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Architecture Engineering Interior Design

STORMWATER POLLUTION PREVENTION PLAN for CONSTRUCTION ACTIVITIES

At

Mt. Olive Missionary Baptist Church

66 Wasson Ave
City of Lackawanna, Erie County, New York

Prepared for

Telco Construction, Inc.

(Owner/Operator)

500 Buffalo Rd.
East Aurora, NY 14052

Prepared by

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April 2021

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Written Storm Water Pollution Prevention Plan

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STORM WATER POLLUTION PREVENTION PROGRAM

801 SCOPE

A. **PURPOSE: Telco Construction, Inc.** has placed an emphasis on following **the New York State Department of Environmental Conservation (NYSDEC) SPDES General Permit for Stormwater Discharges from Construction Activity** governing storm water discharges during construction, and in accordance with erosion control practices. The Contractor's participation in this program is mandatory and its non-compliance is subject to various remedies, including without limitation, monetary set-offs, withholding payments; reimbursement for costs, expenses (including reasonable attorney's fees), fines and civil penalties incurred by **Telco Construction, Inc.;** and/or liquidated damages. This section provides a descriptive explanation of **Telco Construction, Inc.'s** Storm Water Pollution Prevention Program and required Contractor participation.

The Engineer of record for this project certifies that this SWPPP meets the requirements and is in compliance with the New York State Stormwater Management Design Manual and latest NYSDEC Phase II stormwater regulation requirements.

B. **SPDES General Permit for Stormwater Discharges from Construction Activity:** Regulations promulgated by the NYSDEC to regulate the discharge of storm water from construction activities on sites where more than **one (1)** acre of soil is disturbed. One of the ways to comply with these regulations for affected sites is to request coverage under the General Permit for Construction Activities for New York State. In order to use the General Permit, a Notice of Intent (NOI) form must be completed and mailed to the **NYSDEC** at least ***5 business days*** prior to any earth-disturbing activities (this time frame may increase to 60 business days if a full review of the SWPPP is determined necessary by the NYSDEC) and a Storm Water Pollution Prevention Plan (SWPPP) for the site must be prepared and followed during the construction activities.

Approval from a regulated, traditional land use control MS4:

1. An *owner or operator* of a *construction activity* that is <u>not</u> subject to the requirements of a *regulated, traditional land use control MS4* must first develop a SWPPP in accordance with all applicable requirements of this permit and then submit a completed NOI form to the NYSDEC.

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 develop a SWPPP in accordance with all applicable requirements of this permit and then have its SWPPP reviewed and accepted by the *MS4* prior to submitting the NOI to the NYSDEC. The *owner or operator* shall have the "MS4 SWPPP Acceptance" form signed by the principal executive officer or ranking elected official from the *regulated, traditional land use control MS4*, or by a duly authorized representative of that person, and then submit that form along with the NOI to the address referenced under "Notice of Intent (NOI) Submittal".

C. **RESPONSIBILITIES OF THE CONTRACTOR:** The Contractor shall manage the discharge of storm water from the site in accordance with the **NYSDEC** General Permit for Construction Activities conditions and the following provisions of this section. The Operator shall be responsible for conducting the storm water management practices in accordance with the permit. The Contractor shall be responsible for providing qualified inspectors to conduct the inspections required by the SWPPP. The Contractor shall be responsible for any enforcement action taken or imposed by federal, state, or local agencies, including the cost of fines, construction delays, and remedial actions resulting from the Contractor's failure to comply with the permit provisions. **It shall be the responsibility of the Contractor to make any changes to the SWPPP necessary when the Contractor or any of his subcontractors elects to use borrow or fill or material storage sites, either contiguous to or remote from the construction site, when such sites are used solely for this construction site. Such sites are considered to be part of the construction site covered by the permit and this SWPPP. Off-site borrow, fill, or material storage sites which are used for multiple construction projects are not subject to this requirement, unless specifically required by state or local jurisdictional entity regulations. The Contractor should consider this requirement in negotiating with earthwork subcontractors, since the choice of an off-site borrow, fill, or material storage**

site may impact their duty to implement, make changes to, and perform inspections required by the SWPPP for the site.

D. **NOTICE OF INTENT:** The Operator has petitioned the **NYSDEC** for coverage under the storm water discharges during construction at this site to be covered by the **SPDES** General Permit for Construction Activity for the State of **New York.** A Notice of Intent (NOI) for coverage under this permit has been filed by the Operator. The SWPPP must be prepared prior to submittal of the NOI form. The Operator will require the Contractor to be a co-permittee with the Operator. The Contractor will be required to post the NOI at the construction site along with any building permits.

E. **CONTRACTOR CERTIFICATION & TRAINING**: Certification and Training of the Contractor's Project Manager and Superintendent will be performed at the Pre-Construction Meeting and administered by the **Operator's Project Manager** and/or **Operator's Engineer**. This Certification and Training Program has been developed to stress the importance of the following topics:

- Erosion and sediment control for water quality protection
- Implementation of erosion and sediment control plans
- The importance to proper installation of erosion and sediment control measures
- Regular inspection by the **owner/operator** and a **Qualified Professional** of erosion and sediment control measures
- Diligent maintenance of erosion and sediment control measures
- Expedient preparation of accurate and complete records regarding inspection and maintenance of erosion and sediment control measures
- Record-keeping for inspections and maintenance activities

Upon completion of the certification and training program, the project will receive a *SWPPP Ledger* for use by the Contractor's Project Manager and Superintendent with all required certifications and record keeping forms involved with the installation and/or maintenance of erosion and sediment control measures. The Operator's certification and training shall be in addition to any federal, state or local certifications or training required or available to comply with SPDES stormwater permit requirements by the Contractor.

F. **REQUIREMENTS FOR THE GENERAL CONTRACTOR AND SUBCONTRACTOR(S):** The *SWPPP Ledger* shall provide a **"Contractor's Certification Log" (Form SWPPP-1)** for both the General Contractor and Subcontractor(s) identifying the Company Name, Business Address and Telephone Number along with the Responsible Person for the Contractor and all subcontractors' who will implement the measures identified in the SWPPP. **The General Contractor and Subcontractor(s) shall also sign the "Contractor's Certification Statement" (Form SWPPP-2)** verifying they have been instructed on how to comply with and fully understand the requirements of the **SPDES** General Permit for Construction Activity for the State of **New York** and the SWPPP. These certifications must be signed, by a responsible corporate officer or other party meeting the "Signatory Requirements" of the SPDES General Permit, on behalf of each entity, prior to the beginning of any construction activities and shall be filed in the project's *SWPPP Ledger*. A Signatory Authorization Designation **(Form SWPPP-11)** must be filled out by each entity giving the authorization for the individual to sign on behalf of the entity.

G. **STORM WATER POLLUTION PREVENTION PROGRAM LOCATION REQUIREMENTS:** The *SWPPP Ledger* is meant to be a working document that shall be maintained at the site of the Construction Activities at all times throughout the project, shall be readily available upon request by the Operator's personnel or **NYSDEC** or any other agency with regulatory authority over storm water issues, and shall be kept on-site until the site complies with the Final Stabilization section of this document. **A sign or other notice must be posted near the main entrance of the construction site which contains a completed NOI, the location of the SWPPP and the name and phone number of a contact person responsible for scheduling SWPPP viewing times, and any other state specific requirements.**

H. **SWPPP LEDGER:** The SWPPP Ledger shall be a three (3) ring binder, the Ledger shall be tabbed and indexed for the following sections:

- **Table of Contents**
- **Written SWPPP**
- **Site Map**
- **Erosion and Sedimentation Control Plan(s)**
- **Signed NYSDEC Notice of Intent (NOI)**
- **Copy of Notice of Permit Coverage**
- **Copy of the NYSDEC SPDES General Permit for Construction Activity for the State of New York**
- **Blank Copy of NOI and Notice of Termination (NOT)**
- **Contractor's Certification Log (Form SWPPP-1)**
- **Contractor's Certification Statement (Form SWPPP-2)**
- **Inspection Report(s) (Form SWPPP-3)**
- **Stabilization Schedule (Form SWPPP-4)**
- **Final Stabilization/Termination Checklist (Form SWPPP-5)**
- **Project Rainfall Log (Form SWPPP-6)**
- **Requested Changes to the SWPPP (Form SWPPP-7)**
- **Monthly Training Log (Form SWPPP-8)**
- **Reportable Quantity Release Form (Form SWPPP-9)**
- **Implementation Schedule (Form SWPPP-10)**
- **Signatory Authorization Designation (SWPPP-11)**
- **Owner's Certification (SWPPP-12)**
- **Engineer's Certification (SWPPP-13)**
- **Sample Forms**

The Operator's Project Manager must review and evaluate for compliance the *SWPPP Ledger* at each Project Review. All Inspection and Maintenance Forms must be **signed** by the Operator's Project Manager **(or other duly authorized representative)** at this review and be submitted with the Contractor's Monthly Application for Payment. The approval of the Contractor's Application for Payment will be withheld until the *SWPPP Ledger* is deemed in compliance and all SWPPP Inspection and Maintenance Forms and have been submitted to the satisfaction of the Operator.

I. INSPECTIONS AND RECORD-KEEPING:

A. General Construction Site Inspection and Maintenance Requirements

1. The *owner or operator* must ensure that all erosion and sediment control practices and all post-construction stormwater management practices identified in the SWPPP are maintained in effective operating condition at all times.

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. Owner or Operator Maintenance Inspection Requirements

1. The *owner or operator* shall inspect, in accordance with the requirements in the most current version of the technical standard, New York State Standards and Specifications for Erosion and Sediment Control, the erosion and sediment controls identified in the SWPPP to ensure that they are being maintained in effective operating condition at all times.

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 *owner or operator* can stop conducting the maintenance inspections. The *owner or operator* shall begin conducting the maintenance inspections in accordance with Part IV.B.1. of the General 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 *owner or operator* 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 of the General Permit **cannot** conduct the *qualified inspector* site inspections unless they meet the *qualified inspector* qualifications included in Appendix A of the General Permit. 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),
- 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 of the General Permit, with the exception of:

    a. The construction of a single family residential subdivision with 25% or less impervious cover at total site build-out that involves a soil disturbance of one (1) or more acres of land but less than five (5) acres and is not located in one of the watersheds listed in Appendix C of the General Permit and not directly discharging to one of the 303(d) segments listed in Appendix E of the General Permit;

    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 of the General Permit;

    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 of the General Permit that involve soil disturbances between five thousand (5000) 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.C.3 of the General Permit 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 Regional Office stormwater contact person (see contact information in Appendix F of the General Permit) or, in areas under the jurisdiction of a *regulated, traditional land use control MS4,* the MS4 (provided the MS4 is not the *owner or operator* of the construction activity) in writing prior to reducing the frequency of inspections.

d. For construction sites where soil disturbance activities have been shut down with partial project completion, the *qualified inspector* can stop conducting inspections if all areas disturbed as of the project shutdown date have achieved *final stabilization* and all post-construction stormwater management practices required for the completed portion of the project have been constructed in conformance with the SWPPP and are operational. The *owner or operator* shall notify the Regional Office stormwater contact person or, in areas under the jurisdiction of a *regulated, traditional land use control MS4,* the MS4 (provided the 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.A.1 of the General Permit.

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

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

   a. Date and time of inspection;

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

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

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

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

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

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

   h. Description and 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;

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 to correct deficiencies identified with the construction of the post-construction stormwater management practice(s); and

k. 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 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.C.2 of the General Permit, the inspection reports shall be maintained on site with the SWPPP.

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 site achieves *final stabilization*. This period may be extended by the Department, in its sole discretion, at any time upon written notification.

- **Form SWPPP-3 Inspection Report**
- **Form SWPPP-4 Stabilization Schedule**
- **Form SWPPP-5 Final Stabilization/Termination Checklist**
- **Form SWPPP-6 Project Rainfall Log**
- **Form SWPPP-7 Requested Changes to the SWPPP**
- **Form SWPPP-8 Monthly Training Log**
- **Form SWPPP-9 Reportable Quantity Release Form**
- **Form SWPPP-10 Implementation Schedule**
- **Form SWPPP-11 Signatory Authorization Designation**
- **Form SWPPP-12 Owner's Certification**
- **Form SWPPP-13 Engineer's Certification**

J. **SWPPP MODIFICATIONS:** The inspection report should also identify if any revisions to the SWPPP are warranted due to unexpected conditions. The SWPPP is meant to be a dynamic working guide that is to be kept current and amended whenever there is a change in design, construction, operation, or maintenance at the construction site that has or could have a significant effect on the discharge of pollutants or when the plan proves to be ineffective in eliminating or significantly minimizing pollutant discharges. Any such changes to the SWPPP must be made in writing on the "**Requested Changes to the SWPPP" (Form SWPPP-7)** within 7 days of the date of such modification or amendment is made. The Contractor's failure to modify or report deficiencies to the Operator will result in the Contractor being liable for fines and construction delays resulting from any federal, state, or local agency enforcement action.

K. **CONTRACTOR'S MONTHLY TRAINING:** The Contractor shall provide monthly training sessions for all entities and subcontractors involved with installing, applying, performing, maintaining and inspection of the SWPPP. Logs of each monthly training shall be kept by the Contractor on the "Monthly Training Log" **(Form SWPPP-8)**, in the *SWPPP Ledger*. Training shall educate the attendees on the topics of:

- The Location and Type of Control Measures
- The Construction Requirements for the Control Measures
- Maintenance Procedures for each of the Control Measures
- Spill Prevention and Cleanup Measures
- Inspection and Maintenance Record Keeping Requirements

L. **FINAL STABILIZATION AND TERMINATION OF PERMIT COVERAGE:** A site can be considered finally stabilized when all soil disturbing activities have been completed and a uniform perennial vegetative cover with a density of **85%** for the unpaved areas and areas not covered by permanent structures has been established or equivalent permanent stabilization measures have been established and the facility no longer discharges storm water associated with construction activities and a Notice of Termination (NOT) form filed by the Operator(s) with the NYSDEC. The Operator's Project Manager must complete the NOT. The NOT must be signed by the signatory (or equivalent position) on the NOI and subsequently submitted to the appropriate agency. The Operator's Project Manager must provide a completed copy of the NOT to the Contractor for inclusion in the SWPPP, which will then be optically scanned into the final SWPPP document as required. This filing terminates coverage under the General Permit and terminates the Contractor's responsibility to implement the SWPPP, but the requirements of the SWPPP, including periodic inspections, must be continued until the NOT is filed. The owner or operator shall also have the qualified inspector perform a final site inspection prior to submitting the NOT to the Department. In addition, the qualified inspector must verify during the final inspection that all City of Lackawanna requirements for Final Stabilization have been satisfied prior to City of Lackawanna signature of the NOT. Upon achieving this milestone, the Contractor shall also submit "Final Stabilization Certification/Termination Checklist" **(Form SWPPP-5)**. Final payment and/or the release of retainage will be withheld until all provisions of the SWPPP have been submitted, completed and accepted by the Operator.

802 PROJECT NAME AND LOCATION

Mt. Olive Missionary Baptist Church
66 Wasson Ave.
City of Lackawanna, NY 14218
42.825°N, 78.847°W
Estimated Area of Site ≈ 2.25+/- acres
Estimated Area to be Disturbed by Construction Activities ≈ 2.25+/- acres

A general location map is included as Appendix A.

803 OPERATOR'S NAME AND ADDRESS

Telco Construction, Inc.
500 Buffalo Rd.
East Aurora, NY 14052
Contact Person: John R. Milks
Telephone: 716-805-1520

804 PROJECT DESCRIPTION

This redevelopment project is located on the existing Mt Olive church site and contiguously owned properties. Construction will consist of a proposed 3-story medical building (31,458 gsf), 2-story 20-unit senior apartment building (18,508 gsf), Mt. Olive field house (6,946 gsf), and Mt Olive daycare addition (2,698 gsf). Site development will also include onsite utility improvements and a total of 89 open parking spaces. The existing site is currently occupied by the Mt Olive Baptist Church (7,023+/- gsf) that will remain. The proposed daycare and field house will be directly connected to the existing church. The existing parking areas adjacent to the church building will be removed for proposed construction. The remainder of the existing site is currently vacant. The overall site area is approximately 2.25 acres and has frontage along both Wasson Ave. and Steelawanna Ave. in the City of Lackawanna. Current zoning of the property in Mixed Residential.

The estimated time for completion of the construction project is 360 calendar days. Soil disturbing activities will include:

A. Construction of temporary construction exit point
B. Clearing & grubbing of the site within disturbance limits
C. Construction of stormwater bioretention area
D. Installation of storm sewer pipes and inlets
E. Construction of utilities
F. Construction of driveways and parking lot
G. Final grading & landscaping
H. Construction of building

This project is owned by **Telco Construction, Inc.** and will be developed by **Telco Construction, Inc.**. The work area consists of approximately 2.25+/- acres for which erosion and sediment controls have been developed and fully addressed in this written plan and the Erosion and Sediment Control Plans. See the construction documents for additional details

805 RUNOFF COEFFICIENT, SOILS, AND RAINFALL INFORMATION

The initial runoff curve number for the pre-construction site is "CN" = 93. The post-construction runoff curve number for the site will be "CN" = 94. Approximately 2.25+/- acres will be disturbed by construction activities.

See soils information located in Appendix D

The site is in Erie County, which receives an average of approximately 35 inches rainfall annually with the highest amounts of rainfall received in the months of May thru September. Annual snow for this area is approximately 100 inches.

806 WATERS

The runoff generated from this site will discharge to existing closed stormwater drainage systems and ultimately Lake Erie

807 INDIAN COUNTRY LANDS

This project is not located on Indian Lands.

808 ENDANGERED AND THREATENED SPECIES

No endangered/threatened species have been determined to be on the site.

809 CRITICAL HABITAT

No critical habitats have been determined to be on the site.

810 HISTORIC PLACES

The assessed property is not listed in the National Register of Historical Places.

811 WETLANDS AND/OR OTHER SURFACE WATERS

No wetlands are located on the site.

812 EROSION AND SEDIMENT CONTROLS

812.1 STABILIZATION PRACTICES

Stabilization practices for this site include:

A. Land clearing activities shall be done only in areas where earthwork will be performed and shall progress as earthwork is needed.
B. Use of stabilization method for all slopes having a slope greater than 1V:3H.
C. Permanent seeding and planting of all unpaved areas using the hydromulching grass seeding technique.
D. Mulching exposed areas.
E. Vegetation preservation in undisturbed areas.
F. Frequent watering to minimize wind erosion during construction.

a. For sites where **5 acres or more** are disturbed at any one time: In areas where soil disturbance activity has been temporarily or permanently ceased, temporary and/or permanent soil stabilization measures shall be installed and/or implemented within seven (7) days from the date the soil disturbance activity ceased. The soil stabilization measures selected shall be in conformance with the most current version of the *New York Standards and Specifications for Erosion and Sediment Control.*

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

c. The owner or operator shall install any additional measures needed to protect water quality.

812.2 STRUCTURAL PRACTICES

Structural practices for this site include:

A. Inlet protection using a method detailed in the Construction Documents.
B. Perimeter protection using temporary silt fence.
C. Outlet protection using rip-rap stone and end sections.
D. Stabilized Construction Entrance.
E. Temporary stone wash off areas.
F. Storm sewer, curb/gutter.
G. Sediment traps and basins.

