



**STORMWATER POLLUTION
PREVENTION PLAN
for
One Monument Square**

One Monument Square
City of Troy
Rensselaer County, New York

Issued: December 2021



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PREPARER OF THE SWPPP

"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."

Name and Title¹: Roger Keating, P.E. - Director

Date: Issued: December 2021



¹ This is a signature of a New York State licensed Professional Engineer employed by The Chazen Companies that is duly authorized to sign and seal Stormwater Pollution Prevention Plans (SWPPPs), NOIs, and NOTs prepared under their direct supervision. Refer to Appendix H for the Chazen Certifying Professionals Letter.

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1.0 EXECUTIVE SUMMARY

This Stormwater Pollution Prevention Plan (SWPPP) has been prepared for major activities associated with construction of One Monument Square in the City of Troy. This SWPPP includes the elements necessary to comply with the national baseline general permit for construction activities enacted by the U.S. Environmental Protection Agency (EPA) under the National Pollutant Discharge Elimination System (NPDES) program and all local governing agency requirements. This SWPPP must be implemented and permit coverage must be obtained prior to the commencement of construction activity.

This SWPPP has been developed in accordance with the “New York State Department of Environmental Conservation (NYSDEC) State Pollutant Discharge Elimination System (SPDES) General Permit for Stormwater Discharges from Construction Activity,” Permit No. GP-0-20-001, effective January 29, 2020 through January 28, 2025. The SWPPP and accompanying plans identify and detail stormwater management, pollution prevention, and erosion and sediment control measures necessary during and following completion of construction.

This SWPPP and the accompanying plans entitled “One Monument Square” have been submitted as a set. These engineering drawings are considered an integral part of this SWPPP. Therefore, this SWPPP is not considered complete without them. References made herein to “the plans” or to a specific “sheet” refer to these drawings.

This report considers the impacts associated with the intended development with the purpose of:

1. Maintaining existing drainage patterns as much as possible while continuing the conveyance of upland watershed runoff;
2. Controlling increases in the rate of stormwater runoff resulting from the proposed development so as not to adversely alter downstream conditions; and
3. Mitigating potential stormwater quality impacts and preventing soil erosion and sedimentation resulting from stormwater runoff generated both during and after construction.

The analysis and design completed and documented in this report is intended to be part of the application made for a commercial redevelopment project with no increase in impervious area completed on behalf of the Owner/Operator.

1.1 Project Description

1 Monument Sq LLC is proposing a redevelopment project with no increase in impervious area, to include: a mixed use building with commercial and residential space, an elevated patio with a parking garage below, ramps and stairs for accessibility from the project site to the Hudson River, and landscaping throughout. A Site Location Map has been provided in Appendix G, as Figure 1.

This type of project is included in Table 2 of Appendix B of GP-0-20-001; and the project site is not located in one of the watersheds listed in Appendix C of GP-0-20-001. Therefore, this SWPPP includes post-construction stormwater management practices, as well as erosion and sediment controls.

This project is located within the City of Troy regulated, traditional land use control Municipal Separate Stormwater Sewer System (MS4). Therefore, an MS4 SWPPP Acceptance Form is required to accompany NOIs submitted to the NYSDEC.

Runoff from the project site will directly discharge to the Hudson River, which is not included in the list of Section 303(d) water bodies included in Appendix E of GP-0-20-001.

Project construction activities will consist primarily of site grading, paving, building construction, and the installation of storm drainage, water supply, sanitary sewer, and public utility infrastructure necessary to support the proposed redevelopment project with no increase in impervious area. Construction phase pollutant sources anticipated at the site are disturbed (exposed) soil, vehicle fuels and lubricants, chemicals associated with building construction, and building materials. Without adequate control there is the potential for each type of pollutant to be transported by stormwater.

1.2 Stormwater Pollution Controls

The stormwater pollution controls outlined herein have been designed and evaluated in accordance with the following standards and guidelines:

- New York State Stormwater Management Design Manual, dated January 2015 (Design Manual).
- New York State Standards and Specifications for Erosion and Sediment Control, dated November 2016 (SSESC).

Stormwater quality will be enhanced through the implementation of temporary and permanent erosion and sediment control measures, the proposed stormwater management practices, and other construction-phase pollution controls outlined herein.

The proposed stormwater management approach consisting of pipes and on-site stormwater management practices will adequately collect, treat, and convey the stormwater runoff.

As a redevelopment project with no increase in impervious area, meeting the Chapter 4 RRv criteria is not required. However, porous pavement, tree pits and a hydrodynamic separator will be used to treat stormwater runoff generated by the site.

The project proposes separating stormwater runoff generated by the project and a portion of the adjacent River Street from the existing City of Troy combined sewer system. Newly disconnected stormwater will discharge directly to the Hudson River through an existing outfall, which is a fifth order or larger stream. Therefore, the Design Manual Chapter 4 stormwater quantity criteria do not apply to this project and a hydrologic/hydraulic analysis comparing pre-development and post-development flows has not been included in this SWPPP.

The hydrodynamic unit, tree pits and porous pavement will be owned by City of Troy. Policy and procedures will be in place, which ensure operation and maintenance of the practice(s) in accordance with the operation and maintenance plan.

1.3 Conclusion

This project is subject to the requirements of the City of Troy regulated MS4, and this SWPPP has been prepared in conformance with the current Design Manual and SSESC. As such, GP-0-20-001 coverage will be effective five (5) business days from the date the NYSDEC receives the electronically submitted eNOI and signed "MS4 SWPPP Acceptance" form, or ten (10) business days from the date the NYSDEC receives the complete paper NOI and signed "MS4 SWPPP Acceptance" form.

2.0 SWPPP IMPLEMENTATION RESPONSIBILITIES

A summary of the responsibilities and obligations of all parties involved with compliance with the NYSDEC SPDES General Permit GP-0-20-00 conditions is outlined in the subsequent sections. For a complete listing of the definitions, responsibilities, and obligations, refer to the SPDES General Permit GP-0-20-001 presented in Appendix A.

2.1 Definitions

1. “General SPDES Permit” means a SPDES permit issued pursuant to 6 NYCRR Part 750-1.21 authorizing a category of discharges.
2. “Owner” or “Operator” means the person, persons, or legal entity which owns or leases the property on which the *construction activity* is occurring; and/or an entity that has operational control over the construction plans and specifications, including the ability to make modifications to the plans and specifications. There may be occasions during the course of a project in which there are multiple Owners/Operators, all of which will need to file and maintain the appropriate SWPPP documents and plans, including without limitation, the Notice of Intent (NOI) and Notice of Termination (NOT).
3. “Owner’s/Operator’s Engineer” means the person or entity retained by an Owner/Operator to design and oversee the implementation of the SWPPP.
4. “Contractor” means the person or entity identified as such in the construction contract with the Owner/Operator. The term “Contractor” shall also include the Contractor’s authorized representative, as well as any and all subcontractors retained by the Contractor.
5. “Qualified Inspector” means a person that is knowledgeable in the principles and practices of erosion and sediment control, such as 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 an 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.

6. “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.
7. “Trained Contractor” means an employee from a 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 a 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(s)” will be responsible for the day to day implementation of the SWPPP.

2.2 Owner's/Operator's Responsibilities

1. Ensure that control measures are selected, designed, installed, implemented and maintained to minimize the discharge of pollutants and prevent a violation of the water quality standards, meeting the non-numeric effluent limitations in Part I.B.1.(a)-(f) of the SPDES General Permit and in accordance with the New York State Standards and Specifications for Erosion and Sediment Control, dated November 2016.
2. Ensure that practices are selected, designed, installed, and maintained to meet the performance criteria in the Design Manual. Practices must be designed to meet the applicable sizing criteria in Part I.C.2.a., b., c. or d. of GP-0-20-001.
3. Retain the services of a “Qualified Inspector” or “Qualified Professional” as defined under Section 2.1, to provide the services outlined in Section 2.5 “Qualified Inspector's/Qualified Professional's Responsibilities.”
4. Retain the services of a “Qualified Professional,” as defined under Section 2.1, to provide the services outlined in Section 2.3 “Owner's/Operator's Engineers Responsibilities.”

5. Have an authorized corporate officer sign the completed NOI. A copy of the completed NOI is included in Appendix B.
6. Submit the electronic version of the NOI (eNOI) along with the MS4 SWPPP acceptance form using the NYSDEC's website (<http://www.dec.ny.gov/chemical/43133.html>).
7. Pay the required initial and annual fees upon receipt of invoices from NYSDEC. These invoices are generally issued in the fall of each year. The initial fee is calculated as \$110.00 per acre disturbed plus \$675.00 per acre of net increase in impervious cover, and the annual fee is \$110.00.
8. Prior to the commencement of construction activity, identify the contractor(s) and subcontractor(s) that will be responsible for implementing the erosion and sediment control measures and stormwater management practices described in this SWPPP. Have each of these contractors and subcontractors identify at least one "Trained Contractor", as defined under Section 2.1 that will be responsible for the implementation of the SWPPP. Ensure that the Contractor has at least one "Trained Contractor" on site on a daily basis when soil disturbance activities are being performed.
9. Schedule a pre-construction meeting which shall include the City of Troy representative, Owner's/Operator's Engineer, Contractor, and their sub-contractors to discuss responsibilities as they relate to the implementation of this SWPPP.
10. Retain the services of an independent certified materials testing and inspection firm operating under the direction of a licensed Professional Engineer to perform regular tests, inspections, and certifications of the construction materials used in the construction of all post-construction stormwater management practices.
11. Retain the services of a NYS licensed land surveyor to perform an as-built topographic survey of the completed post-construction stormwater management facilities.
12. Require the Contractor to fully implement the SWPPP prepared for the site by the Owner/Operator's Engineer to 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 NYSDEC.
13. Forward a copy of the NOI Acknowledgement Letter received from the regulatory agency to the Owner's/Operator's Engineer for project records, and to the Contractor for display at the construction site.
14. Maintain a copy of the General Permit (GP-0-20-001), NOI, NOI Acknowledgement Letter, SWPPP, MS4 SWPPP Acceptance Form, inspection reports, Spill Prevention, Countermeasures, Cleanup ("SPCC") Plan, and all documentation in accordance with Part I.F.8.a-d of GP-0-20-001 necessary to demonstrate eligibility with the permit at the construction site, until all disturbed areas have achieved final stabilization and the NOT has been submitted to the NYSDEC. Place documents in a secure location that must be accessible during normal business hours to an individual performing a compliance inspection.
15. Prior to submitting a Notice of Termination, ensure an executed maintenance agreement is in place with the municipality that will maintain the post-construction stormwater management practice(s). In addition, for post-construction stormwater management practice(s) that are privately owned,

the Owner/Operator has a deed restriction in place that requires operation and maintenance of the practice(s) in accordance with the operation and maintenance plan.

16. Submit a Notice of Termination (NOT) form (see Appendix B) within 48 hours of receipt of the Owner's/Operator's Engineer's certification of final site stabilization to the following:

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

City of Troy Public Utilities Department
433 River Street, Suite 5001
Troy, NY 12180

17. Request and receive all SWPPP records from the Owner's/Operator's Engineer and archive those records for a minimum of five (5) years after the NOT is filed.
18. Implement the Post-Construction Inspections and Maintenance procedures outlined in Appendix F.
19. The NOI, SWPPP, and inspection reports required by GP-0-20-001 are public documents that the Owner/Operator must make available for review and copying by any person within five (5) business days of the Owner/Operator receiving a written request by any such person to review the NOI, SWPPP, or inspection reports. Copying of documents will be done at the requester's expense.
20. The Owner/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/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 project 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; and
 - c) To address issues or deficiencies identified during an inspection by the "Qualified Inspector," the Department, or other Regulatory Authority.
 - d) To document the final construction conditions.
21. 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.
 - a) 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 the 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.

- b) 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.

2.3 Owner's/Operator's Engineer's Responsibilities

1. Prepare the SWPPP using good engineering practices, best management practices, and in compliance with all federal, state, and local regulatory requirements.
2. Prepare the Notice of Intent (NOI) form (see Appendix B), sign the "SWPPP Preparer Certification" section of the NOI, and forward to Owner/Operator for signature.
3. Provide copies of the SWPPP to the City of Troy once all signatures and attachments are complete.
4. Enter Contractor's information in Section 2.5 "SWPPP Participants" once a Contractor is selected by the Owner/Operator.
5. Update the SWPPP each time there is a significant modification to the pollution prevention measures or a change of the principal Contractor working on the project who may disturb site soil.

2.4 Contractor's Responsibilities

1. Sign the SWPPP Contractor's Certification Form contained within Appendix C and forward to the Owner's/Operator's Engineer for inclusion in the Site Log Book.
2. Identify at least one Trained Contractor that will be responsible for implementation of this SWPPP. Ensure that at least one Trained Contractor is on site on a daily basis when soil disturbance activities are being performed. The Trained Contractor shall 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 conditions 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.
3. Provide the names and addresses of all subcontractors working on the project site. Require all subcontractors who will be involved with construction activities that will result in soil disturbance to identify at least one Trained Contractor that will be on site on a daily basis when soil disturbance activities are being performed; and to sign a copy of the Subcontractor's Certification Form contained within Appendix C, then forward to the Owner's/Operator's Engineer for inclusion into the Site Log Book. This information must be retained as part of the Site Log Book.
4. Maintain a Spill Prevention and Response Plan in accordance with requirements outlined in Section 5 of this SWPPP. This plan shall be provided to the Owner's/Operator's Engineer for inclusion in the Site Log Book, prior to mobilization on-site.

5. Participate in a pre-construction meeting which shall include the City of Troy representative, Owner/Operator, Owner's/Operator's Engineer, and all subcontractors to discuss responsibilities as they relate to the implementation of this SWPPP.
6. If Contractor plans on utilizing adjacent properties for material, waste, borrow, or equipment storage areas, or if Contractor plans to engage in industrial activity other than construction (such as operating asphalt and/or concrete plants) at the site, Contractor shall submit appropriate documentation to the Owner's/Operator's Engineer so that the SWPPP can be modified accordingly.
7. Implement site stabilization, erosion and sediment control measures, and other requirements of the SWPPP.
8. In accordance with the requirements in the most current version of the NYS Standards and Specifications for Erosion and Sediment Control, conduct inspections of erosion and sediment control measures installed at the site to ensure that they remain in effective operating condition at all times. Prepare and retain written documentation of inspections as well as of all repairs/maintenance activities performed. This information must be retained as part of the Site Log Book.
9. Begin implementing corrective actions within one (1) business day of receipt of notification by the Qualified Inspector/Qualified Professional that deficiencies exist with the erosion and sediment control measures employed at the site. Corrective actions shall be completed within a reasonable time frame.
10. Maintain a record of the date(s) and location(s) that soil restoration is performed in accordance with the accompanying plans and NYSDEC Division of Water's publication "Deep-Ripping and Decompaction," dated April 2008. A copy of this publication is provided in Appendix E. The record that is to be maintained shall be a copy of the overall site grading plan delineating the area(s) and date(s) that the soil was restored.
11. Upon completion of all construction at the site, the contractor responsible for overall SWPPP Compliance shall sign the certification on their Contractor Certification Form indicating that: a.) all temporary erosion and sediment control measures have been removed from the site, b.) the on-site soils disturbed by construction activity have been restored in accordance with the SWPPP and the NYSDEC Division of Water's publication "Deep-Ripping and Decompaction," and c.) all permanent stormwater management practices required by the SWPPP have been installed in accordance with the contract documents.

2.5 Qualified Inspector's/Qualified Professional's Responsibilities

1. Participate in a pre-construction meeting with the City of Troy representative, Owner/Operator, Contractor, and their subcontractors to discuss responsibilities as they relate to the implementation of this SWPPP.
2. Conduct an initial assessment of the site prior to the commencement of construction and certify in an inspection report that the appropriate erosion and sediment control measures described within this SWPPP have been adequately installed and implemented to ensure overall preparedness of the site.

3. Provide on-site inspections to determine compliance with the SWPPP. Site inspections shall occur at an interval of at least once every seven calendar days. A written inspection report shall be provided to the Owner/Operator and general contractor within one business day of the completion of the inspection, with any deficiencies identified. A sample inspection form is provided in Appendix D.
4. Prepare an inspection report subsequent to each and every inspection that shall include/address the items listed in Part IV.C.4.a-k of GP-0-20-001. Sign all inspection reports and maintain on site with the SWPPP.
5. Notify the owner/operator and appropriate contractor or subcontractor of any corrective actions that need to be taken.
6. Prepare a construction Site Log Book to be used as a record of all inspection reports generated throughout the duration of construction. Ensure that the construction Site Log Book is maintained and kept up-to-date throughout the duration of construction.
7. Review the Contractor's SWPPP records on a periodic basis to ensure compliance with the requirements for daily reports, soil restoration, inspections, and maintenance logs.
8. Based on the as-built survey and material testing certifications performed by others, perform evaluations of the completed stormwater management practices to determine whether they were constructed in accordance with this SWPPP.
9. Conduct a final site assessment and prepare a certification letter to the Owner/Operator indicating that, upon review of the material testing and inspection reports prepared by the firm retained by the Owner/Operator, review of the completed topographic survey, and evaluation of the completed stormwater management facilities, the stormwater management facilities have been constructed substantially in accordance with the contract documents and should function as designed.
10. Prepare the Notice of Termination (NOT). Sign the NOT Certifications VI (Final Stabilization) and VII (Post-construction Stormwater Management Practices), and forward the NOT to the Owner/Operator for signature on Certification VIII (Owner/Operator Certification).
11. Transfer the SWPPP documents, along with all NOI's, permit certificates, NOT's, construction Site Log Book, and written records required by the General Permit to the Owner/Operator for archiving.

2.6 SWPPP Participants

1. Owner's/Operator's Engineer:

Roger Keating, P.E. - Director
The Chazen Companies
4 British American Boulevard
Latham, NY 12110
Phone: (518) 273-0055
Fax: (518) 273-8391
2. Owner/Operator:

Sumeet Gupta
1 Monument Sq LLC
41 Sarazen Street
Saratoga Springs, NY 12866
Phone: (518) 542-1245
3. Contractor²:

Name and Title: _____

Company Name: _____

Mailing Address: _____

Phone: _____

Fax: _____

² Contractor's information to be entered once the Contractor has been selected.

3.0 SITE CHARACTERISTICS

3.1 Land Use and Topography

The project site is located within the central commercial zoning district (B4). The proposed mixed-use redevelopment consisting of commercial, retail and residential space as well as a parking garage is a permitted use within this district.

The overall site is slightly sloping, with slopes ranging from 0 to 2 percent. Site elevations range from approximately 10 feet above mean sea level (MSL) to 33 feet MSL. The site was previously the City of Troy's City Hall but has since been demolished, so the current site is a relatively flat demolished commercial lot.

