnical engineer. The results of the investigation also indicate the site is suitable for a ground-supported floor slab bearing on properly inspected and approved natural glacial till and/or compacted structural fill, as specified in this report. Additionally, the site conditions support the use of typical pavement sections using standard NYSDOT specified materials.

5.2 SITE PREPARATION AND EARTHWORK

Surface Cover Stripping: Prior to stripping operations, any underground utilities should be identified and secured. Vegetation, topsoil, and organic matter should be removed from within and at least five feet beyond the limits of the proposed building footprint, as well as any other area that will require controlled structural fill placement. Tree/shrub removal should include the removal of stumps and root material, which will require removal of more than the few inches of topsoil encountered in the explorations. The contractor should be required to perform earthwork in accordance with the recommendations in this report, including backfilling any excavation, etc. with structural fill. Fill or backfill placed within the proposed building area should be placed as structural fill in accordance with Section 5.2 and 5.3 of this report.

Excavation Difficulties: Cobbles and boulders encountered in the glacial till, and relatively shallow bedrock will likely present excavation difficulties at marginal depths below the ground surface during proposed site excavations. Bedrock was encountered close to the proposed underside of footing elevation. Excavation difficulties will be affected by excavation size and depth. The speed and ease of excavation also will depend on the type of equipment used, the skill of the operator, and the geological structure of the bedrock, such as spacing between discontinuities and planes of weakness. Whitestone expects that the upper one to two feet of weathered bedrock may be removable with standard heavy excavation equipment. However, pneumatic hammers would likely be required to remove more resistant bedrock.

Surface Preparation/Proofrolling: Prior to placing fill or subbase materials to raise or restore grades to the desired subgrade elevations, the existing exposed soils should be compacted to a firm surface with several passes in two perpendicular directions of a minimum 10-ton vibratory roller. The surface should then be proofrolled with a loaded tandem axle truck in the presence of the geotechnical engineer to help identify soft or loose pockets that may require removal and replacement, or further evaluation.

Proofrolling should be performed after a suitable period of dry and non-freezing weather to reduce the likelihood of degrading an otherwise stable subgrade. Should construction be started during the winter months, Whitestone should be contacted for alternate surface preparation procedures. Fill or backfill should be placed and compacted in accordance with Section 5.3.

Bedrock Subgrade Preparation: Bedrock slopes should not be steeper than 4:1 (horizontal:vertical). Bedrock steeper than 4:1 (horizontal:vertical) should be stepped. Loose bedrock should be removed from the subgrade prior to placement of crushed stone. Bedrock fractures and joints should be tight. Bedrock joints, fractures, or fissures greater than 0.5-inch in width should be filled with lean concrete. Only minus 0.375-inch crushed stone should be placed directly over the bedrock. Structural fill (sand and gravel) should not be placed directly on the bedrock surface to reduce the likelihood of migration of fines into the bedrock.

Weather Performance Criteria: The site soils are moisture sensitive. Every effort should be made to maintain drainage of surface water runoff away from construction areas by grading and limiting the exposure of excavations and prepared subgrades to precipitation. Accordingly, excavation and fill placement procedures should be performed during favorable weather conditions. Overexcavation of saturated soils and replacement with controlled structural fill per Section 5.3 of this report may be required prior to resuming work on disturbed subgrade soils.

Subgrade Protection and Maintenance: The site soils are moisture sensitive and will degrade if exposed to inclement weather, freeze-thaw cycles, or repeated construction traffic. However, if properly protected and maintained as recommended herein, the site soils will provide adequate support for the proposed pavement. The site contractors should employ appropriate means and methods to protect the subgrade including, but not limited to the following:

- sealing exposed subgrade soils on a daily basis with a smooth drum roller operated in static mode;
- regrading the site as needed to maintain positive drainage away from open earthwork construction areas and to prevent standing water;
- removing wet surficial soils immediately; and
- limiting exposure to construction traffic and precipitation especially following inclement weather and subgrade thawing.

5.3 STRUCTURAL FILL AND BACKFILL

Imported Fill Material: Imported material placed over bedrock should be minus 0.375-inch crushed stone. Elsewhere, imported material placed as structural fill or backfill to raise elevations or restore design grades should consist of clean, relatively well graded sand or gravel with a maximum particle size of three inches and up to 15 percent, by weight, of material finer than a #200 sieve. Imported material should be free of silt, clay, organics, and deleterious material. Imported material should be approved by a qualified geotechnical engineer prior to delivery to the site.

On-Site Material Reuse: The site soils have a high fines content and will be difficult to reuse as structural fill and backfill material. Prior to reuse, drying may be necessary and/or mixing with more granular materials. In addition, on-site soil reuse should not be attempted during inclement weather or in damp conditions. If reused, soil moisture contents should be controlled within three percent of optimum moisture level, particles larger than three inches in diameter either removed or crushed, and objectionable portions, such as organics or debris, segregated. Reuse of site materials will be contingent on careful review in the field by the owner's geotechnical engineer by visual observation during construction as recommended herein.

Compaction and Placement Requirements: Fill and backfill should be placed in maximum eight-inch thick loose lifts and compacted using a vibratory drum roller during mass grading activities or a hand-held vibratory compactor within excavations. Structural fill and backfill should be compacted to at least 95 percent of the maximum dry density within three percent of the optimum moisture content, as determined by ASTM D1557 (Modified Proctor).

Structural Fill Testing: A sample of the imported fill material or on-site material proposed for reuse as structural fill or backfill should be submitted to the owner's geotechnical engineer for analysis and approval at least one week prior to its use. The placement of fill and backfill should be monitored by a qualified engineering technician, so that the specified material and lift thicknesses are properly installed. A sufficient number of in-place density tests should be performed, so that the specified compaction is achieved throughout the height of the fill or backfill.

5.4 GROUNDWATER CONTROL

Static groundwater was encountered within soil borings during this investigation at depths that are unlikely to impact foundation construction, but could affect the installation of deep utilities. Also, perched/trapped water may be encountered above non-permeable strata. As such, construction phase dewatering at this site may consist of temporarily lowering the groundwater level and removing surface water runoff, infiltrating water, or trapped water. Whitestone anticipates that construction phase dewatering, if required, would typically include installing temporary sump pits and pumps within trenches and excavations.

Proper grading and drainage should be incorporated into the site design and construction phase grading to discourage ponding of surface runoff. Every effort should be made to maintain drainage of surface run-off away from construction areas by grading. The contractor should limit exposure of excavations and prepared subgrades to rainfall.

5.5 FOUNDATIONS

Shallow Foundation Design Criteria: Whitestone considers that the proposed structure may be supported on conventional spread and continuous wall footings designed to bear on the natural glacial till or structural fill placed on the glacial till, or to bear on crushed stone placed over the weathered or competent bedrock, provided these materials are properly evaluated, placed and compacted in accordance with Sections 5.2, 5.3, and 5.11 of this report. Following in-trench compaction of foundation soil subgrades, foundations bearing within these materials may be designed to impart a maximum net allowable bearing pressure of 4,000 pounds per square foot.

Foundation subgrades in soil should be compacted in the presence of the geotechnical engineer to densify any disturbed soils. Regardless of loading conditions, new foundations should be sized no less than minimum dimensions of 24 inches for continuous wall footings and 36 inches for isolated column footings.

Footings should be designed such that the maximum toe pressure due to the combined effect of vertical loads (including soil weight) and overturning moment does not exceed the recommended maximum allowable bearing pressure. In addition, positive contact pressure should be maintained throughout the base of the footings such that no uplift or tension exists between the base of the footings and the supporting soil. Uplift loads should be resisted by the weight of the concrete footing. Side friction should be neglected when proportioning the footings; lateral resistance should be provided by friction resistance at the base of the footings. A coefficient of friction (ultimate) against sliding of 0.4 is recommended for use in the design of the foundations bearing within the site soils or imported structural fill.