812.3 SEQUENCE OF MAJOR ACTIVITIES

The Contractor will be responsible for implementing the following erosion control and storm water management control measures. The Contractor may designate these tasks to certain subcontractors as he sees fit, but the ultimate responsibility for implementing these controls and ensuring their proper functioning remains with the Contractor. The order of activities will be as follows:

A. Construct temporary construction exits at locations shown on the Demolition & Erosion Control Plan Sheet.
B. Install perimeter silt fences in the locations shown on the Demolition & Erosion Control Plan Sheet.
C. Clear & Grub site.
D. Construction of stormwater bioretention area
E. Commence site grading.
F. Disturbed areas of the site where construction activity has ceased for more than 14 days shall be temporarily seeded and watered.
G. Installation of proposed utilities
H. Finalize pavement subgrade preparation.
I. Construct all curb, drainage inlets, storm sewer pipes and storm sewer manholes, as shown on the plans. Install temporary inlet protection at the locations of all inlets.
J. Dust control.

K. Remove inlet protection around inlets and manholes no more than 48 hours prior to placing stabilized base course.
L. Install base material as required for pavement.
M. Carry out final grading and seeding and planting.
N. Clean storm system following construction.
O. Remove silt fencing only after all paving is complete and exposed surfaces are stabilized.
P. Remove temporary construction exits only prior to pavement construction in these areas.

A schedule for implementation for the activities identified above is included as Form SWPPP-4 of the SWPPP.

Note: Sediment control storage during construction (traps & basins) during construction shall be 134cy per acre of disturbance per NYSDEC requirements.

812.4 STORM WATER MANAGEMENT: See Appendix D, Engineer's Report

813 OTHER CONTROLS

813.1 OFF-SITE VEHICLE TRACKING

A stabilized construction exit will be provided to help reduce vehicle tracking of sediments. Existing paved areas will remain as long as possible and will be used for vehicle wash areas and to further aid in the reduction of vehicle tracking of sediments. The paved streets adjacent to the site entrance shall be inspected daily and swept as necessary to remove any excess mud, dirt, or rock tracked from the site. Dump trucks hauling material to/from the construction site will be covered with a tarpaulin. The job site superintendent will be responsible for seeing that these procedures are followed.

813.2 EXCAVATION SPOIL MATERIALS

Excavation spoil materials are generated during the excavation of the development's building and utilities installation. These materials must be properly managed to prevent them from contributing to storm water discharges. The materials generated from the development of this project will be hauled off-site or stockpiled for re-use in designated areas which will have temporary erosion & sediment control measures installed. Any removal from site will be done under the necessary permits required by the local governing agencies.

813.3 DUST CONTROL

Minimizing wind erosion and controlling dust will be accomplished by one or more of the following methods:
A. Frequent watering of excavation and fill areas.
B. Providing gravel or paving at entrance/exit drives, parking areas and transit paths.

813.4 WASTE DISPOSAL

If needed, all waste materials will be collected and stored in securely lidded metal dumpsters rented from an approved waste management company. The dumpster will comply with all local and state solid waste management regulations.

All trash and construction debris from the site will be deposited in the dumpsters. The dumpsters will be emptied when full and then hauled to a NYSDEC approved landfill for proper disposal. No construction waste will be buried on-site. All personnel will be instructed regarding the correct procedures for waste disposal.

813.5 SANITARY WASTE

If needed, portable toilet units or field offices with toilet facilities connected to the municipal sanitary sewer will be used for sanitary purposes. All portable toilet units will be emptied a minimum of once per week by a licensed portable facility provided in compliance with local and state regulations.

813.6 CONCRETE WASTE FROM CONCRETE TRUCKS

A. Emptying of excess unhardened concrete and/or washout from concrete delivery trucks will be allowed on the job site, but in either (1) specifically designated diked areas which have been prepared to prevent contact between concrete and/or washout and storm water which will be discharged from the site or (2) in locations where waste concrete will be poured into forms to make rip-rap or other useful concrete products.

B. Hardened waste concrete from the designated diked areas described above will be disposed of in accordance with applicable local and state regulations with regards to disposal of construction debris.

813.7 HAZARDOUS SUBSTANCES & HAVARDOUS WASTE

A. All hazardous waste materials will be disposed of by the Contractor in the manner specified by local, state, and/or federal regulations and by the manufacturer of such products. Site personnel will be instructed in these practices by the job superintendent, who will also be responsible for seeing these practices are followed. Material Safety Data Sheets (MSDS's) for each substance with hazardous properties that is used on the job site will be obtained and used for the proper management of potential wastes that may result from these products. An MSDS will be posted in the immediate area where such products are stored and/or used and another copy of each MSDS will be maintained in the SWPPP file at the job site construction office. Each employee who must handle a substance with hazardous properties will be instructed on the use of MSDS sheets and the specific information in the applicable MSDS for the product he/she is using, particularly regarding spill control techniques.

B. The contractor will implement the Spill Prevention Control and Countermeasures (SPCC) Plan found within this SWPPP and will train all personnel in the proper cleanup and handling of spilled materials. No spilled hazardous materials of hazardous wastes will be allowed to come in contact with storm water discharges. If such contact occurs, the storm water discharge shall be contained on site until appropriate measures in compliance with state and federal regulations are taken to dispose of such contaminated storm water. It shall be the responsibility of the job superintendent to properly train all personnel in the use of the SPCC plan.

C. Any spills of hazardous materials which are in excess of the Reportable Quantities as defined by the EPA regulations shall be immediately reported to the EPA National Response Center at 1-800-424-8802. From SWPPP-9 "Reportable Quantity Release Form" must be filled out.

D. In order to minimize the potential for a spill of hazardous materials to come in contact with storm water, the following steps will be implemented:

1. All materials with hazardous properties (such as pesticides, petroleum products, fertilizers, detergents, construction chemicals, acids, paints, paint solvents, cleaning solvents, additives for soil stabilization, concrete curing compounds and additives, etc.) will be stored in a secure location, under cover, when not in use.
2. The minimum practical quantity of all such materials will be kept on the job site.
3. A spill control and containment kit (containing for example, absorbent such as kitty litter or sawdust, acid neutralizing powder, brooms, dust pans, mops, rags, gloves, goggles, plastic and metal trash containers, etc.) will be provided at the storage site.
4. All of the product in a container will be used before the container is disposed of. All such containers will be triple rinsed with water prior to disposal. The rinse water used in these

containers will be disposed of in a manner in compliance with state and federal regulations and will not be allowed to mix with storm water discharges.

5. All products will be stored in and used from the original container with the original product label.
6. All products will be used in strict compliance with instructions on the product label.
7. The disposal of excess or used products will be in strict compliance with instructions on the product label.

813.8 CONTAMINATED SOILS

A. Any contaminated soils (resulting from spills of materials with hazardous properties) which may result from construction activities will be contained and cleaned up immediately in accordance with the procedures given in the Spill Prevention Control and Countermeasures (SPCC) Plan and in accordance with applicable state and federal regulations.

B. The job site superintendent will be responsible for seeing that these procedures are followed.

814 COMPLIANCE WITH FEDERAL, STATE, AND LOCAL REGULATIONS

The Contractor will obtain copies of any and all local and state regulations which are applicable to storm water management, erosion control, and pollution minimization at this job site and will comply fully with such regulations. The Contractor will submit written evidence of such compliance if requested by the Operator or any agent of a regulatory body. The Contractor will comply with all conditions of the **SPDES** General Permit for Construction Activity for the State of **New York**, including the conditions related to maintaining the SWPPP and evidence of compliance with the SWPPP at the job site and allowing regulatory personnel access to the job site and to records in order to determine compliance.

815 INSPECTION AND MAINTENANCE PROCEDURES

The following inspection and maintenance practices will be used to maintain erosion and sediment controls and stabilization measures.

1. All control measures will be inspected by the **owner/operator** at least weekly and shall continue until the site complies with the Final Stabilization section of this document (See Section 816)

2. All control measures will be inspected by a **Qualified Professional** at least weekly and shall continue until the site complies with the Final Stabilization section of this document (See Section 816)

3. All measures will be maintained in good working order; if repairs or other measures are found to be necessary, they will be initiated within 24 hours of report.

4. Built up sediment will be removed from silt fence when it has reached one-third the height of the fence.

5. Silt fences will be inspected for depth of sediment, tears, etc., to see if the fabric is securely attached to the fence posts, and to see that the fence posts are securely in the ground.

6. Inlet protection and the stabilized construction entrance shall be inspected to see if these measures are functioning properly or if maintenance is required.

7. Temporary and permanent seeding and all other stabilization measures will be inspected for bare spots, washouts, and healthy growth.

8. A maintenance inspection report will be made after each inspection. Copies of the report forms to be completed by the inspector are included in this SWPPP.

9. The job site superintendent will be responsible for selecting and training the individuals who will be responsible for these inspections, maintenance and repair activities, and filling out inspection and maintenance reports.

10. Personnel selected for the inspection and maintenance responsibilities will receive training from the job site superintendent. They will be trained in all the inspection and maintenance practices necessary for keeping the erosion and sediment controls that are used onsite in good working order. They will also be trained in the completion of, initiation of actions required by, and the filing of the inspection forms. Documentation of this personnel training will be kept on site with the SWPPP.

11. Disturbed areas and materials storage areas will be inspected for evidence of or potential for pollutants entering stormwater systems.

12. Report to the NYSDEC within 24 hours any noncompliance with the SWPPP that will endanger public health or the environment. Follow up with a written report within 5 days of the noncompliance event. The following events require 24 hour reporting: a) any unanticipated bypass which exceeds any effluent limitation in the permit, b) any upset which exceeds any effluent limitation in the permit, and c) a violation of a maximum daily discharge limitation for any of the pollutants listed by the NYSDEC in the permit to be reported within 24 hours. The written submission must contain a description of the non-compliance and its cause; the period of non-compliance, including exact dates and times, and if the non-compliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent recurrence of the non-compliance.

13. Releases of hazardous substances or oil in excess of reportable quantities (as established under 40 CFR 110, 40 CFR 117 or 40 CFR 302) must be reported.

Upon completion of construction, the property owner is responsible for ensuring that the stormwater facilities are regularly inspected and maintained. Maintenance and inspection procedures are as follows.

1. On a quarterly basis and following significant rainfall events or snow-melts, perform the following:
   - Inspect catch basins, storm manholes, treatment structures, storm piping and stormwater ponds for debris and accumulation of sediment.
   - Remove and properly dispose of any collected debris and sediment in accordance with applicable state, federal and local regulations.
   - Flush piping with water if necessary to remove accumulated sediment.
   - Clean treatment structures per manufacturer's recommendations
   - Check all stone outfall structures for erosion and re-stone if necessary to prevent further erosion.
   - Inspect grassed/landscaped areas for un-vegetated areas or areas with less than 80% healthy stand of grass and reseed and mulch as necessary. Water daily if reseeded in July and August.
   - A record of all inspections should be kept.
2. Maintain all lawn areas by regular mowing, including the grassed slopes of the stormwater ponds and any grass swales. Any eroded areas shall be regarded, seeded and mulched immediately.

816 INSPECTION AND MAINTENANCE REPORT FORMS

Once installation of any required or optional erosion control device or measure has been implemented, inspections shall be performed by a Qualified Professional at least once every seven (7) calendar days. For construction sites where soil disturbance activities are on-going and the owner or operator has received authorization in accordance with Part II.C.3 of the General Permit 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. The owner and contractor shall obtain from the MS4 an approval for disturbing more than five-acres at any given time. For construction sites where active construction has been suspended, inspection frequency under the general permit can be reduced to once every 30 days, provided temporary stabilization measures have been applied to all disturbed areas. The forms found in this SWPPP shall be used by the inspectors to inventory and report the

condition of each measure to assist in maintaining the erosion and sediment control measures in good working order.

These report forms shall become an integral part of the SWPPP and shall be made readily accessible to governmental inspection officials, the Operator's Engineer, and the Operator for review upon request during visits to the project site. In addition, copies of the reports shall be provided to any of these persons, upon request, via mail or facsimile transmission. Inspection and maintenance report forms are to be maintained by the permittee for five years following the final stabilization of the site.

THE CITY OF LACKAWANNA IS TO BE PROVIDED WITH A COPY OF ALL SWPPP INSPECTIONS WITHIN ONE WORKING DAY OF PERFORMING THE INSPECTION.

817 OTHER RECORD-KEEPING REQUIREMENTS

The Contractor shall keep the following records related to construction activities at the site:

- Dates when major grading activities occur and the areas which were graded
- Dates and details concerning the installation of structural controls
- Dates when construction activities cease in an area
- Dates when an areas is stabilized, either temporarily or permanently
- Dates of rainfall and the amount of rainfall
- Dates and descriptions of the character and amount of any spills of hazardous materials
- Records of reports filed with regulatory agencies if reportable quantities of hazardous materials spilled

818 SPILL PREVENTION CONTROL AND COUNTERMEASURES (SPCC) PLAN

818.1 MATERIALS COVERED

The following materials or substances are expected to be present onsite during construction:

Concrete/Additives/Wastes	Cleaning solvents
Detergents	Petroleum based products
Paints/Solvents	Pesticides
Acids	Fertilizers
Solid and construction wastes	Sanitary wastes
Soil stabilization additives	

818.2 MATERIAL MANAGEMENT PRACTICES

The following are the material management practices that will be used to reduce the risk of spills or other accidental exposure of materials and substances to stormwater runoff. The job site superintendent will be responsible for ensuring that these procedures are followed.

A. Good Housekeeping

The following good housekeeping practices will be followed onsite during the construction project.

1. An effort will be made to store only enough products required to do the job.
2. All materials stored onsite will be stored in a neat, orderly manner and, if possible, under a roof or in a containment area. At a minimum, all containers will be stored with their lids on when not in use. Drip pans shall be provided under all dispensers.
3. Products will be kept in their original containers with the original manufacturer's label in legible condition.
4. Substances will not be mixed with one another unless recommended by the manufacturer.
5. Whenever possible, all of a product will be used up before disposing of the container.

6. Manufacturer's recommendations for proper use and disposal will be followed.
7. The job site superintendent will be responsible for daily inspections to ensure proper use and disposal of materials.

B. Hazardous Products

These practices will be used to reduce the risks associated with hazardous materials. Material Safety Data Sheets (MSDS's) for each substance with hazardous properties that is used on the job site will be obtained and used for the proper management of potential wastes that may result from these products. An MSDS will be posted in the immediate area where such product is stored and/or used and another copy of each MSDS will be maintained in the SWPPP file at the job site construction trailer office. Each employee who must handle a substance with hazardous properties will be instructed on the use of MSDS sheets and the specific information in the applicable MSDS for the product he/she is using, particularly regarding spill control techniques.

1. Products will be kept in original containers with the original labels in legible condition.
2. Original labels and material safety data sheets (MSDS's) will be procured and used for each material.
3. If surplus product must be disposed of, manufacturer's or local/state/federal recommended methods for proper disposal will be followed.
4. A spill control and containment kit (containing for example, absorbent such as kitty litter or sawdust, acid neutralizing powder, brooms, dust pans, mops, rags, gloves, goggles, plastic and metal trash containers, etc.) will be provided at the storage site.
5. All of the product in a container will be used before the container is disposed of. All such containers will be triple rinsed with water prior to disposal. The rinse water used in these containers will be disposed of in a manner in compliance with state and federal regulations and will not be allowed to mix with storm water discharges.

C. Hazardous Waste

All hazardous waste materials will be disposed of by the Contractor in the manner specified by local, state, and/or federal regulations and by the manufacturer of such products. Site personnel will be instructed in these practices by the job site superintendent, who will also be responsible for seeing that these practices are followed.

D. Product Specific Practices

The following product specific practices will be followed on the job site.

1. Petroleum Products

All onsite vehicles will be monitored for leaks and receive regular preventative maintenance to reduce the chance of leakage. Petroleum products will be stored in tightly sealed containers which are clearly labeled. **Any petroleum storage tanks stored onsite will be located within a containment area that is designed with an impervious surface between the tank and the ground. The secondary containment must be designed to provide a containment volume that is equal to 110% of the volume of the largest tank.** Drip pans shall be provided for all dispensers. Any asphalt substances used onsite will be applied according to the manufacturer's recommendations. The location of any fuel tanks and/or equipment storage areas must be identified on a plan by the contractor once the locations have been determined.

2. Fertilizers

Fertilizers will be applied only in the minimum amounts recommended by the manufacturer. Once applied, fertilizer will be worked in the soil to limit exposure to stormwater. Storage will be in a covered shed. The contents of any partially used bags of fertilizer will be transferred to a sealable plastic bin to avoid spills.

3. Paints, Paint Solvents, and Cleaning Solvents

All containers will be tightly sealed and stored when not in use. Excess paint and solvents will not be discharged to the storm sewer system but will be properly disposed of according to manufacturer's instructions or state and federal regulations.

4. Concrete Wastes

Concrete trucks will be allowed to wash out or discharge surplus concrete or drum wash water on the site, but only in either (1) specifically designated diked areas which have been prepared to prevent contact between the concrete and/or wash out and storm water which will be discharged from the site or (2) in locations where waste concrete can be poured into forms to make riprap or other useful concrete products.

The hardened residue from the concrete wash out diked areas will be disposed of in the same manner as other non-hazardous construction waste materials or may be broken up and used on site as deemed appropriate by the Contractor. The job site superintendent will be responsible for seeing that these procedures are followed.

All concrete wash out areas will be located in an area where the likelihood of the area contributing to storm water discharges is negligible. If required, additional BMPs must be implemented to prevent concrete wastes from contributing to storm water discharges. The location of concrete wash out area(s) must be identified on a plan by the contractor once the locations have been determined. In addition, a standard detail on the construction of the concrete wash out shall be included on this plan.

E. Solid and Construction Wastes

All waste materials will be collected and stored in an appropriately covered container and/or securely lidded metal dumpster rented from a local waste management company which must be a solid waste management company licensed to do business in New York and the City of Lackawanna. The dumpster will comply with all local and state solid waste management regulations.

All trash and construction debris from the site will be deposited in the dumpster. The dumpster will be emptied a minimum of twice per week or more often if necessary, and the trash will be hauled to a landfill approved by the NYSDEC. No construction waste materials will be buried on site. All personnel will be instructed regarding the correct procedures for waste disposal.

All waste dumpsters and roll-off containers will be located in an area where the likelihood of the containers contributing to storm water discharges is negligible. If required, additional BMPs must be implemented, such as sandbags around the base, to prevent wastes from contributing to storm water discharges. The location of waste dumpsters and roll-off containers must be identified on a plan by the contractor once the locations have been determined.

F. Sanitary Wastes

Portable toilet units or field offices with toilet facilities connected to the municipal sanitary sewer will be used for sanitary purposes. All portable toilet units will be emptied a minimum of once per week by a licensed portable facility provided in compliance with local and state regulations.

All sanitary waste units will be located in an area where the likelihood of the unit contributing to storm water discharges is negligible. If required, additional BMPs must be implemented, such as sandbags around the base, to prevent wastes from contributing to storm water discharges. The location of sanitary waste units must be identified on a plan by the contractor once the locations have been determined.

G. Contaminated Soils

Any contaminated soils (resulting from spills of materials with hazardous properties) which may result from construction activities will be contained and cleaned up immediately in accordance with the procedures given in the Materials Management Plan and in accordance with applicable state and federal regulations.