3.2 Soils and Groundwater

The US Department of Agriculture (USDA) Web Soil Survey (<http://websoilsurvey.nrcs.usda.gov/app/>) was used to obtain surficial soil conditions for the study area, as follows:

Table 1: USDA Soil Data

Map Symbol & Description	Hydrologic Soil Group	Permeability (inches/hour)	Erosion Factor K	Depth to Water Table (feet)	Depth to Bedrock (feet)
Ur – Urban Land	N/A	N/A	N/A	N/A	N/A

Upon review of the soil data presented in Table 1, the project site does not contain soils with a soil slope phase of D with a map unit name that inclusive of slopes greater than 25%, and does not contain soils with a soil slope phase of E or F.

The Soil Conservation Service defines the hydrologic soil groups as follows:

- **Type A Soils:** Soils having a high infiltration rate and low runoff potential when thoroughly wet. These soils consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a moderate rate of water transmission.
- **Type B Soils:** Soils having a moderate infiltration rate when thoroughly wet and consisting mainly of moderately deep to deep, moderately well to well drained soils with moderately fine to moderately coarse textures. These soils have a moderate rate of water transmission.
- **Type C Soils:** Soils having a low infiltration rate when thoroughly wet and consisting chiefly of soils with a layer that impedes downward movement of water and soils with moderately fine-to-fine texture. These soils have a low rate of water transmission.
- **Type D Soils:** Soils having a very low infiltration rate and high runoff potential when thoroughly wet. These soils consist chiefly of clays that have high shrink-swell potential, soils that have a permanent high water table, soils that have a clay pan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very low rate of water transmission.

The soils map for the study area is presented in Appendix G, as Figure 2.

3.3 Watershed Designation

The project site is not located in a restricted watershed identified in Appendix C of GP-0-20-001.

3.4 Receiving Water Bodies

The nearest natural classified water course into which runoff from the project site will discharge is the Hudson River.

The Hudson River is classified by NYSDEC as a Class C water course, and is not included in the Section 303(d) list of impaired waters found in Appendix E of GP-0-20-001. In addition, the Hudson River is considered a fifth order or larger stream. A Wetland and Stream Map has been provided in Appendix G, as Figure 4.

3.5 Aquifer Designation

The project site is not located over a US EPA designated Sole Source aquifer; nor is it located over a Primary or Principal aquifer listed in the NYSDEC Technical and Operational Guidance Series (TOGS) 2.1.3 (1980).

3.6 Wetlands

A search on the NYSDEC Environmental Resource Mapper on December 8, 2020, determined that no regulated wetlands are located on the project site. According to National Wetland Inventory information available through GIS, the property is located adjacent to the Hudson River, which is classified as a riverine federally regulated wetland. Refer to Figure 4, in Appendix G.

3.7 Flood Plains

According to the National Flood Insurance Program Flood Insurance Rate Map (FIRM), City of Troy, New York, Community Panel Number 3606770003B, the project site lies within Flood Zone A12, an area of 100-year flood; base flood elevations and flood hazard factors determined. Refer to Figure 5, in Appendix G.

3.8 Listed, Endangered, or Threatened Species

A search was performed on the NYSDEC Environmental Resource Mapper on December 8, 2020, and determined that the project site does contain threatened or endangered species, or critical habitat. An Environmental Resource Map has been provided in Appendix G, as Figure 6. Within Rensselaer County the U.S. Fish and Wildlife Service identifies the Indiana bat as an endangered species and identifies the Bald eagle as a delisted species. However, the site is formerly developed urban land that has been demolished and is nearly 100 percent impervious.

3.9 Historic Places

A search on the New York State Cultural Resource Information System (CRIS) database, performed on December 8, 2020, revealed the construction activity is located within an archeologically sensitive area and is located within the Central Troy Historic District and the River Street historic District. There are also a number of buildings listed on the National or State Registers of Historic Places adjacent to the project site.

However, the proposed project is located on a previously disturbed urban site. A printout of the historic places screening map is presented in Appendix G, as Figure 3.

As such, NYSOPRHP coordination will be initiated. A copy of the NYSOPRHP documentation, in accordance with part I.F.8. of GP-0-20-001, will be provided in Appendix G, as Figure 3A upon receipt.

3.10 Rainfall Data

Rainfall data utilized in the modeling and analysis was obtained from the Cornell University online Extreme Precipitation in New York & New England website (<http://precip.eas.cornell.edu/>). The standard SCS/NRCS rainfall distributions were applied to evaluate the pre- and post-development stormwater runoff characteristics. Rainfall data specific to the portion of Rensselaer County under consideration, for various 24-hour storm events, is presented in the following Table:

Table 2: Rainfall Data

Storm Event Return Period	24-Hour Rainfall (inches)
1-year	2.2
10-year	3.8
100-year	6.4

4.0 CONSTRUCTION SEQUENCE

This project encompasses less than five acres of land and disturbance of additional off-site properties to facilitate construction is not anticipated. Therefore, written approval from NYSDEC allowing the disturbance of more than five acres of land at any one time is not required. If the Contractor's construction sequence requires the disturbance of more than five acres at any one time, written approval must be obtained from NYSDEC prior to disturbing more than five acres at once.

The "Erosion and Sediment Control Plan" in the accompanying drawings identifies the major construction activities that are the subject of this SWPPP. The order (or sequence) in which the major activities are expected to begin is presented on the accompanying drawings, though each activity will not necessarily be completed before the next begins. In addition, these activities could occur in a different order if necessary to maintain adequate erosion and sediment control. If this is the case, the contractor shall notify the Owner's/Operator's Engineer overseeing the implementation of the SWPPP.

The Contractor will be responsible for implementing the erosion and sediment control measures identified on the plans. The Contractor may designate these tasks to certain subcontractors as they see fit, but the ultimate responsibility for implementing these controls and ensuring their proper function remains with the Contractor.

Refer to the accompanying plans for details and specifications regarding the construction sequencing schedule.

5.0 CONSTRUCTION-PHASE POLLUTION CONTROL

The SWPPP and accompanying plans identify the temporary and permanent erosion and sediment control measures that have been incorporated into the design of this project. These measures will be implemented during construction, to minimize soil erosion and control sediment transport off-site, and after construction, to control the quality of stormwater runoff from the developed site.

Erosion control measures, designed to minimize soil loss, and sediment control measures, intended to retain eroded soil and prevent it from reaching water bodies or adjoining properties, have been developed in accordance with the following documents:

- NYSDEC SPDES General Permit for Stormwater Discharges From Construction Activity, Permit No. GP-0-20-001 (effective January 29, 2020 through January 28, 2025)
- New York State Standards and Specifications for Erosion and Sediment Control, NYSDEC (November 2016)

The SWPPP and accompanying plans outline the construction scheduling for implementing the erosion and sediment control measures. These documents include limitations on the duration of soil exposure, criteria and specifications for placement and installation of the erosion and sediment control measures, a maintenance schedule, and specifications for the implementation of erosion and sediment control practices and procedures.

Temporary and permanent erosion and sediment control measures that shall be applied during construction generally include:

1. Minimizing soil erosion and sedimentation by stabilization of disturbed areas and by removing sediment from construction site discharges.
2. Preservation of existing vegetation to the greatest extent practical. Following the completion of construction activities in any portion of the site, permanent vegetation shall be established on all exposed soils.
3. Site preparation activities to minimize the area and duration of soil disruption.
4. Establishment of permanent traffic corridors to ensure that “routes of convenience” are avoided.

5.1 Temporary Erosion and Sediment Control Measures

The temporary erosion and sediment control measures described in the following sections are included as part of the construction documents.

5.1.1 *Stabilized Construction Access*

Prior to construction, stabilized construction access(es) will be installed, per accompanying plans, to reduce the tracking of sediment onto public roadways.

Construction traffic must enter and exit the site at the stabilized construction access(es). The intent is to trap dust and mud that would otherwise be carried off-site by construction traffic.

The access(es) shall be maintained in a condition, which will control tracking of sediment onto public rights-of-way or streets. When necessary, additional aggregate will be placed atop the filter fabric to assure the

minimum thickness is maintained. All sediment and/or soil spilled, dropped, or washed onto public rights-of-way must be removed immediately. Periodic inspection and needed maintenance shall be provided after each substantial rainfall event.

5.1.2 *Dust Control*

Water trucks shall be used as needed during construction to reduce dust generated on-site. Dust control must be provided by the Contractor(s) to a degree that is acceptable to the Owner, and in compliance with the applicable local and state dust control requirements.

5.1.3 *Temporary Soil Stockpile*

Materials, such as topsoil, will be temporarily stockpiled (if necessary) on the site during the construction process. Stockpiles shall be located in an area away from storm drainage, water bodies and/or courses, and will be properly protected from erosion by a surrounding silt fence barrier.

5.1.4 *Silt Fencing*

Prior to the initiation of and during construction activities, a geotextile filter fabric (or silt fence) will be established downgradient of all disturbed areas. These barriers may extend into non-impact areas to provide adequate protection of adjacent lands.

Clearing and grubbing will be performed only as necessary for the installation of the sediment control barrier. To facilitate effectiveness of the silt fencing, daily inspections and inspections immediately after significant storm events will be performed by the Contractor(s). Maintenance of the fence will be performed as needed.

5.1.5 *Temporary Seeding*

For areas undergoing clearing, grading, and disturbance as part of construction activities, where work has temporarily ceased, temporary soil stabilization measures must be initiated by the end of the next business day and completed within fourteen (14) days from the date the soil disturbance activity has temporarily ceased.

5.1.1 *Manufactured Insert Inlet Protection*

Install insert inlet protection beneath the grate of all catch basins, to prevent sediment from entering the catch basins and storm sewer system. Remove sediment accumulation and repair or replace insert as necessary to ensure proper function.

5.1.2 *Erosion Control Blanket*

Erosion control blankets shall be installed in accordance with manufacturer's requirements on all slopes exceeding 3:1. Erosion control blankets provide temporary erosion protection, rapid vegetative establishment, and long-term erosion resistance to shear stresses generated by high runoff flow velocities associated with steep slopes.

5.1.3 Dewatering Operations

Dewatering will be used to intercept sediment-laden stormwater or pumped groundwater and allow it to settle out of the pumped discharge prior to being discharged from the site. Water from dewatering operations shall be treated to eliminate the discharge of sediment and other pollutants. Water resulting from dewatering operations shall be directed to temporary sediment traps or dewatering devices. Temporary sediment traps and dewatering bags will be provided, installed, and maintained at downgradient locations to control sediment deposits to downstream surfaces.

5.2 Permanent Erosion and Sediment Control Measures

The permanent erosion and sediment control measures described in the following sections are included as part of the construction documents.

5.2.1 Establishment of Permanent Vegetation

Disturbed areas that will be vegetated must be seeded in accordance with the contract documents. The type of seed, mulch, and maintenance measures as described in the contract documents shall also be followed.

Permanent soil stabilization measures must be initiated by the end of the next business day and completed within fourteen (14) days from the date the soil disturbance activity has permanently ceased.

Final site stabilization is achieved when all soil-disturbing activities at the site have been completed and a uniform, perennial vegetative cover with a density of 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.

5.3 Other Pollutant Controls

Other necessary pollutant controls are listed below:

5.3.1 Solid and Liquid Waste Disposal

No solid or liquid waste materials, including building materials, shall be discharged from the site with stormwater. All solid waste, including disposable materials incidental to any construction activities, must be collected and placed in containers. The containers shall be emptied periodically by a licensed trash disposal service and hauled away from the site.

Substances that have the potential for polluting surface and/or groundwater must be controlled by whatever means necessary in order to ensure that they do not discharge from the site. As an example, special care must be exercised during equipment fueling and servicing operations. If a spill occurs, it must be contained and disposed of so that it will not flow from the site or enter groundwater, even if this requires removal, treatment, and disposal of soil. In this regard, potentially polluting substances should be handled in a manner consistent with the impact they represent.

5.3.2 Sanitary Facilities

Temporary sanitary facilities will be provided by the Contractor throughout the construction phase. They must be utilized by all construction personnel and will be serviced by a licensed commercial Contractor. These facilities must comply with state and local sanitary or septic system regulations.

5.3.3 Water Source

Non-stormwater components of site discharge must be clean water. Water used for construction, which discharges from the site, must originate from a public water supply or private well approved by the Health Department. Water used for construction that does not originate from an approved public supply must not discharge from the site; such water can be retained in temporary ponds/sediment traps until it infiltrates and/or evaporates.

5.4 Construction Housekeeping Practices

During the construction phase, the Contractor(s) will implement the following measures:

5.4.1 Material Stockpiles

Material resulting from clearing and grubbing operations that will be stockpiled on-site, must be adequately protected with downgradient erosion and sediment controls.

5.4.2 Equipment Cleaning and Maintenance

The Contractor(s) will designate areas for equipment cleaning, maintenance, and repair. The Contractor(s) and subcontractor(s) will utilize those areas. The areas will be protected by a temporary perimeter berm.

5.4.3 Detergents

The use of detergents for large-scale washing is prohibited (i.e., vehicles, buildings, pavement surfaces, etc.)

5.4.4 Spill Prevention and Response

A Spill Prevention and Response Plan shall be developed for the site by the Contractor(s). The plan shall detail the steps required in the event of an accidental spill and shall identify contact names and phone numbers of people and agencies that must be notified.

The plan shall include Safety Data Sheets (SDS) for all materials to be stored on-site. All workers on-site will be required to be trained on safe handling and spill prevention procedures for all materials used during construction. Regular tailgate safety meetings shall be held and all workers that are expected on the site during the week shall be required to attend.

5.4.5 Concrete Washout Areas

A temporary concrete washout area shall be provided for every project where concrete will be poured or otherwise formed on-site, and shall consist of an excavated or above-ground lined construction pit where concrete trucks or equipment can be washed out after their loads have been discharged. Waste generated from concrete wash water that shall not be allowed to flow into drainage ways, inlets, receiving waters,

highway right-of-way, or any location other than the designated concrete washout area(s). Proper signage shall be placed adjacent to the facility to designate the "Concrete Washout Area". Locate the facility a minimum of 100-feet from drainage swales, storm drain inlets, wetlands, streams, and other surface waters. Prevent surface water from entering the washout area.

The hardened residue from the concrete wash areas will be disposed of in the same manner as other non-hazardous construction waste materials. Maintenance of the washout area shall include removal of hardened material when 75% of the storage capacity is filled, and a minimum freeboard of 12 inches shall be maintained. The Contractor will be responsible for seeing that these procedures are followed. The project may require the use of multiple concrete washout areas based on the frequency of concrete pours.

5.4.6 Material Storage

Construction materials shall be stored in a dedicated staging area. The staging area shall be located in an area that prevents negative impacts of construction materials on stormwater quality.

Chemicals, paints, solvents, fertilizers, and other toxic material must be stored in waterproof containers. Except during application, the contents must be kept in trucks or within storage facilities. Runoff containing such material must be collected, removed from the site, treated, and disposed of at an approved solid waste or chemical disposal facility.

6.0 STORMWATER MANAGEMENT PLANNING

Chapter 3 of the Design Manual outlines a six-step planning process for site planning and selection of stormwater management practices that must be implemented for both new development and redevelopment projects. This process is intended to develop a design that maintains pre-construction hydrologic conditions through the application of environmentally sound development principles, as well as treatment and control of runoff discharges from the site. The following sections outline the step-by-step process and how it has been applied to this project.

The goals of this Stormwater Management Plan are to maintain the pre-development rate of runoff in order to minimize impacts to adjacent or downstream properties, and to minimize the impact to the quality of runoff exiting the site.

The Design Manual provides both water quality and water quantity objectives to be met by projects requiring a “Full SWPPP”. These objectives will be met by applying stormwater control practices to limit peak runoff rates and improve the quality of runoff leaving the developed site.

6.1 STEP 1 – Site Planning

During the Site Planning process, the project site is evaluated for implementation of the green infrastructure planning measures identified in Table 3.1 of the Design Manual, in order to preserve natural resources and reduce impervious cover. Table A of Appendix I provides a description of each green infrastructure planning measure, along with a project specific evaluation.

6.2 STEP 2 - Determine Water Quality Treatment Volume (WQv)

Stormwater runoff from impervious surfaces is recognized as a significant contributor of pollution that can adversely affect the quality of receiving water bodies. Therefore, treatment of stormwater runoff is important since most runoff related water quality contaminants are transported from land, particularly the impervious surfaces, during the initial stages of storm events.

6.2.1 NYSDEC Requirements for New Development

The Design Manual requires that water quality treatment be provided for the initial flush of runoff from every storm. The NYSDEC refers to the amount of runoff to be treated as the “Water Quality Volume” (WQv). Section 4.2 of the Design Manual defines the Water Quality Volume as follows:

$$WQv = \frac{[(P)(R_v)(A)]}{12}$$

Where: P = 90% Rainfall Event Number
R_v = 0.05 + 0.009 (I)
I = Impervious Cover (Percent)
A = Contributing Area in Acres

This definition ensures that, all other things being equal, the Water Quality Volume will increase along with the impervious cover percentage.

6.2.2 NYSDEC Requirements for Redevelopment Projects

Chapter 9 of the Design Manual outlines alternative WQv treatment objectives for redevelopment projects.

According to Section 9.2.1.B.IV, redevelopment activities can achieve the water quality treatment objective through a combination of impervious cover reduction, standard SMPs, and alternative SMPs that provide a weighted average of at least two of the above methods, calculated as follows:

$$\%WQv \text{ treatment by Alternative Practice} = (25\% - (\% \text{ IC reduction} + \% \text{ WQv treatment by Standard Practice} + \% \text{ runoff reduction})) \times 3$$

This redevelopment project is proposing a combination of 3% impervious cover reduction, and the use of an alternative practice. Although not required, the project also proposes the installation of tree pits and porous pavement to provide 11% runoff reduction. Therefore, the below calculated percentage of the project required WQv must be treated by the proposed alternative practice to meet the water quality objectives for the project.

$$\%WQv \text{ treatment by Alternative Practice} = (25 - (3\% \text{ IC red} + 0\% \text{ WQv by standard SMP} + 11\% \text{ RR})) \times 3 = 33\%$$

6.2.3 Methodology

The Water Quality Volume equation has been applied to the drainage area tributary to each of the stormwater quality practices proposed for this project. The practices have been sized to accommodate the Water Quality Volume, as per the performance criteria presented in Chapter 9 of the Design Manual. Water quality volume calculations for each of the proposed practices are presented in Table B of Appendix I.

6.3 STEP 3 – Apply Runoff Reduction Techniques and Standard SMPs with RRv Capacity to Reduce Total WQv

Land use change and development in the watershed increases the volume of runoff. As such, reductions in the amount of runoff from new development, accomplished through the implementation of a stormwater management plan for the site, will play an important role in the success or failure of the watershed-wide stormwater management plan. Runoff reduction techniques can be applied to manage, reduce, and treat stormwater, while maintaining and restoring natural hydrology through infiltration, evapo-transpiration, and the capture and reuse of stormwater. Volume reduction techniques by themselves typically are not sufficient to provide adequate attenuation of stormwater runoff, but they can decrease the size of the peak runoff rate reduction facilities.