Bedrock Support: Foundations should not be supported partially, or directly, on bedrock or boulders because of the risk of differential settlement. If proposed bearing elevations result with partial, or complete, bearing on bedrock or boulders, Whitestone recommends removing a minimum of six inches of bedrock and restoring the bearing elevation with a cushion of minus 0.375-inch crushed stone. Sand and gravel fill should not be placed directly on the bedrock surface to reduce the likelihood of fine soils migrating into cracks and crevices in the bedrock.

Foundation Inspection: Whitestone recommends that the suitability of the bearing materials along new footing bottoms be reviewed by a geotechnical engineer prior to placing concrete for the footings. Special attention should be given to areas of the site underlain by soft/loose conditions. Unsuitable materials encountered in footing excavations require overexcavation and replacement of the materials or

deeper foundation embedment in order to provide a suitable footing subgrade. Overexcavation to be restored with structural fill will need to extend at least one foot laterally beyond footing edges for each vertical foot of overexcavation. Lateral overexcavation may be eliminated if grade is restored with lean concrete.

Settlement: Whitestone estimates post construction settlements of new building foundations will be on the order of less than one inch, if the recommendations outlined in this report are properly implemented. Differential settlements of new building foundations should be less than one half inch.

Frost Coverage: Footings subject to frost action should be placed at least 48 inches below adjacent exterior grades, or the depth required by local building codes, to provide protection from frost penetration. Interior footings not subject to frost action may be placed at a minimum depth of 18 inches below the slab subgrade.

5.6 FLOOR SLAB

Whitestone anticipates that the compacted and approved natural glacial till and/or compacted structural fill placed over the glacial till will be suitable for support of the proposed floor slab provided these materials are properly evaluated, compacted, and proofrolled in accordance with Sections 5.2, 5.3, and 5.11 of this report during favorable weather conditions. Areas that are, or become, softened or disturbed as a result of wetting and/or repeated exposure to construction traffic should be removed and replaced with compacted structural fill. The properly prepared on-site soils are expected to yield a minimum subgrade modulus (k) of 150 psi/in.

A minimum six-inch thick layer of *NYSDOT 733-04 Subbase Course, Type 2* (or approved equivalent) should be placed below the floor slab to provide a uniform granular base. A moisture vapor barrier should be installed beneath the floor slab in accordance with flooring manufacturer's recommendations.

5.7 PAVEMENT DESIGN CRITERIA

General: Whitestone anticipates that the properly inspected and approved natural glacial till or compacted structural fill and/or backfill placed to raise or restore design elevations will be suitable for support of the proposed pavements, provided these materials are properly evaluated, compacted, and proofrolled in accordance with Sections 5.2, 5.3, and 5.11 of this report during favorable weather conditions.

Design Criteria: A California Bearing Ratio value of 8.0 has been assigned to the properly prepared subgrade soils for pavement design purposes. This value was correlated with pertinent soil support values and assumed traffic loads to prepare flexible and rigid pavement designs per the AASHTO *Guide for the Design of Pavement Structures*.

Design traffic loads were assumed based on typical volumes for similar facilities and correlated with 18-kip equivalent single axle loads (ESAL) for a 20-year life. Estimated maximum pavement loads of 11,000 ESALs and 30,000 ESALs were used for the standard-duty and heavy-duty pavement areas, respectively. These values assume the pavements primarily will accommodate both automobile and limited heavier truck traffic, with the heavier truck traffic designated to the main drive lanes. Actual loading experienced is anticipated to be less than these values.

Pavement Sections: Pavement components should meet material specifications from NYSDOT *Standard Specifications* specified below. The recommended flexible pavement sections are tabulated below:

FLEXIBLE PAVEMENT SECTION			
Layer	**Material**	**Standard-Duty Thickness (inches)**	**Heavy-Duty Thickness (inches)**
Asphalt Top Course	NYSDOT 12.5 mm F3 Top Course HMA, 70 Series Compaction (Superpave); PG64S-22	1.5	1.5
Asphalt Binder Course	NYSDOT 19 mm F9 Binder Course HMA, 70 Series Compaction (Superpave); PG64S-22	1.5	2.0
Granular Subbase	NYSDOT Type 2 Subbase	12.0	12.0

A rigid concrete pavement should be used to provide suitable support at areas of high traffic or severe turns, such as at ingress/egress locations and the trash enclosure. The recommended rigid pavement section is tabulated below:

RIGID PAVEMENT SECTION		
Layer	**Material**	**Thickness (inches)**
Surface	4,000 psi air-entrained concrete	6.0 [1]
Granular Subbase	NYSDOT Type 2 Subbase	12.0

Note [1]: The outer edges of concrete pavements are susceptible to damage as trucks move from rigid pavement to adjacent flexible pavement. Therefore, the thickness at the outer two feet of the rigid concrete pavement should be 12 inches.

Additional Design Considerations: The pavement section thickness designs presented in this report are based on the design parameters detailed herein and are contingent on proper construction, inspection, and maintenance. Additional pavement thickness may be required by local code. The designs are contingent on achieving the minimum soil support value in the field. To accomplish this requirement, subgrade soil and supporting fill or backfill must be placed, compacted, and evaluated in accordance with Sections 5.2, 5.3, and 5.11 of this report. Proper drainage should be provided for the pavement structure, including appropriate grading and surface water control.

The performance of the pavement also will depend on the quality of materials and workmanship. Whitestone recommends that NYSDOT standards for materials, workmanship, and maintenance be applied to this site. Project specifications should include verifying that the installed asphaltic concrete material composition is within tolerance for the specified materials and that the percentage of air voids of the installed pavement is within specified ranges for the respective materials. Rigid concrete pavements should be suitably air-entrained, jointed, and reinforced in general accordance with ACI 330R-08 *Guide for the Design and Construction of Concrete Parking Lots*.

5.8 LATERAL EARTH PRESSURES

No new retaining walls/below-grade walls are anticipated for the site development. Whitestone should be notified if any retaining structures or design considerations requiring lateral earth pressure estimations are proposed.

5.9 SEISMIC AND LIQUEFACTION CONSIDERATIONS

The subsurface conditions are most consistent with a Site Class C, as defined by the *New York State Building Code*. The site soils are not susceptible to earthquake induced liquefaction.

5.10 EXCAVATIONS

The site soils encountered during this investigation typically are, at a minimum, consistent with Type C Soil Conditions as defined by 29 CFR Part 1926 (OSHA) which require a maximum unbraced excavation angle of 1.5:1 (horizontal:vertical). Actual conditions encountered during construction should be evaluated by a competent person (as defined by OSHA), so that safe excavation methods and/or shoring and bracing requirements are implemented. If required, competent bedrock may be excavated at an angle of 1:6 (horizontal:vertical). A steeper excavation angle in the bedrock may be feasible, if the exposed bedrock is reviewed by a professional engineer or geologist.

5.11 SUPPLEMENTAL POST INVESTIGATION SERVICES

Construction Inspection and Monitoring: The owner's geotechnical engineer with specific knowledge of the site subsurface conditions and design intent should perform inspection, testing, and consultation during construction as described in previous sections of this report. Monitoring and testing should also be performed to confirm that any encountered underground structures are properly backfilled, the existing surface cover materials are properly removed, and suitable materials, used for controlled fill, are properly placed and compacted over suitable subgrade soils. Proofrolling of all soil subgrades prior to foundation, floor slab and pavement support should be witnessed and documented by the owner's geotechnical engineer.

SECTION 6.0
General Comments

Supplemental recommendations may be required upon finalization of construction plans or if significant changes are made in the characteristics or location of the proposed structure. Soil bearing conditions should be checked at the appropriate time for consistency with those conditions encountered during Whitestone's geotechnical investigation.

The recommendations presented herein should be utilized by a qualified engineer in preparing the project plans and specifications. The engineer should consider these recommendations as minimum physical standards, which may be superseded by local and regional building codes and structural considerations. These recommendations are prepared for the sole use of HSC Milton, LLC for the specific project detailed and should not be used by any third party. These recommendations are relevant to the design phase and should not be substituted for construction specifications.