818.3 SPILL PREVENTION AND RESPONSE PROCEDURES

The Contractor will train all personnel in the proper handling and cleanup of spilled materials. No spilled hazardous materials or hazardous wastes will be allowed to come in contact with storm water discharges. If such contact occurs, the storm water discharge will be contained on site until appropriate measures in compliance with state and federal regulations are taken to dispose of such contaminated storm water. It shall be the responsibility of the job site superintendent to properly train all personnel in spill prevention and clean up procedures.

A. In order to minimize the potential for a spill of hazardous materials to come into contact with storm water, the following steps will be implemented:

1. All materials with hazardous properties (such as pesticides, petroleum products, fertilizers, detergents, construction chemicals, acids, paints, paint solvents, cleaning solvents, additives for soil stabilization, concrete curing compounds and additives, etc.) will be stored in a secure location, with their lids on, preferably under cover, when not in use.

2. The minimum practical quantity of all such materials will be kept on the job site.

3. A spill control and containment kit (containing, for example, absorbent materials, acid neutralizing powder, brooms, dust pans, mops, rags, gloves, goggles, plastic and metal trash containers, etc.) will be provided at the storage site.

4. Manufacturer's recommended methods for spill cleanup will be clearly posted and site personnel will be trained regarding these procedures and the location of the information and cleanup supplies.

B. In the event of a spill, the following procedures should be followed

1. All spills will be cleaned up immediately after discovery.

2. The spill area will be kept well ventilated and personnel will wear appropriate protective clothing to prevent injury from contact with the hazardous substances.

3. The project manager and the Engineer of Record will be notified immediately.

Spills of toxic or hazardous materials will be reported to the appropriate federal, state, and/or local government agency, regardless of the size of the spill. Spills of amounts that exceed

Reportable Quantities of certain substances specifically mentioned in federal regulations (40 CFR 110, 40 CFR 117, and 40 CFR 302) must be immediately reported to the EPA National Response Center, telephone 1-800-424-8802. From SWPPP-9 "Reportable Quantity Release Form" must be filled out.

4. If the spill exceeds a Reportable Quantity, the SWPPP must be modified within seven (7) calendar days of knowledge of the discharge to provide a description of the release, the circumstances leading to the release, and the date of the release. The plans must identify measures to prevent the recurrence of such releases and to respond to such releases.

C. The job site superintendent will be the spill prevention and response coordinator. He will designate the individuals who will receive spill prevention and response training. These individuals will each become responsible for a particular phase of prevention and response. The names of these personnel will be posted in the material storage area and in the office trailer onsite.

819 CONTROL OF NON-STORM WATER DISCHARGES

Certain types of discharges are allowable under the **NYSDEC SPDES** General Permit for Construction Activity for the State of **New York**, and it is the intent of this SWPPP to allow such discharges. These types of discharges will be allowed under the conditions that no pollutants will be allowed to come in contact with the water prior to or after its discharge. The control measures which have been outlined previously in this SWPPP will be strictly followed to ensure that no contamination of these non-storm water discharges takes place. The following allowable non-storm water discharges which may occur at the job site include:

A. Discharges from fire fighting activities.
B. Fire hydrant flushings (see note below)
C. Waters used to wash vehicles or control dust in order to minimize offsite sediment tracking.
D. Routine external building washdown which does not use detergents.
E. Pavement washwaters where spills or leaks of hazardous materials have not occurred or detergents have not been used.
F. Air conditioning condensate.
G. Springs or other uncontaminated groundwater, including dewatering ground water infiltration.
H. Foundation or footing drains where no contamination with process materials such as solvents is present.

Note: The Contractor shall discharge any super-chlorinated water from water distribution pipe disinfection activities into sanitary sewer system

820 STORM WATER CONTROL FACILITY MAINTENANCE

The proposed stormwater drainage system area shall be inspected 2 times per year (spring and fall) for removal of silt and debris. See Appendix H: StormTech Maintenance & Bioretention Construction and Maintenance Checklist.

Appendix A

Site Location Maps:

ERIE COUNTY GIS

GOOGLE (AERIAL)

SHPO

FEMA

Erie County On-Line Mapping Application

Legend

- Parcels

Streets and Highways
- Interstate
- Primary State Road
- Secondary State Road
- County Road
- Local Road

Flowline - Large Scale
- Perennial
- Intermittent
- Ephemeral
- Artificial Path
- Canal Ditch
- Coastline
- Connector
- Pipeline
- Underground Conduit

Area - Large Scale
- Area of Complex Channels
- Area to be Submerged
- BayInlet
- Bridge
- CanalDitch
- DamWeir
- Flume
- Foreshore
- Hazard Zone
- Inundation Area
- Lock Chamber
- Rapids
- SeaOcean
- Special Use Zone
- Spillway
- StreamRiver
- Submerged Stream
- Wash
- Water IntakeOutflow

Waterbody - Large Scale
- Estuary

1: 2,257

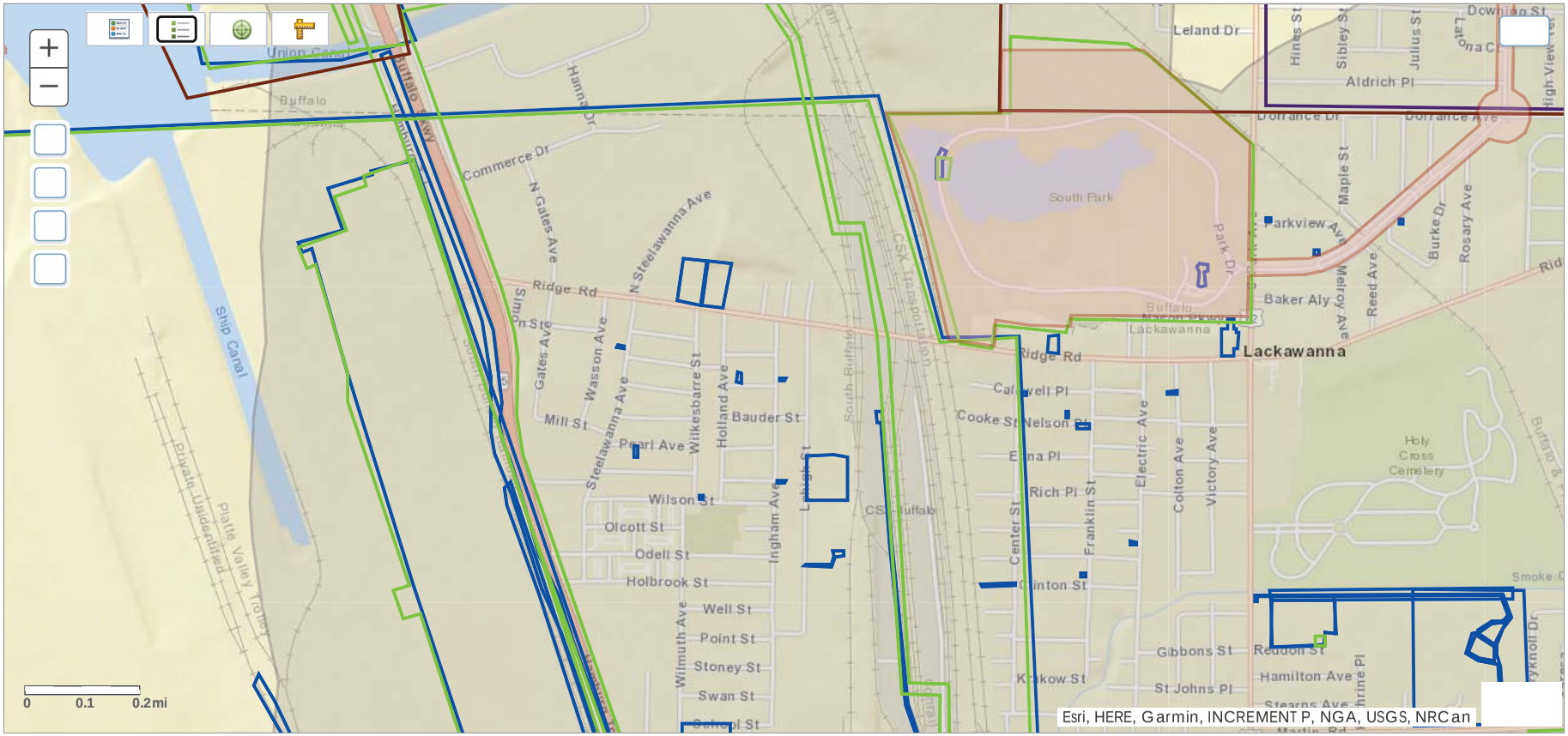
0.1 0 0.04 0.1 Miles

WGS_1984_Web_Mercator_Auxiliary_Sphere
THIS MAP IS NOT TO BE USED FOR NAVIGATION

ERIE COUNTY
DEPARTMENT OF ENVIRONMENT & PLANNING
OFFICE OF GIS

This map is a user generated static output from an Internet mapping site and is for reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable.

Imagery ©2021 Maxar Technologies, New York GIS, U.S. Geological Survey, USDA Farm Service Agency, Map data ©2021 100 ft



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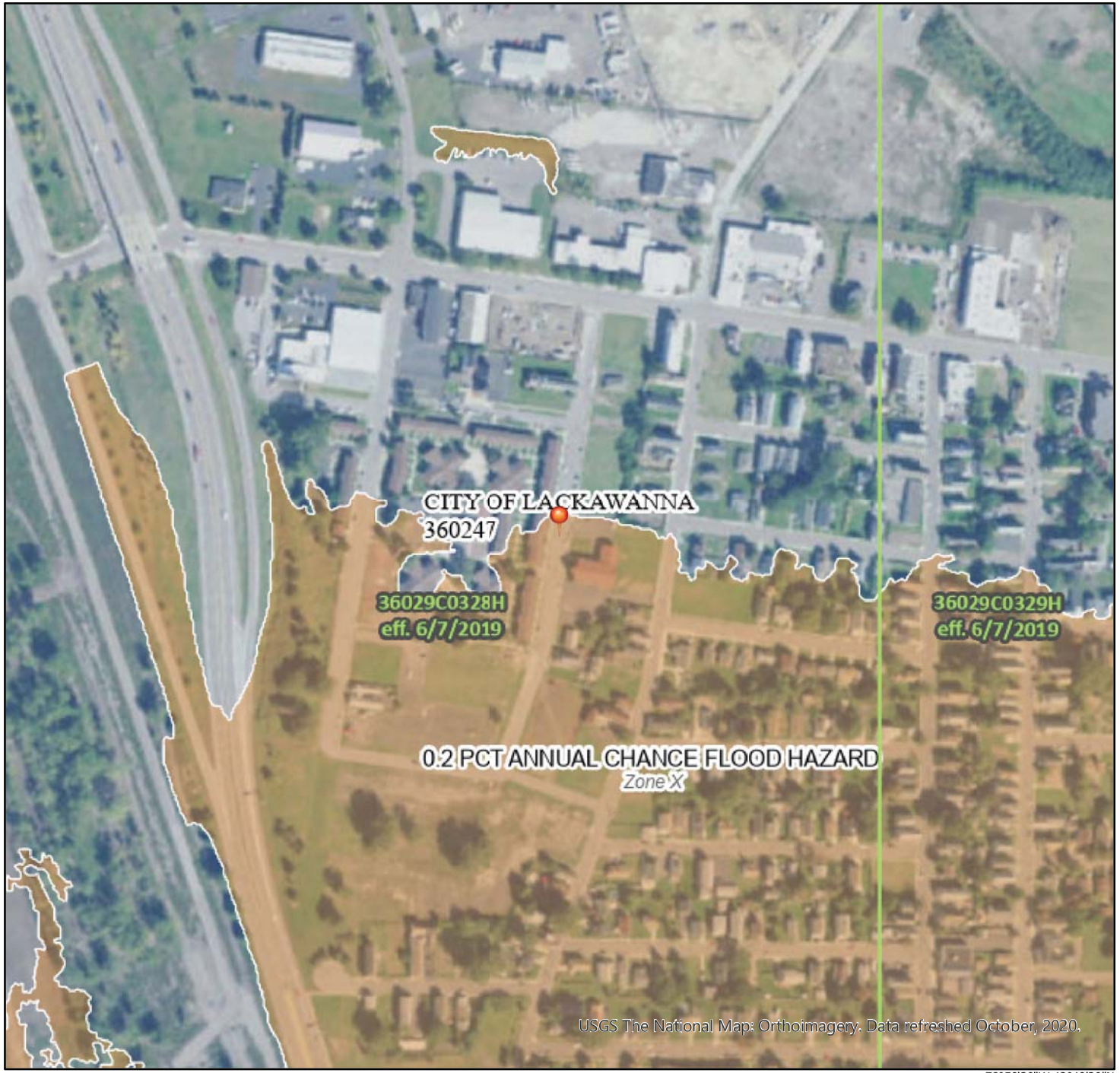
National Flood Hazard Layer FIRMette

78°51'7"W 42°49'46"N



78°50'30"W 42°49'20"N

0 250 500 1,000 1,500 2,000 Feet

1:6,000

Legend

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

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 / 17.5 Cross Sections with 1% Annual Chance / Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 1/8/2021 at 8:28 AM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

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

Appendix B

NYSDEC Notice of Intent (NOI)

0644089821

NOTICE OF INTENT

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

NYR _____
(for DEC use only)

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

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

-IMPORTANT-
RETURN THIS FORM TO THE ADDRESS ABOVE

OWNER/OPERATOR MUST SIGN FORM

Owner/Operator Information

Owner/Operator (Company Name/Private Owner Name/Municipality Name)
Telco Construction, Inc.

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

Owner/Operator Contact Person First Name
John

Owner/Operator Mailing Address
500 Buffalo Rd.

City
East Aurora

State
NY

Zip
14052-____

Phone (Owner/Operator)
716-805-1520

Fax (Owner/Operator)
___-___-____

Email (Owner/Operator)
jimm@telcoconstruction.com

FED TAX ID
__-_____ (not required for individuals)

Project Site Information

Project/Site Name
Mt. Olive Baptist Church

Street Address (NOT P.O. BOX)
66 Wasson Ave.

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

City/Town/Village (THAT ISSUES BUILDING PERMIT)
City of Lackawanna

State: NY
Zip: 14218 -
County: Erie
DEC Region: 9

Name of Nearest Cross Street
Ridge Rd

Distance to Nearest Cross Street (Feet)
300

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

Tax Map Numbers
Section-Block-Parcel
141.43-2-41

Tax Map Numbers

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

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

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

X Coordinates (Easting)
-7 8847
Ex. -73.749

Y Coordinates (Northing)
42825
Ex. 42.652

2. What is the nature of this construction project?

○ **New Construction**

● **Redevelopment with increase in impervious area**

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

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

Pre-Development Existing Land Use

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

Church & Vacant

Post-Development Future Land Use

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

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
2.3	2.3	1.5	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	B	C	D
%	%	%	100 %

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

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

Start Date 06/01/2021 - **End Date** 06/01/2022

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

Name

Lake Erie

9a. Type of waterbody identified in Question 9?

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

9b. How was the wetland identified?

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

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

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

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

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

.

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

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

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

City of Lackawanna closed storm system

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

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

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

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

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

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

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

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

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

SWPPP Preparer

Carmina Wood Morris, DPC

Contact Name (Last, Space, First)

Wood, Christopher

Mailing Address

487 Main Street Suite 600

City

Buffalo

State NY Zip 14203 -

Phone 716 - 842 - 3165

Fax 716 - 842 - 0263

Email

cwood@cwm-ae.com

SWPPP Preparer Certification

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

First Name Christopher **MI**

Last Name Wood

Signature

Date / /

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

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

Temporary Structural

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

Biotechnical

- ○ Brush Matting
- ○ Wattling

Vegetative Measures

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

Permanent Structural

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

Other

Post-construction Stormwater Management Practice (SMP) Requirements

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

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

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

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

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

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

Total WQv Required

		0	.	0	5	4	**acre-feet**

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

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

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

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

	Total Contributing Area (acres)		Total Contributing Impervious Area(acres)
RR Techniques (Area Reduction)			
○ Conservation of Natural Areas (RR-1)		and/or	
○ Sheetflow to Riparian Buffers/Filters Strips (RR-2)		and/or	
○ Tree Planting/Tree Pit (RR-3)		and/or	
○ Disconnection of Rooftop Runoff (RR-4)		and/or	
RR Techniques (Volume Reduction)			
○ Vegetated Swale (RR-5)			
○ Rain Garden (RR-6)			
○ Stormwater Planter (RR-7)			
○ Rain Barrel/Cistern (RR-8)			
○ Porous Pavement (RR-9)			
○ Green Roof (RR-10)			
Standard SMPs with RRv Capacity			
○ Infiltration Trench (I-1)			
○ Infiltration Basin (I-2)			
○ Dry Well (I-3)			
○ Underground Infiltration System (I-4)			
○ Bioretention (F-5)			0.2
○ Dry Swale (O-1)			
Standard SMPs			
○ Micropool Extended Detention (P-1)			
○ Wet Pond (P-2)			
○ Wet Extended Detention (P-3)			
○ Multiple Pond System (P-4)			
○ Pocket Pond (P-5)			
○ Surface Sand Filter (F-1)			
○ Underground Sand Filter (F-2)			
○ Perimeter Sand Filter (F-3)			
○ Organic Filter (F-4)			
○ Shallow Wetland (W-1)			
○ Extended Detention Wetland (W-2)			
○ Pond/Wetland System (W-3)			
○ Pocket Wetland (W-4)			
○ Wet Swale (O-2)			

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

Alternative SMP	Total Contributing Impervious Area(acres)
○ **Hydrodynamic**	
● **Wet Vault**	0.2
○ **Media Filter**	
○ **Other** _____	

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

Name: STORMPRO V

Manufacturer: ENVIRONMENT 21

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

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

Total RRv provided

0.009 **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

0.004 **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

0.045 **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). 0.054

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

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

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

CPv Required

0.069 **acre-feet**

CPv Provided

0.069 **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

4.10 **CFS**

Post-development

3.22 **CFS**

Total Extreme Flood Control Criteria (Qf)

Pre-Development

7.40 **CFS**

Post-development

5.16 **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

Telco Construction, Inc.

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.

Soils with slow infiltration rates (Hydrologic soil group "D")

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

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

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

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

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

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

Owner/Operator Certification

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

Print First Name: John

MI:

Print Last Name: Milks

Owner/Operator Signature:

Date: / /

Appendix C

MS4 SWPPP Acceptance Form

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:	Telco Construction, Inc.
2. Contact Person:	John R. Milks
3. Street Address:	500 Buffalo Rd.
4. City/State/Zip:	East Aurora, NY 14052
II. Project Site Information	
5. Project/Site Name:	Mt. Olive Missionary Baptist Church
6. Street Address:	66 Wasson Avenue
7. City/State/Zip:	City of Lackawanna, NY 14218
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:	City of Lackawanna
12. MS4 SPDES Permit Identification Number: NYR20A	
13. Contact Person:	
14. Street Address:	
15. City/State/Zip:	
16. Telephone Number:	

MS4 SWPPP Acceptance Form - continued

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

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

Printed Name:

Title/Position:

Signature:

Date:

VI. Additional Information

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

Appendix D

Engineer's Report

Carmina • Wood • Morris DPC

487 Main Street Suite 500 Buffalo, New York 14203 P: 716.842.3165 F: 716.842.0263 W: cwm-ae.com

Architecture Engineering Interior Design

ENGINEER'S REPORT
FOR
MT OLIVE MISSIONARY BAPTIST CHURCH
66 WASSON AVE
CITY OF LACKAWANNA, NEW YORK

GENERAL

This redevelopment project is located on the existing Mt Olive church site and contiguously owned properties. Construction will consist of a proposed 3-story medical building (31,458 gsf), 2-story 20-unit senior apartment building (18,508 gsf), Mt. Olive field house (6,946 gsf), and Mt Olive daycare addition (2,698 gsf). Site development will also include onsite utility improvements and a total of 89 open parking spaces. The existing site is currently occupied by the Mt Olive Baptist Church (7,023+/- gsf) that will remain. The proposed daycare and field house will be directly connected to the existing church. The existing parking areas adjacent to the church building will be removed for proposed construction. The remainder of the existing site is currently vacant. The overall site area is approximately 2.25 acres and has frontage along both Wasson Ave. and Steelawanna Ave. in the City of Lackawanna. Current zoning of the property in Mixed Residential.