6.3.1 NYSDEC Requirements for Redevelopment

Section 3.2 of the Design Manual indicates, “Although encouraged, meeting the RRv criteria is not required for redevelopment activities that meet the criteria in Chapter 9 of this manual.” This project involves the reconstruction of existing impervious area on a site that has inadequate space for controlling stormwater runoff from the reconstructed area, and poor draining soil conditions, which renders implementation of many RR techniques and SMPs infeasible.

Although not required, porous asphalt, tree pits area proposed for this project and will provide both RRv at the site. A hydrodynamic unit has been applied to the project to meet the remaining WQv objective.

6.3.2 Methodology

In order to reduce the required WQv and meet the RRv criteria, a site specific evaluation must be performed to determine the most practical means of reducing runoff volume by application of a combination of RR techniques and standard SMPs with RRv capacity.

6.3.3 Application of RR Techniques

The following Table demonstrates a summary of the RR techniques being applied for this project, and both the water quality and runoff reduction volumes they provide. The RR Techniques have been designed in accordance with Chapter 5 of the Design Manual. Refer to the contract drawings for practice dimensions, material specifications, and installation details. Practice specific calculations are presented in Appendix I.

Table 3: Summary of RR Techniques being Applied

RR Technique	NYSDEC Design Variant	RRv Capacity	WQv Required (CF)	RRv Provided (CF)	WQv Provided ¹ (CF)	Total WQv Treated ² (CF)
Tree Planting/ Tree Pit	RR-3	100%	263	263	0	263
Porous Pavement	RR-9	100%	558	558	0	558
RR Technique Totals			821	821	0	821
Footnotes:						
¹ WQv Provided = WQV Required - RRv Provided						
² Total WQv Treated = WQV Provided + RRv Provided						

6.3.4 RRv Performance Summary

A summary of the RRv provided is presented in the following table:

Table 4: RRv Summary

WQv Required (CF)	RRv Provided (CF)	% RRv Provided
7,750	821	11

As discussed above, this project is not required to provide runoff reduction. Despite this, a good faith effort has been made to reduce runoff to the greatest extent practical through the installation of tree pits and porous pavement. These two practices combined will provide 11% runoff reduction for the project site. Since the 100% runoff reduction is not provided through this project, Table C of Appendix I provides a project specific evaluation for each RR technique and standard SMP with RRv capacity, demonstrating why these practices are infeasible.

6.4 STEP 4 – Determine the Minimum RRv Required

As previously discussed, meeting the RRv criteria is not required for redevelopment activities with no increase in impervious, that meet the criteria in Chapter 9 of the Design Manual.

6.5 STEP 5 – Apply Standard Stormwater Management Practices or Alternative Practices to Address Remaining Water Quality Volume

If the entire Water Quality Volume is not treated through implementation of RR techniques and standard SMPs with RRv capacity, then the design must achieve the remaining WQv through the standard SMPs listed in Table 3.3 of the Design Manual or the Alternative Practices outlined in Section 9.4 of the Design Manual.

This project does not propose any standard SMPs. Based on the hybrid approach being applied, to meet the WQv objectives 33% of the total WQv for the project must be treated through an alternative practice. As such, the Alternative Practice (without RRv capacity) described in the following section, has been incorporated into the stormwater management plan.

6.5.1 *Hydrodynamic Separators*

Hydrodynamic separators accelerate the separation of floating and settling pollutants from stormwater through the use of a vortex. These pre-fabricated devices come in the form of an underground manhole or vault. The devices have no moving parts and are typically fabricated from concrete and marine grade aluminum.

During operation, stormwater runoff enters the unit tangentially to promote a gentle swirling motion in a treatment chamber. As stormwater circles within the chamber, settleable solids fall into a sump and are retained. Buoyant debris, oil, and grease rise to the surface and are separated from the water as it flows under a baffle wall. Finally, treated water exits the treatment chamber through a flow control orifice located behind the baffle wall.

During low-flow conditions all runoff is diverted into the treatment chamber by a flow partition. At higher flow rates, a portion of the runoff spills over the flow partition and is diverted around the treatment chamber to prevent re-suspension and washout of previously trapped pollutants. Water that spills over the partition flows into a head equalization chamber above the treatment chamber outlet. As the head equalization chamber fills, the head differential driving flow through the treatment chamber collapses. The result is that flow rates in the treatment chamber remain relatively constant even as total flow rates increase substantially. This configuration further reduces the potential for re-suspension or washout.

According to Chapter 9 of the Design Manual, hydrodynamic separators of the type proposed for this project have been approved for use as a pretreatment system in new and redevelopment projects or as a primary treatment system on redevelopment projects.

The table below outlines the treatment provided by the proposed hydrodynamic unit.

Table 5: Summary of WQ Practices

Project WQv (CF)	%WQv Treatment Required by Alternative Practice	WQv Treatment Required by Alternative Practice (CF)	SWM Practice ID	NYSDEC Design Variant	Treatment Volume Provided (CF)
7,750	33	2,558	HYD-1	ALT-1	3,423

Based upon the results listed in the above table, the proposed hydrodynamic unit treats more than the minimum required 33% of the overall project WQv. Therefore, the WQv objective for this project has been met.

6.6 STEP 6 - Apply Volume and Peak Rate Control

This report presents the pre-development and post-development features and conditions associated with the rate of surface water runoff within the study area. For both cases, the drainage patterns, drainage structures, soil types, and ground cover types are considered in this study.

6.6.1 NYSDEC Requirements for New Development

Chapter 4 of the Design Manual requires that projects meet three separate stormwater quantity criteria:

1. The Channel Protection (CPv) requirement is designed to protect stream channels from erosion. This is accomplished by providing 24 hours of extended detention for the 1-year, 24-hour storm event. The Manual defines the CPv detention time as the center of mass detention time through each stormwater management practice.
2. The Overbank Flood Control (Qp) requirement is designed to prevent an increase in the frequency and magnitude of flow events that exceed the bank-full capacity of a channel, and therefore must spill over into the floodplain. This is accomplished by providing detention storage to ensure that, at each design point, the post-development 10-year 24-hour peak discharge rate does not exceed the corresponding pre-development rate.
3. The Extreme Flood Control (Qf) requirement is designed to prevent the increased risk of flood damage from large storm events, to maintain the boundaries of the pre-development 100-year floodplain, and to protect the physical integrity of stormwater management practices. This is accomplished by providing detention storage to ensure that, at each design point, the post-development 100-year 24-hour peak discharge rate does not exceed the corresponding pre-development rate.

Runoff from the project site discharges directly to the Hudson River, which is a fifth order or larger stream. Therefore, as described in Chapter 4 of the Design Manual, the stormwater quantity criteria described above do not apply to this project and a hydrologic/hydraulic analysis comparing pre-development and post-development flows has not been included in this SWPPP.

7.0 INSPECTIONS, MAINTENANCE, AND REPORTING

7.1 Inspection and Maintenance Requirements

7.1.1 *Pre-Construction Inspection and Certification*

Prior to the commencement of construction, the Qualified Inspector/Qualified Professional shall conduct an assessment of the site and certify that the appropriate erosion and sediment control measures have been adequately installed and implemented. The Contractor shall contact the Qualified Inspector/Qualified Professional once the erosion and sediment control measures have been installed.

7.1.2 *Construction Phase Inspections and Maintenance*

A Qualified Inspector/Qualified Professional, as defined in Appendix A of the General Permit GP-0-20-001, shall conduct regular site inspections between the time this SWPPP is implemented and final site stabilization. Site inspections shall occur at an interval of at least once every seven (7) calendar days.

The purpose of site inspections is to assess performance of pollutant controls. Based on these inspections, the Qualified Inspector/Qualified Professional will decide whether it is necessary to modify this SWPPP, add or relocate sediment barriers, or whatever else may be needed in order to prevent pollutants from leaving the site via stormwater runoff. The general contractor has the duty to cause pollutant control measures to be repaired, modified, maintained, supplemented, or whatever else is necessary in order to achieve effective pollutant control.

Examples of particular items to evaluate during site inspections are listed below. This list is not intended to be comprehensive. During each inspection the inspector must evaluate overall pollutant control system performance as well as particular details of individual system components. Additional factors should be considered as appropriate to the circumstances.

1. Locations where vehicles enter and exit the site must be inspected for evidence of off-site sediment tracking. A stabilized construction entrance will be constructed where vehicles enter and exit. This entrance will be maintained or supplemented as necessary to prevent sediment from leaving the site on vehicles.
2. Sediment barriers must be inspected and, if necessary, they must be enlarged or cleaned in order to provide additional capacity. All material from behind sediment barriers will be stockpiled on the up slope side. Additional sediment barriers must be constructed as needed.
3. Inspections will evaluate disturbed areas and areas used for storing materials that are exposed to rainfall for evidence of, or the potential for, pollutants entering the drainage system. If necessary, the materials must be covered or original covers must be repaired or supplemented. Also, protective berms must be constructed, if needed, in order to contain runoff from material storage areas.
4. Grassed areas will be inspected to confirm that a healthy stand of grass is maintained. The site has achieved final stabilization once all areas are covered with building foundation or pavement, or have a stand of grass with at least 80 percent density. The density of 80 percent or greater must be maintained to be considered as stabilized. Areas must be watered, fertilized, and reseeded as needed to achieve this goal.

5. All discharge points must be inspected to determine whether erosion control measures are effective in preventing significant impacts to receiving waters.

The inspection reports must be completed entirely and additional remarks should be included if needed to fully describe a situation. An important aspect of the inspection report is the description of additional measures that need to be taken to enhance plan effectiveness. The inspection report must identify whether the site was in compliance with the SWPPP at the time of inspection and specifically identify all incidents of non-compliance.

Within one (1) business day of the completion of an inspection, the *Qualified Inspector/Qualified Professional* shall notify the Owner/Operator and appropriate contractor or subcontractor of any corrective actions that need to be taken. The contractor or subcontractor shall begin implementing the corrective actions within one (1) business day of the notification and shall complete the corrective actions in a reasonable time frame.

In addition to the inspections performed by the *Qualified Inspector/Qualified Professional*, the Contractor shall perform routine inspections that include a visual check of all erosion and sediment control measures. All inspections and maintenance shall be performed in accordance with the inspection and maintenance schedule provided on the accompanying plans. Sediment removed from erosion and sediment control measures will be exported from the site, stockpiled for later use, or used immediately for general non-structural fill.

It is the responsibility of the general contractor to assure the adequacy of site pollutant discharge controls. Actual physical site conditions or contractor practices could make it necessary to install more structural controls than are shown on the accompanying plans. (For example, localized concentrations of runoff could make it necessary to install additional sediment barriers, sediment traps, etc.) Assessing the need for additional controls and implementing them or adjusting existing controls will be a continuing aspect of this SWPPP until the site achieves final stabilization.

7.1.3 Temporary Suspension of Construction Activities

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 frequency of Qualified Inspector/Qualified Professional inspections can be reduced to once every 30 calendar days. Prior to reducing the frequency of inspections, the Owner/Operator shall notify the NYSDEC Region 4 stormwater contact person and the City of Troy in writing.

7.1.4 Partial Project Completion

For construction sites where soil disturbance activities have been shut down with partial project completion, 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 inspections by the Qualified Inspector/Qualified Professional can stop. Prior to the shutdown, the Owner/Operator shall notify the NYSDEC Region 4 stormwater contact person and the City of Troy in writing.

If soil disturbance activities have not resumed within two years from the date of shutdown, a Notice of Termination (NOT) shall be properly completed and submitted to the NYSDEC.

7.1.5 Post-Construction Inspections and Maintenance

Inspections and maintenance of final stabilization measures and post-construction stormwater management practices shall be performed in accordance with Appendix F, once all disturbed areas are stabilized and all stormwater management systems are in place and operable.

7.2 Reporting Requirements

7.2.1 Inspection Reports

Pursuant to Part IV.C of GP-0-20-001, inspection reports shall be prepared for the duration of construction, as outlined herein, and shall be signed by the *Qualified Inspector* or *Qualified Professional*. A sample inspection form is provided in Appendix D.

At a minimum, each inspection report shall record the following information:

1. Date and time of inspection.
2. Name and title of person(s) performing inspection.
3. A description of the weather and soil conditions (e.g. dry, wet, saturated) at the time of the inspection.
4. 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.
5. 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.
6. Identification of all erosion and sediment control practices and pollution prevention measures that need repair or maintenance.
7. 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.
8. 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.
9. Indication of the 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.
10. 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).
11. Identification and status of all corrective actions that were required by previous inspection.
12. Color photographs, with date stamp, that clearly show the condition of all practices that have been identified as needing corrective actions. The *Qualified Inspector*/*Qualified Professional* 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/Qualified Professional* 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/Qualified Professional* shall attach the 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.

7.2.2 Site Log Book

Pursuant to Part II.D.2 of GP-0-20-001, the Owner/Operator shall retain a copy of the General Permit, NOI, NOI Acknowledgment Letter, MS4 SWPPP Acceptance Form (if applicable), inspection reports, contractor and subcontractor certification forms, and all documentation necessary to demonstrate eligibility under the permit, at the construction site from commencement of construction activity until the date that all areas of disturbance have achieved final stabilization and the Notice of Termination has been submitted to the NYSDEC.

The Site Log Book shall be maintained on-site in a secure location (i.e. job trailer, on-site construction office, or mailbox with lock) and must be accessible during normal business hours to an individual performing a compliance inspection.

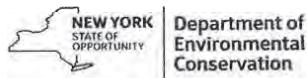
7.2.3 Post Construction Records and Archiving

Following construction, the Owner/Operator shall retain copies of the SWPPP, the complete construction Site Log Book, and records of all data used to complete the NOI to be covered by this permit, for a period of at least five years from the date that the site is finally stabilized. This period may be extended by the NYSDEC, at its sole discretion, at any time upon written notification.

Records shall be maintained of all post construction inspections and maintenance work performed in accordance with the requirements outlined in Appendix F.

Appendix A:
NYSDEC SPDES General Permit GP-0-20-001

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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

A handwritten signature in black ink, appearing to read "John J. Ferguson".

1-23-20

Date

Authorized Signature

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

Discharges 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

(Part I)

(Part I.B.1)
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 discharges*;
 - (ii) Control stormwater *discharges*, 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 *discharges* from the site;
 - (vi) Provide and maintain *natural buffers* around surface waters, direct stormwater to vegetated areas and maximize stormwater infiltration to reduce *pollutant discharges*, 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) *Unloce infeasible, procorvo 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

(Part I.B.1.b)

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.** Discharges from dewatering activities, including discharges 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 discharges 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;

(Part I.B.1.e.iii)

- (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.

<p style="text-align: right;">(Part I.C.2.a.ii)</p> <p>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 <i>infeasible</i>.</p> <p>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.</p> <p>The remaining portion of the total WQv that cannot be reduced shall be treated by application of standard SMPs.</p> <ul style="list-style-type: none"> (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: <ul style="list-style-type: none"> (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: <ul style="list-style-type: none"> (1) the site discharges directly to tidal waters or fifth order or larger streams, or (2) A downstream analysis reveals that <i>overbank</i> 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: <ul style="list-style-type: none"> (1) the site discharges directly to tidal waters or fifth order or larger streams, or (2) A downstream analysis reveals that <i>overbank</i> control is not required. <p>b. Sizing Criteria for New Development in Enhanced Phosphorus Removal Watershed</p> <ul style="list-style-type: none"> (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 	<p style="text-align: right;">(Part I.C.2.b.i)</p> <p>calculated in accordance with the criteria in Section 10.3 of the Design Manual.</p> <ul style="list-style-type: none"> (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 <i>site limitations</i> shall direct runoff from all newly constructed <i>impervious areas</i> to a RR technique or standard SMP with RRV capacity unless <i>infeasible</i>. The specific <i>site limitations</i> that prevent the reduction of 100% of the WQv shall be documented in the SWPPP. For each <i>impervious area</i> 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 <i>infeasible</i>. <p>In no case shall the runoff reduction achieved from the newly constructed <i>impervious areas</i> be less than the Minimum RRV as calculated using the criteria in Section 10.3 of the Design Manual.</p> <p>The remaining portion of the total WQv that cannot be reduced shall be treated by application of standard SMPs.</p> (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: <ul style="list-style-type: none"> (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 <i>discharge</i> rate (Qp) to predevelopment rates. The Qp requirement does not apply when: <ul style="list-style-type: none"> (1) the site discharges directly to tidal waters or fifth order or larger streams, or (2) A downstream analysis reveals that <i>overbank</i> control is not required. (v) Extreme Flood Control Criteria (Qf): Requires storage to attenuate the post-development 100-year, 24-hour peak <i>discharge</i> rate (Qf) to predevelopment rates. The Qf requirement does not apply when: <ul style="list-style-type: none"> (1) the site discharges directly to tidal waters or fifth order or larger streams, or (2) A downstream analysis reveals that <i>overbank</i> control is not required.
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<p style="text-align: right;">(Part I.C.2.c)</p> <p>c. Sizing Criteria for Redevelopment Activity</p> <p>(i) Water Quality Volume (WQv): The WQv treatment objective for <i>redevelopment activity</i> shall be addressed by one of the following options. <i>Redevelopment activities</i> 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 <i>redevelopment activities</i> shall calculate the WQv in accordance with Section 4.2 of the Design Manual.</p> <p>(1) Reduce the existing <i>impervious cover</i> by a minimum of 25% of the total disturbed, <i>impervious area</i>. The Soil Restoration criteria in Section 5.1.6 of the Design Manual must be applied to all newly created <i>permeable areas</i>, or</p> <p>(2) Capture and treat a minimum of 25% of the WQv from the disturbed, <i>impervious area</i> by the application of standard SMPs; or reduce 25% of the WQv from the disturbed, <i>impervious area</i> by the application of RR techniques or standard SMPs with RRv capacity., or</p> <p>(3) Capture and treat a minimum of 75% of the WQv from the disturbed, <i>impervious area</i> 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</p> <p>(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.</p> <p>If there is an existing post-construction stormwater management practice located on the site that captures and treats runoff from the <i>impervious area</i> 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.</p> <p>(ii) Channel Protection Volume (Cpv): Not required if there are no changes to hydrology that increase the <i>discharge</i> rate from the project site.</p> <p>(iii) Overbank Flood Control Criteria (Qp): Not required if there are no changes to hydrology that increase the <i>discharge</i> rate from the project site.</p> <p>(iv) Extreme Flood Control Criteria (Qf): Not required if there are no changes to hydrology that increase the <i>discharge</i> rate from the project site.</p>	<p style="text-align: right;">(Part I.C.2.d)</p> <p>d. Sizing Criteria for Combination of Redevelopment Activity and New Development</p> <p>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.</p> <p>D. Maintaining Water Quality</p> <p>The Department expects that compliance with the conditions of this permit will control <i>discharges</i> necessary to meet applicable <i>water quality standards</i>. It shall be a violation of the <i>ECL</i> for any discharge to either cause or contribute to a violation of <i>water quality standards</i> 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:</p> <ol style="list-style-type: none"> 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. <p>If there is evidence indicating that the stormwater <i>discharges</i> authorized by this permit are causing, have the reasonable potential to cause, or are contributing to a violation of the <i>water quality standards</i>, the <i>owner or operator</i> 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 <i>water quality standard</i> violation the <i>owner or operator</i> may need to provide additional information, include and implement appropriate controls in the SWPPP to correct the problem, or obtain an individual SPDES permit.</p> <p>If there is evidence indicating that despite compliance with the terms and conditions of this general permit it is demonstrated that the stormwater <i>discharges</i> authorized by this permit are causing or contributing to a violation of <i>water quality standards</i>, or if the Department determines that a modification of the permit is necessary to prevent a violation of <i>water quality standards</i>, the authorized <i>discharges</i> will no longer be eligible for coverage under this permit. The Department may require the <i>owner or operator</i> to obtain an individual SPDES permit to continue discharging.</p>
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E. Eligibility Under This General Permit

(Part I.E)

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 *discharges*; 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 *discharges* 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. *Discharges* after *construction activities* have been completed and the site has undergone *final stabilization*;
2. *Discharges* 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;

(Part I.F.4)

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 *discharges* 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 *discharges* 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.