The possibility exists that conditions between borings may differ from those at specific test locations, and conditions may not be as anticipated by the designers or contractors. In addition, the construction process may alter soil and rock conditions. Therefore, experienced geotechnical personnel should observe and document the construction procedures used and the conditions encountered.

Whitestone assumes that a qualified contractor will be employed to perform the construction work, and that the contractor will be required to exercise care to ensure excavations are performed in accordance with applicable regulations and good practice. Particular attention should be paid to avoiding damaging or undermining adjacent properties and maintaining slope stability.

Whitestone recommends that the services of the geotechnical engineer be engaged to test and evaluate the soils in the footing excavations prior to concreting in order to determine that the soils will support the bearing pressures. Monitoring and testing also should be performed to check that suitable materials are used for controlled fills and that they are properly placed and compacted over suitable subgrade soils.

The exploration and analysis of the foundation conditions reported herein are considered sufficient in detail and scope to form a reasonable basis for the foundation design. The recommendations submitted for the proposed construction are based on the available soil information and the design details furnished by HSC Milton, LLC and Bohler Engineering NY, PLLC. Deviations from the noted subsurface conditions encountered during construction should be brought to the attention of the geotechnical engineer.

The geotechnical engineer warrants that the findings, recommendations, specifications, or professional advice contained herein have been promulgated after being prepared in accordance with generally accepted professional engineering practice in the fields of foundation engineering, soil mechanics, and engineering geology. No other warranties, express or implied, are made.

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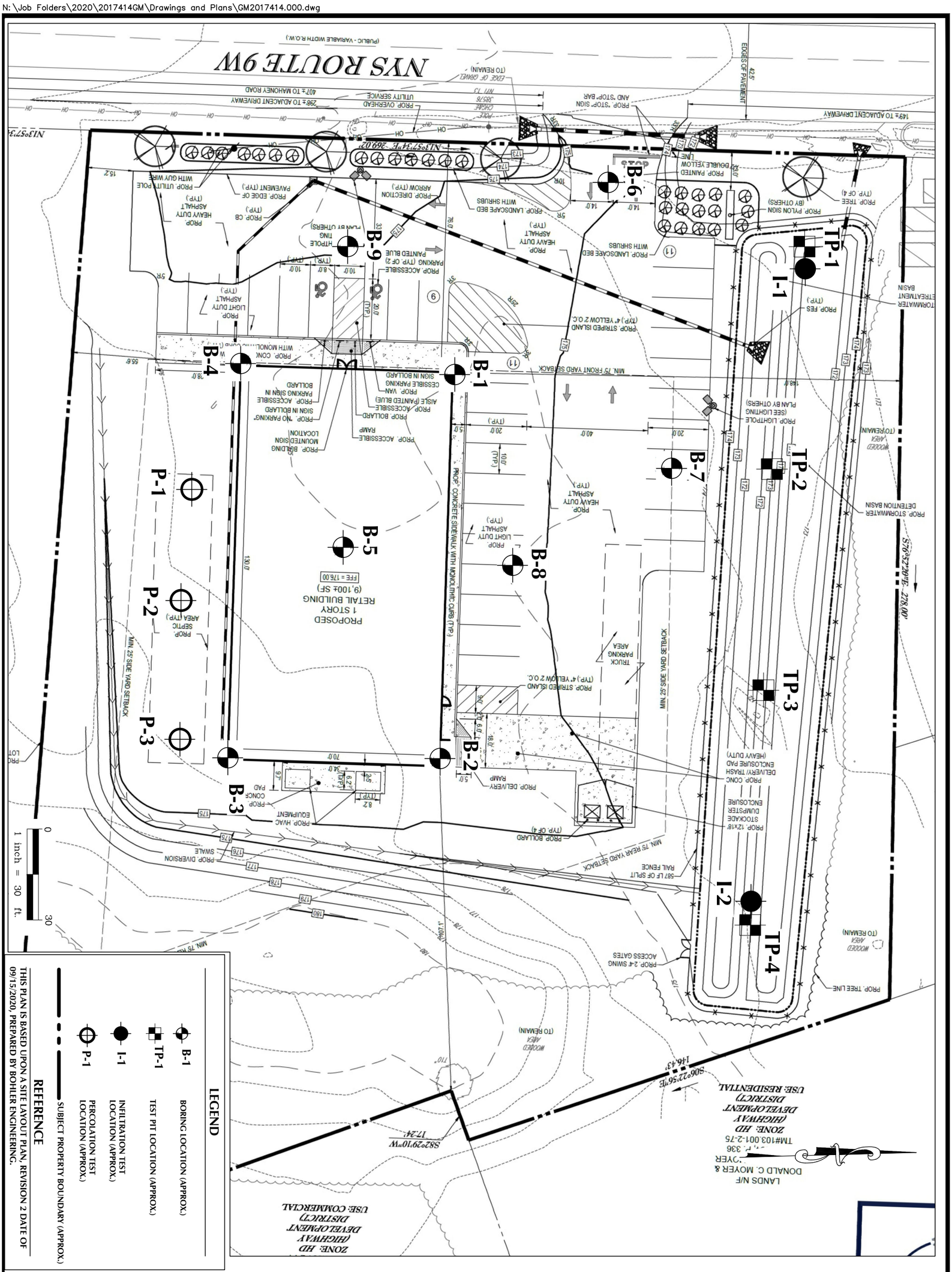
FIGURE 1
Test Location Plan

N: \Job Folders\2020\2017414GM\Drawings and Plans\GM2017414.000.dwg



LEGEND

- B-1 — BORING LOCATION (APPROX.)
- TP-1 — TEST PIT LOCATION (APPROX.)
- I-1 — INFILTRATION TEST LOCATION (APPROX.)
- P-1 — PERCOLATION TEST LOCATION (APPROX.)
- SUBJECT PROPERTY BOUNDARY (APPROX.)

REFERENCE

THIS PLAN IS BASED UPON A SITE LAYOUT PLAN, REVISION 2 DATE OF 09/15/2020, PREPARED BY BOHLER ENGINEERING.

PROJECT #:	GM2017414.000
DESIGNED BY: MR	DATE: 10/13/20
PROJ. MGR.: RR	SCALE: 1" = 30'
FIG.URE: 1	

DRAWING TITLE: TEST LOCATION PLAN

CLIENT: HSC MILTON, LLC

PROJECT:
PROPOSED RETAIL DEVELOPMENT
ROUTE 9W
PARCEL NO. 103.1-2-74
HAMLET OF MILTON, ULSTER COUNTY, NEW YORK

WHITESTONE ASSOCIATES, INC.
Environmental & Geotechnical Engineers & Consultants
16 OLD FORGE ROAD, SUITE A, ROCKY HILL, CT 06067
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APPENDIX A
Records of Subsurface Exploration

WHITESTONE ASSOCIATES, INC.