PRIVATE WATER SERVICE

An existing 6" CIP ECWA water main is located along the center of Wasson Avenue and an existing 8" DIP ECWA water main is located along the east side of Steelawanna Ave. The proposed water service to the senior apartment building will consist of a 4" class 52 DI combined water service that will tap the existing 8" DIP water main on Steelawanna Ave and continue to the site. The combined service will be split at the property line into a separate 4" AWWA C-900 PVC fire service and a separate 2" Type "K" Copper domestic service. Both services will enter the building where a meter, backflow and fire DCVA will be installed inside of a utility room. Heat will be provided in this area to prevent freezing. Drainage due to testing or failure will be to a floor drain connected into the stormwater drainage system onsite. The proposed water services for the medical building will also be 4" fire and 2" services, however these services will tap the existing 6" CIP water main along Wasson Ave. The water services for the field house and daycare addition will connect to the existing church water service inside the church building.

Repairs to all devices will be made during off hours; dual backflow preventers are not required. The building is not located in a 100-year flood plain. Disinfection of the water service following installation will be continuous feed, according to AWWA C-651, latest revision.

See attached "Sanitary Sewage & Water Demand Calculations" for additional information.

PRIVATE SANITARY SEWER SERVICE

An existing 8" VCP ECSD #6 sewer main is located along the center of Wasson Avenue and an existing 8" PVC ECSD #6 main is located along the east side of Steelawanna Ave. The proposed sanitary sewer lateral for the senior apartment building will be approximately 75 LF of 6" diameter SDR-35 PVC @ 1.0% slope min. This lateral will WYE connect into the existing 8" sanitary sewer along Steelawanna Ave. The proposed sanitary sewer lateral for the medical building will be approximately 71 LF of 6" diameter SDR-35 PVC @ 1.0% slope min. This lateral will WYE connect into the existing 8" sanitary sewer along Wasson Ave. Any wastewater drainage required for the field house and daycare additions will be connected into the internal plumbing system of the existing church building.

Design Parameters: Hydraulic loading rates per "Design Standard for Wastewater Treatment Works" 2014, NYSDEC

Total Site Sanitary Demand = 6,546 gpd average

See attached "Sanitary Sewage & Water Demand Calculations" for additional information.

STORMWATER DRAINAGE SYSTEM

The existing site gradually slopes from north to south with sheet drainage to Wasson Ave. The existing closed stormwater drainage system along the sides of Wasson Ave collect and convey runoff to the south and ultimately to Lake Erie. A portion of the project site is classified as a "Redevelopment" project per NYSDEC Stormwater Management Design Manual Chapter 9 requirements. Historic aerials of the site show extensive building and impervious cover onsite that have since been demolished. For purposes of a runoff analysis, an assumption was made that 50% of the current "greenspace" onsite be quantified as impervious surfaces.

The proposed storm drainage system for this site will consist of HDPE pipes connected by a series of catch basins located throughout the project site. The proposed storm water collection system will convey runoff to two separate underground detention systems. The underground detention systems (UGD) will consist of opened bottom ADS StormTech SC-740 chambers embedded in stone and wrapped in geotextile fabric. Runoff routed through the UGD will be discharged via a 10" HDPE outlet pipe to the existing closed stormwater drainage

system along the east side of Wasson Ave. The outlet pipe will attenuate proposed runoff rates to less than existing condition runoff rates.

A bioretention area will be incorporated into the site to provide Runoff Reduction and Water Quality requirements for "New Development". Portions of roof top runoff from the existing church building and the proposed senior apartment building will drain directly to the bioretention area located between the two buildings. The filter area planting soil depth will maintain a minimum of at least 2.5 feet of soil. A series of 6" underdrains below the planting soil will be located throughout the bioretention area and overflow catch basins will convey runoff directly to the onsite closed stormwater drainage system.

Since a portion of this project that is classified as a "Redevelopment" project per NYSDEC Stormwater Management Design Manual Chapter 9 requirements, a water quality treatment structure sized to treat the required water quality flow rate will be provided for "Redevelopment" area prior to discharge offsite.

The NYSDEC Stormwater Management Design Manual requires a five-step process for Stormwater Management Planning as outlined in Chapter 3. The five steps include:

1. *Site planning to preserve natural features and reduce impervious cover.*
   - Minimal natural existing features are located onsite and the site is located in a less sensitive area.
2. *Calculation of Water Quality Volume (WQv) for site.*
   - See Storm Drainage Calculations
3. *Incorporation of Green Infrastructure techniques and standard SMPs with Runoff Reduction Volume (RRv) capacity.*
   - A bioretention area was incorporated into the site design to provide required RRv. See Storm Drainage Calculations
4. *Use of standard SMPs where applicable, to treat the portion of water quality volume not addressed by green infrastructure techniques and standard SMPs with RRv capacity.*
   - The remaining Water Quality not addressed by the bioretention area will be treated by a water quality treatment structure. See Storm Drainage Calculations.
5. *Design of volume and peak rate control practices where required.*
   - See Storm Drainage Calculations

The NYSDEC Stormwater Management Design Manual requires (5) five different criteria be considered when designing a stormwater management system. Those criteria are Water Quality, Runoff Reduction Volume, Channel Protection, Overbank Flooding and Extreme Storm Protection. Below is a summary of each item and how it is incorporated into this project.

Water Quality:
The NYSDEC requires water quality treatment prior to discharge. This will be achieved by the application of a bioretention practice and a stormwater treatment structure. The total WQv provided was 2,639 cf and equal to the required WQv of 2,639 cf.

Runoff Reduction Volume:
The NYSDEC requires reduction of the total water quality volume by green infrastructure techniques and SMPs to replicate pre-development hydrology. A bioretention area was incorporated into the site layout to provide the required RRv for contributing runoff areas in the WQv. The RRv provided was 383 cf and greater than the required RRv min. of 159 cf.

100% of the required WQv was not reduced due to the following site specific limitations: Drainage areas with impermeable soils, Type D. In addition, below is a summary of how each green infrastructure technique was evaluated and determined to be feasible or infeasible:

1) Conservation of natural areas: the site development is located in a less sensitive area.
2) Sheetflow to riparian buffers or filter strips: no riparian buffers possible on the site; filter strips not feasible given the limited area for development.
3) Vegetated Open Swales: swales are not feasible given the limited area for development.
4) Tree Plantings: new trees were planted throughout the site.
5) Disconnection of Roof Top Runoff: a portion of roof top runoff will be routed through the bioretention area.
6) Stream Daylighting: is not feasible given the limited area for development.
7) Rain Garden: this method is not recommended for these types of projects.
8) Green Roof: the proposed use of the building makes this an unfeasible practice.
9) Stormwater Planter: this method is not recommended for these types of projects.
10) Rain Barrels & Cisterns: collected water would not be used for irrigation.
11) Porous Pavement: porous pavement is not recommended for areas with impermeable soils (Type D) and areas with sediment laden runoff (salting in winter months).

Channel Protection:
The NYSDEC requires that 24-Hour extended detention be provided for the proposed 1-year storm event. A volume of 3,017 cf will be accommodated in the UGD.

Overbank Flooding:
The NYSDEC requires that the 10-year proposed storm event be attenuated with detention and that the outlet be restricted to the 10-year existing storm event. Storage of this storm will be provided within the onsite UGD. At this storm event the UGD and stormwater drainage system will allow discharge of 3.22 cfs, which is below the existing peak 10-year runoff of 4.10 cfs.

Extreme Storm Protection:
The NYSDEC requires that the 100-year proposed storm event be attenuated with detention and that the outlet be restricted to the 100-year existing storm event. Storage of this storm will be provided within the onsite UGD. At this storm event the UGD and stormwater drainage system will allow discharge of 5.16 cfs, which is below the existing peak 100-year runoff of 7.40 cfs.

Design Criteria:
Storm pipes: 10-year storm
Detention:
- Comparison of the existing 1-year vs. the proposed 1-year runoff
- Comparison of the existing 10-year vs. the proposed 10-year runoff
- Comparison of the existing 100-year vs. the proposed 100-year runoff

Bioretention: RRv = 100% of post-development water quality volumes

RUNOFF ANALYSIS:

STORM EVENT	EXISTING RUNOFF	PROPOSED RUNOFF
1 YEAR	1.99 CFS	1.86 CFS @ 571.86
10 YEAR	4.10 CFS	3.22 CFS @ 572.64
25 YEAR	5.21 CFS	3.69 CFS @ 573.11
100 YEAR	7.40 CFS	5.16 CFS @ 575.00

WATER QUALITY SUMMARY:
WQv REQUIRED = 2,369 CF (0.054 AC-FT)
RRv MIN. REQUIRED = 159 CF (0.004 AC-FT)
RRv PROVIDED WITHIN BIORETENTION AREA = 383 CF (0.009 AC-FT)
WQv PROVIDED WITHIN BIORETENTION AREA = 957 CF (0.022 AC-FT)
WQv PROVIDED BY TREATMENT STRUCTURE = 1,412 CF (0.032 AC-FT)
TOTAL WQv PROVIDED = 2,369 CF (0.054 AC-FT)

BIORETENTION FILTER AREA & ELEVATION SUMMARY:
FILTER AREA = 870 SF @ 576.00

See attached “Storm Drainage Calculations” for additional information.

SANITARY SEWER & WATER SERVICE DATA

CARMINA WOOD MORRIS, D.P.C.
487 MAIN STREET, SUITE 500
BUFFALO, NEW YORK, 14203
(716) 842-3165
FAX (716) 842-0263

Project No.: 20.166 Date: 3/30/2021
Project Name: Mt Olive Missionary Baptist Church
Project Address: 66 Wasson Avenue, Lackawanna, NY
Subject: Sanitary Sewage & Water Demand Calculations
Sheet: 1 of 2

Sanitary Sewage Demand Calculations:

Apartments	110	gal/day/bdrm	x	20	1-bdrm	=	2,200	gpd
Daycare	20	gal/day/child	x	20	children	=	400	gpd
Field House	20	gal/day/pers.	x	40	people	=	800	gpd
Med Office	0.1	gal/day/SF	x	31,458	SF	=	3,146	gpd
Total Site Sanitary Demand:						=	6,546	gpd Average

Connections to existing ECSD#6 sewers:
Wasson Ave 10" VCP = 4,346 gpd
Steelawanna Ave 12" PVC = 2,200 gpd

NOTE: The hydraulic loading rates are per "Design Standards for Intermediate Sized Wastewater Treatment Systems" 2014, NYSDEC

Find Peak Sanitary Demand:

Peaking Factor based on Population:

Total demand: 6,546 gpd / 100 gpcd = 65 per capita

Population (P) = 65 people

Peaking Factor : $(18 + \sqrt{P}) / (4 + \sqrt{P})$ where P is in thousands

Peaking Factor = 4.29

Peak Sanitary Demand = 6,546 X 4.28 = 28,016 gpd
= 0.028 MGD
= 0.043 cfs

Water Demand Calculations (domestic):

Proposed Medical Building (Existing 6" cast iron water main, Wasson Ave)

3,146 gpd x 1.1 = 3,460 gpd *use 110% of sewage deman

*use 1.8 peaking factor and assume a 12 hour day

3,460 gpm x 1day/12hr x 1hr/60min = 4.81 gpm

4.81 gpm x 1.8 = 8.65 gpm Q_{peak}

Headlosses:

Q_{peak} = 8.65 gpm
Pipe = 2 inch copper C = 135
Length = 100 LF (approx. distance from tap to building)

$$H_L = \frac{10.44\ L\ Q^{1.85}}{C^{1.85}\ D^{4.866}} = \frac{10.44(100)(8.65)^{1.85}}{(135)^{1.85}\ (2)^{4.866}} = 0.22 \text{ ft} = 0.10 \text{ psi}$$

Δ elev = 0 ft = 0.00 psi
Loss through meter = 1 psi
Loss through RPZ = 12 psi
Total Losses = 13.1 psi
Static Pressure = 60 psi (assumed avg. static pressure, verify with ECWA hydrant flow test as necessary)
Residual Pressure Following RPZ = 100 - 13.1 = 46.9 psi

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Project No.: 20.166 Date: 3/30/2021
Project Name: Mt Olive Missionary Baptist Church
Project Address: 66 Wasson Avenue, Lackawanna, NY
Subject: Sanitary Sewage & Water Demand Calculations
Sheet: 2 of 2

Water Demand Calculations (domestic):

Proposed Apartment Building (Existing 8" ductile iron water main, Steelawanna Ave)

2,200 gpd x 1.1 = 2,420 gpd *use 110% of sewage deman

*use 1.8 peaking factor and assume a 16 hour day

2,420 gpm x 1day/16hr x 1hr/60min = 2.52 gpm

2.52 gpm x 1.8 = 4.54 gpm Q_{peak}

Headlosses:

Q_{peak} = 4.54 gpm
Pipe = 2 inch copper C = 135
Length = 120 LF (approx. distance from tap to building)

$$H_L = \frac{10.44\ L\ Q^{1.85}}{C^{1.85}\ D^{4.866}} = \frac{10.44(120)(4.54)^{1.85}}{(135)^{1.85}\ (2)^{4.866}} = 0.08 \text{ ft} = 0.03 \text{ psi}$$

Δ elev = 0 ft = 0.00 psi
Loss through meter = 1 psi
Loss through RPZ = 12 psi
Total Losses = 13.0 psi
Static Pressure = 60 psi (assume avg. static pressure, verify with ECWA hydrant flow test as necessary)
Residual Pressure Following RPZ = 100 - 13.0 = 47.0 psi

Engineering Specification

Job Name _____ Contractor _____

Job Location _____ Approval _____

Engineer _____ Contractor's P.O. No. _____

Approval _____ Representative _____

Series 009
Reduced Pressure Zone Assemblies

Sizes: ¼" – 2"

Series 009 Reduced Pressure Zone Assemblies are designed to protect potable water supplies in accordance with national plumbing codes and water authority requirements. This series is designed to protect drinking water supplies from dangerous cross-connections in accordance with national plumbing codes and water authority requirements for non-potable service applications such as irrigation, fireline, or industrial processing.

This series features two in-line, independent check valves, captured springs and replaceable check seats with an intermediate relief valve. Its compact modular design facilitates easy maintenance and assembly access. Sizes ¼" – 1" shutoffs have tee handles.

Features

- Single access cover and modular check construction for ease of maintenance
- Top entry - all internals immediately accessible
- Captured springs for safe maintenance
- Internal relief valve for reduced installation clearances
- Replaceable seats for economical repair
- Bronze body construction for durability ¼" – 2"
- Ball valve test cocks — screwdriver slotted ¼" – 2"
- Large body passages provides low pressure drop
- Compact, space saving design
- No special tools required for servicing

Specifications

A Reduced Pressure Zone Assembly shall be installed at each potential health hazard location to prevent backflow due to back-siphonage and/or backpressure. The assembly shall consist of an internal pressure differential relief valve located in a zone between two positive seating check modules with captured springs and silicone seat discs. Seats and seat discs shall be replaceable in both check modules and the relief valve. There shall be no threads or screws in the waterway exposed to line fluids. Service of all internal components shall be through a single access bronze cover secured with stainless steel bolts. The assembly shall also include two resilient seated isolation valves, four resilient seated test cocks and an air gap drain fitting. The assembly shall meet the requirements of: USC; ASSE Std. 1013; AWWA Std. C511-92; CSA B64.4. Shall be a Watts Series 009.

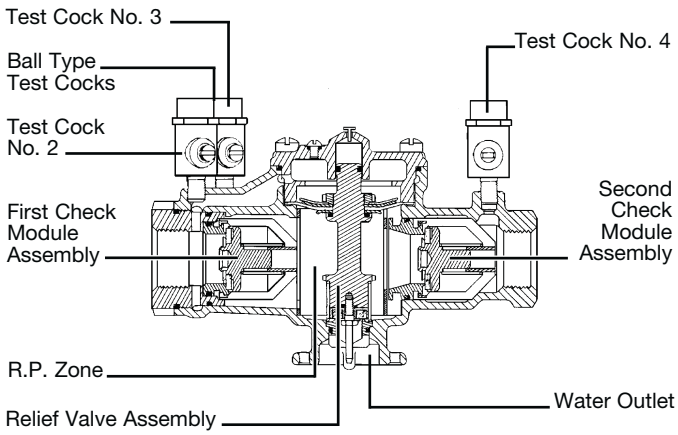
†Does not indicate approval status. Refer to Page 2 for approved sizes & models.

NOTICE

Inquire with governing authorities for local installation requirements

009QT-S

009M2QT



Now Available
WattsBox Insulated Enclosures.
For more information, send for literature ES-WB.

NOTICE

The information contained herein is not intended to replace the full product installation and safety information available or the experience of a trained product installer. You are required to thoroughly read all installation instructions and product safety information before beginning the installation of this product.

⚠ WARNING

It is illegal to use this product in any plumbing system providing water for human consumption, such as drinking or dishwashing, in the United States. Before installing standard material product, consult your local water authority, building and plumbing codes.

Watts product specifications in U.S. customary units and metric are approximate and are provided for reference only. For precise measurements, please contact Watts Technical Service. Watts reserves the right to change or modify product design, construction, specifications, or materials without prior notice and without incurring any obligation to make such changes and modifications on Watts products previously or subsequently sold.

WATTS®

Available Models: ¼" – 2"

Suffix:

QT – quarter-turn ball valves

S – bronze strainer

LF – without shutoff valves

AQT – elbow fittings for 360° rotation ¾" – 2" only

PC – internal Polymer Coating

SH – stainless steel ball valve handles

HC – 2½" inlet/outlet fire hydrant fitting (2" valve)

Prefix:

C – clean and check strainer ¾" – 1" only

U – union connections (see ES-U009)

Materials: ¼" – 2"

Bronze body construction, silicone rubber disc material in the first and second check plus the relief valve. Replaceable polymer check seats for first and second checks. Removable Relief valve seats. Stainless steel cover bolts.

Standardly furnished with NPT body connections. For optional bronze union inlet and outlet connections, specify prefix U (½" – 2"). Series 009QT furnished with quarter turn, full port, resilient seated, bronze ball valve shutoffs.

Pressure / Temperature

Series 009 ¼" – 2" Suitable for supply pressure up to 175psi (12.1 bar). Water temperature: 33°F – 180°F (0.5°C – 75°C).

Standards

USC

ASSE No. 1013

AWWA C511-92

CSA B64.4

IAPMO File No. 1563.

†Does not indicate approval status. See below for approved models.