- (Part I.F.8)
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:

- (Part I.F.8.c)
- (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. *Discharges 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

(Part II.B)

- 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

- 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.
- 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.
- 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

- An *owner or operator* shall not commence *construction activity* until their authorization to *discharge* under this permit goes into effect.
- Authorization to *discharge* under this permit will be effective when the *owner or operator* has satisfied all of the following criteria:
 - 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,
 - 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

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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,

- the final SWPPP has been prepared, and
- a complete NOI has been submitted to the Department in accordance with the requirements of this permit.
- 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:
 - For *construction activities* that are not subject to the requirements of a *regulated, traditional land use control MS4*:
 - 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
 - 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 not 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;
 - 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.

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(Part II.C.3.b)

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*

(Part II.D.3)

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 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

(Part II.D.6)

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*

(Part II.F.3)

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;

- (Part III.A.4.b)
- 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

(Part III.A.6)

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"

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

- (Part III.B.1.b)
- 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

- (Part III.B.1.i)
- 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;

- (Part III.B.2.b)
- 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.

- (Part III.B.3)
- 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

(Part IV.B.1)

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

(Part IV.C.1.a)

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.

- (Part IV.C.2.d)
- 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:

- (Part IV.C.4.a)
- 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

- (Part IV.C.4.i)
- I. 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 of 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;

- (Part V.A.2.b)
- 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,

- (Part V.A.5.b)
- 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 R 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

(Part VII.A)

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:

(Part VII.E)

(Part VII.H.1.a)

- (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,

<p style="text-align: right;">(Part VII.H.2.b)</p> <p>superintendent, position of <i>equivalent</i> 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,</p> <ol style="list-style-type: none"> 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 <i>qualified inspector</i> that performs the inspection. 4. The MS4 SWPPP Acceptance form shall be signed by the principal executive officer or ranking elected official from the <i>regulated, traditional land use control MS4</i>, or by a duly authorized representative of that person. <p>It shall constitute a permit violation if an incorrect and/or improper signatory authorizes any required forms, SWPPP and/or inspection reports.</p> <p>I. Property Rights</p> <p>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 <i>commencing construction activity</i>.</p> <p>J. Severability</p> <p>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.</p> <p>K. Requirement to Obtain Coverage Under an Alternative Permit</p> <ol style="list-style-type: none"> 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 	<p style="text-align: right;">(Part VII.K.1)</p> <p>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.</p> <ol style="list-style-type: none"> 2. When an individual SPDES permit is issued to a discharger authorized to discharge under a general SPDES permit for the same <i>discharge(s)</i>, 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. <p>L. Proper Operation and Maintenance</p> <p>The <i>owner or operator</i> 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 <i>owner or operator</i> to achieve compliance with the conditions of this permit and with the requirements of the SWPPP.</p> <p>M. Inspection and Entry</p> <p>The <i>owner or operator</i> shall allow an authorized representative of the Department, EPA, applicable county health department, or, in the case of a <i>construction site</i> which <i>discharges</i> through an <i>MS4</i>, an authorized representative of the <i>MS4</i> receiving the discharge, upon the presentation of credentials and other documents as may be required by law, to:</p> <ol style="list-style-type: none"> 1. Enter upon the <i>owner's or operator's</i> premises where a <i>regulated facility or activity</i> 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
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- (Part VII.M.3)
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

(Part VII.R)

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
FCI – 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
Of – Extreme Flood
Op – Overbank Flood
RRv – Runoff Reduction Volume
RWE – Regional Water Engineer
SEQR – State Environmental Quality Review
SEQR – 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

Appendix A

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

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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.

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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 areas, 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.

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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 sources*. 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 sources*, 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

Appendix A

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:
<ul style="list-style-type: none"> • 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 <i>impervious area</i> 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 <i>impervious cover</i> • 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 <i>impervious area</i> • Temporary access roads, median crossovers, detour roads, lanes, or other temporary <i>impervious areas</i> 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:
<ul style="list-style-type: none"> • Single family home located in one of the watersheds listed in Appendix C or <i>directly discharging</i> 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 <i>directly discharging</i> 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% <i>impervious cover</i> 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 <i>impervious area</i> (>5% of disturbed area) or <i>alter the hydrology from pre to post development conditions</i> • Commercial developments • Churches and other places of worship • Construction of a barn or other <i>agricultural building</i> (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 <i>impervious area</i>, 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 <i>impervious area</i> • 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

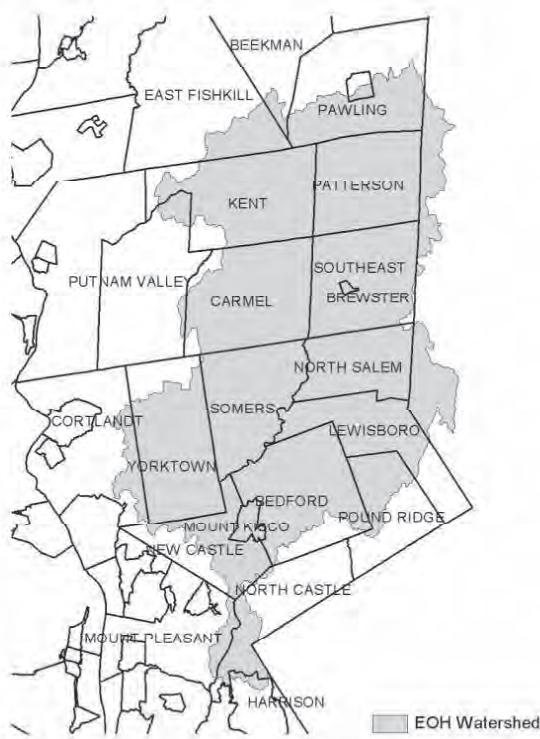
Figure 1 - New York City Watershed East of the Hudson**Figure 2 - Onondaga Lake Watershed**

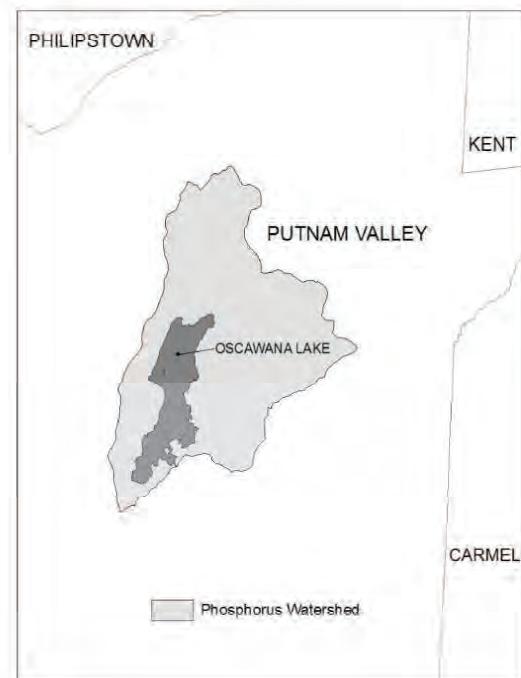
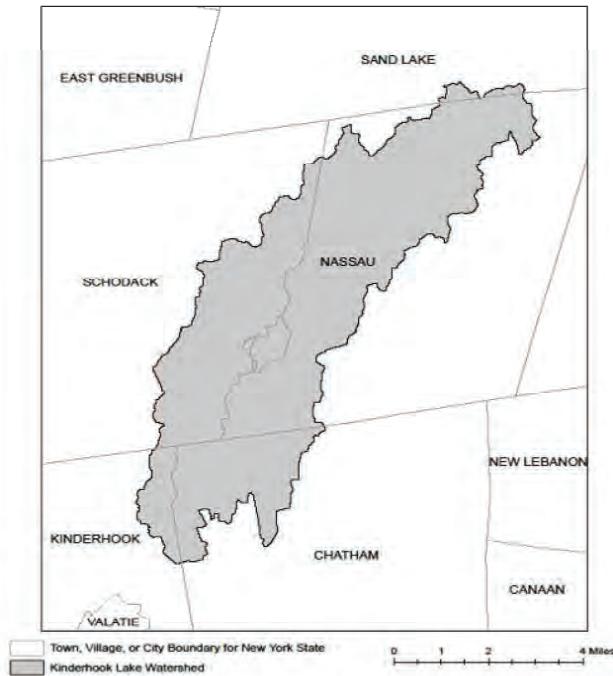
Figure 3 - Greenwood Lake Watershed**Figure 4 - Oscawana Lake Watershed**

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 trib	Nutrients
Chautauqua	Chautauqua Lake, North	Nutrients
Chautauqua	Chautauqua Lake, South	Nutrients
Chautauqua	Findley Lake	Nutrients
Chautauqua	Hulbert/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 trib	Nutrients
Dutchess	Hillside Lake	Nutrients
Dutchess	Wappingers Lake	Nutrients
Dutchess	Wappingers Lake	Silt/Sediment
Erie	Beeman Creek and trib	Nutrients
Erie	Ellicott Creek, Lower, and trib	Silt/Sediment
Erie	Ellicott Creek, Lower, and trib	Nutrients
Erie	Green Lake	Nutrients
Erie	Little Sister Creek, Lower, and trib	Nutrients
Erie	Murder Creek, Lower, and trib	Nutrients
Erie	Rush Creek and trib	Nutrients
Erie	Scajaquada Creek, Lower, and trib	Nutrients
Erie	Scajaquada Creek, Middle, and trib	Nutrients
Erie	Scajaquada Creek, Upper, and trib	Nutrients
Erie	South Branch Smoke Cr, Lower, and trib	Silt/Sediment
Erie	South Branch Smoke Cr, Lower, and trib	Nutrients
Essex	Lake Champlain, Main Lake, South	Nutrients
Essex	Lake Champlain, South Lake	Nutrients
Essex	Willsboro Bay	Nutrients
Genesee	Bigelow Creek and trib	Nutrients
Genesee	Black Creek, Middle, and minor trib	Nutrients
Genesee	Black Creek, Upper, and minor trib	Nutrients
Genesee	Bowen Brook and trib	Nutrients
Genesee	LeRoy Reservoir	Nutrients
Genesee	Oak Orchard Cr, Upper, and trib	Nutrients
Genesee	Tonawanda Creek, Middle, Main Stem	Nutrients
Greene	Schoharie Reservoir	Silt/Sediment
Greene	Sleepy Hollow Lake	Silt/Sediment
Herkimer	Steele Creek trib	Silt/Sediment
Herkimer	Steele Creek trib	Nutrients
Jefferson	Moon Lake	Nutrients
Kings	Hendrix Creek	Nutrients
Kings	Prospect Park Lake	Nutrients
Lewis	Mill Creek/South Branch, and trib	Nutrients
Livingston	Christie Creek and trib	Nutrients
Livingston	Conesus Lake	Nutrients
Livingston	Mill Creek and minor trib	Silt/Sediment
Monroe	Black Creek, Lower, and minor trib	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 trib	Nutrients
Monroe	Mill Creek/Blue Pond Outlet and trib	Nutrients
Monroe	Minor Tribs to Irondequoit Bay	Nutrients
Monroe	Rochester Embayment - East	Nutrients
Monroe	Rochester Embayment - West	Nutrients
Monroe	Shipbuilders Creek and trib	Nutrients
Monroe	Thomas Creek/White Brook and trib	Nutrients
Nassau	Beaver Lake	Nutrients
Nassau	Camaans Pond	Nutrients
Nassau	East Meadow Brook, Upper, and trib	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 trib	Nutrients
Nassau	Milburn/Personage Creeks, Upp, and trib	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 trib	Nutrients
Niagara	Hyde Park Lake	Nutrients
Niagara	Lake Ontario Shoreline, Western	Nutrients
Niagara	Lake Ontario Shoreline, Western	Nutrients
Oneida	Ballou, Nail Creeks and trib	Nutrients
Onondaga	Harbor Brook, Lower, and trib	Nutrients
Onondaga	Ley Creek and trib	Nutrients
Onondaga	Minor Tribs to Onondaga Lake	Nutrients
Onondaga	Ninemile Creek, Lower, and trib	Nutrients
Onondaga	Onondaga Creek, Lower, and trib	Nutrients
Onondaga	Onondaga Creek, Middle, and trib	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 trib	Silt/Sediment
Ontario	Great Brook and minor trib	Nutrients
Ontario	Hemlock Lake Outlet and minor trib	Nutrients
Ontario	Honeoye Lake	Nutrients
Orange	Greenwood Lake	Nutrients
Orange	Monhagen Brook and trib	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 trib (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/Brady's Pond	Nutrients
Rockland	Congers Lake, Swartout Lake	Nutrients
Rockland	Rockland Lake	Nutrients
Saratoga	Ballston Lake	Nutrients
Saratoga	Dwaas Kill and trib	Silt/Sediment
Saratoga	Dwaas Kill and trib	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
Shereca	Reeder Creek and trib	Nutrients
St.Lawrence	Black Lake Outlet/Black Lake	Nutrients
St.Lawrence	Fish Creek and minor trib	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 trib	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 trib	Nutrients
Suffolk	Quantuck Bay	Nutrients
Suffolk	Shinnecock Bay and Inlet	Nutrients
Suffolk	Tidal trib 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 trib	Nutrients
Ulster	Ashokan Reservoir	Silt/Sediment
Ulster	Esopus Creek, Upper, and minor trib	Silt/Sediment
Warren	Hiague Brook and trib	Silt/Sediment

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

Warren	Huddle/Finkle Brooks and trib	Silt/Sediment
Warren	Indian Brook and trib	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 trib	Nutrients
Wayne	Port Bay	Nutrients
Westchester	Amawalk Reservoir	Nutrients
Westchester	Blind Brook, Upper, and trib	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 Shenrock	Nutrients
Westchester	Long Island Sound, Westchester (East)	Nutrients
Westchester	Mamaroneck River, Lower	Silt/Sediment
Westchester	Mamaroneck River, Upper, and minor trib	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 trib	Nutrients
Westchester	Saw Mill River, Middle, and trib	Nutrients
Westchester	Sheldrake River and trib	Silt/Sediment
Westchester	Sheldrake River and trib	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 HUNTING POINT PLAZA, 47-40 21ST ST. LONG ISLAND CITY, NY 11101-5407 TEL. (718) 482-4997	1 HUNTING POINT PLAZA, 47-40 21ST ST. LONG ISLAND CITY, NY 11101-5407 TEL. (718) 482-4933
3	DUTCHESSE, ORANGE, PUTNAM, ROCKLAND, SULLIVAN, ULSTER AND WESTCHESTER	21 SOUTH PUTT CORNERS ROAD NEW PALTZ, NY 12561-1696 TEL. (845) 256-3059	100 HILLSDALE AVENUE, SUITE 1W WHITE PLAINS, NY 10603 TEL. (914) 428 -2505
4	ALBANY, COLUMBIA, DELAWARE, GREENE, MONTGOMERY, OTSEGO, RENSSELAER, SCHENECTADY AND SCHUYLER	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 266 RAY BROOK, NY 12977-0266 TEL. (518) 897-1234	232 GOLF COURSE ROAD WATKINSVILLE, NY 12885-1172 TEL. (518) 623-1200
6	HERKIMER, JEFFERSON, LEWIS, ONEIDA AND ST. LAWRENCE	STATE OFFICE BUILDING 317 WATERTOWN STREET WATERTOWN, NY 13601-3787 TEL. (315) 785-2245	STATE OFFICE BUILDING 207 GENESSEE 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, ORLEANAS, SCOTT, SENECA, STEUBEN, WAYNE AND YATES	6274 EAST AVON-LIMA ROAD AVON, 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) 851-7076

Appendix B: NYSDEC Forms

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NOTICE OF INTENT



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

**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)

1 M o n u m e n t S q L L C

Owner/Operator Contact Person Last Name (NOT CONSULTANT)

G | u | p | t | a

Owner/Operator Contact Person First Name

S u m e e t

Owner/Operator Mailing Address

4 1 Saraz en Street

City

S a r a t o g a S p r i n g s

State

N	Y
---	---

Phone (Owner/Operator)

$$\begin{array}{r} 518 \\ - 542 \\ \hline 1245 \end{array}$$

Fax (Owner/Operator)

Email (Owner/Operator)

s_gupta@hbrownstone.com

FED. TAX ID

_____ - _____ (not required for individuals)

Project Site Information

Project/Site Name

One Monument Square

Street Address (NOT P.O. BOX)

One Monument Square

Side of Street

 North South East West

City/Town/Village (THAT ISSUES BUILDING PERMIT)

City of Troy

State

N Y

1 2 1 8 0 -

Zip

5 0 0

County

Rensselaer

DEC Region

4

Name of Nearest Cross Street

Broadway

Distance to Nearest Cross Street (Feet)

3 0

Project In Relation to Cross Street

 North South East WestTax Map Numbers
Section-Block-Parcel

1 0 1 . 5 3 - 1 - 1

Tax Map Numbers

1 0 0 . 6 0 - 1 - 2

1. Provide the Geographic Coordinates for the project site in NYTM Units. To do this you must go to the NYSDEC Stormwater Interactive Map on the DEC website at:

www.dec.ny.gov/imsmaps/stormwater/viewer.htm

Zoom into your Project Location such that you can accurately click on the centroid of your site. Once you have located your project site, go to the tool boxes on the top and choose "i"(identify). Then click on the center of your site and a new window containing the X, Y coordinates in UTM will pop up. Transcribe these coordinates into the boxes below. For problems with the interactive map use the help function.