RECORD OF SUBSURFACE EXPLORATION

Test Pit No.: TP-1

Page 1 of 1

Project:	Proposed Retail Development	**WAI Project No.:**	GM2017414.000
Location:	New York State Route 9W, Milton, Ulster County, New York	**Client:**	HSC Milton, LLC

				Water Depth | Elevation (feet bgs) | (ft NAVD88)	Cave-In Depth | Elevation (feet bgs) | (ft NAVD88)
Surface Elevation:	± 173.0 feet NAVD88	**Date Started:**	10/7/2020		
Termination Depth:	7.5 feet bgs	**Date Completed:**	10/7/2020		
Proposed Location:	SWM Area	**Logged By:**	RK	**During:** 7.0 | 166.0	
Excavating Method:	Compact Excavator	**Contractor:**	KS	**At Completion:** 6.5 | 166.5	**At Completion:** -- | --
Test Method:	Visual Observation	**Rig Type:**	John Deere 50D	**24 Hours:** -- | --	

SAMPLE INFORMATION			DEPTH	STRATA		DESCRIPTION OF MATERIALS (Classification)	REMARKS
Depth (ft.)	Number	Type	(feet)				
			0.0				
				TOPSOIL		6" Topsoil	No indications of seasonal high groundwater level
				EXISTING FILL		Brown, Sandy Silt with Gravel, Cobbles, Debris (FILL)	
			1.5				
				TOPSOIL		12" Former Topsoil	
			2.5				
3'	S-1	Grab					
5'	S-2	Grab	5.0	GLACIAL TILL		Brown, Sandy Silt with Gravel, Cobbles (ML)	
7'	S-3	Grab					
						Test Pit TP-1 Terminated at Depth of 7.5 Feet Below Ground Surface.	
			10.0				
			15.0				

NOTES: bgs = below ground surface, msl = mean sea level, NA = Not Applicable, NE = Not Encountered, NS = Not Surveyed, P = Perched

WHITESTONE ASSOCIATES, INC.

RECORD OF SUBSURFACE EXPLORATION

Test Pit No.: TP-2

Page 1 of 1

Project:	Proposed Retail Development	**WAI Project No.:**	GM2017414.000
Location:	New York State Route 9W, Milton, Ulster County, New York	**Client:**	HSC Milton, LLC

Surface Elevation:	± 173.5 feet NAVD88	**Date Started:**	10/7/2020		**Water Depth (feet bgs) | Elevation (ft NAVD88)**	**Cave-In Depth (feet bgs) | Elevation (ft NAVD88)**	
Termination Depth:	8.0 feet bgs	**Date Completed:**	10/7/2020				
Proposed Location:	SWM Area	**Logged By:**	RK	**During:**	-- | --		
Excavating Method:	Compact Excavator	**Contractor:**	KS	**At Completion:**	-- | --	**At Completion:**	-- | --
Test Method:	Visual Observation	**Rig Type:**	John Deere 50D	**24 Hours:**	-- | --		

SAMPLE INFORMATION			DEPTH	STRATA		DESCRIPTION OF MATERIALS (Classification)	REMARKS
Depth (ft.)	Number	Type	(feet)				
			0.0				
				TOPSOIL		6" Topsoil	
				EXISTING FILL		Brown, Sandy Silt with Gravel, Cobbless (FILL)	
			1.5				
				TOPSOIL		12" Former Topsoil	
			2.5				
4'	S-1	Grab					
			5.0	GLACIAL TILL		Brown, Sandy Silt with Gravel, Cobbles (ML)	Indication of seasonal high groundwater level @ 6 fbgs.
						Test Pit TP-2 Terminated at Depth of 8 Feet Below Ground Surface.	
			10.0				
			15.0				

NOTES: bgs = below ground surface, msl = mean sea level, NA = Not Applicable, NE = Not Encountered, NS = Not Surveyed, P = Perched

WHITESTONE ASSOCIATES, INC.

RECORD OF SUBSURFACE EXPLORATION

Test Pit No.: TP-3

Page 1 of 1

Project:	Proposed Retail Development	**WAI Project No.:**	GM2017414.000
Location:	New York State Route 9W, Milton, Ulster County, New York	**Client:**	HSC Milton, LLC

Surface Elevation:	± 173.0 feet NAVD88	**Date Started:**	10/7/2020		**Water Depth (feet bgs) | Elevation (ft NAVD88)**	**Cave-In Depth (feet bgs) | Elevation (ft NAVD88)**	
Termination Depth:	8.0 feet bgs	**Date Completed:**	10/7/2020				
Proposed Location:	SWM Area	**Logged By:**	RK	**During:**	-- | --		
Excavating Method:	Compact Excavator	**Contractor:**	KS	**At Completion:**	-- | --	**At Completion:**	-- | --
Test Method:	Visual Observation	**Rig Type:**	John Deere 50D	**24 Hours:**	-- | --		

SAMPLE INFORMATION			DEPTH	STRATA		DESCRIPTION OF MATERIALS (Classification)	REMARKS
Depth (ft.)	Number	Type	(feet)				
			0.0				
				TOPSOIL		6" Topsoil	
							No indications of seasonal high groundwater level
2'	S-1	Grab				Brown, Silty Sand with Gravel, Cobbles, Boulders (SM)	
			5.0	GLACIAL TILL		Brown, Sandy Silt with Gravel, Cobbles (ML)	
6.5'	S-2	Grab					
						Test Pit TP-3 Terminated at Depth of 8 Feet Below Ground Surface.	
			10.0				
			15.0				

NOTES: bgs = below ground surface, msl = mean sea level, NA = Not Applicable, NE = Not Encountered, NS = Not Surveyed, P = Perched

WHITESTONE ASSOCIATES, INC.

RECORD OF SUBSURFACE EXPLORATION

Test Pit No.: TP-4

Page 1 of 1

Project:	Proposed Retail Development	**WAI Project No.:**	GM2017414.000
Location:	New York State Route 9W, Milton, Ulster County, New York	**Client:**	HSC Milton, LLC

Surface Elevation:	± 174.0 feet NAVD88	**Date Started:**	10/7/2020		**Water Depth (feet bgs)**	**Elevation (ft NAVD88)**	**Cave-In Depth (feet bgs) / Elevation (ft NAVD88)**
Termination Depth:	10.0 feet bgs	**Date Completed:**	10/7/2020				
Proposed Location:	SWM Area	**Logged By:**	RK	**During:**	--	--	
Excavating Method:	Compact Excavator	**Contractor:**	KS	**At Completion:**	--	--	**At Completion:** -- / --
Test Method:	Visual Observation	**Rig Type:**	John Deere 50D	**24 Hours:**	--	--	

SAMPLE INFORMATION			DEPTH	STRATA		DESCRIPTION OF MATERIALS (Classification)	REMARKS
Depth (ft.)	Number	Type	(feet)				
			0.0				
				TOPSOIL		8" Topsoil	
							No indications of seasonal high groundwater level
			5.0	GLACIAL TILL		Brown, Sandy Silt with Gravel, Cobbles, Boulders (ML)	
6'	S-1	Grab					
9'	S-2	Grab					
			10.0				
						Test Pit TP-4 Terminated at Depth of 10 Feet Below Ground Surface.	
			15.0				

NOTES: bgs = below ground surface, msl = mean sea level, NA = Not Applicable, NE = Not Encountered, NS = Not Surveyed, P = Perched

WHITESTONE ASSOCIATES, INC.

RECORD OF SUBSURFACE EXPLORATION

Boring No.: B-1

Project:	Proposed Retail Development	**WAI Project No.:**	GM2017414.000
Location:	New York State Route 9W, Milton, Ulster County, New York	**Client:**	HSC Milton, LLC
Surface Elevation:	± 175.0 feet	**Date Started:**	10/7/2020
Termination Depth:	11.5 feet bgs	**Date Completed:**	10/7/2020
Proposed Location:	Building	**Logged By:**	RK
Drill / Test Method:	HSA / SPT	**Contractor:**	AJ
		Equipment:	Mobile B-53

Water Depth | Elevation (feet bgs) | (feet)		Cave-In Depth | Elevation (feet bgs) | (feet)	
During:	7.5 | 167.5		
At Completion:	-- | --	**At Completion:**	-- | --
24 Hours:	-- | --	**24 Hours:**	-- | --

SAMPLE INFORMATION						DEPTH	STRATA		DESCRIPTION OF MATERIALS (Classification)	REMARKS
Depth (feet)	No	Type	Blows Per 6"	Rec. (in.)	N	(feet)				
						0.0				
							TS		6" Topsoil	
0 - 2	S-1		2 - 6 - 18 - 17	12	24				Brown, Medium Dense, Silty Sand with Gravel (SM)	PID = 0.0
2 - 4	S-2		22 - 28 - 38 - 34	10	66				Brown, Very Dense, Sandy Silt with Gravel (ML)	PID = 0.0
						5.0				
5 - 7	S-3		20 - 19 - 19 - 12	18	38		GLACIAL TILL		As Above, Gray-Brown, Dense (ML)	PID = 0.0
7 - 9	S-4		10 - 11 - 9 - 8	12	20				As Above, Gray, Medium Dense (ML)	PID = 0.0
						10.0				
10 - 10.8	S-5		32 - 50/4"	6	-				As Above, Gray-Brown, Very Dense (ML)	PID = 0.0
									Boring Log B-1 Terminated upon Auger Refusal at a Depth of 11.5 fbgs.	
						15.0				
						20.0				
						25.0				

NOTES: bgs = below ground surface, NA = Not Applicable, NE = Not Encountered, NS = Not Surveyed, P = Perched

WHITESTONE ASSOCIATES, INC.