USC-FCCCHR

Approvals

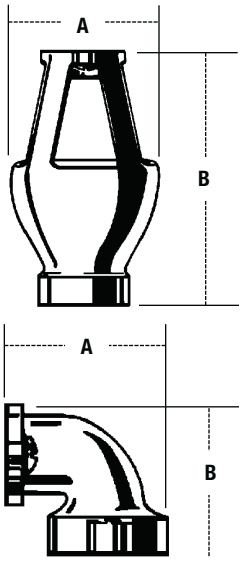
ASSE, AWWA, CSA, IAPMO

Approved by the Foundation for Cross-Connection Control and Hydraulic Research at the University of Southern California.

UL Classified ¾" – 2"
(LF models only except 009M3LF)

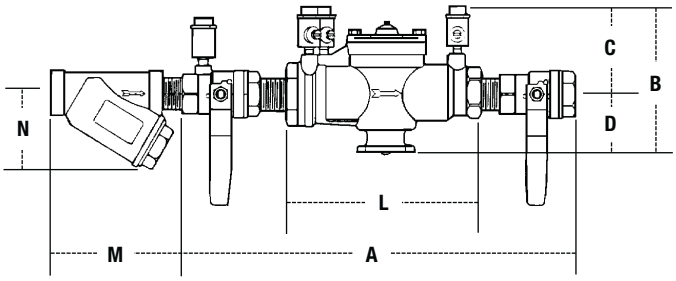
Air Gaps and Elbows

MODEL		DRAIN OUTLET		DIMENSIONS				WEIGHT	
	for 909, 009 and 993 sizes			A		B			
		in.	*mm*	*in.*	*mm*	*in.*	*mm*	*lbs.*	*kgs.*
909AGA	¼"–½" 009, ¾" 009M2/M3	½	13	2⅜	60	3⅛	79	0.625	0.28
909AGC	¾"–1" 009/909, 1"–1½" 009M2	1	25	3¼	83	4⅞	124	1.5	0.68
909AGF	1¼"–2" 009M1, 1¼"–3" 009/909, 2" 009M2, 4"–6" 993	2	51	4⅜	111	6¾	171	3.25	1.47
909AGK	4"–6" 909, 8"–10" 909M1	3	76	6⅜	162	9⅝	244	6.25	2.83
909AGM	8"–10" 909	4	102	7⅜	187	11¼	286	15.5	7.03
909ELA	¼"–½" 009, ¾" 009M2/M3	–	–	–	–	–	–	–	–
909ELC	¾"–1" 009/909	–	–	2⅜	60	2⅜	60	0.38	0.17
* 909ELF	1¼"-2" 009M1, 1¼"–2" 009/909, 2" 009M2, 4"–6" 993	–	–	3⅝	92	3⅝	92	2	0.91
* 909ELH Vertical	2½"–3" 009/909	–	–	–	–	–	–	–	–



* Epoxy coated

Dimensions and Weight: ¼" – 2" 009



009 ¼" – 2"

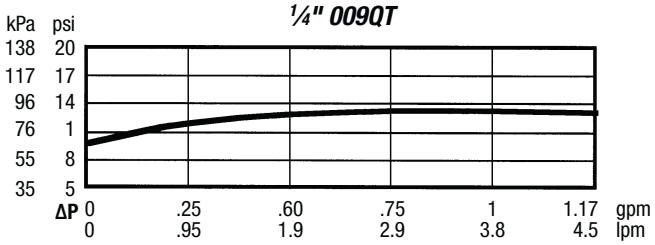
SIZE	DIMENSIONS (APPROX.)										STRAINER DIMENSIONS				WEIGHT	
	A		B		C		D		L		M		N			
in.	*in.*	*mm*	*in.*	*mm*	*in.*	*mm*	*in.*	*mm*	*in.*	*mm*	*in.*	*mm*	*in.*	*mm*	*lbs.*	*kgs.*
¼	10	250	4⅝	117	3⅜	86	1¼	32	5½	140	2⅜	60	2½	64	5	2
⅜	10	250	4⅝	117	3⅜	86	1¼	32	5½	140	2⅜	60	2½	64	5	2
½	10	250	4⅝	117	3⅜	86	1¼	32	5½	140	2¾	70	2¼	57	5	2
¾	10¾	273	5	127	3½	89	1½	38	6¾	171	3 3/16	81	2¾	70	6	3
1	14½	368	5½	140	3	76	2½	64	9½	241	3¾	95	3	76	12	5
1¼	17⅜	441	6	150	3½	89	2½	64	11⅜	289	4 7/16	113	3½	89	15	6
1½	17⅞	454	6	150	3½	89	2½	64	11⅛	283	4⅞	124	4	102	16	7
2	21⅜	543	7¾	197	4½	114	3¼	83	13½	343	5 15/16	151	5	127	30	13

Suffix HC – Fire Hydrant Fittings dimension ‘A’ = 25"

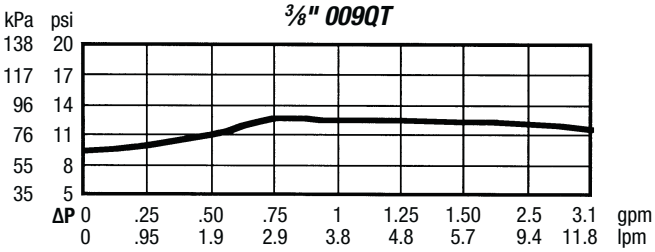
Capacity

Performance as established by an independent testing laboratory. *Typical maximum system flow rate (7.5 feet/sec., 2.3 meters/sec.)

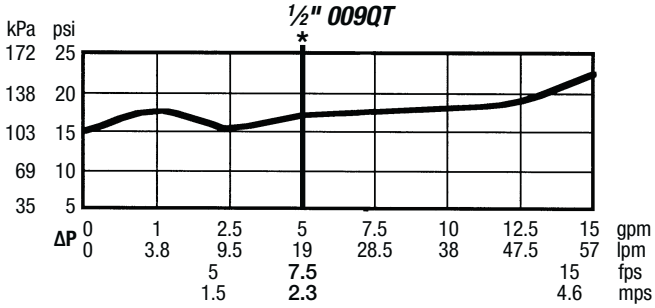
¼" 009QT



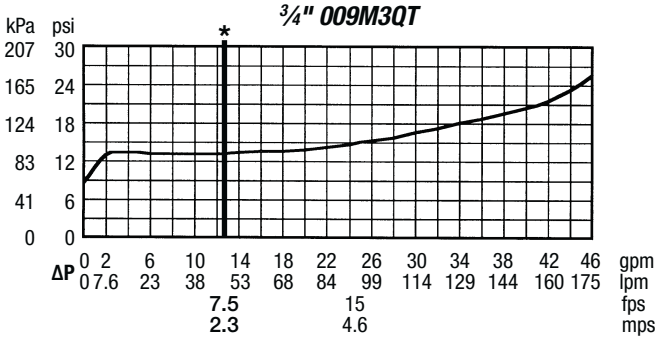
⅜" 009QT



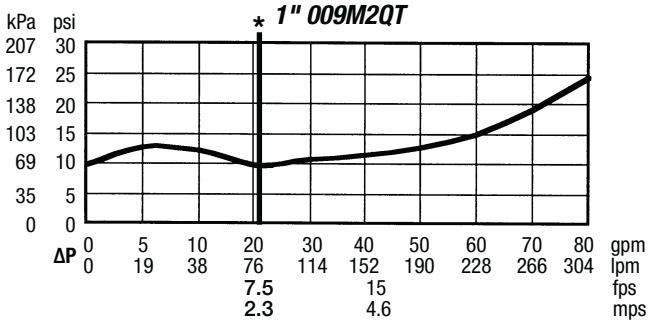
½" 009QT



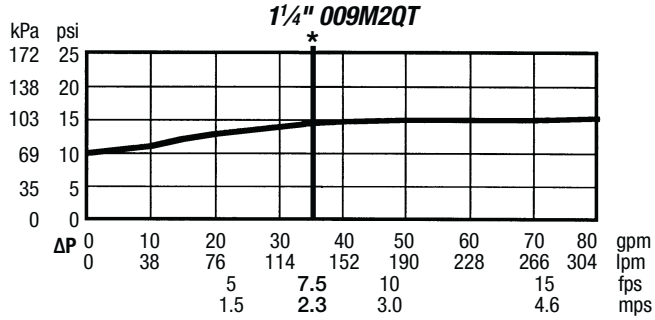
¾" 009M3QT



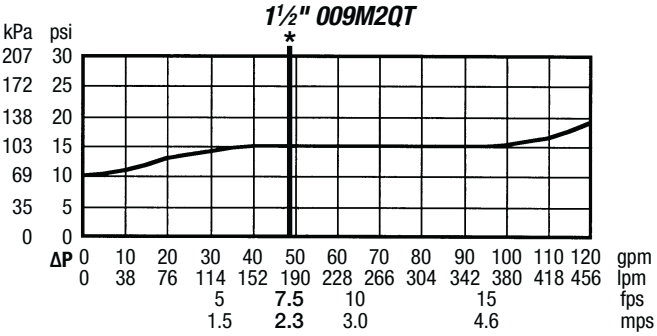
1" 009M2QT



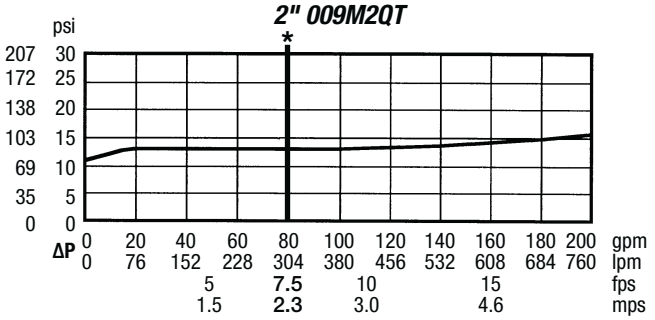
1¼" 009M2QT



1½" 009M2QT



2" 009M2QT



WATTS®

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Latin America: T: (52) 81-1001-8600 • Watts.com

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Job Name _____ Contractor _____

Job Location _____ Approval _____

Engineer _____ Contractor's P.O. No. _____

Approval _____ Representative _____

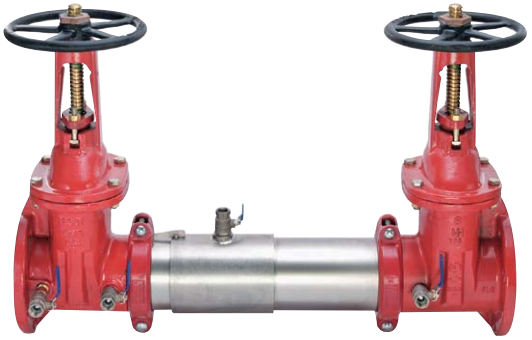
LEAD FREE*

Series 757, 757N

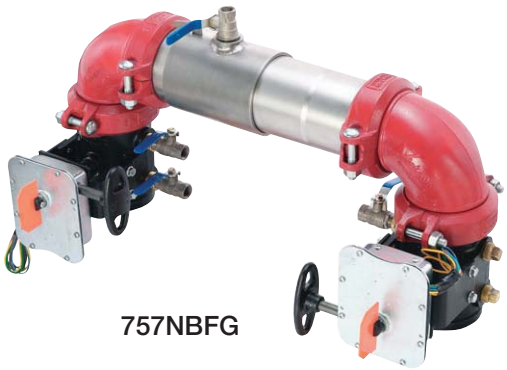
Double Check Valve Assemblies

Sizes: 2½" – 10"

Series 757, 757N Double Check Valve Assemblies are used to prevent backflow of non-health hazard pollutants that are objectionable but not toxic, from entering the potable water supply system. Series 757, 757N may be installed under continuous pressure service and may be subjected to backpressure and backsiphonage. Series 757, 757N consists of two independently operating check valves, two shutoff valves, and four test cocks.



757OSY



757NBFG

757OSY
(Vertical)

Features

- Extremely compact design
- 70% Lighter than traditional designs
- 304 (Schedule 40) Stainless steel housing & sleeve
- Groove fittings allow integral pipeline adjustment
- Patented tri-link check provides lowest pressure loss
- Unmatched ease of serviceability
- Available with grooved butterfly valve shutoffs
- Available for horizontal, vertical or N pattern installations
- Replaceable check disc rubber
- Sizes 2½", 3" and 4" available with quarter-turn ball valve shutoffs

Specifications

The Double Check Valve Assembly shall consist of two independent tri-link check modules within a single housing, sleeve access port, four test cocks and two drip tight shut-off valves. Tri-link checks shall be removable and serviceable, without the use of special tools. The housing shall be constructed of 304 Schedule 40 stainless steel pipe with groove end connections. Tri-link checks shall have reversible elastomer discs and in operation shall produce drip tight closure against reverse flow caused by backpressure or backsiphonage. Assembly shall be a Watts Series 757, 757N.

***NOTICE**

The information contained herein is not intended to replace the full product installation and safety information available or the experience of a trained product installer. You are required to thoroughly read all installation instructions and product safety information before beginning the installation of this product.

***The wetted surface of this product contacted by consumable water contains less than 0.25% of lead by weight.**

Watts product specifications in U.S. customary units and metric are approximate and are provided for reference only. For precise measurements, please contact Watts Technical Service. Watts reserves the right to change or modify product design, construction, specifications, or materials without prior notice and without incurring any obligation to make such changes and modifications on Watts products previously or subsequently sold.

WATTS®

Available Models

Suffix:

NRS –	non-rising stem resilient seated gate valves
OSY –	UL/FM outside stem and yoke, resilient seated gate valves
BFG –	UL/FM grooved gear operated butterfly valves with tamper switch
QT –	2½", 3" and 4" quarter-turn ball valves
**OSY FxG –	Flanged inlet gate connection and grooved outlet gate connection
**OSY GxF –	Grooved inlet gate connection and flanged outlet gate connection
**OSY GxG –	Grooved inlet gate connection and grooved outlet gate connection

Available with grooved NRS gate valves - consult factory**
Post indicator plate and operating nut available - consult factory**
**Consult factory for dimensions

Dimensions — Weight

Materials

Housing & Sleeve: 304 (Schedule 40) Stainless Steel
Elastomers: EPDM, Silicone and Buna-N
Tri-link Checks: Noryl®, Stainless Steel
Check Discs: Reversible Silicone or EPDM
Test Cocks: Lead Free* Bronze Body
Pins & Fasteners: 300 Series Stainless Steel
Springs: Stainless Steel

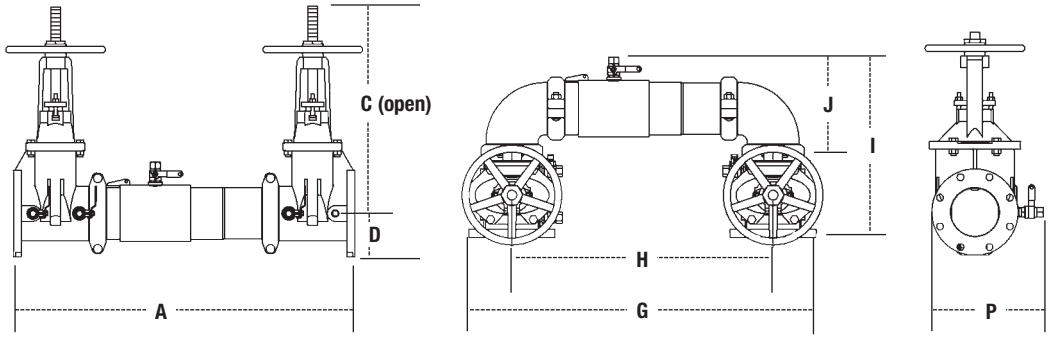
Pressure — Temperature

Temperature Range: 33°F – 140°F (0.5°C – 60°C)
Maximum Working Pressure: 175psi (12.1 bar)

Approvals

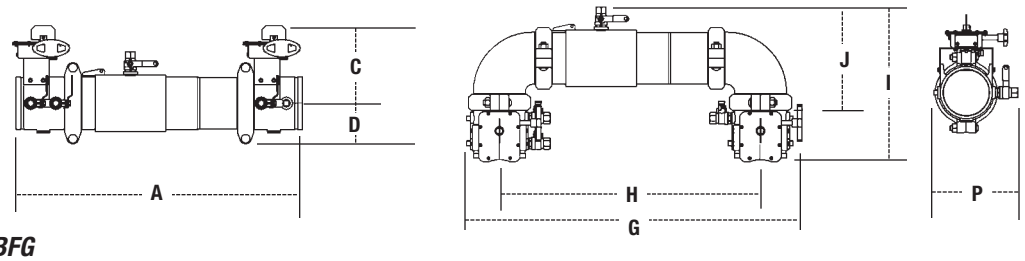
- Approved by the Foundation for Cross-Connection Control and Hydraulic Research at The Unversity of Southern California (FCCCHR-USC)
- AWWA C510-97

1015 B64.5 (**BFG & OSY Only)



757, 757N

SIZE	DIMENSIONS																WEIGHT							
	A		C (OSY)		C (NRS)		D		G		H		I		J		P		757NRS		757OSY		757N NRS		757N OSY	
in.	*in.*	*mm*	*in.*	*mm*	*in.*	*mm*	*in.*	*mm*	*in.*	*mm*	*in.*	*mm*	*in.*	*mm*	*in.*	*mm*	*in.*	*mm*	*lbs.*	*kgs.*	*lbs.*	*kgs.*	*lbs.*	*kgs.*	*lbs.*	*kgs.*
2½	30¾	781	16⅜	416	9⅜	238	3½	89	29 1/16	738	21½	546	15½	393	8 13/16	223	9 3/16	234	115	52	125	57	123	56	133	60
3	31¾	806	18⅞	479	10¼	260	3 1/16	94	30¼	768	22¼	565	17⅛	435	9 3/16	233	10½	267	131	59	145	66	144	65	158	72
4	33¾	857	22¾	578	12 3/16	310	4	102	33	838	23½	597	18½	470	9 15/16	252	11 3/16	284	161	73	161	73	184	83	184	83
6	43½	1105	30⅛	765	16	406	5½	140	44¾	1137	33½	851	23 3/16	589	13 1/16	332	15	381	273	124	295	134	314	142	336	152
8	49¾	1264	37¾	959	19 15/16	506	6 1/16	170	54⅛	1375	40⅛	1019	27 7/16	697	15 11/16	399	17 3/16	437	438	199	480	218	513	233	555	252
10	57¾	1467	45¾	1162	23 13/16	605	8 3/16	208	66	1676	49½	1257	32½	826	17 5/16	440	20	508	721	327	781	354	891	404	951	431

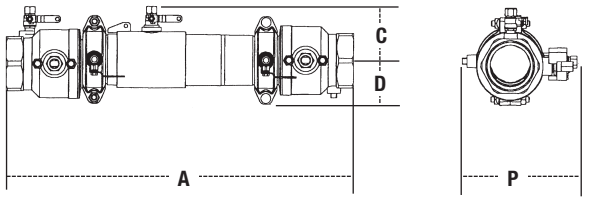


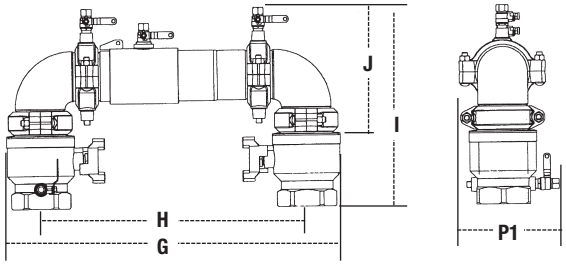
757BFG, 757NBFG

SIZE	DIMENSIONS																		WEIGHT	
	A		C		D		G		H		I		J		P		757BFG		757N BFG	
in.	*in.*	*mm*	*in.*	*mm*	*in.*	*mm*	*in.*	*mm*	*in.*	*mm*	*in.*	*mm*	*in.*	*mm*	*in.*	*mm*	*in.*	*mm*	*lbs.*	*kgs.*
2½	27¾	705	8	203	3½	89	29⅞	759	21½	546	14 15/16	379	8 13/16	223	9	229	56	25	64	29
3	28¼	718	8 5/16	211	3 1/16	94	30 1/16	779	22¼	565	15 7/16	392	9 3/16	233	9½	241	54	24	67	30
4	29	737	8 15/16	227	3 1/16	94	31 15/16	811	23½	597	16¼	412	9 15/16	252	10	254	61	28	84	38
6	36½	927	10	254	5	127	43 3/16	1097	33¼	845	19 11/16	500	13 1/16	332	10½	267	117	53	157	71
8	42¾	1086	12¼	311	6½	165	51 1/16	1297	40⅛	1019	23 3/16	592	15 11/16	399	14 3/16	361	261	118	337	153

Noryl® is a registered trademark of SABIC Innovative Plastics Holding BV.