X Coordinates (Easting)

6 0 7 0 3 1

Y Coordinates (Northing)

4 7 3 1 8 2 7

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

Demo Commercial

**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

Mixed Use

***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
<input type="text"/> <input type="text"/> 2 . 0	<input type="text"/> <input type="text"/> 1 . 9	<input type="text"/> <input type="text"/> 1 . 7	<input type="text"/> <input type="text"/> 1 . 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 <input type="text"/> <input type="text"/> %	B <input type="text"/> <input type="text"/> %	C <input type="text"/> <input type="text"/> %	D <input type="text"/> 0 <input type="text"/> 0 %
---	---	---	---

7. Is this a phased project?

Yes No

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

Start Date <input type="text"/> 1 0 / <input type="text"/> 3 1 / <input type="text"/> 2 0 2 2	End Date <input type="text"/> 1 2 / <input type="text"/> 3 1 / <input type="text"/> 2 0 2 5
---	---

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

Name

H u d s o n R i v e r

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?

If no, skip question 13.

- Yes
- No

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?

If Yes, what is the acreage to be disturbed?

- Yes
- No

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?

C i t y o f T r o y

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

***A portion of the property is owned by the City of Troy**

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

The Chazens Companies

Contact Name (Last, Space, First)

K e a t i n g , R o g e r

Mailing Address

4 British American Boulevard

City

L a t h a m

State Zip

N Y 1 2 1 1 0 -

Phone

$$\begin{array}{r} 518 \\ - 273 \\ \hline 0055 \end{array}$$

Fax

$$\begin{array}{r} 5 \ 1 \ 8 \\ - 2 \ 7 \ 3 \\ \hline 8 \ 3 \ 9 \ 1 \end{array}$$

Email

r k e a t i n g @ c h a z e n c o m p a n i e s . c o m

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

R o g e r

MT

E

Last Name

K e a t i n g

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

Other

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

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	.	0	5	9	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)		
<input type="radio"/> Conservation of Natural Areas (RR-1)	and/or .
<input type="radio"/> Sheetflow to Riparian Buffers/Filters Strips (RR-2)	and/or .
<input checked="" type="radio"/> Tree Planting/Tree Pit (RR-3)	0 . 0 7 7	and/or 0 . 0 6 9
<input type="radio"/> Disconnection of Rooftop Runoff (RR-4)	and/or .
RR Techniques (Volume Reduction)		
<input type="radio"/> Vegetated Swale (RR-5)
<input type="radio"/> Rain Garden (RR-6)
<input type="radio"/> Stormwater Planter (RR-7)
<input type="radio"/> Rain Barrel/Cistern (RR-8)
<input checked="" type="radio"/> Porous Pavement (RR-9)	0 . 1 4 7	
<input type="radio"/> Green Roof (RR-10)
Standard SMPs with RRv Capacity		
<input type="radio"/> Infiltration Trench (I-1)
<input type="radio"/> Infiltration Basin (I-2)
<input type="radio"/> Dry Well (I-3)
<input type="radio"/> Underground Infiltration System (I-4)
<input type="radio"/> Bioretention (F-5)
<input type="radio"/> Dry Swale (O-1)
Standard SMPs		
<input type="radio"/> Micropool Extended Detention (P-1)
<input type="radio"/> Wet Pond (P-2)
<input type="radio"/> Wet Extended Detention (P-3)
<input type="radio"/> Multiple Pond System (P-4)
<input type="radio"/> Pocket Pond (P-5)
<input type="radio"/> Surface Sand Filter (F-1)
<input type="radio"/> Underground Sand Filter (F-2)
<input type="radio"/> Perimeter Sand Filter (F-3)
<input type="radio"/> Organic Filter (F-4)
<input type="radio"/> Shallow Wetland (W-1)
<input type="radio"/> Extended Detention Wetland (W-2)
<input type="radio"/> Pond/Wetland System (W-3)
<input type="radio"/> Pocket Wetland (W-4)
<input type="radio"/> Wet Swale (O-2)

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

<u>Alternative SMP</u>	<u>Total Contributing Impervious Area (acres)</u>						
<input checked="" type="radio"/> Hydrodynamic	0	8	9	7			
<input type="radio"/> Wet Vault							
<input type="radio"/> Media Filter							
<input type="radio"/> Other <input type="text" value=" "/>							

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

Name

Manufacturer

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

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

Total RRv provided

acre-feet

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

Yes No

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

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

Minimum RRv Required

acre-feet

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

Yes No

If Yes, go to question 33.

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

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

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

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

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

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

WQv Provided

		0	.	0	7	9
--	--	---	---	---	---	---

 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).

		0	.	0	9	8
--	--	---	---	---	---	---

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

If Yes, go to question 36.

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

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

CPv Required

			.			
--	--	--	---	--	--	--

 acre-feet

CPv Provided

			.			
--	--	--	---	--	--	--

 acre-feet

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

- Site discharges directly to tidal waters or a fifth order or larger stream.
- Reduction of the total CPv is achieved on site through runoff reduction techniques or infiltration systems.

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

Total Overbank Flood Control Criteria (Qp)

Pre-Development

			.			
--	--	--	---	--	--	--

 CFS

Post-development

			.			
--	--	--	---	--	--	--

 CFS

Total Extreme Flood Control Criteria (Qf)

Pre-Development

			.			
--	--	--	---	--	--	--

 CFS

Post-development

			.			
--	--	--	---	--	--	--

 CFS

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

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

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

Yes No

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

City of Troy

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.

According to Section 9.2.1.B.IV of the New York State Stormwater Design Manual, redevelopment activities can achieve the water quality treatment objective through a combination of impervious cover reduction, standard SMPs, and alternative SMPs that provide a weighted average of at least two of the above methods, calculated as follows:

$$\%WQv \text{ treatment by Alternative Practice} = (25\% - (\% \text{ IC reduction} + \% \text{ WQv treatment by Standard Practice} + \% \text{ runoff reduction})) \times 3$$

The proposed project provides 3% impervious cover reduction, no standard practices and 11% runoff reduction. Therefore, the percent of the total project WQv (0.178 acre-ft) required to be treated by the hydrodynamic unit is 33% (0.059 acre-ft). The hydrodynamic unit provides more than the required treatment. Therefore the project meets the water quality objectives.

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 1
 - Endangered or Threatened Species (Incident)
 - Individual SPDES
 - SPDES Multi-Sector GP

--	--	--	--	--	--	--	--	--	--
 - Other

--	--	--	--	--	--	--	--	--	--
 - None

41. Does this project require a US Army Corps of Engineers
Wetland Permit?
If Yes, Indicate Size of Impact. .

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

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	V	P		
---	---	---	--	--

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

S u m e e t

MI

1

Print Last Name

G u p t a

Owner/Operator Signature

Date _____

/ /



**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: 1 Monument Sq LLC
2. Contact Person: Sumeet Gupta
3. Street Address: 41 Sarazen Street
4. City/State/Zip: Saratoga Springs, NY 12866

II. Project Site Information

5. Project/Site Name: One Monument Square
6. Street Address: One Monument Square
7. City/State/Zip: Troy, NY 12180

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

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: 1 Monument Sq LLC

2. Street Address: 41 Sarazen Street

3. City/State/Zip: Saratoga Springs, NY 12866

4. Contact Person: Sumeet Gupta 4a. Telephone: 518-542-1245

4b. Contact Person E-Mail: sgupta@hbrownstone.com

II. Project Site Information

5. Project/Site Name: One Monument Square

6. Street Address: One Monument Square

7. City/Zip: Troy, NY 12180

8. County: Rensselaer

III. Reason for Termination

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

9b. Permit coverage has been transferred to new owner/operator. Indicate new owner/operator's permit identification number: NYR _____

(Note: Permit coverage can not be terminated by owner identified in I.1. above until new owner/operator obtains coverage under the general permit)

9c. Other (Explain on Page 2)

IV. Final Site Information:

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

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

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

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

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

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

- Post-construction stormwater management practice(s) and any right-of-way(s) needed to maintain practice(s) have been deeded to the municipality.
- Executed maintenance agreement is in place with the municipality that will maintain the post-construction stormwater management practice(s).
- For post-construction stormwater management practices that are privately owned, a mechanism is in place that requires operation and maintenance of the practice(s) in accordance with the operation and maintenance plan, such as a deed covenant in the owner or operator's deed of record.
- For post-construction stormwater management practices that are owned by a public or private institution (e.g. school, university or hospital), government agency or authority, or public utility; policy and procedures are in place that ensures operation and maintenance of the practice(s) in accordance with the operation and maintenance plan.

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

11. Is this project subject to the requirements of a regulated, traditional land use control MS4? yes
 no

(If Yes, complete section VI - "MS4 Acceptance" statement)

V. Additional Information/Explanation:

(Use this section to answer questions 9c. and 10b., if applicable)

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

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

Printed Name:

Title/Position:

Signature:

Date:

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

VII. Qualified Inspector Certification - Final Stabilization:

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

Printed Name:

Title/Position:

Signature:

Date:

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

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

Printed Name:

Title/Position:

Signature:

Date:

IX. Owner or Operator Certification

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

Printed Name:

Title/Position:

Signature:

Date:

Appendix C:
Contractor's Certification Form
Subcontractor's Certification Form

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**Stormwater Pollution Prevention Plan
Contractor Certification Statement
(Responsible for overall SWPPP Compliance)**

One Monument Square
One Monument Square, City of Troy, Rensselaer County, New York

This is to certify that the following contracting firm will be responsible for installing, constructing, repairing, inspecting and/or maintaining the erosion and sediment control practices and post-construction stormwater management control practices required by the SWPPP.

Contracting Firm Information

Name: _____

Address: _____

Telephone & Fax: _____

Trained Contractor(s)¹ Responsible for SWPPP Implementation (Provide name, title, and date of last training)

Prior to commencement of construction activity, the following certification shall be issued:

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.

Printed Name: _____

Title/Position: _____

Signature: _____ Date: _____

Upon completion of construction activities, the following certification shall be issued, prior to issuance of the NOT:

I hereby certify that that all permanent stormwater management practices required by the SWPPP have been installed in accordance with the contract documents. I further certify that all temporary erosion and sediment control measures have been removed from the site, and that the on-site soils disturbed by construction activity have been restored in accordance with the SWPPP and the NYSDEC Division of Water's publication "Deep-Ripping and Decompaction".

Printed Name: _____

Title/Position: _____

Signature: _____ Date: _____

¹ "Trained Contractor" means an employee from a contracting (construction) company 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 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" will be responsible for the day to day implementation of the SWPPP.

² Signatory Requirements:

- a. For a corporation, this form shall be signed by (i) a president, secretary, treasurer, or vice-president of the corporation in charge of a principle 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, this form shall be signed by a general partner or the proprietor, respectively.
- c. For a municipality, State, Federal, or other public agency, this form 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).

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**Stormwater Pollution Prevention Plan
Subcontractor Certification Statement
(whose work involves soil disturbance)**

One Monument Square
One Monument Square, City of Troy, Rensselaer County, New York

Each Subcontractor whose work will involve soil disturbance of any kind is required to complete and sign this Certification Statement before commencing any construction activity at the site. This completed Certification Statement(s) shall be maintained at the construction site in the Site Log Book.

Subcontracting Firm Information

Name: _____

Address: _____

Telephone & Fax: _____

Trained Contractor(s)² Responsible for SWPPP Implementation (Provide name, title, and date of last training)

Prior to commencement of construction activities, the following certification shall be issued:

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.

Printed Name: _____

Title/Position: _____

Signature: _____ Date: _____

² "Trained Contractor" means an employee from a contracting (construction) company 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 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" will be responsible for the day to day implementation of the SWPPP.

² Signatory Requirements:

- a. For a corporation, this form shall be signed by (i) a president, secretary, treasurer, or vice-president of the corporation in charge of a principle 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, this form shall be signed by a general partner or the proprietor, respectively.
- c. For a municipality, State, Federal, or other public agency, this form 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).

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Appendix D:
SWPPP Inspection Report
(Sample Form)

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**Stormwater Pollution Prevention Plan
Inspection Report**

One Monument Square
One Monument Square, City of Troy, Rensselaer County, New York

A Qualified Inspector¹ shall prepare an inspection report subsequent to each and every inspection, as required in Part IV.C of the SPDES General Permit GP-0-20-001. All sections of this report are to be completed.

1. Inspection Information

Inspection number: _____

Date and Time of Inspection: _____

Weather Conditions: _____

Soil Conditions (e.g. dry, wet, saturated): _____

2. Inspector Information

Qualified Inspector¹

Printed Name: _____ Date: _____

Signature: _____

Qualified Professional¹

Printed Name: _____ Date: _____

Signature: _____

3. On the included site plan, provide a sketch of areas that are disturbed at the time of the inspection and areas that have been stabilized (temporary and/or final) since the last inspection. Provide additional descriptions below if necessary.

¹ A Qualified Inspector means a person that is knowledgeable in the principles and practices of erosion and sediment control, such as 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.

4. In the following table, provide a description of the condition of the runoff at all points of discharge from the construction site, including conveyance systems (pipes, culverts, ditches, etc.) and overland flow. Provide a description of the condition of all natural surface waterbodies located within the property boundaries of the construction site which receive runoff from disturbed areas. Identify any discharges of sediment from the construction site. Use additional sheets if necessary.

Description of Discharge Point/Adjacent Natural Surface Waterbodies	Condition of Runoff	Sediment Discharge Noted
		Yes / No

5. For all discharge points where sediment discharge has been noted in the above table, provide detailed corrective actions that are required. Use additional sheets if necessary.
-
-
-
-
-
-
-
-
-
-
-
-
-
-

6. In the following table, provide checkmarks in the appropriate columns to indicate the condition of all erosion and sediment control practices at the site.

Erosion & Sediment Control Practice	Not Applicable	Functioning as Designed	Needs Repair or Maintenance	Not Installed Properly	Date Deficiency First Reported (If Applicable)	Deficiency Corrected? Y/N (If Applicable)
Temporary Erosion & Sediment Control Practices						
Stabilized construction entrance						
Silt fence						
Inlet protection measures						
Soil stockpiles						
Dust control measures						
Pavement sweeping						
Temporary stabilization						
Dewatering operations						
Slope protection measures						
Temporary parking areas						
Concrete washout						
Temporary swales and berms						
Stone check dams						
Sediment traps						
Fiber Roll						
Other:						
Permanent Erosion & Sediment Control Practices						
Rock outlet protection						
Permanent turf reinforcement						
Permanent stabilization						
Other:						

7. For all erosion and sediment control practices identified in the above table as "needs repair or maintenance" or "not installed properly", provide detailed corrective actions that are required. Use additional sheets if necessary.

8. In the following table, indicate the current phase of construction of all post-construction stormwater management practices and identify all construction that is not in conformance with the SWPPP and technical standards.

SWM Practice	Current Phase of Construction	Items not in conformance with the SWPPP

9. For all post-construction stormwater management practices which are identified in the above table as including "items not in conformance with the SWPPP", provide detailed corrective action(s) that are required to correct the deficiencies. Use additional sheets if necessary.

Photo Log

<i>Date – Item in need of repair or maintenance:</i>	<i>Date – Corrected Action:</i>
<i>Date – Item in need of repair or maintenance:</i>	<i>Date – Corrected Action:</i>
<i>Date – Item in need of repair or maintenance:</i>	<i>Date – Corrected Action:</i>

Photo Log

<i>Date – Item in need of repair or maintenance:</i>	<i>Date – Corrected Action:</i>
<i>Date – Item in need of repair or maintenance:</i>	<i>Date – Corrected Action:</i>
<i>Date – Item in need of repair or maintenance:</i>	<i>Date – Corrected Action:</i>

Appendix E:
NYSDEC “Deep-Ripping and
Decompaction,” April 2008

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New York State
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Water

Deep-Ripping and Decompaction

Document Prepared by:

John E. Lacey,
Land Resource Consultant and Environmental Compliance Monitor
(Formerly with the Division of Agricultural Protection and Development Services,
NYS Dept. of Agriculture & Markets)

April 2008

New York State
Department of Environmental Conservation

Alternative Stormwater Management Deep-Ripping and Decomposition

Recommended Application of Practice

Description

The two-phase practice of 1) "Deep Ripping," and 2) "Decompaction" (deep subsoiling) of the soil material as a step in the cleanup and restoration/landscaping of a construction site, helps mitigate the physically induced impacts of soil compaction; i.e.: soil compaction or the substantial increase in the bulk density of the soil material.

Deep Ripping and Decompaaction are key factors which help in restoring soil pore space and permeability for water infiltration. Conversely, the physical actions of cut-and-fill work, land grading, the ongoing movement of construction equipment and the transport of building materials throughout a site alter the architecture and structure of the soil, resulting in: the mixing of layers (horizons) of soil materials, compression of those materials and diminished soil porosity which, if left unchecked, severely impairs the soil's water holding capacity and vertical drainage (rainfall infiltration), from the surface downward.

In a humid climate region, compaction damage on a site is virtually guaranteed over the duration of a project. Soil in very moist to wet condition when compacted, will have severely reduced permeability. Figure 1 displays the early stage of the deep-ripping phase (Note that all topsoil was stripped prior to construction access, and it remains stockpiled until the next phase – decompaction – is complete). A heavy-duty tractor is pulling a three-chank ripper on the first of several series of incrementally deepening passes through the construction access corridor's densely compressed subsoil material. Figure 2 illustrates the approximate volumetric composition of a loam surface soil when conditions are good for plant growth, with adequate natural pore space for fluctuating moisture conditions.

The objective of Deep Ripping and Decompaction is to effectively fracture (vertically and laterally) through the thickness of the physically compressed subsoil material (see Figure 3), restoring soil porosity and permeability and aiding infiltration to help reduce runoff. Together with topsoil stripping, the "two-phase" practice of Deep Ripping and Decompaction first became established as a "best management practice" through ongoing success on commercial farmlands affected by heavy utility construction right-of-way projects (transmission pipelines and large power lines).

Soil permeability, soil drainage and cropland productivity were restored. For broader construction application, the two-phase practice of Deep Ripping and Decompaction is best adapted to areas impacted with significant soil compaction, on contiguous open portions of large construction sites and inside long, open construction corridors used as temporary access over the duration of construction. Each mitigation area should have minimal above-and-below-ground obstructions for the easy avoidance and maneuvering of a large tractor and ripping/decompacting implements. Conversely, the complete two-phase practice is not recommended in congested or obstructed areas due to the limitations on tractor and implement movement.



Fig. 3. Construction site with significant compaction of the deep basal till subsoil extends 24 inches below this exposed cut-and-fill work surface.

Benefits

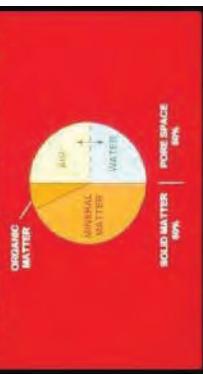


Fig. 2. About 50% of the volume of undisturbed loam surface soil is pore space, when soil is in good condition for plant growth. Brady, 2002.