RECORD OF SUBSURFACE EXPLORATION

Boring No.: B-2

Page 1 of 1

Project:	Proposed Retail Development	**WAI Project No.:**	GM2017414.000
Location:	New York State Route 9W, Milton, Ulster County, New York	**Client:**	HSC Milton, LLC

Surface Elevation:	± 176.0 feet	**Date Started:**	10/7/2020	**Water Depth (feet bgs) | Elevation (feet)**		**Cave-In Depth (feet bgs) | Elevation (feet)**	
Termination Depth:	13.0 feet bgs	**Date Completed:**	10/7/2020				
Proposed Location:	Building	**Logged By:**	RK	**During:**	-- | --		
Drill / Test Method:	HSA / SPT	**Contractor:**	AJ	**At Completion:**	-- | --	**At Completion:**	-- | --
		Equipment:	Mobile B-53	**24 Hours:**	-- | --	**24 Hours:**	-- | --

SAMPLE INFORMATION						DEPTH	STRATA		DESCRIPTION OF MATERIALS (Classification)	REMARKS
Depth (feet)	No	Type	Blows Per 6"	Rec. (in.)	N	(feet)				
						0.0				
0 - 1.2	S-1		3 - 24 - 50/2"	6	48		TS		6" Topsoil	
									Brown, Dense, Sandy Silt with Gravel (ML)	PID = 0.2
										Cobbles
							GLACIAL TILL			
						5.0				
5 - 6.3	S-2		35 - 45 - 50/4"	6	90				As Above, Gray-Brown, Very Dense (ML)	PID = 0.0
										Cobbles
8 - 8.2	S-3		50/2"	1	-				Highly Weathered Shale Bedrock	PID = 0.0
						10.0				
10 - 10.1	S-4		50/1"	0	-		WEATHERED BEDROCK		No Recovery	
									Boring Log B-2 Terminated at a Depth of 13 feet below ground surface.	
						15.0				
						20.0				
						25.0				

NOTES: bgs = below ground surface, NA = Not Applicable, NE = Not Encountered, NS = Not Surveyed, P = Perched

WHITESTONE ASSOCIATES, INC.

RECORD OF SUBSURFACE EXPLORATION

Boring No.: B-3

Page 1 of 1

Project:	Proposed Retail Development	**WAI Project No.:**	GM2017414.000
Location:	New York State Route 9W, Milton, Ulster County, New York	**Client:**	HSC Milton, LLC
Surface Elevation:	± 177.0 feet	**Date Started:**	10/7/2020
Termination Depth:	6.0 feet bgs	**Date Completed:**	10/7/2020
Proposed Location:	Building	**Logged By:**	RK
Drill / Test Method:	HSA / SPT	**Contractor:**	AJ
		Equipment:	Mobile B-53

	Water Depth (feet bgs)	Elevation (feet)	Cave-In Depth (feet bgs)	Elevation (feet)
During:	--	--		
At Completion:	--	--	**At Completion:**	-- / --
24 Hours:	--	--	**24 Hours:**	-- / --

Depth (feet)	No	Type	Blows Per 6"	Rec. (in.)	N	DEPTH (feet)	STRATA		DESCRIPTION OF MATERIALS (Classification)	REMARKS
						0.0				
							TS		6" Topsoil	
0 - 2	S-1	X	2 - 6 - 10 - 11	8	16		GLACIAL TILL		Brown, Medium Dense, Silty Sand with Gravel (SM)	PID = 0.0
2 - 3.2	S-2	X	7 - 12 - 50/2"	5	24	3.5			As Above (SM)	PID = 0.0 Refusal at 3.5 fbgs
							WEATHERED BEDROCK			Offset
5 - 5.3	S-3	X	100/4"	4	-	5.0			Highly Weathered Shale Bedrock	PID = 0.0
									Boring Log B-3 Terminated upon Auger Refusal at a Depth of 6 fbgs.	
						10.0				
						15.0				
						20.0				
						25.0				

NOTES: bgs = below ground surface, NA = Not Applicable, NE = Not Encountered, NS = Not Surveyed, P = Perched

WHITESTONE ASSOCIATES, INC.

RECORD OF SUBSURFACE EXPLORATION

Boring No.: B-4

Page 1 of 1

Project:	Proposed Retail Development	**WAI Project No.:**	GM2017414.000
Location:	New York State Route 9W, Milton, Ulster County, New York	**Client:**	HSC Milton, LLC
Surface Elevation:	± 175.0 feet	**Date Started:**	10/7/2020
Termination Depth:	12.0 feet bgs	**Date Completed:**	10/7/2020
Proposed Location:	Building	**Logged By:**	RK
Drill / Test Method:	HSA / SPT	**Contractor:**	AJ
		Equipment:	Mobile B-53

Water Depth | Elevation (feet bgs) | (feet)		Cave-In Depth | Elevation (feet bgs) | (feet)	
During:	-- | --		
At Completion:	-- | --	**At Completion:**	-- | --
24 Hours:	-- | --	**24 Hours:**	-- | --

SAMPLE INFORMATION						DEPTH	STRATA		DESCRIPTION OF MATERIALS (Classification)	REMARKS
Depth (feet)	No	Type	Blows Per 6"	Rec. (in.)	N	(feet)				
						0.0				
							TS		6" Topsoil	
0 - 2	S-1		2 - 4 - 7 - 9	8	11				Brown, Medium Dense, Sandy Silt with Gravel (ML)	PID = 0.0
2 - 4	S-2		7 - 13 - 14 - 13	10	27				As Above (ML)	PID = 0.0
						5.0				
5 - 7	S-3		18 - 20 - 22 - 15	10	42		GLACIAL TILL		As Above, Gray-Brown, Dense (ML)	PID = 0.0
7 - 9	S-4		19 - 17 - 19 - 17	12	36				As Above (ML)	PID = 0.0
						10.0				
10 - 11.4	S-5		17 - 22 - 50/5"	12	44				As Above, Gray (ML)	PID = 0.0
									Boring Log B-4 Terminated upon Auger Refusal at a Depth of 12 fbgs.	
						15.0				
						20.0				
						25.0				

NOTES: bgs = below ground surface, NA = Not Applicable, NE = Not Encountered, NS = Not Surveyed, P = Perched

WHITESTONE ASSOCIATES, INC.