Dimensions — Weight continued





757QT

SIZE	DIMENSIONS																		WEIGHT	
	A		C		D		G		H		I		J		P		P1		QT		QTN	
in.	*in.*	*mm*	*in.*	*mm*	*in.*	*mm*	*in.*	*mm*	*in.*	*mm*	*in.*	*mm*	*in.*	*mm*	*in.*	*mm*	*in.*	*mm*	*lbs.*	*kgs.*	*lbs.*	*kgs.*
2½	27¼	692	4⅞	124	6⅞	175	30¼	768	24½	622	16 1/16	407	11⅜	289	11 5/16	287	11 5/16	287	40	18	50	23
3	28¼	718	4⅞	124	6⅞	175	30¼	768	24½	622	16 9/16	420	11⅜	289	11 5/16	287	11 5/16	287	50	23	60	27
4	31½	800	4⅞	124	6⅞	175	30¼	768	24½	622	18 5/16	465	11⅜	289	11 5/16	287	11 5/16	287	70	32	80	36

Capacity

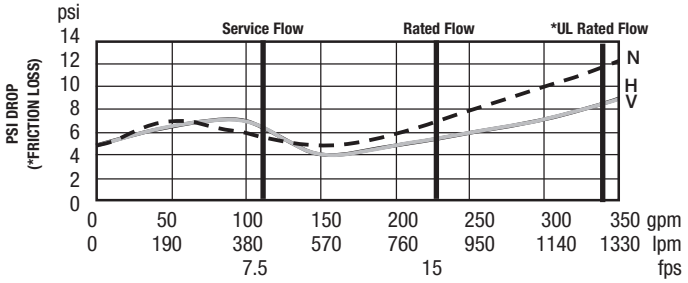
Series 757, 757N flow curves as tested by Underwriters Laboratory. Flow characteristics collected using butterfly shutoff valves

Horizontal Vertical N - Pattern

Flow capacity chart identifies valve performance based upon rated water velocity up to 25fps

- Service Flow is typically determined by a rated velocity of 7.5fps based upon schedule 40 pipe.
- Rated Flow identifies maximum continuous duty performance determined by AWWA.
- UL Flow Rate is 150% of Rated Flow and is not recommended for continuous duty.
- AWWA Manual M22 [Appendix C] recommends that the maximum water velocity in services be not more than 10fps.

2½"



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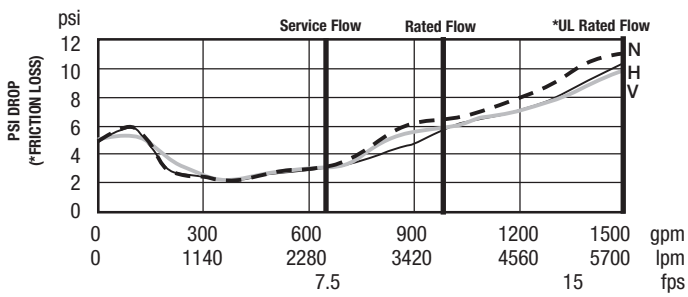

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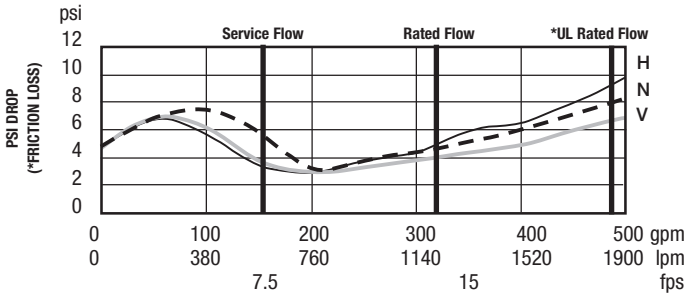

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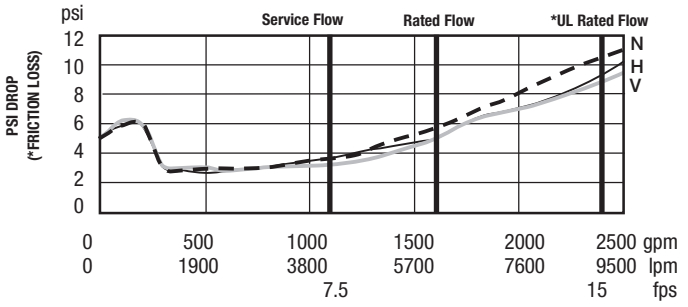

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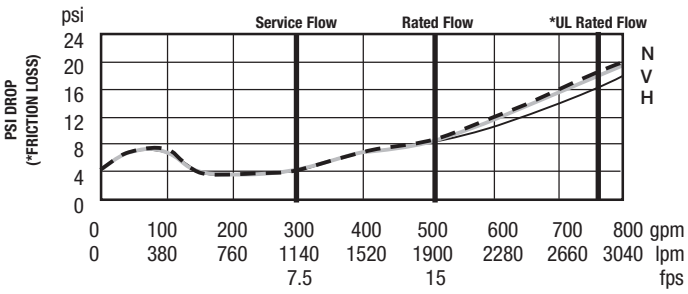

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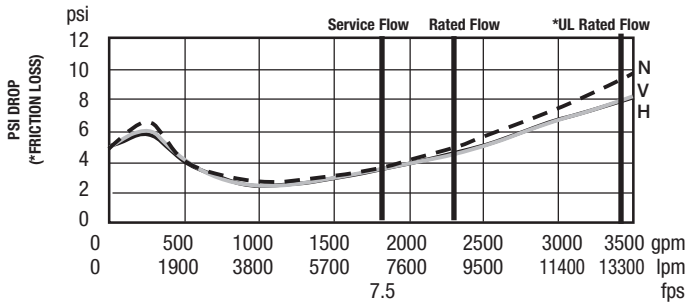

NOTICE

Inquire with governing authorities for local installation requirements

USA: T: (978) 689-6066 • F: (978) 975-8350 • Watts.com
Canada: T: (888) 208-8927 • F: (888) 479-2887 • Watts.ca
Latin America: T: (52) 55-4122-0138 • Watts.com

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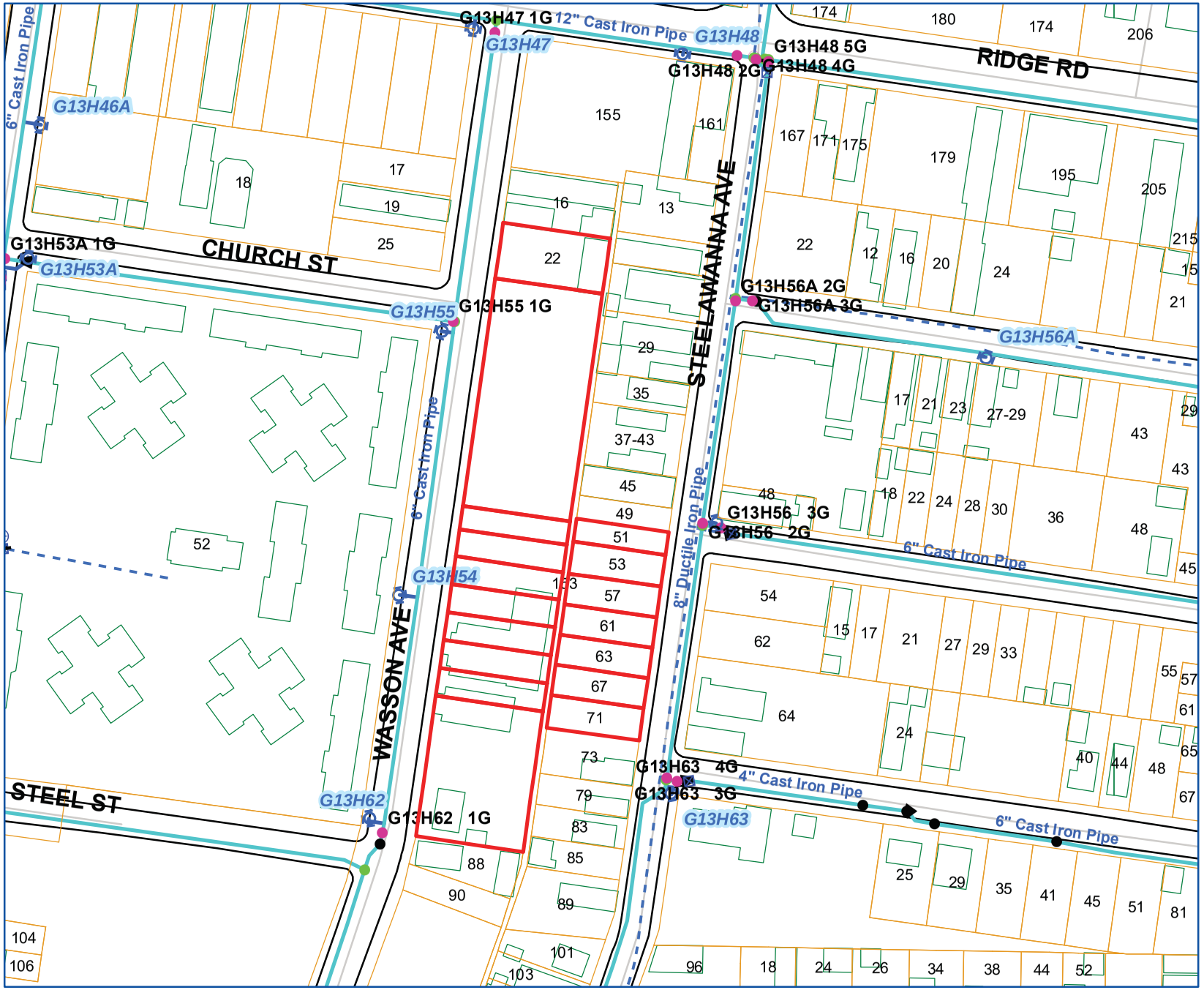
WASSON AVE. & STEELAWANNA AVE., LACY

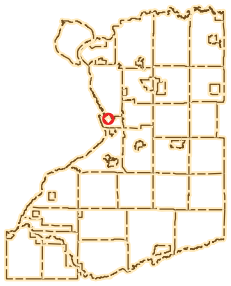


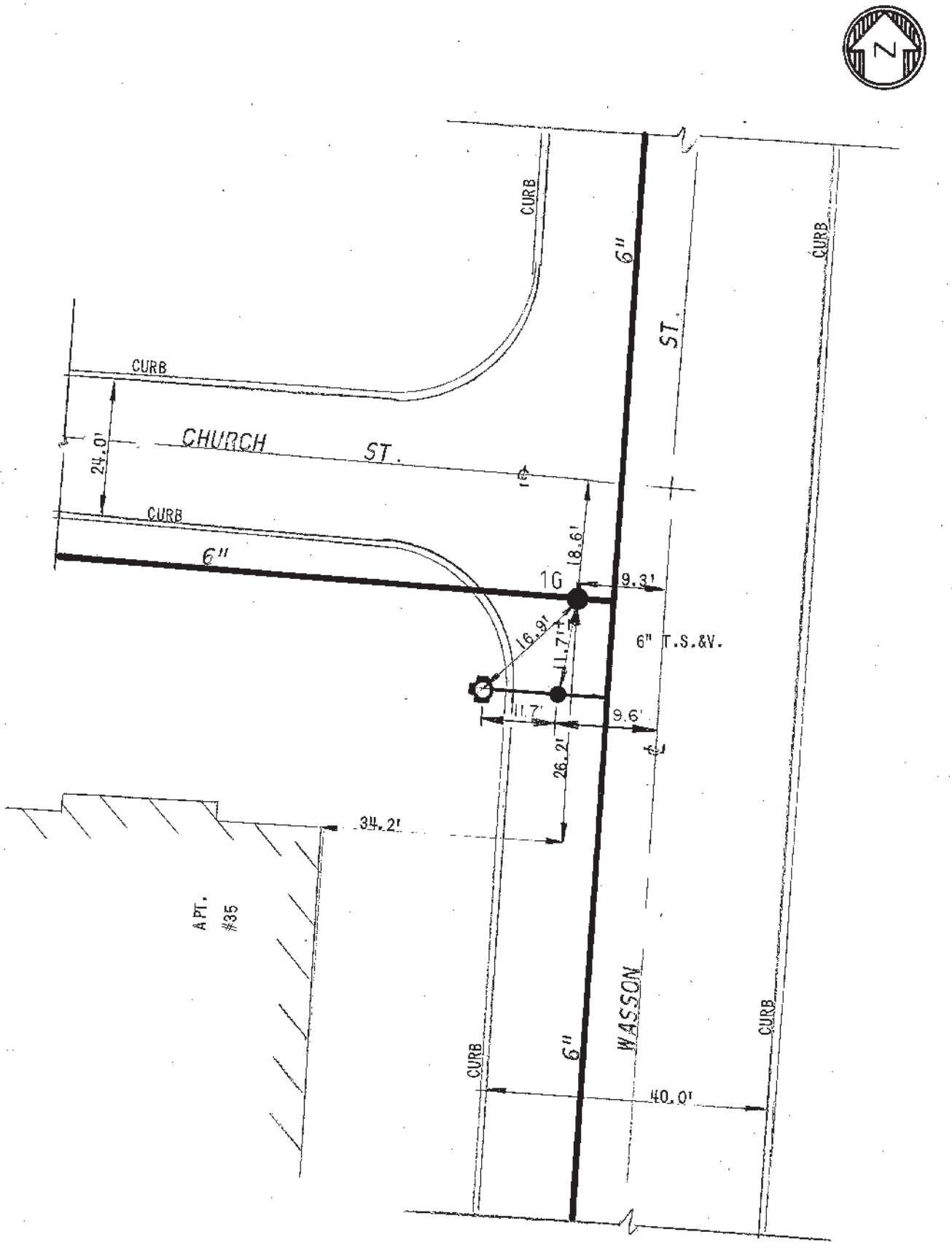
N

1 inch = 150 feet

Legend:

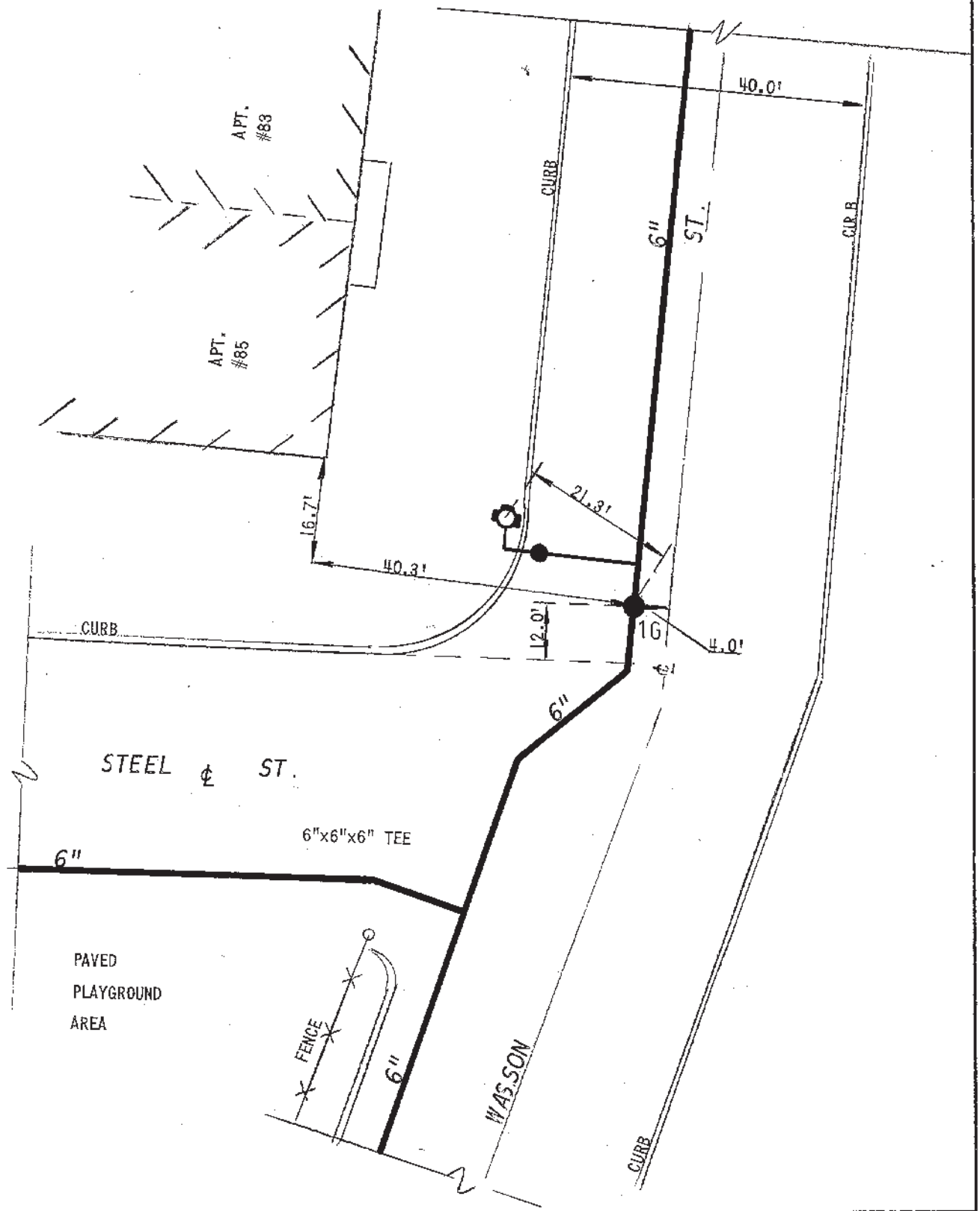
Parcels





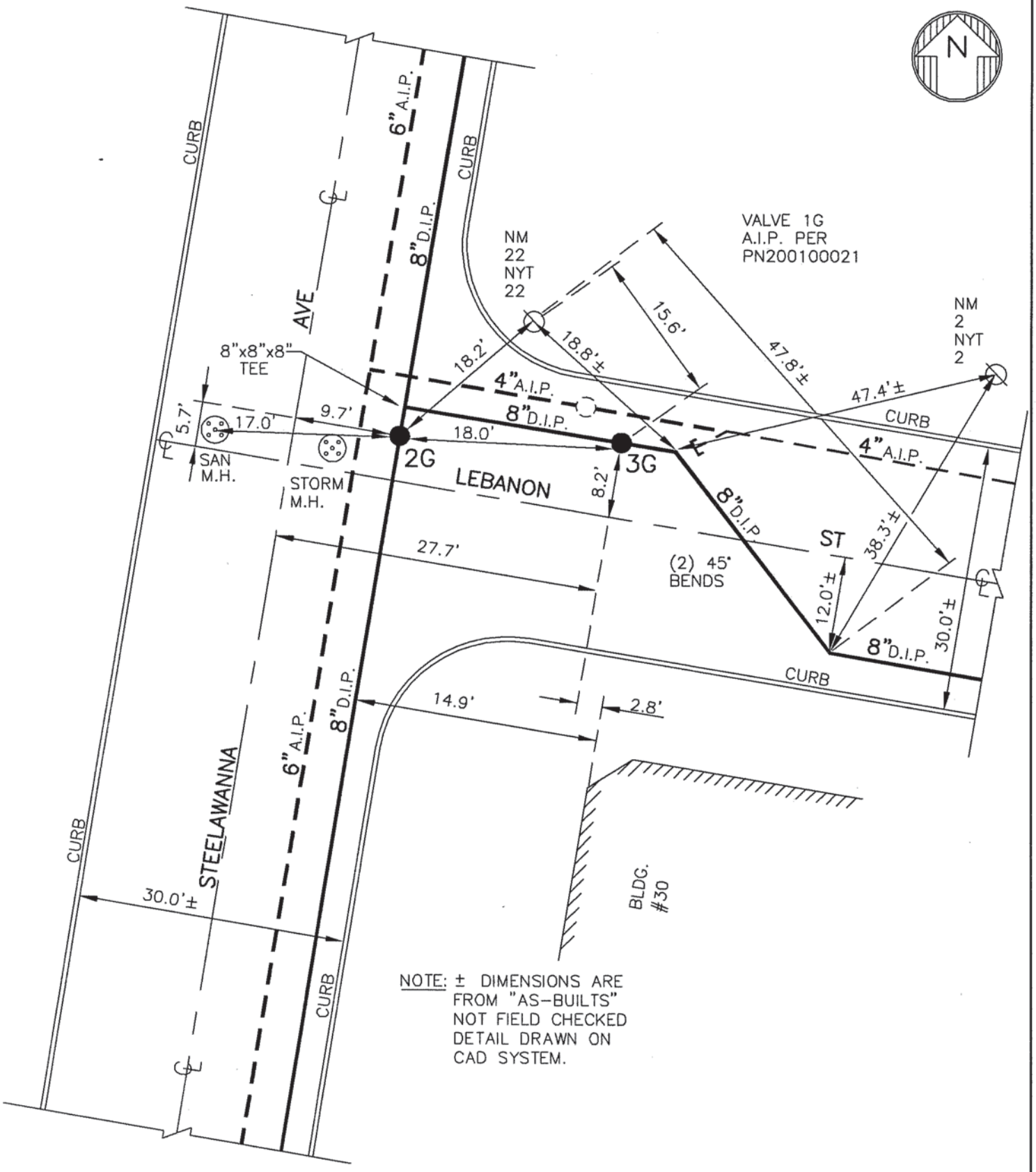
EC-3779
FB.379/27

ERIE COUNTY WATER AUTHORITY BUFFALO, NEW YORK	REVISED DR. BY: J.V.H. DATE: 3/7/90 SCALE: NONE	CITY OF LACKAWANNA E.C.W.A.	DETAIL SHEET NO. G13-H55



ERIE COUNTY WATER AUTHORITY BUFFALO, NEW YORK	DR. BY: J.C.W. DATE: 6/13/72 SCALE: NONE	CITY OF LACKAWANNA E.C.W.A.	DETAIL SHEET NO. G13-H62

ERIE COUNTY WATER AUTHORITY BUFFALO, NEW YORK	REVISED DR. DKC	REVISED DR.	CITY OF LACKAWANNA	G13–H56A DETAIL SHT. NO.
	DATE: 4–16–07	DATE:	E.C.W.A.	200400490 CURRENT PROJECT NO.
	FIELD	OFFICE		



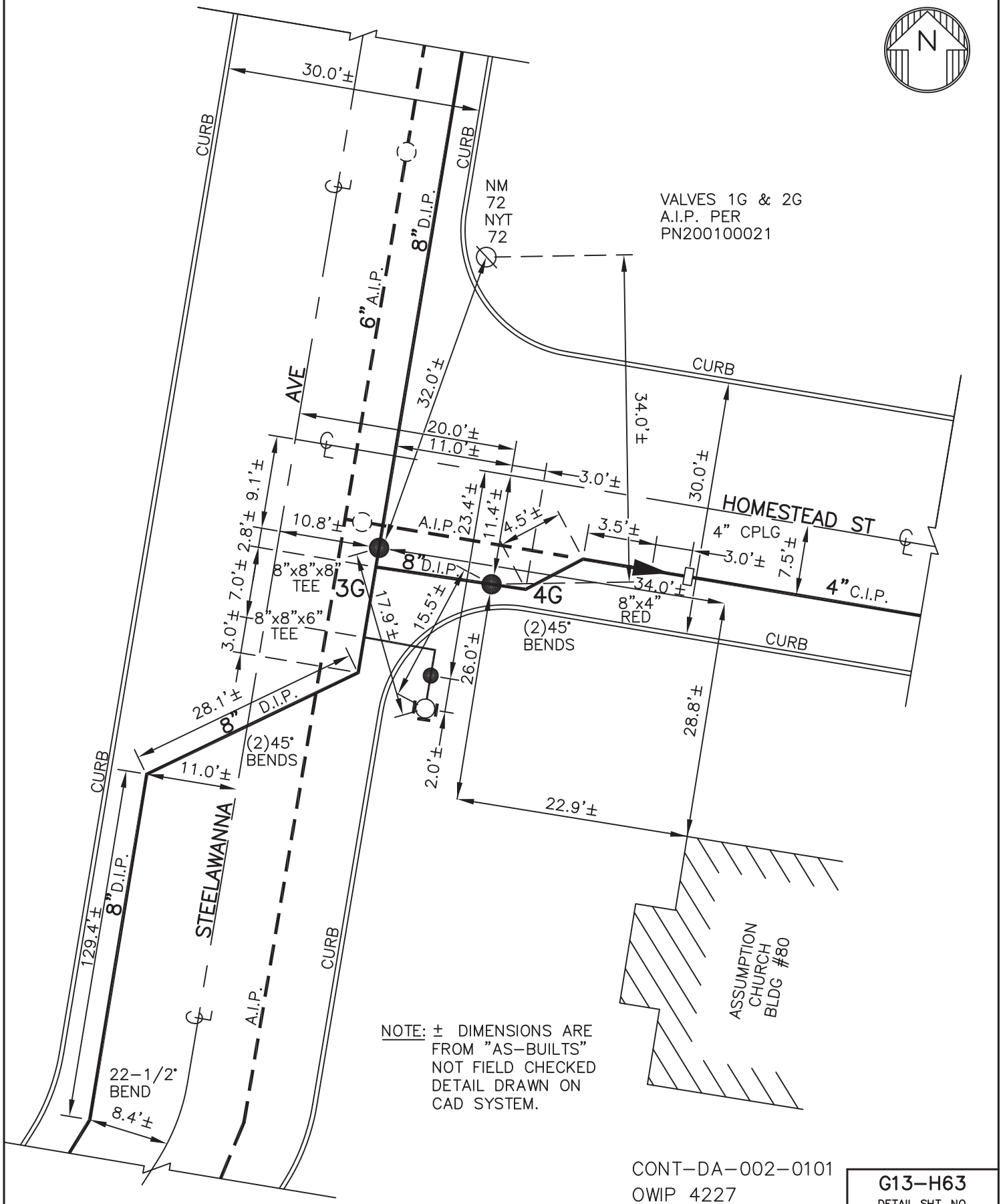
NOTE: ± DIMENSIONS ARE FROM "AS–BUILTS" NOT FIELD CHECKED DETAIL DRAWN ON CAD SYSTEM.

CONT–DA–005–0401
CONT–DA–002–0101
OWP 4227

G13–H56A
DETAIL SHT. NO.

MASTER COPY

ERIE COUNTY WATER AUTHORITY BUFFALO, NEW YORK	DR.	REVISED DR. M.J.M.	CITY OF LACKAWANNA	G13–H63 DETAIL SHT. NO.
	DATE:	DATE: 12/10/14	E.C.W.A.	200100021 CURRENT PROJECT NO.
	FIELD	OFFICE		



NOTE: ± DIMENSIONS ARE FROM "AS–BUILTS" NOT FIELD CHECKED DETAIL DRAWN ON CAD SYSTEM.

CONT–DA–002–0101
OWIP 4227

G13–H63
DETAIL SHT. NO.

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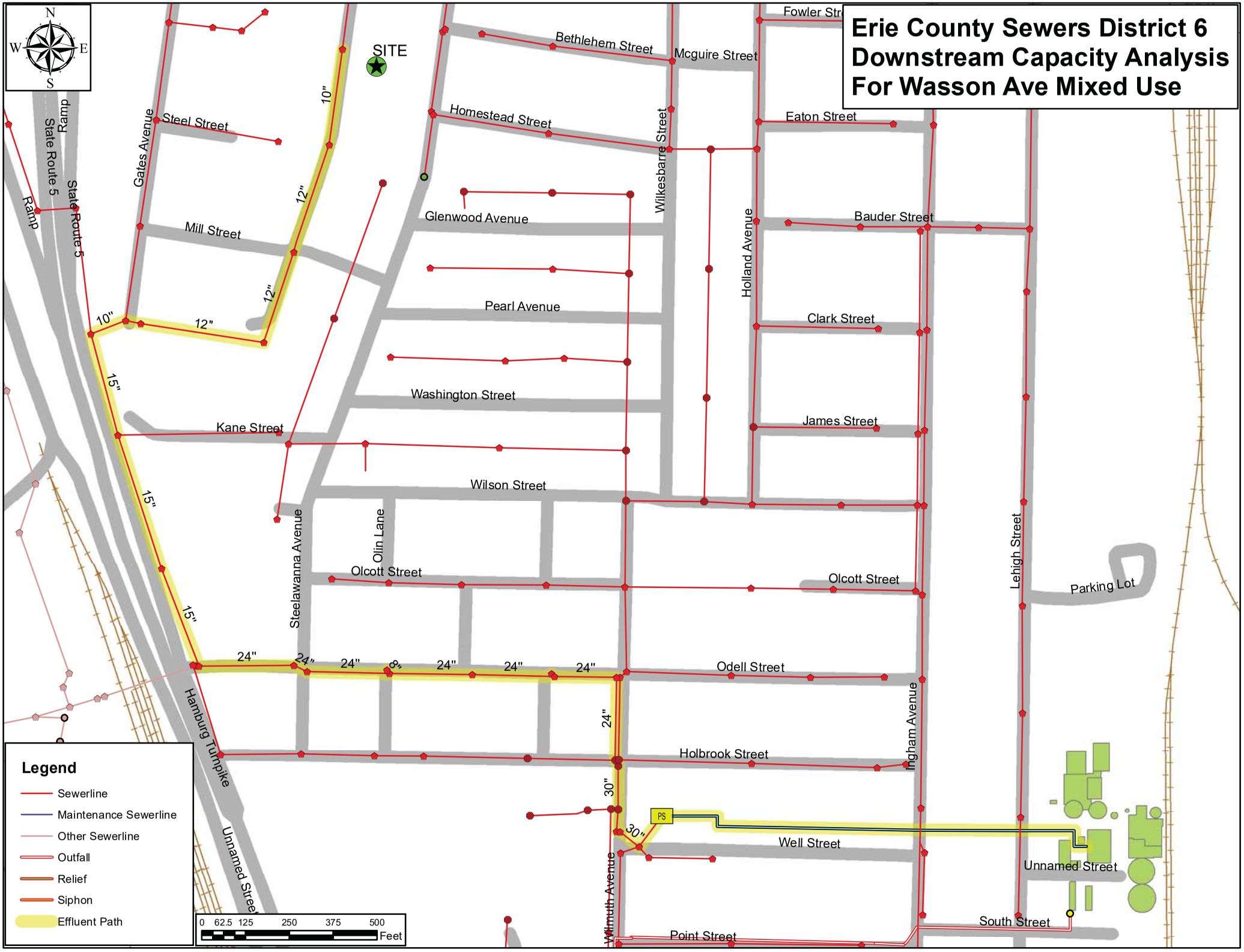
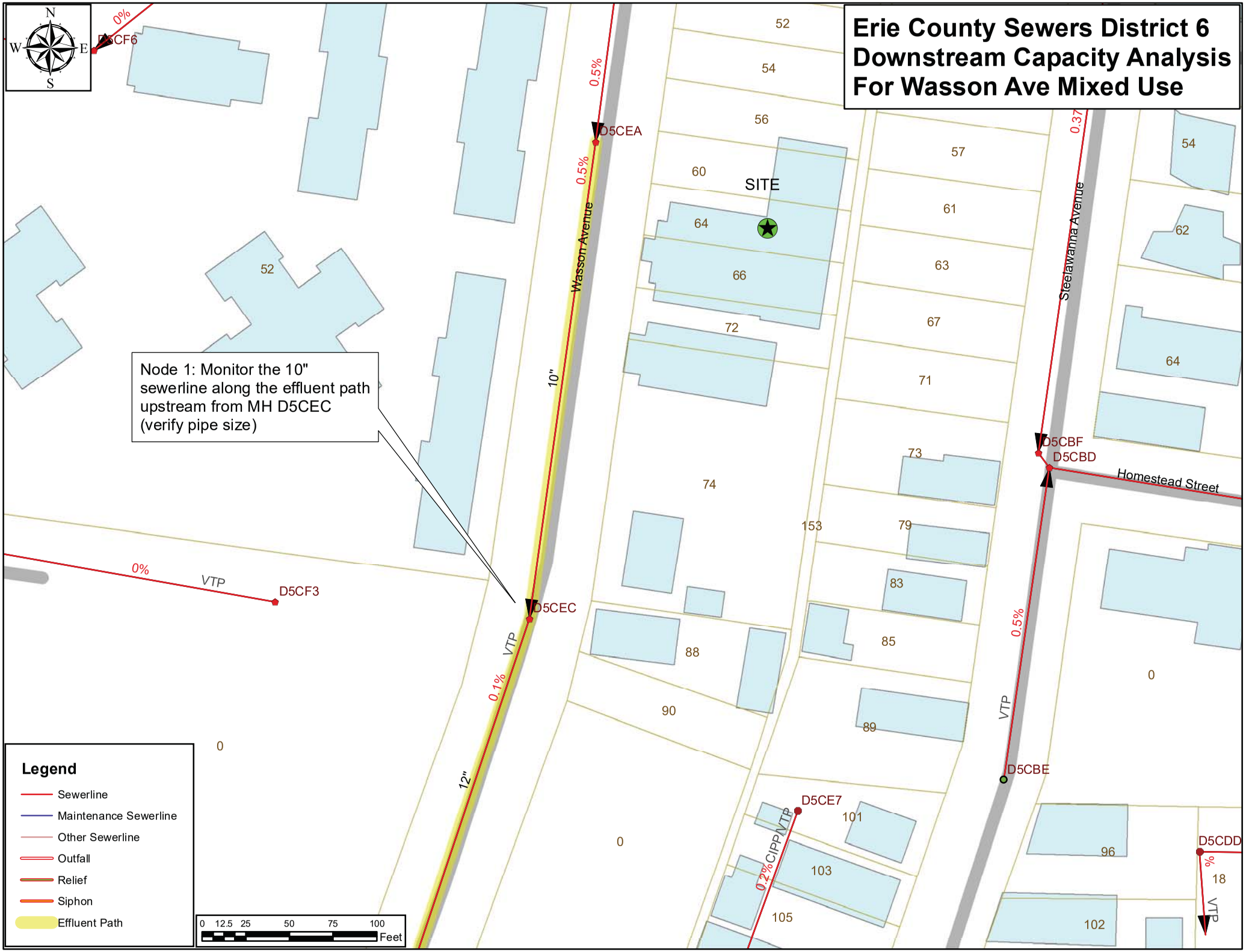
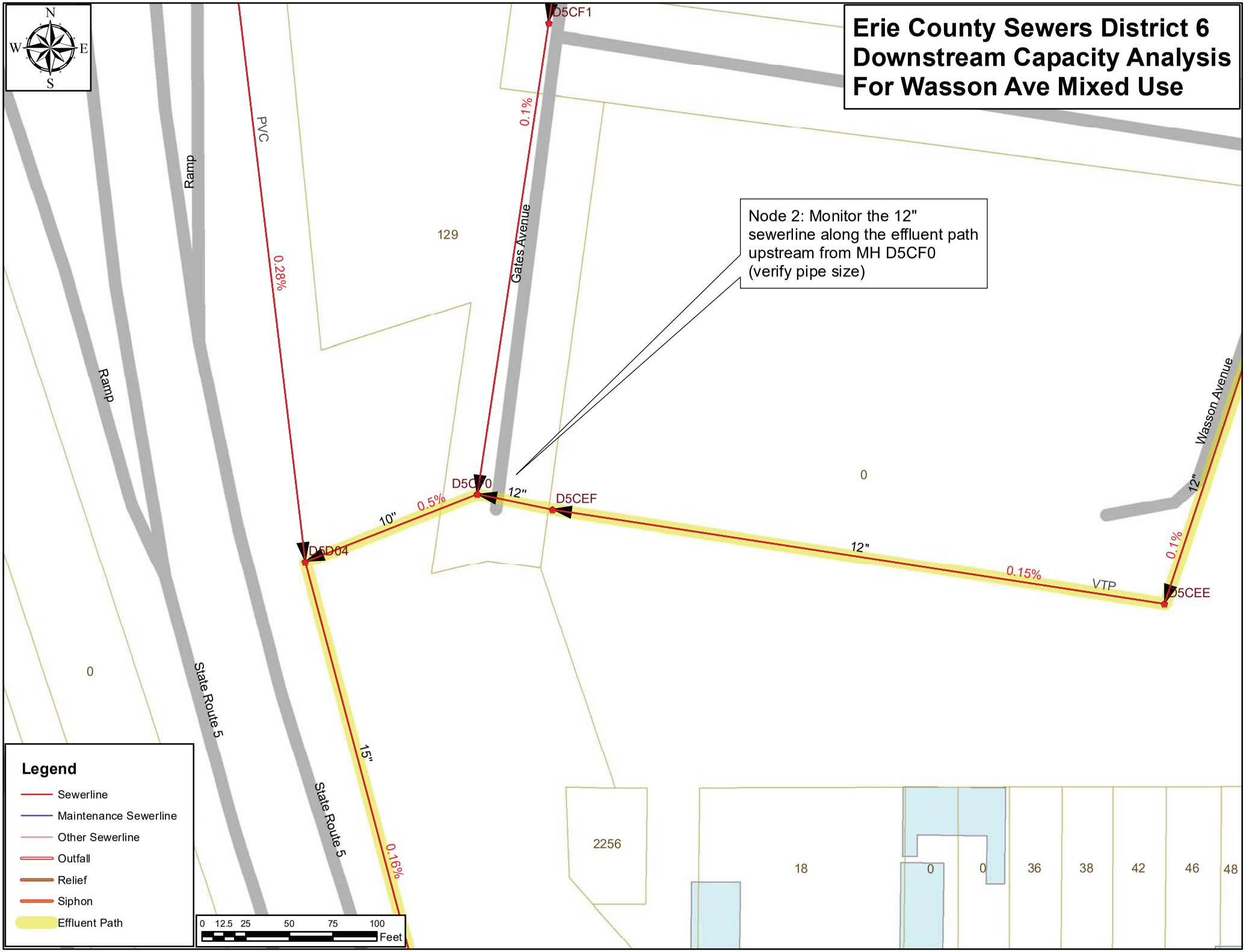
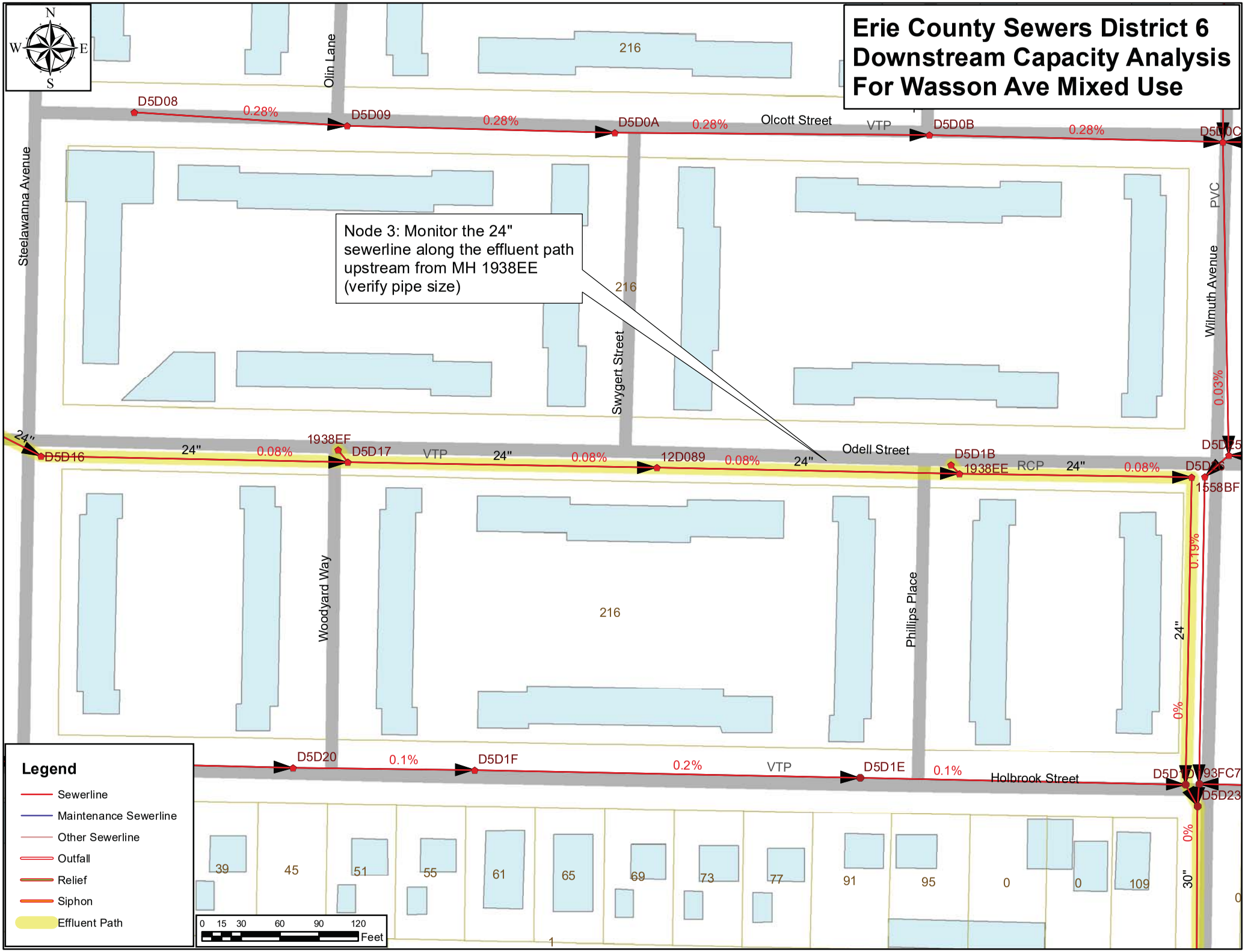