Fig. 1. A typical deep ripping phase of this practice, during the first in a series of progressively deeper "rips" through severely compressed subsoil.

- Aggressive "deep ripping" through the compressed thickness of exposed subsoil before the replacement/reshaping of the topsoil layer, followed by "decompaction," i.e.: "sub-soiling," through the restored topsoil layer down into the subsoil, offers the following benefits:
 - Increases the project (larger size) area's direct surface infiltration of rainfall by providing the open site's mitigated soil condition and lowers the demand on concentrated runoff control structures
 - Enhances direct groundwater recharge through greater dispersion across and through a broader surface than afforded by some runoff-control structural measures
 - Decreases runoff volume generated and provides hydrologic source control
 - May be planned for application in feasible open locations either alone or in

- conjunction with plans for structural practices (e.g., subsurface drain line or infiltration basin) serving the same or contiguous areas
- Promotes successful long-term revegetation by restoring soil permeability, drainage and water holding capacity for healthy (rather than restricted) root system development of trees, shrubs and deep rooted ground cover, minimizing plant drowning during wet periods and burnout during dry periods.

Feasibility/Limitations

The effectiveness of Deep Ripping and Decomposition is governed mostly by site factors such as: the original (undisturbed) soil's hydrologic characteristics; the general slope; local weather/timing (soil moisture) for implementation; the space-related freedom of equipment/implementation maneuverability (noted above in **Recommended Application of Practice**), and by the proper selection and operation of tractor and implements (explained below in **Design Guidance**). The more notable site-related factors include:

Soil

In the undisturbed condition, each identified soil type comprising a site is grouped into one of four categories of soil hydrology. Hydrologic Soil Group A, B, C or D, determined primarily by a range of characteristics including soil texture, drainage capability when thoroughly wet, and depth to water table. The natural rates of infiltration and transmission of soil-water through the undisturbed soil layers for Group A is "high" with a low runoff potential while soils in Group B are moderate in infiltration and the transmission of soil-water with a moderate runoff potential, depending somewhat on slope. Soils in Group C have slow rates of infiltration and transmission of soil-water and a moderately high runoff potential influenced by soil texture and slope; while soils in Group D have exceptionally slow rates of infiltration and transmission of soil-water, and high runoff potential.

In Figure 4, the profile displays the undisturbed horizons of a soil in Hydrologic Soil Group C and the naturally slow rate of infiltration through the subsoil. The slow rate of infiltration begins immediately below the topsoil horizon (30 cm), due to the limited amount of macro pores, e.g.: natural subsoil fractures, worm holes and root channels. Infiltration after the construction-induced mixing and compression of such subsoil material is virtually absent; but can be restored back to this natural level with the two-phase practice of deep ripping and decomposition, followed by the permanent establishment of an appropriate, deep taproot

lawn/ground cover to help maintain the restored subsoil structure. Infiltration after construction-induced mixing and compression of such subsoil material can be notably rehabilitated with the Deep Ripping and Decomposition practice, which prepares the site for the appropriate long-term lawn/ground cover mix including deep taproot plants such as clover, fescue or trefoil, etc. needed for all rehabilitated soils.

Generally, soils in Hydrologic Soil Groups A and B, which respectively may include deep, well-drained, sandy-gravelly materials or deep, moderately well-drained basalt till materials, are among the easier ones to restore permeability and infiltration, by deep ripping and decompression. Among the many different soils in Hydrologic Soil Group C are those unique glacial tills having a natural fragipan zone, beginning about 12 to 18 inches (30 – 45cm), below surface. Although soils in Hydrologic Soil Group C do require a somewhat more carefully applied level of the Deep Ripping and Decomposition practice, it can greatly benefit such affected areas by reducing the runoff and fostering infiltration to a level equal to that of pre-disturbance.

Soils in Hydrologic Soil Group D typically have a permanent high water table close to the surface, influenced by a clay or other highly impervious layer of material. In many locations with clay subsoil material, the bulk density is so naturally high that heavy trafficking has little or no added impact on infiltration, and structural runoff control practices rather than Deep Ripping and Decomposition should be considered.

The information about Hydrologic Soil Groups is merely a general guideline. Site-specific data such as limited depths of cut-and-fill grading with minimal removal or translocation of the inherent subsoil materials (as analyzed in the county soil survey) or, conversely, the excavation and translocation of deeper, unconsolidated substratum or consolidated bedrock materials (unlike the analyzed subsoil horizons' materials referred to in the county soil survey) should always be taken into account.

Sites made up with significant quantities of large rocks, or having a very shallow depth to bedrock, are not conducive to deep ripping and decomposition (subsoiling); and other measures may be more practical.

Slope

The two-phase application of 1) deep ripping and 2) decompression (deep subsoiling), is most practical on flat, gentle and moderate slopes. In some situations, such as but not limited to temporary construction access corridors, inclusion areas that are moderately steep along a project's otherwise gentle or moderate slope may also be deep ripped and decompressed. For limited instances of moderate steepness on other projects, however, the post-construction land use and the relative alignment of the potential ripping and decompression work in relation to the lay of the slope should be reviewed for safety and practicability. In broad construction areas predominated by moderately steep or steep slopes, the practice is generally not used.

Local Weather/Timing/Soil Moisture

Effective fracturing of compressed subsoil material from the exposed work surface, laterally and vertically down through the affected zone is achieved only when the soil material is moderately dry to moderately moist. Neither one of the two-phases, deep ripping nor decompression (deep

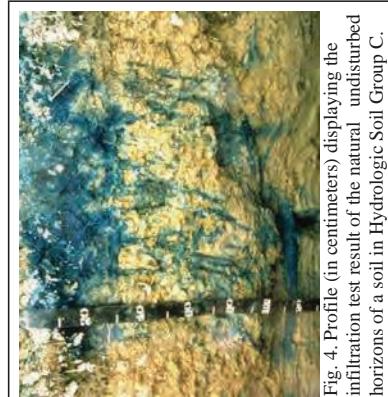


Fig. 4. Profile (in centimeters) displaying the infiltration test result of the natural undisturbed horizons of a soil in Hydrologic Soil Group C.

subsoiling), can be effectively conducted when the soil material (subsoil or replaced topsoil) is in either a “plastic” or “liquid” state of soil consistency. Pulling the respective implements legs through the soil when it is overly moist only results in the “slicing and smearing” of the material or added “squeezing and compression” instead of the necessary fracturing. Ample drying time is needed for a “rippable” soil condition not merely in the material close to the surface, but throughout the material located down to the bottom of the physically compressed zone of the subsoil.

The “poor man’s Atterberg field test” for soil plasticity is a simple “hand-roll” method used for quick, on-site determination of whether or not the moisture level of the affected soil material is low enough for: effective deep ripping of subsoil; respreading of topsoil in a friable state; and final decompaction (deep subsoiling). Using a sample of soil material obtained from the planned bottom depth of ripping, e.g.: 20 - 24 inches below exposed subsoil surface, the sample is hand rolled between the palms down to a 1/8-inch diameter thread. (Use the same test for stored topsoil material before respreading on the site.) If the respective soil sample crumbles apart in segments no greater than 3/8 of an inch long, by the time it is rolled down to 1/8 inch diameter, it is low enough in moisture for deep ripping (or topsoil replacement), and decompaction. Conversely, as shown in Figure 5, if the rolled sample stretches out in increments greater than 3/8 of an inch long before crumbling, it is in a “plastic” state of soil consistency and is too wet for subsoil ripping (as well as topsoil replacement) and final decompaction.



Fig. 5. Augered from a depth of 19 inches below the surface of the replaced topsoil, this subsoil sample was hand rolled to a 1/8-inch diameter. The test shows the soil at this site stretches out too far without crumbling; it indicates the material is in a plastic state of consistency, too wet for final decompaction (deep subsoiling) at this time.

Design Guidance

Beyond the above-noted site factors, a vital requirement for the effective Deep Ripping and Decompaction (deep subsoiling), is implementing the practice in its distinct, two-phase process:

- 1) Deep rip the affected thickness of exposed subsoil material (see Figure 10 and 11), aggressively fracturing it before the protected topsoil is reapplied on the site (see Figure 12); and
- 2) Decompact (deep subsoil), simultaneously through the restored topsoil layer and the upper half of the affected subsoil (Figure 13). The second phase, “decompaction,” mitigates the partial recompaction which occurs during the heavy process of topsoil spreading/grading. Prior to deep ripping and decompacting the site, all construction activity, including construction equipment and material storage, site cleanup and trafficking (Figure 14), should be finished; and the site closed off to further disturbance. Likewise, once the practice is underway and the area’s soil permeability and

rainfall infiltration are being restored, a policy limiting all further traffic to permanent travel lanes is maintained.

The other critical elements, outlined below, are: using the proper implements (deep, heavy-duty rippers and subsoilers), and ample pulling-power equipment (tractors); and conducting the practice at the appropriate speed, depth and pattern(s) of movement.

Note that an appropriate plan for the separate practice of establishing a healthy perennial ground cover, with deep rooting, to help maintain the restored soil structure, should be developed in advance. This may require the assistance of an agronomist or landscape horticulturist.

implements

Avoid the use of all undersize implements. The small-to-medium, light-duty tool will, at best, only “scarify” the uppermost surface portion of the mass of compacted subsoil material. The term “chisel plow” is commonly but incorrectly applied to a broad range of implements. While a few may be adapted for the moderate subsoiling of non-impacted soils, the majority are less durable and used for only lighter land-fitting (see Figure 6).



Fig. 6. A light duty chisel implement, not adequate for either the deep ripping or decompaction (deep subsoiling) phase.



Fig. 7. One of several variations of an agricultural ripper. This unit has long, rugged shanks mounted on a steel V-frame for deep, aggressive fracturing through Phase 1.

Use a “heavy duty” agricultural-grade, deep ripper (see Figures 7,9,10 and 11) for the first phase: the lateral and vertical fracturing of the mass of exposed and compressed subsoil, down and through, to the bottom of impact, prior to the replacement of the topsoil layer. (Any oversize rocks which are uplifted to the subsoil surface during the deep ripping phase are picked and removed.)

Like the heavy-duty class of implement for the first phase, the decompaction (deep subsoiling) of Phase 2 is conducted with the heavy-duty version of the deep subsoiler. More preferable is the angled-leg variety of deep subsoiler (shown in Figures 8 and 13). It minimizes the inversion of the subsoil and topsoil layers while laterally and vertically fracturing the upper half of the previously ripped subsoil layer and all of the topsoil layer by delivering a momentary, wave-like “lifting and shattering” action up through the soil layers as it is pulled.

Pulling-Power of Equipment

Use the following rule of thumb for tractor horsepower (hp) whenever deep ripping and decompressing a significantly impacted site: For both types of implement, have at least 40 hp of tractor pull available for each mounted shank/ leg.

Using the examples of a 3-shank and a 5-shank implement, the respective tractors should have 120 and 200 hp available for fracturing down to the final depth of 20-to-24 inches per phase. Final depth for the deep ripping in Phase 1 is achieved incrementally by a progressive series of passes (see Depth and Patterns of Movement, below); while for Phase 2, the full operating depth of the deep subsoiler is applied from the beginning.

The operating speed for pulling both types of implement should not exceed 2 to 3 mph. At this slow and managed rate of operating speed, maximum functional performance is sustained by the tractor and the implement performing the soil fracturing. Referring to Figure 8, the implement is the 6-leg version of the deep angled-leg subsoiler. Its two outside legs are "chained up" so that only four legs will be engaged (at the maximum depth), requiring no less than 160 hp, (rather than 240 hp) of pull. The 4-wheel drive, articulated-frame tractor in Figure 8 is 1/4 hp. It will be decompacting this unobstructed, former construction access area simultaneously through 11 inches of replaced topsoil and the upper 12 inches of the previously deep-ripped subsoil. In constricted areas of Phase 1 Deep Ripping, a medium-size tractor with adequate hp, such as the one in Figure 9 pulling a 3-shank deep ripper, may be more maneuverable.

Some industrial-grade variations of ripping implements are attached to power graders and bulldozers. Although highly durable, they are generally not recommended. Typically, the shanks or "teeth" of these rippers are too short and stout; and they are mounted too far apart to achieve the well-distributed type of lateral and vertical fracturing of the soil materials necessary to restore soil permeability and infiltration. In addition, the power graders and bulldozers, as pullers, are far less maneuverable for turns and patterns than the tractor.

Depth and Patterns of Movement

As previously noted both Phase 1 Deep Ripping through significantly compressed, exposed subsoil and Phase 2 Decompression (deep subsoiling) through the replaced topsoil and upper subsoil need to be performed at maximum capable depth of each implement. With an implement's guide wheels attached, some have a "normal" maximum operating depth of 18 inches, while others may go deeper. In many situations, however, the tractor/ implement operator must first remove the guide wheels and other non-essential elements from the implement. This adapts the ripper or the deep subsoiler for skillful pulling with its frame only a few inches above surface, while the shanks or legs, fracture the soil material 20-to-24 inches deep.

There may be construction sites where the depth of the exposed subsoil's compression is moderate, e.g.: 12 inches, rather than deep. This can be verified by using a 3/4 inch cone penetrometer and a shovel to test the subsoil for its level of compaction, incrementally, every three inches of increasing depth. Once the full thickness of the subsoil's compacted zone is finally "pieced" and there is a significant drop in the psi measurements of the soil penetrometer, the depth/thickness of compaction is determined. This is repeated at several representative locations of the construction site. If the thickness of the site's subsoil compaction is verified as, for example, ten inches, then the Phase 1 Deep Ripping can be correspondingly reduced to the implement's minimum operable depth of 12 inches. However, the Phase 2 simultaneous Decomposition (subsoiling) of an 11 inch thick layer of replaced topsoil and the upper subsoil should run at the subsoiling implements full operating depth.



Fig. 8. A deep, angled-leg subsoiler, ideal for Phase 2 decompaction of after the topsoil layer is graded on top of the ripped subsoil.



Fig. 9. This medium tractor is pulling a 3-shank deep ripper. The severely compacted construction access corridor is narrow, and the 120 hp tractor is more maneuverable for Phase 1 deep ripping (subsoil fracturing), here.

Typically, three separate series (patterns) are used for both the Phase 1 Deep Ripping and the Phase 2 Decompression on significantly compacted sites. For Phase 1, each series begins with a moderate depth of rip and, by repeat-pass, continues until full depth is reached. Phase 2 applies the full depth of Decomposition (subsoiling), from the beginning.

Every separate series (pattern) consists of parallel, forward-and-return runs, with each progressive

pass of the implement's legs or shanks evenly staggered between those from the previous pass. This compensates for the shank or leg-spacing on the implement, e.g., with 24-to-30 inches between each shank or leg. The staggered return pass ensures lateral and vertical fracturing actuated every 12 to 15 inches across the densely compressed soil mass.

Large, Unobstructed Areas

For larger easy areas, use the standard patterns of movement:

- The first series (pattern) of passes is applied lengthwise, parallel with the longest spread of the site; gradually progressing across the site's width, with each successive pass.
- The second series runs obliquely, crossing the first series at an angle of about 45 degrees.
- The third series runs at right angle (or 90 degrees), to the first series to complete the fracturing and shattering on severely compacted sites, and avoid leaving large unbroken blocks of compressed soil material. (In certain instances, the third series may be optional, depending on how thoroughly the first two series loosen the material and eliminate large chunks/blocks of material as verified by tests with a $\frac{3}{4}$ -inch cone penetrometer.)



Fig. 12. Moderately dry topsoil is being replaced on the affected site now that Phase 1 deep ripping of the compressed subsoil is complete.



Fig. 13. The same deep, angled-leg subsoiler shown in Fig. 7 is engaged at maximum depth for Phase 2, decompaction (deep soiling), of the replaced topsoil and the upper subsoil materials.

Corridors

In long corridors of limited width and less maneuverability than larger sites, e.g.: along compacted areas used as temporary construction access, a modified series of pattern passes are used.

- First, apply the same initial lengthwise, parallel series of passes described above.

• A second series of passes makes a broad "S" shaped pattern of rips, continually and gradually alternating the "S" curves between opposite edges inside the compacted corridor.

- The third and final series again uses the broad, alternating S pattern, but it is "flip-flopped" to continually cross the previous S pattern along the corridor's centerline. This final series of the S pattern curves back along the edge areas skipped by the second series.

Maintenance and Cost

Once the two-phase practice of Deep Ripping and Decomposition is completed, two items are essential for maintaining a site's soil porosity and permeability for infiltration. They are: planting and maintaining the appropriate ground cover with deep roots to maintain the soil structure (see Figure 15); and keeping the site free of traffic or other weight loads.

Note that site-specific choice of an appropriate vegetative ground-cover seed mix, including the proper seeding ratio of one or more perennial species with a deep taproot system and the proper amount of lime and soil nutrients (fertilizer mix) adapted to the soil-needs, are basic to the final practice of landscaping, i.e.: surface tillage, seeding/planting/fertilizing and culti-packing or mulching is applied. The "maintenance" of an effectively deep-ripped and decompacted area is generally limited to the successful perennial (long-term) landscape ground cover; as long as no weight-bearing force of soil compaction is applied.



Fig. 14. The severely compacted soil of a temporary construction yard used daily by heavy equipment for four months; shown before deep ripping, topsoil replacement, and decompaction.



Fig. 15. The same site as Fig. 14 after deep ripping of the exposed subsoil, topsoil replacement, decompaction through the topsoil and upper subsoil and final surface tillage and revegetation to maintain soil permeability and infiltration.

The Deep Ripping and Decomposition practice is, by necessity, more extensive than periodic subsoiling of farmland. The cost of deep ripping and decompressing (deep subsoiling), will vary according to the depth and severity of soil-matric compression and the relative amount of tractor and implement time that is required. In some instances, depending on open maneuverability, two-to-three acres of compacted project area may be deep-ripped in one day. In other situations of more severe compaction and - or less maneuverability, as little as one acre may be fully ripped in a day. Generally, if the Phase 1) Deep Ripping is fully effective, the Phase 2) Decomposition should be completed in 2/3 to 3/4 of the time required for Phase 1.

Using the example of two acres of Phase 1) Deep Ripping in one day, at \$1800 per day, the net cost is \$900 per acre. If the Phase 2) Decompressing or deep subsoiling takes 3/4 the time as Phase 1, it costs \$675 per acre for a combined total of \$1575 per acre to complete the practice (these figures do not include the cost of the separate practice of topsoil stripping and replacement). Due to the many variables, it must be recognized that cost will be determined by the specific conditions or constraints of the site and the availability of proper equipment.