RECORD OF SUBSURFACE EXPLORATION

Boring No.: B-5

Page 1 of 1

Project:	Proposed Retail Development	**WAI Project No.:**	GM2017414.000
Location:	New York State Route 9W, Milton, Ulster County, New York	**Client:**	HSC Milton, LLC

Surface Elevation:	± 175.0 feet	**Date Started:**	10/7/2020	**Water Depth (feet bgs) | Elevation (feet)**		**Cave-In Depth (feet bgs) | Elevation (feet)**	
Termination Depth:	12.0 feet bgs	**Date Completed:**	10/7/2020				
Proposed Location:	Building	**Logged By:**	RK	**During:**	9.5 | 165.5		
Drill / Test Method:	HSA / SPT	**Contractor:**	AJ	**At Completion:**	-- | --	**At Completion:**	-- | --
		Equipment:	Mobile B-53	**24 Hours:**	-- | --	**24 Hours:**	-- | --

SAMPLE INFORMATION						DEPTH	STRATA		DESCRIPTION OF MATERIALS (Classification)	REMARKS
Depth (feet)	No	Type	Blows Per 6"	Rec. (in.)	N	(feet)				
						0.0				
0 - 1.8	S-1		2 - 7 - 13 - 50/4"	8	20		TS		6" Topsoil	
									Brown, Medium Dense, Sandy Silt with Gravel (ML)	PID = 0.0
										Cobbles
						5.0				
5 - 7	S-2		9 - 10 - 9 - 17	14	19		GLACIAL TILL		As Above (ML)	PID = 0.0
7 - 9	S-3		18 - 24 - 27 - 31	8	51				As Above, Gray-Brown, Very Dense (ML)	PID = 0.0
						10.0				
10 - 11.3	S-4		11 - 19 - 50/3"	10	38				As Above, Dense (ML)	PID = 0.0
										Cobbles
						15.0			Boring Log B-5 Terminated upon Auger Refusal at a Depth of 14 fbgs.	
						20.0				
						25.0				

NOTES: bgs = below ground surface, NA = Not Applicable, NE = Not Encountered, NS = Not Surveyed, P = Perched

WHITESTONE ASSOCIATES, INC.

RECORD OF SUBSURFACE EXPLORATION

Boring No.: B-6

Page 1 of 1

Project:	Proposed Retail Development	**WAI Project No.:**	GM2017414.000
Location:	New York State Route 9W, Milton, Ulster County, New York	**Client:**	HSC Milton, LLC

Surface Elevation:	± 173.0 feet	**Date Started:**	10/7/2020	**Water Depth (feet bgs) | Elevation (feet)**		**Cave-In Depth (feet bgs) | Elevation (feet)**	
Termination Depth:	9.0 feet bgs	**Date Completed:**	10/7/2020				
Proposed Location:	Access	**Logged By:**	RK	**During:**	7.0 | 166.0		
Drill / Test Method:	HSA / SPT	**Contractor:**	AJ	**At Completion:**	-- | --	**At Completion:**	-- | --
		Equipment:	Mobile B-53	**24 Hours:**	-- | --	**24 Hours:**	-- | --

SAMPLE INFORMATION						DEPTH	STRATA		DESCRIPTION OF MATERIALS (Classification)	REMARKS
Depth (feet)	No	Type	Blows Per 6"	Rec. (in.)	N	(feet)				
						0.0				
0 - 2	S-1		1 - 6 - 8 - 11	12	14		TS		8" Topsoil	
							SUBSOIL		4" Sandy Subsoil	PID = 0.0
									Brown, Medium Dense, Silty Sand with Gravel (SM)	
2 - 4	S-2		9 - 10 - 12 - 14	16	22				Brown, Medium Dense, Sandy Silt with Gravel (ML)	PID = 0.0
										PID = 0.0
						5.0	GLACIAL TILL			
5 - 7	S-3		9 - 12 - 11 - 9	12	23				As Above, Gray-Brown (ML)	PID = 10.8
7 - 9	S-4		8 - 8 - 5 - 5	8	13				As Above (ML)	PID = 9.8
						10.0			Boring Log B-6 Terminated at a Depth of 9 feet below ground surface.	
						15.0				
						20.0				
						25.0				

NOTES: bgs = below ground surface, NA = Not Applicable, NE = Not Encountered, NS = Not Surveyed, P = Perched

WHITESTONE ASSOCIATES, INC.

RECORD OF SUBSURFACE EXPLORATION

Boring No.: B-7

Page 1 of 1

Project:	Proposed Retail Development	**WAI Project No.:**	GM2017414.000
Location:	New York State Route 9W, Milton, Ulster County, New York	**Client:**	HSC Milton, LLC
Surface Elevation:	± 174.0 feet	**Date Started:**	10/7/2020
Termination Depth:	6.3 feet bgs	**Date Completed:**	10/7/2020
Proposed Location:	Parking	**Logged By:**	RK
Drill / Test Method:	HSA / SPT	**Contractor:**	AJ
		Equipment:	Mobile B-53

	Water Depth (feet bgs)	Elevation (feet)	Cave-In Depth (feet bgs)	Elevation (feet)
During:	--	--		
At Completion:	--	--	**At Completion:** --	--
24 Hours:	--	--	**24 Hours:** --	--

Depth (feet)	No	Type	Blows Per 6"	Rec. (in.)	N	DEPTH (feet)	STRATA	DESCRIPTION OF MATERIALS (Classification)	REMARKS
						0.0			
0 - 2	S-1	X	6 - 12 - 20 - 29	12	32		TS	6" Topsoil	
								Brown, Dense, Silty Sand with Gravel (SM)	PID = 0.0
2 - 4	S-2	X	30 - 16 - 20 - 22	14	36		GLACIAL TILL	Brown, Dense, Sandy Silt with Gravel (ML)	PID = 0.0
						5.0			
5 - 6.3	S-3	X	28 - 33 - 50/4"	2	66			As Above, Very Dense (ML)	PID = 0.0
								Boring Log B-7 Terminated at a Depth of 6.3 feet below ground surface.	
						10.0			
						15.0			
						20.0			
						25.0			

NOTES: bgs = below ground surface, NA = Not Applicable, NE = Not Encountered, NS = Not Surveyed, P = Perched

WHITESTONE ASSOCIATES, INC.

RECORD OF SUBSURFACE EXPLORATION

Boring No.: B-8

Page 1 of 1

Project:	Proposed Retail Development	**WAI Project No.:**	GM2017414.000
Location:	New York State Route 9W, Milton, Ulster County, New York	**Client:**	HSC Milton, LLC
Surface Elevation:	± 175.0 feet	**Date Started:**	10/7/2020
Termination Depth:	4.0 feet bgs	**Date Completed:**	10/7/2020
Proposed Location:	Parking	**Logged By:**	RK
Drill / Test Method:	HSA / SPT	**Contractor:**	AJ
		Equipment:	Mobile B-53

	Water Depth (feet bgs)	Elevation (feet)	Cave-In Depth (feet bgs)	Elevation (feet)
During:	--	--		
At Completion:	--	--	**At Completion:** --	--
24 Hours:	--	--	**24 Hours:** --	--

SAMPLE INFORMATION						DEPTH	STRATA		DESCRIPTION OF MATERIALS (Classification)	REMARKS
Depth (feet)	No	Type	Blows Per 6"	Rec. (in.)	N	(feet)				
						0.0				
0 - 2	S-1	X	2 - 12 - 14 - 11	12	26		TS		6" Topsoil	
							SUBSOIL		6" Sandy Subsoil	PID = 0.0
							GLACIAL TILL		Brown, Medium Dense, Silty Sand with Gravel (SM)	
2 - 4	S-2	X	11 - 12 - 14 - 14	16	26				As Above (SM)	PID = 0.8
						5.0			Boring Log B-8 Terminated at a Depth of 4 feet below ground surface.	
						10.0				
						15.0				
						20.0				
						25.0				

NOTES: bgs = below ground surface, NA = Not Applicable, NE = Not Encountered, NS = Not Surveyed, P = Perched

WHITESTONE ASSOCIATES, INC.