Resources

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<http://websoilsurvey.nrcs.usda.gov/app/> and USDA-NRCS Official Soil Series Descriptions; View by Name. <http://ortho.ftw.nrcs.usda.gov/cgi-bin/od/odname.cgi>. Last visited Jan. 08.
 - Soil penetrometer information. Access by internet searches of: *Diagnosing Soil Compaction using a Penetrometer (soil compaction tester) PSU Extension*; as well as *Dickey-John Soil Compaction Tester*.
<http://www.dickey-johnproducts.com/pdf/SoilCompactionTest.pdf> and <http://etapsail.psu.edu/Extension/Factsheets/178.pdf>. Last visited Sept. 07

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Appendix F: Post-Construction Inspections and Maintenance

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POST CONSTRUCTION INSPECTIONS AND MAINTENANCE

1. SITE COVER

a. Inspections

Site cover and associated structures and embankments should be inspected periodically for the first few months following construction and then on a biannual basis. Site inspections should also be performed following all major storm events. Items to check for include (but are not limited to):

- i. Differential settlement of embankments, cracking or erosion.
- ii. Lack of vigor and density of grass turf.
- iii. Accumulation of sediments or litter on lawn areas, paved areas, or within catch basin sumps.
- iv. Accumulation of pollutants, including oils or grease, in catch basin sumps.
- v. Damage or fatigue of storm sewer structures or associated components.

b. Mowing and Sweeping

Vegetated areas and landscaping should be maintained to promote vigorous and dense growth. Lawn areas should be mowed at least three times a year (more frequent mowing may be desired for aesthetic reasons). Resultant yard waste shall be collected and disposed of off-site.

Paved areas should be swept at least twice a year. Additional sweeping may be appropriate in the early spring for removal of deicing materials

c. Debris and Litter Removal

Accumulation of litter and debris should be removed during each mowing or sweep operation.

d. Structural Repair or Replacement

Components of the system which require repair or replacement should be addressed immediately following identification.

e. Catch Basins

The frequency for cleanout of catch basin sumps will depend on the efficiency of mowing, sweeping, and debris and litter removal. Sumps should be cleaned when accumulation of sediments are within six inches of the catch basin outlet pipe.

Disposal of material from catch basins sumps, drainage manholes, and trench drains shall be in accordance with local, state, and federal guidelines.

f. Rip-rap Dissipation structures

Riprap used to dissipate energy from pipe outfalls shall be cleaned or replaced when it becomes overburdened with silt or sediment.

g. Winter Maintenance

To prevent impacts to storm water management facilities, the following winter maintenance limitations, restrictions, or requirements are recommended:

- i. Remove snow and ice from inlet structures, basin inlet and outlet structures and away from culvert end sections.
- ii. Snow removed from paved areas should not be piled at inlets/outlets of the storm water management basin.
- iii. Use of deicing materials should be limited to sand and “environmentally friendly” chemical products. Use of salt mixtures should be kept to a minimum.
- iv. Sand used for deicing should be clean, course material free of fines, silt, and clay.
- v. Materials used for deicing should be removed during the early spring by sweeping and/or vacuuming.

2. POROUS PAVEMENT

a. Inspection Schedule

Porous pavement surfaces shall be inspected periodically after construction, and then on a monthly basis.

b. Inspection of Uphill Drainage Area

Look for areas that are uphill from the porous pavement

- i. Bare soil should be seeded and strawed to establish vegetation. Areas of erosion should be filled in with soil, compacted, and seeded and strawed to establish vegetation. If a small channel(s) forms, water flowing to this area should be redirected by creating a small berm or add topsoil to areas that are heavily compacted.
- ii. Piles of grass clippings, mulch, dirt, salt, or other materials should be removed.
- iii. Open containers of oil, grease, paint, or other substances should be covered or properly disposed.

c. Inspection of Surface

Examine the entire porous pavement surface:

- i. Dirt and grit accumulation on the pavement surface should be removed utilizing a blower or sweeping the area. If dirt/grit remain in the joint areas, agitate with a rough brush and vacuum the surface with a wet/dry vac. Clogged blocks

- should be removed and replaced. Any material removed should be disposed where it cannot re-enter the system.
- ii. If the paver type is not intended to be covered in vegetation, grass/weeds should be removed either mechanically or with an herbicide.
 - iii. Damaged pavers should be removed and replaced in areas of slumping, sinking, cracking, or breaking of the pavement surface. The fill in the underlying gravel should be checked and replaced with new materials if necessary.

3. TREE PLANTING/TREE PITS

a. Watering

Inspect the trees to determine whether they need watering:

- i. Trees should be watered deeply and slowly near the base of the tree if soil is not moist to the touch and/or it has not rained within a week, and leaves/needles are starting to appear wilted/dry.

b. Mulch

Mulch should be applied twice per year – in the late spring and during leaf fall. Check the depth of the mulch regularly. Rake the old mulch to break up any matted layers and to refresh the appearance

- i. Mulch should be approximately 3" deep and extend to the tree canopy. Add or remove mulch around the tree canopy to a maximum 5' radius but not within 3" of the bark. If the mulch is against the stems or tree trunks, pull it back several inches to expose the base of the trunk and root crown.

c. Pruning

Pruning is usually not needed for newly planted trees but may be beneficial for the tree structure in older trees. If necessary, prune only dead, diseased, broken or crossing branches at planting. As the tree grows, lower branches may need to be pruned to provide clearance above the ground or to remove dead or damaged limbs that sprout from the trunk.

4. HYDRODYNAMIC DEVICE

The hydrodynamic device is a confined space environment and only properly trained personnel possessing the necessary safety equipment should enter the unit to perform maintenance or inspection.

a. Inspection Schedule

The hydrodynamic device shall be inspected every four months.

b. Inspection Items

The unit's internal components should be inspected for any signs of damage or any loosening of the bolts used to fasten the various components to the manhole structure and to each other.

Refer to attached Contech Engineered Solutions CDS Inspection and Maintenance Guide, for the CDS-6 Hydrodynamic Device, for the manufacturer's detailed inspection and maintenance requirements.

c. Debris, Trash and Litter Control

The screen shall be power washed for the inspection. The floatables shall be removed and the sump cleaned when it has reached 50% capacity. The unit may require cleaning in the event of a spill of a toxic or foreign substance. At a minimum, the hydrodynamic device shall be pumped out at least once a year if the sump does not reach its 50% capacity.

d. Sediment removal

Disposal of material from the hydrodynamic device shall be in accordance with local, state, and federal guidelines.

CDS® Inspection and Maintenance Guide



Maintenance

The CDS system should be inspected at regular intervals and maintained when necessary to ensure optimum performance. The rate at which the system collects pollutants will depend more heavily on site activities than the size of the unit. For example, unstable soils or heavy winter sanding will cause the grit chamber to fill more quickly but regular sweeping of paved surfaces will slow accumulation.

Inspection

Inspection is the key to effective maintenance and is easily performed. Pollutant transport and deposition may vary from year to year and regular inspections will help ensure that the system is cleaned out at the appropriate time. At a minimum, inspections should be performed twice per year (e.g. spring and fall) however more frequent inspections may be necessary in climates where winter sanding operations may lead to rapid accumulations, or in equipment washdown areas. Installations should also be inspected more frequently where excessive amounts of trash are expected.

The visual inspection should ascertain that the system components are in working order and that there are no blockages or obstructions in the inlet and separation screen. The inspection should also quantify the accumulation of hydrocarbons, trash, and sediment in the system. Measuring pollutant accumulation can be done with a calibrated dipstick, tape measure or other measuring instrument. If absorbent material is used for enhanced removal of hydrocarbons, the level of discoloration of the sorbent material should also be identified during inspection. It is useful and often required as part of an operating permit to keep a record of each inspection. A simple form for doing so is provided.

Access to the CDS unit is typically achieved through two manhole access covers. One opening allows for inspection and cleanout of the separation chamber (cylinder and screen) and isolated sump. The other allows for inspection and cleanout of sediment captured and retained outside the screen. For deep units, a single manhole access point would allow both sump cleanout and access outside the screen.

The CDS system should be cleaned when the level of sediment has reached 75% of capacity in the isolated sump or when an appreciable level of hydrocarbons and trash has accumulated. If absorbent material is used, it should be replaced when significant discoloration has occurred. Performance will not be impacted until 100% of the sump capacity is exceeded however it is recommended that the system be cleaned prior to that for easier removal of sediment. The level of sediment is easily determined by measuring from finished grade down to the top of the sediment pile. To avoid underestimating the level of sediment in the chamber, the measuring device must be lowered to the top of the sediment pile carefully. Particles at the top of the pile typically offer less resistance to the end of the rod than consolidated particles toward the bottom of the pile. Once this measurement is recorded, it should be compared to the as-built drawing for the unit to determine whether the height of the sediment pile off the bottom of the sump floor exceeds 75% of the total height of isolated sump.

Cleaning

Cleaning of a CDS system should be done during dry weather conditions when no flow is entering the system. The use of a vacuum truck is generally the most effective and convenient method of removing pollutants from the system. Simply remove the manhole covers and insert the vacuum hose into the sump. The system should be completely drained down and the sump fully evacuated of sediment. The area outside the screen should also be cleaned out if pollutant build-up exists in this area.

In installations where the risk of petroleum spills is small, liquid contaminants may not accumulate as quickly as sediment. However, the system should be cleaned out immediately in the event of an oil or gasoline spill should be cleaned out immediately. Motor oil and other hydrocarbons that accumulate on a more routine basis should be removed when an appreciable layer has been captured. To remove these pollutants, it may be preferable to use absorbent pads since they are usually less expensive to dispose than the oil/water emulsion that may be created by vacuuming the oily layer. Trash and debris can be netted out to separate it from the other pollutants. The screen should be power washed to ensure it is free of trash and debris.

Manhole covers should be securely seated following cleaning activities to prevent leakage of runoff into the system from above and also to ensure that proper safety precautions have been followed. Confined space entry procedures need to be followed if physical access is required. Disposal of all material removed from the CDS system should be done in accordance with local regulations. In many jurisdictions, disposal of the sediments may be handled in the same manner as the disposal of sediments removed from catch basins or deep sump manholes.



CDS Model	Diameter		Distance from Water Surface to Top of Sediment Pile		Sediment Storage Capacity	
	ft	m	ft	m	y ³	m ³
CDS1515	3	0.9	3.0	0.9	0.5	0.4
CDS2015	4	1.2	3.0	0.9	0.9	0.7
CDS2015	5	1.3	3.0	0.9	1.3	1.0
CDS2020	5	1.3	3.5	1.1	1.3	1.0
CDS2025	5	1.3	4.0	1.2	1.3	1.0
CDS3020	6	1.8	4.0	1.2	2.1	1.6
CDS3025	6	1.8	4.0	1.2	2.1	1.6
CDS3030	6	1.8	4.6	1.4	2.1	1.6
CDS3035	6	1.8	5.0	1.5	2.1	1.6
CDS4030	8	2.4	4.6	1.4	5.6	4.3
CDS4040	8	2.4	5.7	1.7	5.6	4.3
CDS4045	8	2.4	6.2	1.9	5.6	4.3
CDS5640	10	3.0	6.3	1.9	8.7	6.7
CDS5653	10	3.0	7.7	2.3	8.7	6.7
CDS5668	10	3.0	9.3	2.8	8.7	6.7
CDS5678	10	3.0	10.3	3.1	8.7	6.7

Table 1: CDS Maintenance Indicators and Sediment Storage Capacities



Support

- Drawings and specifications are available at www.contechstormwater.com.
- Site-specific design support is available from our engineers.

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The product(s) described may be protected by one or more of the following US patents: 5,322,629; 5,624,576; 5,707,527; 5,759,415; 5,788,848; 5,985,157; 6,027,639; 6,350,374; 6,406,218; 6,641,720; 6,511,595; 6,649,048; 6,991,114; 6,998,038; 7,186,058; 7,296,692; 7,297,266; 7,517,450 related foreign patents or other patents pending.

CDS Inspection & Maintenance Log

CDS Model: _____ Location: _____

1. The water depth to sediment is determined by taking two measurements with a stadia rod: one measurement from the manhole opening to the top of the sediment pile and the other from the manhole opening to the water surface. If the difference between these measurements is less than the values listed in table 1 the system should be cleaned out. Note: to avoid underestimating the volume of sediment in the chamber, the measuring device must be carefully lowered to the top of the sediment pile.
 2. For optimum performance, the system should be cleaned out when the floating hydrocarbon layer accumulates to an appreciable thickness. In the event of an oil spill, the system should be cleaned immediately.

Appendix G: Figures

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Hudson Valley Office:
21 Fox Street, Poughkeepsie, NY 12601

Capital District Office:
547 River Street, Troy, NY 12180

North Country Office:
20 Elm Street, Suite 110, Glens Falls, NY 12801

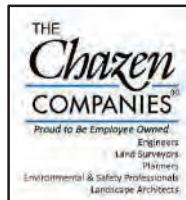
Westchester County Office:
1 North Broadway, Suite 803, White Plains, NY 10601
www.chazencompanies.com Phone: (888) 539-9073

One Monument Square

Site Location Map

City of Troy, Rensselaer County, New York

Drawn:	CLD
Date:	12/09/2020
Scale:	1:5,000
Project:	32079.01
Figure:	1



Hudson Valley Office:
21 Fox Street, Poughkeepsie, NY 12601

Capital District Office:
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North Country Office:
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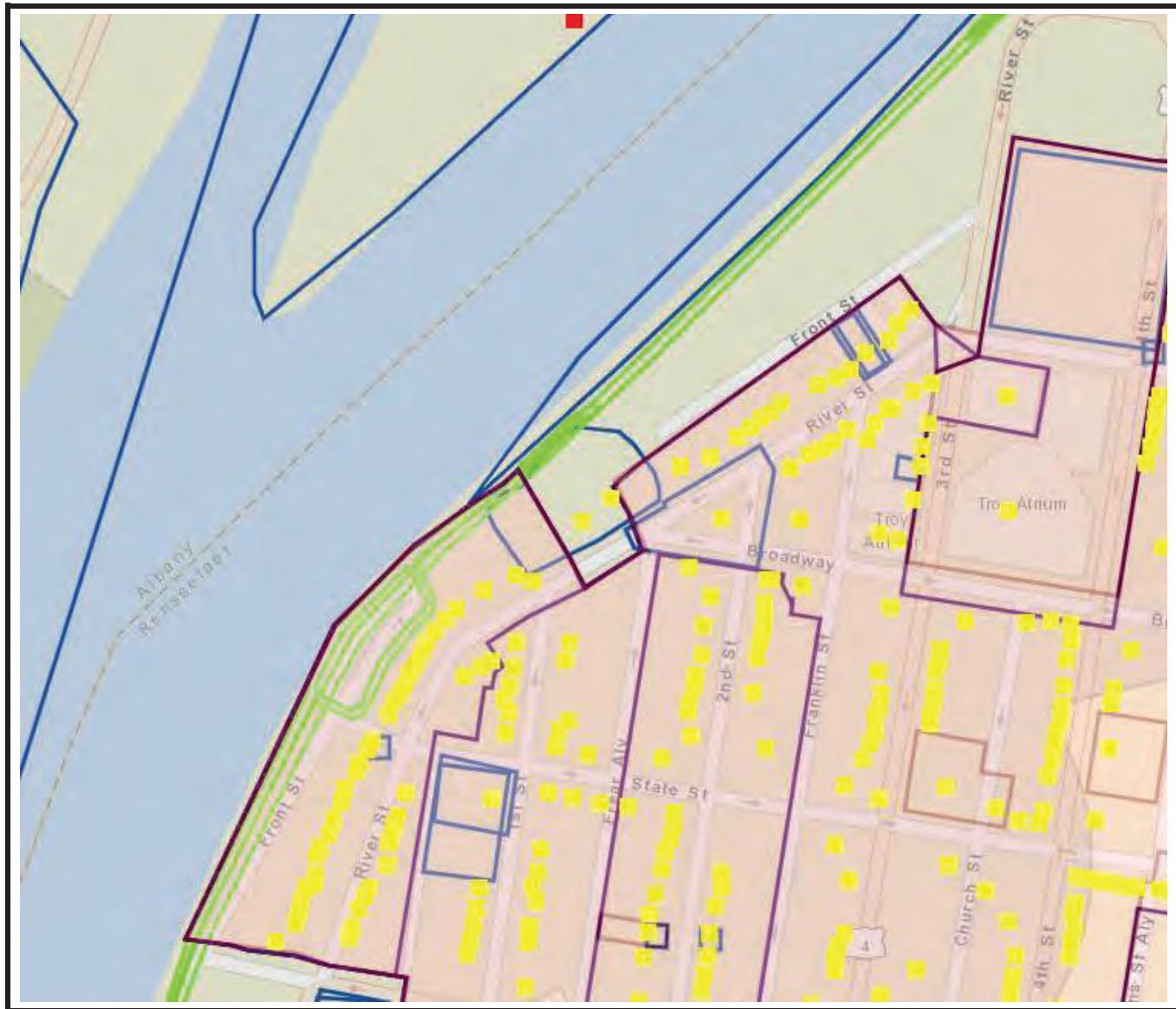
One Monument Square

Soils Map

City of Troy, Rensselaer County, New York

Drawn:	CLD
Date:	12/10/2020
Scale:	1:1,200
Project:	32079.01
Figure:	2

FIG 3



LEGEND

Consultation Projects (View)



Survey Archaeology Areas (View)



Survey Building Areas (View)



LPC Historic Districts

Archeologically Sensitive Areas



National Register Building Sites (View)



USN Building Districts (View)



LPC Landmarks

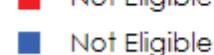
USN Building Points (View)



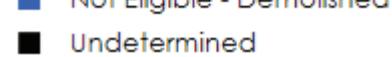
Eligible



Listed



Not Eligible



Not Eligible - Demolished



Undetermined

Cemeteries



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Capital District Office:
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North Country Office:
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1 North Broadway, Suite 803, White Plains, NY 10601
www.chazencompanies.com Phone: (888) 539-9073