RECORD OF SUBSURFACE EXPLORATION

Boring No.: B-9

Page 1 of 1

Project:	Proposed Retail Development	**WAI Project No.:**	GM2017414.000
Location:	New York State Route 9W, Milton, Ulster County, New York	**Client:**	HSC Milton, LLC
Surface Elevation:	± 175.0 feet	**Date Started:**	10/7/2020
Termination Depth:	4.0 feet bgs	**Date Completed:**	10/7/2020
Proposed Location:	Parking	**Logged By:**	RK
Drill / Test Method:	HSA / SPT	**Contractor:**	AJ
		Equipment:	Mobile B-53

Water Depth (feet bgs) | Elevation (feet)		Cave-In Depth (feet bgs) | Elevation (feet)	
During:	-- | --		
At Completion:	-- | --	**At Completion:**	-- | --
24 Hours:	-- | --	**24 Hours:**	-- | --

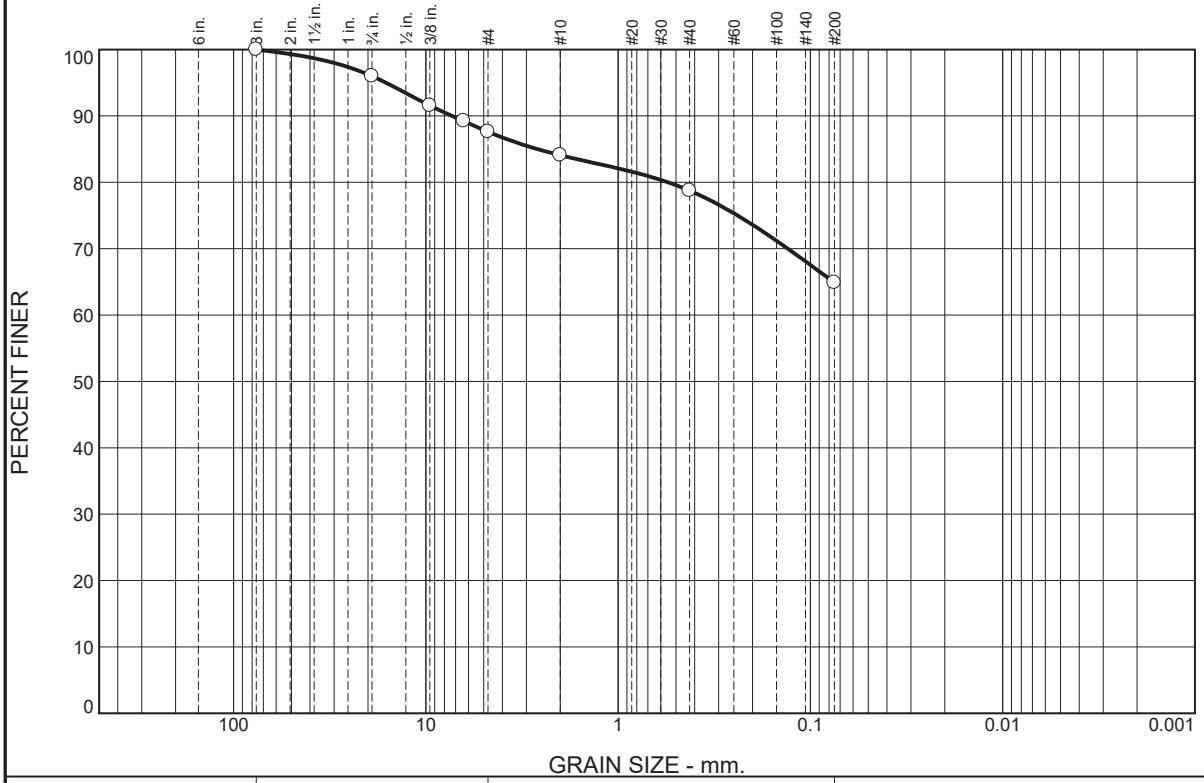
SAMPLE INFORMATION						DEPTH	STRATA		DESCRIPTION OF MATERIALS (Classification)	REMARKS
Depth (feet)	No	Type	Blows Per 6"	Rec. (in.)	N	(feet)				
						0.0				
							TS		6" Topsoil	
0 - 2	S-1		2 - 6 - 8 - 6	4	14		GLACIAL TILL		Brown, Medium Dense, Silty Sand with Gravel (SM)	PID = 0.0
2 - 4	S-2		8 - 12 - 20 - 24	8	32				As Above, Dense (SM)	PID = 0.0
						5.0			Boring Log B-9 Terminated at a Depth of 4 feet below ground surface.	
						10.0				
						15.0				
						20.0				
						25.0				

NOTES: bgs = below ground surface, NA = Not Applicable, NE = Not Encountered, NS = Not Surveyed, P = Perched

WHITESTONE ASSOCIATES, INC.

APPENDIX B
Laboratory Test Results

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0	4	8	4	5	14	65	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
3"	100	100	
3/4"	96		
3/8"	92		
1/4"	89		
#4	88		
#10	84		
#40	79		
#200	65	0.0 - 15	X

* Whitestone Structural Fill

Material Description

Sandy Silt

Atterberg Limits

PL= NP LL= NP PI= NV

Coefficients

D_{90}= 7.3029 D_{85}= 2.6228 D_{60}=
D_{50}= D_{30}= D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= ML AASHTO= A-4(0)

Remarks

Moisture Content = 16.1%

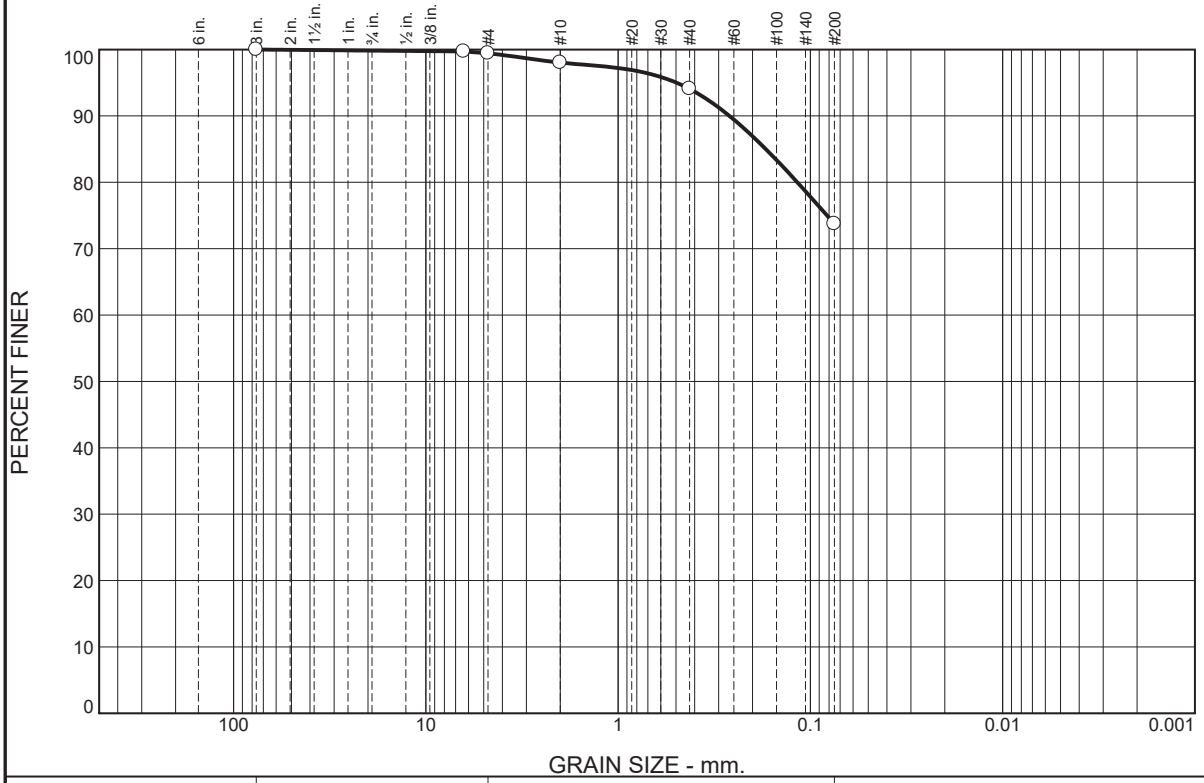
Location: Boring B-4
Sample Number: S-2 **Depth:** 2'-4' **Date:** 10/14/2020

WHITESTONE ASSOCIATES, INC.