One Monument Square

Wetland and Stream Map

City of Troy, Rensselaer County, New York

Drawn:	CLD
Date:	12/10/2020
Scale:	1:1,200
Project:	32079.01
Figure:	4

FIG 5

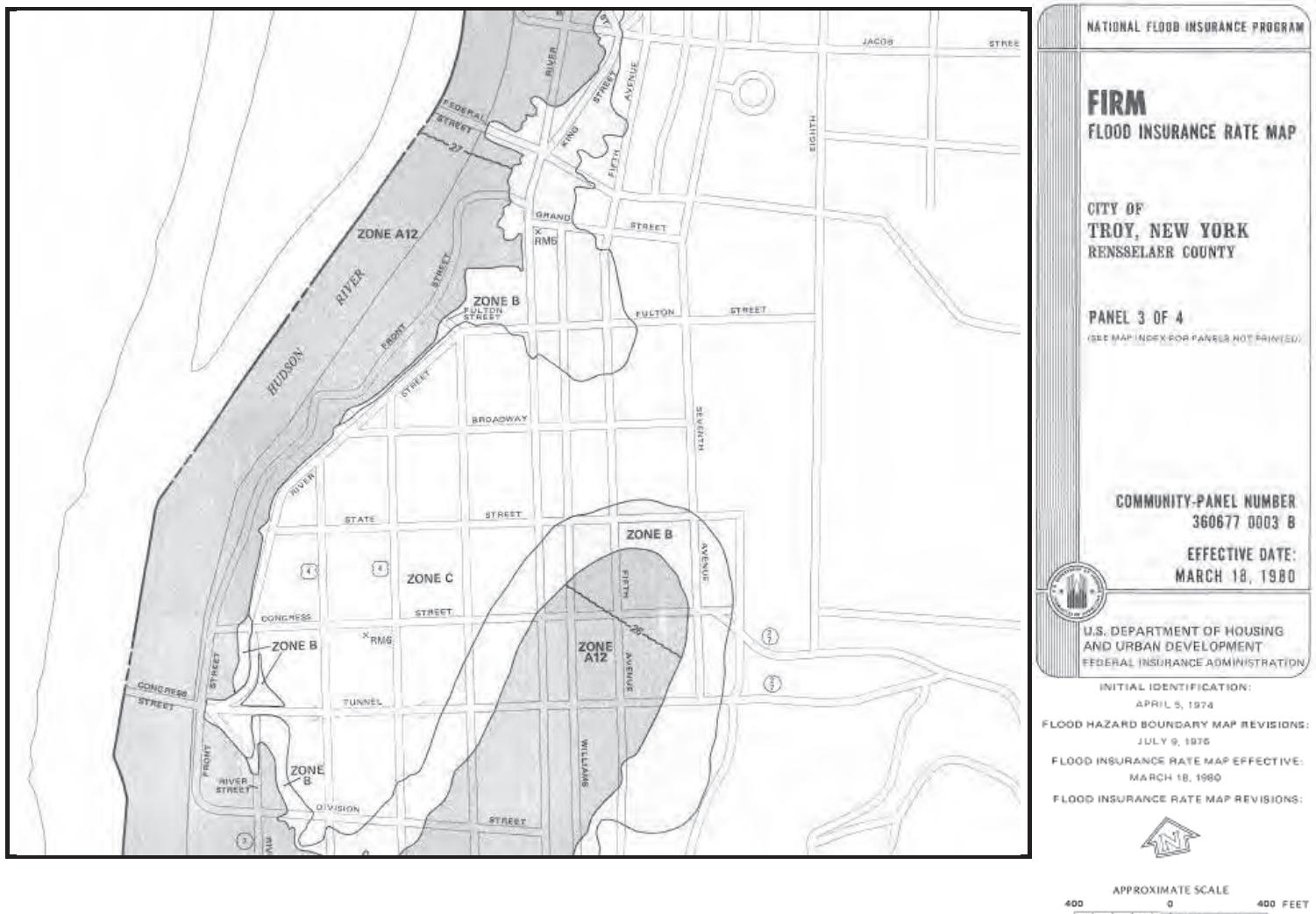


FIG 6



Rare Plants or Animals

Significant Natural Communities

Natural Communities Near This Location

Appendix H:
Chazen Certifying
Professionals Letter

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Civil Engineers
Land Surveyors
Planners
Environmental & Safety Professionals
Landscape Architects
Transportation Planners & Engineers

HUDSON VALLEY OFFICE

21 Fox Street
Poughkeepsie, NY 12601
P: 845.454.3980 or 888.539.9073
www.chazencompanies.com

January 29, 2020

To Whom it May Concern:

In accordance with the NYSDEC SPDES General Permit GP-0-20-001, part VII.H.2, the New York State licensed Professional Engineers employed by the Chazen Companies and listed on the attachment to this letter are duly authorized to sign and seal Stormwater Pollution Prevention Plan (SWPPPs), NOIs, and NOTs prepared under their direct supervision.

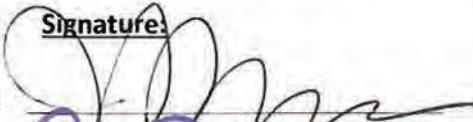
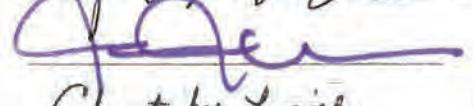
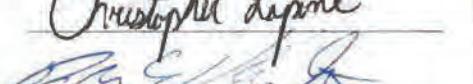
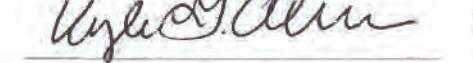
Sincerely,

Richard M. Loewenstein, Jr., P.E.
Chief Executive Officer

New York: Hudson Valley • Capital District • North Country • Westchester
Tennessee: Nashville • Chattanooga **Oregon:** Portland

Chazen Engineering, Land Surveying & Landscape Architecture Co. DPC (NY) • Chazen Engineering Consultants, LLC (TN/OR)

Chazen Professional Engineers duly authorized to sign and seal SWPPPs, NOIs, and NOTs

<u>Name:</u>	<u>Position:</u>	<u>Signature:</u>	<u>Date:</u>
Joseph Lanaro, P.E.	Vice President of Engineering		1/30/2020
James Connors, P.E.	Senior Director		1/30/2020
Christopher Lapine, P.E.	Director		1/31/2020
Roger Keating, P.E.	Director		1/30/2020
Peter Romano, P.E.	Director		1/31/2020
Walter Kubow, P.E.	Manager		1/29/2020
Eric Johnson, P.E.	Director		1/30/2020
George Cronk, P.E.	Director		1/31/2020
Sean Doty, P.E.	Director		1/31/2020
Michael Flanagan, P.E.	Sr. Project Engineer/Project Manager		1/31/2020
Kyle Ahearn, P.E.	Project Manager		1/31/2020

Appendix I: Project Evaluation and Design Calculations

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Appendix I - Table A

Step 1 - Evaluation of Green Infrastructure Planning Measures

Group	Practice	Description	Applicable	Project Specific Evaluation
Preservation of Natural Resources	Preservation of Undisturbed Areas	Delineate and place into permanent conservation undisturbed forests, native vegetated areas, riparian corridors, wetlands, and natural terrain.	N/A	As a Redevelopment Project, the entire project site has been previously cleared and graded. There are no forests, native vegetated areas, riparian corridors, wetlands or natural terrain on site to place into permanent conservation. As such, this planning measure does not apply.
	Preservation of Buffers	Define, delineate and preserve naturally vegetated buffers along perennial streams, rivers, shorelines and wetlands.	N/A	The project is located directly adjacent to the Hudson River. However, there is an existing seawall that prevents application of a typical buffer. The site has been designed to provide an enhanced vegetated pedestrian zone between the building and the seawall. The seawall will not be disturbed as part of construction.
	Reduction of Clearing and Grading	Limit clearing and grading to the minimum amount needed for roads, driveways, foundations, utilities and stormwater management facilities.	Yes	As a Redevelopment Project, the majority of the land in question had been previously cleared or graded for construction of the existing buildings, roadways, etc. Site clearing and grading required for redevelopment will be minor in nature. The limits of all proposed clearing will be demarcated in the field with orange construction fencing, prior to construction.
	Locating Development in Less Sensitive Areas	Avoid sensitive resource areas such as floodplains, steep slopes, erodible soils, wetlands, mature forests and critical habitats by locating development to fit the terrain in areas that will create the least impact.	No	The project site is located directly adjacent to the Hudson River. As such, the project is within the 100-year flood plain. The project proposes all habitable spaces above the 100-year flood plain.
	Open Space Design	Use clustering, conservation design or open space design to reduce impervious cover, preserve more open space and protect water resources.	No	As a Redevelopment Project and an Urban Infill Project, space for development is restricted by property boundaries and the existing seawall. Although the project does not proposed an open space design, the project proposes reducing impervious cover by 0.044 acres.
	Soil Restoration	Restore the original properties and porosity of the soil by deep till and amendment with compost to reduce the generation of runoff and enhance the runoff reduction performance of practices such as downspout disconnections, grass channels, filter strips, and tree clusters.	Yes	Full soil restoration is proposed for all areas of disturbance that will not become hardscape. All areas will be stabilized with seed & mulch, and landscaped areas will be provided.

Reduction of Impervious Cover	Roadway Reduction	Minimize roadway widths and lengths to reduce site impervious area	N/A	No new roadways are proposed as part of this project.
	Sidewalk Reduction	Minimize sidewalk lengths and widths to reduce site impervious area	No	Sidewalk widths and lengths have been minimized to the greatest extent practical. The sidewalk along River Street has been designed to include Tree Pits for collection and treatment of stormwater runoff. The rear concrete sidewalks have been designed with accessibility and to ensure safe pedestrian access throughout the site.
	Driveway Reduction	Minimize driveway lengths and widths to reduce site impervious area	N/A	No new driveways are proposed as part of this project.
	Cul-de-sac Reduction	Minimize the number of cul-de-sacs and incorporate landscaped areas to reduce their impervious cover.	N/A	No cul-de-sacs are proposed as part of this project.
	Building Footprint Reduction	Reduce the impervious footprint of residences and commercial buildings by using alternate or taller buildings while maintaining the same floor to area ratio.	No	All new building area has been allocated to efficiently implement the intended use.
	Parking Reduction	Reduce imperviousness on parking lots by eliminating unneeded spaces, providing compact car spaces and efficient parking lanes, minimizing stall dimensions, using porous pavement surfaces in overflow parking areas, and using multi-storied parking decks where appropriate.	Yes	On-site parking has been provided through a two-story subsurface garage, reducing the overall impervious footprint on the site. In addition, proposed stalls for on-street parking will be constructed of a permeable surface, in order to reduce overall impervious surface.

Appendix I - Table B

Step 2 - Determine Water Quality Treatment Volume (WQv)

Section 4.2 of the NYSDEC Stormwater Management Design Manual describes the Water Quality Volume equation as:

$$WQv = (P \times Rv \times A) / 12$$

where: WQv = Water Quality Volume (acre-feet)

P = 90% Rainfall Event Number (inches) (interpolated from Design

Rv = 0.05 + 0.009 (I)

I = Impervious Cover (%) within the drainage area contributing to

A = Drainage area (acres) contributing to

The following table presents the WQv calculations for each of the proposed stormwater management practices (SMPs).

P (inches)	A (acres)	Impervious Cover (acres)	I (%)	Rv	Calculated Project WQv	
					(acre-feet)	(cubic feet)
1.10	2.372	2.035	86	0.82	0.178	7,750

* According to Section 9.2.1.B.IV, redevelopment activities can achieve the water quality treatment objective through a combination of impervious cover reduction, standard SMPs, and alternative SMPs that provide a weighted average of at least two of the above methods, calculated as follows:

%WQv treatment by Alternative Practice = (25%-(% IC reduction + % WQv treatment by Standard Practice + % runoff reduction)) x 3

Appendix I - Table C

Step 3 - Evaluation of Runoff Reduction Techniques and Standard SMPs with RRv Capacity

Design Variant	Practice	Description	Applicable	Project Specific Evaluation/Justification
RR-1	Conservation of Natural Areas	Retain the pre-development hydrologic and water quality characteristics of undisturbed natural areas, stream and wetland buffers by restoring and/or permanently conserving these areas on a site.	N/A	As a Redevelopment Project, the entirety of the site has been previously disturbed and developed. The proposed site layout has been designed to limit land disturbance to the greatest extent practical.
RR-2	Sheet flow to Riparian Buffers or Filter Strips	Undisturbed natural areas such as forested conservation areas and stream buffers or vegetated filter strips and riparian buffers can be used to treat and control stormwater runoff from portions of development.	N/A	The project site does not contain any riparian buffers.
RR-3	Tree Planting/ Tree Pit	Plant or conserve trees to reduce stormwater runoff, increase nutrient uptake, and provide bank stabilization. Trees can be used for applications such as landscaping, stormwater management practice areas, and conservation areas.	Yes	The project proposes new tree pits, adjacent to impervious surfaces, Calculations have been provided in the SWPPP.
RR-4	Disconnection of Rooftop Runoff	Direct runoff from residential rooftop areas and upland overland runoff flow to designated pervious areas to reduce runoff volumes and rates.	No	Due to the size and layout of the proposed building and site, rooftop disconnect is not proposed at this time.
RR-5	Vegetated Swale	The natural drainage paths, or properly designed vegetated channels, can be used instead of constructing underground storm sewers or concrete open channels to increase time of concentration, reduce the peak discharge, and provide infiltration.	No	Due to steep topography and proposed site layout, vegetated swales are not feasible for use on the project site.

RR-6	Rain Garden	Manage and treat small volumes of stormwater runoff using a conditioned planting soil bed and planting materials to filter runoff stored within a shallow depression.	No	Due to the limited tributary area to rain gardens ($\leq 1,000\text{SF}$), these facilities are not feasible for use on the project site.
RR-7	Stormwater Planter	Small landscaped stormwater treatment devices that can be designed as infiltration or filtering practices. Stormwater planters use soil infiltration and biogeochemical processes to decrease stormwater quantity and improve water quality.	No	The stormwater management approach for this project is intended to provide a more natural aesthetic that is consistent with the wooded surrounding. Since, stormwater planters have significant maintenance considerations and a more structured aesthetic, they have not been proposed for this project.
RR-8	Rain Barrels/Cisterns	Capture and store stormwater runoff to be used for irrigation systems or filtered and reused for non-contact activities.	No	Rain Barrels/Cisterns are not proposed on-site due to the need for active management/maintenance and initial capital cost. In addition, the cold climate of the project area would require additional protection measures from freezing.
RR-9	Porous Pavement	Pervious types of pavements that provide an alternative to conventional paved surfaces, designed to infiltrate rainfall through the surface, thereby reducing stormwater runoff from a site and providing some pollutant uptake in the underlying soils.	Yes	Porous asphalt will be used, in place of standard asphalt, for the proposed on-street parking stalls. Calculations have been provided in the SWPPP.
RR-10	Green Roof	Capture runoff by a layer of vegetation and soil installed on top of a conventional flat or sloped roof. The rooftop vegetation allows evaporation and evapotranspiration processes to reduce volume and discharge rate of runoff entering conveyance system.	No	A green roof is not proposed on-site due to significant structural, insurance, and maintenance considerations.
	Stream Daylighting	Stream Daylight previously-culverted/piped streams to restore natural habitats, better attenuate runoff by increasing the storage size, promoting infiltration, and help reduce pollutant loads.	N/A	No stream daylighting opportunities are present on this site.

I-1	Infiltration Trench	Excavated, stone-filled trenches designed to capture and temporarily store runoff in the stone reservoir to promote infiltration. Can be constructed as sheet flow to a ground surface depression or piped flow discharged directly into the trench.	No	Infiltration is not proposed due to poor draining urban fill soils and proximity to the seawall.
I-2	Infiltration Basin	Vegetated excavations designed to capture and infiltrate the WQv. Can be designed off-line to bypass larger flows to downstream flood control facilities or as combined infiltration/flood control facilities by providing temporary detention ponding.	No	Infiltration is not proposed due to poor draining urban fill soils and proximity to the seawall.
I-3	Dry Wells	Underground structures designed to capture, treat, and infiltrate runoff from small drainage areas (rooftop only) that have low sediment or pollutant loadings. Larger stormwater volumes can be bypassed directly to a flood control facility.	No	Infiltration is not proposed due to poor draining urban fill soils, and the maximum tributary area in relation to the size of the proposed roof.
I-4	Underground Infiltration Systems	Underground, proprietary systems designed to capture and infiltrate the WQv, reduce runoff, remove fine sediment and associated pollutants, recharge groundwater, and attenuate peak flows.	No	Infiltration is not proposed due to poor draining urban fill soils, proximity to the seawall and space necessary for construction of the practice.
F-5	Bioretention	Shallow landscaped depressions where stormwater flows into the practice, ponds at the surface, and gradually filters through the media to remove pollutants. Filtered runoff can either infiltrate into the surrounding soil, or be collected by an underdrain system and discharged to the storm sewer system or directly to receiving waters.	No	Bioretention is not proposed due to proximity to the seawall and limited space on site from existing and rerouted underground utilities.
O-1	Dry Swale	Designed to temporarily hold the WQv in a pool or series of pools created by permanent check dams. The soil bed consists of native soils or highly permeable fill material, underlain by an underdrain system. Pollutants are removed through sedimentation, nutrient uptake, and infiltration.	No	Dry swales are not proposed because they are intended for use with roads, highways, or residential development.

Appendix I Table D - Tree Pit

Design Point:	1	Enter Site Data For Drainage Area to be Treated by Practice					
Drainage Area Number	Contributing Area (Acres)	Impervious Area (Acres)	Percent Impervious %	Rv	WQv (cf)	Precipitation (in)	
1	0.077	0.069	90	0.86	263	1.10	
Design Criteria							
Enter the slope of the contributing area (%)	1.5						
Enter underlying soil infiltration rate (based on geotechnical testing, refer to Appendix D)	0.5		Urban fill assumed, underdrain provided				
Enter surface layer depth (inches)	3						
Enter filter media width (ft)	4						
Enter filter media length (ft)	6						
Enter drainage layer depth (inches)	10						
Sizing Criteria							
			Value	Units	Notes		
Water Quality Volume	WQv		263	cf			
Enter Filter Bed Depth	df		3	ft			
Enter Hydraulic Conductivity	k		1	ft/day			
Enter Height of WQv Ponding	hf		0.5	ft			
Enter Filter Time	tf		2	days			
Required Surface Area of Filter Bed	Af		113	sf			
Provided Surface Area of Filter Bed	Af		365	sf			
Calculate Runoff Reduction							
RRv Provided	263	cf					

Appendix I Table D - Porous Pavement

Design Point:	1						
Enter Site Data For Drainage Area to be Treated by Practice							
Drainage Area Number	Contributing Area (Acres)	Impervious Area (Acres)	Percent Impervious %	Rv	WQv (cf)	Precipitation (in)	
1	0.147	0.147	100	0.95	558	1.10	
Design Criteria							
Enter underlying soil infiltration rate (inch/hr) (based on geotechnical testing, refer to Appendix D)			0.5	Urban fill assumed, underdrains provided			
Is the contributing area to the practice a stormwater hotspot?			No				
Is runoff conveyed via sheet flow across the porous pavement surface?			Yes				
Enter depth to seasonal high water table (ft)			3				
Enter depth of surface layer (inches)			2				
Enter depth of binder course (inches)			3				
Enter depth of choker course (inches)			4				
Enter depth of pea gravel filter blanket (inches)			3				
Enter depth of drainage layer (inches)			12				
Sizing Criteria							
		Value	Units	Notes			
Contributing Area	Ac	6390	sf				
Practice Surface Area	Ap	1344	sf				
Underlying Infiltration Rate	i	1.00	ft/day				
Time to fill stone reservoir	tf	0.083	days				
Porosity	n	0.40					
Required stone reservoir depth	dp	0.93	ft				
Provided stone reservoir depth	dp	1.00	ft				
Determine the Runoff Reduction							
RRv Provided		558	cf				