Client: HSC Milton, LLC
Project: Proposed Retail Development
Route 9W, Hamlet of Milton, Ulster County, NY
Project No: GM2017414.000 **Figure** S-1

Tested By: JM **Checked By:** RWM

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0	0	1	1	4	20	74	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
3"	100	100	
1/4"	100		
#4	99		
#10	98		
#40	94		
#200	74	0.0 - 15	X

* Whitestone Structural Fill

Material Description

Silt with Sand

Atterberg Limits

PL= NP LL= NP PI= NV

Coefficients

D_{90}= 0.2636 D_{85}= 0.1705 D_{60}=
D_{50}= D_{30}= D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= ML AASHTO= A-4(0)

Remarks

Moisture Content = 19.8%

Location: Test Pit TP-1
Sample Number: S-2 **Depth:** 5' **Date:** 10/14/2020

WHITESTONE ASSOCIATES, INC.

Client: HSC Milton, LLC
Project: Proposed Retail Development
Route 9W, Hamlet of Milton, Ulster County, NY
Project No: GM2017414.000 **Figure** S-2

Tested By: JM **Checked By:** RWM

WHITESTONE ASSOCIATES, INC.

APPENDIX C
Supplemental Information (USCS, Terms and Symbols)

WHITESTONE ASSOCIATES, INC.
Environmental & Geotechnical Engineers & Consultants

16 OLD FORGE ROAD
SUITE A
ROCKY HILL, CT 06067
860.726.7889
whitestoneassoc.com

UNIFIED SOIL CLASSIFICATION SYSTEM

SOIL CLASSIFICATION CHART

MAJOR DIVISIONS			LETTER SYMBOL	TYPICAL DESCRIPTIONS
COARSE GRAINED SOILS	GRAVEL AND GRAVELLY SOILS	CLEAN GRAVELS (LITTLE OR NO FINES)	GW	WELL-GRADED GRAVELS, GRAVEL-SAND MIXTURES, LITTLE OR NO FINES
			GP	POORLY-GRADED GRAVELS, GRAVEL-SAND MIXTURES, LITTLE OR NO FINES
	MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVELS WITH FINES (APPRECIABLE AMOUNT OF FINES)	GM	SILTY GRAVELS, GRAVEL-SAND-SILT MIXTURES
			GC	CLAYEY GRAVELS, GRAVEL-SAND-CLAY MIXTURES
	SAND AND SANDY SOILS	CLEAN SAND (LITTLE OR NO FINES)	SW	WELL-GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES
			SP	POORLY-GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES
MORE THAN 50% OF MATERIAL IS LARGER THAN NO. 200 SIEVE SIZE	MORE THAN 50% OF COARSE FRACTION PASSING NO. 4 SIEVE	SANDS WITH FINES (APPRECIABLE AMOUNT OF FINES)	SM	SILTY SANDS, SAND-SILT MIXTURES
			SC	CLAYEY SANDS, SAND-CLAY MIXTURES
FINE GRAINED SOILS	SILTS AND CLAYS	LIQUID LIMITS LESS THAN 50	ML	INORGANIC SILTS AND VERY FINE SANDS, ROCK FLOUR, SILTY OR CLAYEY FINE SANDS OR CLAYEY SILTS WITH SLIGHT PLASTICITY
			CL	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS
			OL	ORGANIC SILTS AND ORGANIC SILTY CLAYS OF LOW PLASTICITY
MORE THAN 50% OF MATERIAL IS SMALLER THAN NO. 200 SIEVE SIZE	SILTS AND CLAYS	LIQUID LIMITS GREATER THAN 50	MH	INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS FINE SAND OR SILTY SOILS
			CH	INORGANIC CLAYS OF HIGH PLASTICITY, FAT CLAYS
			OH	ORGANIC CLAYS OF MEDIUM TO HIGH PLASTICITY, ORGANIC SILTS
HIGHLY ORGANIC SOILS			PT	PEAT, HUMUS, SWAMP SOILS WITH HIGH ORGANIC CONTENTS

NOTE: DUAL SYMBOLS ARE USED TO INDICATE BORDERLINE SOIL CLASSIFICATIONS FOR SAMPLES WITH 5% TO 12% FINES

GRADATION*

% FINER BY WEIGHT	
TRACE	1% TO 10%
LITTLE	10% TO 20%
SOME	20% TO 35%
AND	35% TO 50%

COMPACTNESS*
Sand and/or Gravel

	RELATIVE DENSITY
LOOSE.	0% TO 40%
MEDIUM DENSE	40% TO 70%
DENSE	70% TO 90%
VERY DENSE	90% TO 100%

CONSISTENCY*
Clay and/or Silt

RANGE OF SHEARING STRENGTH IN POUNDS PER SQUARE FOOT	
VERY SOFT	LESS THAN 250
SOFT	250 TO 500
MEDIUM	500 TO 1000
STIFF	1000 TO 2000
VERY STIFF	2000 TO 4000
HARD	GREATER THAN 4000

** VALUES ARE FROM LABORATORY OR FIELD TEST DATA, WHERE APPLICABLE. WHEN NO TESTING WAS PERFORMED, VALUES ARE ESTIMATED.*

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Other Office Locations:

WARREN, NJ 908.668.7777
CHALFONT, PA 215.712.2700
SOUTHBOROUGH, MA 508.485.0755
WALL, NJ 732.592.2101
STERLING, VA 703.464.5858
EVERGREEN, CO 303.670.6905

WHITESTONE ASSOCIATES, INC.
Environmental & Geotechnical Engineers & Consultants

16 OLD FORGE ROAD
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ROCKY HILL, CT 06067
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GEOTECHNICAL TERMS AND SYMBOLS

SAMPLE IDENTIFICATION

The Unified Soil Classification System is used to identify the soil unless otherwise noted.

SOIL PROPERTY SYMBOLS

N: Standard Penetration Value: Blows per ft. of a 140 lb. hammer falling 30" on a 2" O.D. split-spoon.
Qu: Unconfined compressive strength, TSF.
Qp: Penetrometer value, unconfined compressive strength, TSF.
Mc: Moisture content, %.
LL: Liquid limit, %.
PI: Plasticity index, %.
δd: Natural dry density, PCF.
▼: Apparent groundwater level at time noted after completion of boring.

DRILLING AND SAMPLING SYMBOLS

NE: Not Encountered (Groundwater was not encountered).
SS: Split-Spoon - 1 ⅜" I.D., 2" O.D., except where noted.
ST: Shelby Tube - 3" O.D., except where noted.
AU: Auger Sample.
OB: Diamond Bit.
CB: Carbide Bit
WS: Washed Sample.

RELATIVE DENSITY AND CONSISTENCY CLASSIFICATION

Term (Non-Cohesive Soils)	Standard Penetration Resistance
Very Loose	0-4
Loose	4-10
Medium Dense	10-30
Dense	30-50
Very Dense	Over 50

Term (Cohesive Soils)	Qu (TSF)
Very Soft	0 - 0.25
Soft	0.25 - 0.50
Firm (Medium)	0.50 - 1.00
Stiff	1.00 - 2.00
Very Stiff	2.00 - 4.00
Hard	4.00+

PARTICLE SIZE

Boulders	8 in.+	Coarse Sand	5mm-0.6mm	Silt	0.074mm-0.005mm
Cobbles	8 in.-3 in.	Medium Sand	0.6mm-0.2mm	Clay	-0.005mm
Gravel	3 in.-5mm	Fine Sand	0.2mm-0.074mm		

Other Office Locations:

WARREN, NJ	CHALFONT, PA	SOUTHBOROUGH, MA	WALL, NJ	STERLING, VA	EVERGREEN, CO
908.668.7777	215.712.2700	508.485.0755	732.592.2101	703.464.5858	303.670.6905

G. CONSTRUCTION DRAWINGS