Erie County Sewers District 6
Downstream Capacity Analysis
For Wasson Ave Mixed Use
N
W
E
S
SITE
Bethlehem Street
Mcguire Street
Fowler Str
Homestead Street
Wilkesbarre Street
Eaton Street
Steel Street
Gates Avenue
State Route 5
Ramp
Glenwood Avenue
Bauder Street
Holland Avenue
Mill Street
Pearl Avenue
Clark Street
Washington Street
James Street
Kane Street
Wilson Street
Olin Lane
Steelawanna Avenue
Olcott Street
Lehigh Street
Parking Lot
Odell Street
Ingham Avenue
Hamburg Turnpike
Holbrook Street
Well Street
Unnamed Street
Wilmuth Avenue
South Street
Point Street
PS
10"
12"
15"
24"
8"
30"
Legend
Sewerline
Maintenance Sewerline
Other Sewerline
Outfall
Relief
Siphon
Effluent Path
0 62.5 125 250 375 500
Feet


Erie County Sewers District 6
Downstream Capacity Analysis
For Wasson Ave Mixed Use
N
W
E
S
0%
D5CF6
0.5%
D5CEA
SITE
Wasson Avenue
Steelawanna Avenue
0.37
Node 1: Monitor the 10" sewerline along the effluent path upstream from MH D5CEC (verify pipe size)
10"
D5CBF
D5CBD
Homestead Street
0%
VTP
D5CF3
D5CEC
0.1%
12"
0.5%
D5CBE
0.2%
CIPP/VTP
D5CE7
D5CDD
18
52
54
56
57
60
61
62
63
64
66
67
71
72
73
74
79
83
85
88
89
90
96
101
102
103
105
153
0
Legend
Sewerline
Maintenance Sewerline
Other Sewerline
Outfall
Relief
Siphon
Effluent Path
0 12.5 25 50 75 100
Feet


Erie County Sewers District 6
Downstream Capacity Analysis
For Wasson Ave Mixed Use
N
W
E
S
D5CF1
0.1%
PVC
0.28%
Ramp
Ramp
129
Gates Avenue
Node 2: Monitor the 12" sewerline along the effluent path upstream from MH D5CF0 (verify pipe size)
D5CF0
12"
D5CEF
0
Wasson Avenue
12"
0.1%
10"
0.5%
D5D04
12"
0.15%
VTP
D5CEE
0
State Route 5
State Route 5
15"
0.16%
2256
18
0
0
36
38
42
46
48
Legend
Sewerline
Maintenance Sewerline
Other Sewerline
Outfall
Relief
Siphon
Effluent Path
0 12.5 25 50 75 100
Feet


Erie County Sewers District 6
Downstream Capacity Analysis
For Wasson Ave Mixed Use
N
W
E
S
Olin Lane
Steelawanna Avenue
Swygert Street
Wilmuth Avenue
Woodyard Way
Phillips Place
Odell Street
Olcott Street
Holbrook Street
VTP
RCP
PVC
216
D5D08
0.28%
D5D09
0.28%
D5D0A
0.28%
D5D0B
0.28%
D5D0C
Node 3: Monitor the 24" sewerline along the effluent path upstream from MH 1938EE (verify pipe size)
24"
D5D16
0.08%
1938EF
D5D17
24"
0.08%
12D089
0.08%
24"
D5D1B
1938EE
24"
0.08%
D5D25
1558BF
0.03%
0.19%
24"
0%
D5D20
0.1%
D5D1F
0.2%
D5D1E
0.1%
D5D23
30"
0%
39
45
51
55
61
65
69
73
77
91
95
0
0
109
Legend
Sewerline
Maintenance Sewerline
Other Sewerline
Outfall
Relief
Siphon
Effluent Path
0 15 30 60 90 120
Feet

STORMWATER DRAINAGE ANALYSIS

WATER QUALITY REQUIRED FOR PROPOSED DEVELOPMENT AREA Area, Acres = 2.25
(Note: Reference Chap. 9 NYSDEC Stormwater Design Manual)

"Redevelopment Activity", Acres = 1.48 "New development", Acres = 0.77
(existing, disturbed impervious area)

Total proposed impervious, Acres = 1.71 Adjusted impervious, Acres = 0.60
"New" impervious, Acres = 0.23 (25% redevelopment, 100% new development)

Water Quality Volume (WQv) WQv=P*R*A/12

Where:	P=90% Rainfall Event Number	P= 1
	Rv= 0.05+0.009*(I)	Rv= 0.29
	IC=Impervious Cover, Acres	IC= 0.60
	I=Impervious Cover (%)	I= 27
	A=Runoff Area, Acres	A= 2.25

WQv (ac-ft)= 0.054
WQv (cf)= 2369

Note: Runoff Reduction Volume (RRv) sizing criteria not required for "Redevelopment Activity" portion of project.
See attached Bioretention Worksheet for RRv sizing for "New Development" portion of project.

RRv PROVIDED FOR PROPOSED DEVELOPMENT AREA (See NYSDEC worksheets)

		WQv, cf	RRv, cf
Min. RRv Req'd, cf = 159	RRv, Bioretention Area	957	383
Min. RRv Req'd, ac-ft = 0.004	WQ Treatment Structure	1,412	n/a
	TOTAL, cf	2369	383
	TOTAL, ac-ft	0.054	0.009

WQ & RR SUMMARY (ac-ft):

TOTAL WATER QUALITY PROVIDED FOR PROPOSED DEVELOPMENT AREA 0.054

IS WATER QUALITY VOLUME REQUIREMENT MET? Yes
(WQv provided equal to or greater than WQv required)

IS RUNOFF REDUCTION VOLUME REQUIREMENT MET? Yes
(RRv provided equal to or greater than Min. RRv required)

Revised _/_/_

Yes No

Total Water Quality Volume Calculation
WQv(acre-feet) = [(P)(Rv)(A)] /12

Is this project subject to Chapter 10 of the NYS Design Manual (i.e. WQv is equal to post-development 1 year runoff volume)?.....	No

Design Point:		
P=	1.00	*inch*

Manually enter P, Total Area and Impervious Cover.

Breakdown of Subcatchments

Catchment Number	Total Area *(Acres)*	Impervious Area *(Acres)*	Percent Impervious *%*	Rv	WQv *(ft^3)*	Description
1	0.77	0.23	30%	0.32	891	
2						
3						
4						
5						
6						
7						
8						
9						
10						
Subtotal (1-30)	0.77	0.23	30%	0.32	**891**	**Subtotal 1**
Total	0.77	0.23	30%	0.32	**891**	**Initial WQv**

Identify Runoff Reduction Techniques By Area

Technique	Total Contributing Area *(Acre)*	Contributing Impervious Area *(Acre)*	Notes
Conservation of Natural Areas	0.00	0.00	*minimum 10,000 sf*
Riparian Buffers	0.00	0.00	*maximum contributing length 75 feet to 150 feet*
Filter Strips	0.00	0.00	
Tree Planting	0.77	0.23	*Up to 100 sf directly connected impervious area may be subtracted per tree*
Total	**0.77**	**0.23**	

Recalculate WQv after application of Area Reduction Techniques

	Total Area *(Acres)*	Impervious Area *(Acres)*	Percent Impervious *%*	Runoff Coefficient Rv	WQv *(ft^3)*
"<<Initial WQv"	0.77	0.23	30%	0.32	891
Subtract Area	-0.77	-0.23			
WQv adjusted after Area Reductions	**0.00**	**0.00**	0%	0.05	0
Disconnection of Rooftops		0.00			
Adjusted WQv after Area Reduction and Rooftop Disconnect	0.00	0.00	0%	0.05	**0**

Minimum RRv

Enter the Soils Data for the site		
Soil Group	Acres	S
A		55%
B		40%
C		30%
D	**0.77**	20%
Total Area	0.77	
Calculate the Minimum RRv		
S =	**0.20**	
Impervious =	0.23	*acre*
Precipitation	1	*in*
Rv	0.95	
Minimum RRv	**159**	***ft3***
	0.00	af

Bioretention Worksheet

(For use on HSG C or D Soils with underdrains)

Af=WQv*(df)/[k*(hf+df)(tf)]

Af	Required Surface Area (ft2)
WQv	Water Quality Volume (ft3)
df	Depth of the Soil Medium (feet)
hf	Average height of water above the planter bed
tf	Volume Through the Filter Media (days)

k — The hydraulic conductivity [ft/day], can be varied depending on the properties of the soil media. Some reported conductivity values are: ***Sand*** - 3.5 ft/day (City of Austin 1988); ***Peat*** - 2.0 ft/day (Galli 1990); ***Leaf Compost*** - 8.7 ft/day (Claytor and Schueler, 1996); ***Bioretention Soil*** (0.5 ft/day (Claytor &

Design Point:	

Enter Site Data For Drainage Area to be Treated by Practice							
Catchment Number	**Total Area** *(Acres)*	**Impervious Area** *(Acres)*	**Percent Impervious** *%*	**Rv**	**WQv** *(ft^3)*	**Precipitation** *(in)*	**Description**
1	0.77	0.23	0.30	0.32	891.17	1.00	
Enter Impervious Area Reduced by Disconnection of Rooftops		0.00	30%	0.32	891	<<WQv after adjusting for Disconnected Rooftops	
Enter the portion of the WQv that is not reduced for all practices routed to this practice.					0	*ft^3*	

Soil Information			
Soil Group	D		
Soil Infiltration Rate		*in/hour*	
Using Underdrains?	Yes	*Okay*	

Calculate the Minimum Filter Area				
		Value	Units	Notes
WQv		891	*ft^3*	
Enter Depth of Soil Media	*df*	2.5	*ft*	*2.5-4 ft*
Enter Hydraulic Conductivity	*k*	0.5	*ft/day*	
Enter Average Height of Ponding	*hf*	0.25	*ft*	*6 inches max.*
Enter Filter Time	*tf*	2	*days*	
Required Filter Area	***Af***	**810**	***ft^2***	

Determine Actual Bio-Retention Area			
Filter Width	29.5	*ft*	
Filter Length	29.5	*ft*	
Filter Area	870.25	*ft^2*	
Actual Volume Provided	957	*ft^3*	

Determine Runoff Reduction				
Is the Bioretention contributing flow to another practice?		No	Select Practice	N/A
RRv	383			
RRv applied	**383**	***ft^3***	***This is 40% of the storage provided or WQv whichever is less.***	
Volume Treated	508	*ft^3*	*This is the portion of the WQv that is not reduced in the practice.*	
Volume Directed	0	*ft^3*	This volume is directed another practice	

Extreme Precipitation Tables

Northeast Regional Climate Center

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

Smoothing	Yes
State	New York
Location	
Longitude	78.847 degrees West
Latitude	42.825 degrees North
Elevation	0 feet
Date/Time	Fri, 08 Jan 2021 08:37:42 -0500

Extreme Precipitation Estimates

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.26	0.41	0.50	0.66	0.83	1.01	**1yr**	0.71	0.93	1.13	1.34	1.56	1.81	2.16	**1yr**	1.60	2.08	2.51	3.02	3.53	**1yr**
2yr	0.31	0.47	0.59	0.78	0.98	1.20	**2yr**	0.85	1.10	1.36	1.62	1.90	2.21	2.53	**2yr**	1.95	2.43	2.86	3.43	3.94	**2yr**
5yr	0.36	0.57	0.71	0.95	1.22	1.50	**5yr**	1.05	1.38	1.70	2.01	2.35	2.70	3.09	**5yr**	2.39	2.97	3.47	4.11	4.71	**5yr**
10yr	0.41	0.64	0.81	1.11	1.44	1.79	**10yr**	1.25	1.64	2.02	2.39	2.76	3.15	3.60	**10yr**	2.79	3.47	4.01	4.72	5.40	**10yr**
25yr	0.49	0.77	0.99	1.36	1.80	2.24	**25yr**	1.56	2.05	2.54	2.98	3.42	3.85	4.41	**25yr**	3.41	4.24	4.87	5.67	6.48	**25yr**
50yr	0.55	0.89	1.14	1.59	2.14	2.67	**50yr**	1.85	2.44	3.02	3.53	4.02	4.50	5.14	**50yr**	3.98	4.95	5.63	6.51	7.43	**50yr**
100yr	0.63	1.02	1.31	1.86	2.54	3.18	**100yr**	2.19	2.90	3.59	4.18	4.73	5.25	6.00	**100yr**	4.64	5.77	6.52	7.48	8.53	**100yr**
200yr	0.72	1.18	1.53	2.19	3.01	3.78	**200yr**	2.60	3.45	4.27	4.94	5.56	6.13	7.00	**200yr**	5.43	6.73	7.55	8.59	9.79	**200yr**
500yr	0.87	1.43	1.86	2.70	3.79	4.76	**500yr**	3.27	4.35	5.36	6.17	6.89	7.53	8.58	**500yr**	6.66	8.25	9.17	10.33	11.76	**500yr**

Lower Confidence Limits

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.23	0.35	0.43	0.58	0.71	0.81	**1yr**	0.61	0.79	0.87	1.10	1.40	1.62	2.00	**1yr**	1.44	1.93	2.34	2.84	3.36	**1yr**
2yr	0.29	0.46	0.56	0.76	0.94	1.08	**2yr**	0.81	1.05	1.18	1.45	1.73	2.15	2.48	**2yr**	1.90	2.38	2.80	3.36	3.86	**2yr**
5yr	0.33	0.51	0.63	0.87	1.11	1.27	**5yr**	0.96	1.25	1.42	1.72	2.04	2.53	2.92	**5yr**	2.24	2.81	3.28	3.89	4.48	**5yr**
10yr	0.36	0.56	0.69	0.97	1.25	1.43	**10yr**	1.08	1.39	1.61	1.94	2.30	2.85	3.30	**10yr**	2.52	3.18	3.70	4.35	5.02	**10yr**
25yr	0.41	0.63	0.78	1.11	1.47	1.67	**25yr**	1.27	1.63	1.90	2.26	2.69	3.34	3.89	**25yr**	2.96	3.74	4.33	5.04	5.85	**25yr**
50yr	0.45	0.68	0.85	1.23	1.65	1.86	**50yr**	1.42	1.82	2.14	2.54	3.02	3.78	4.40	**50yr**	3.34	4.23	4.89	5.64	6.57	**50yr**
100yr	0.49	0.74	0.93	1.35	1.85	2.08	**100yr**	1.60	2.03	2.43	2.86	3.39	4.25	4.97	**100yr**	3.77	4.78	5.52	6.33	7.39	**100yr**
200yr	0.54	0.81	1.03	1.49	2.08	2.32	**200yr**	1.80	2.27	2.75	3.21	3.79	4.80	5.64	**200yr**	4.25	5.42	6.24	7.10	8.33	**200yr**
500yr	0.61	0.91	1.17	1.70	2.42	2.66	**500yr**	2.09	2.60	3.25	3.73	4.39	5.65	6.65	**500yr**	5.00	6.39	7.34	8.28	9.78	**500yr**

Upper Confidence Limits

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.30	0.47	0.57	0.77	0.94	1.08	**1yr**	0.81	1.06	1.21	1.45	1.76	1.97	2.31	**1yr**	1.74	2.22	2.66	3.17	3.70	**1yr**
2yr	0.32	0.50	0.61	0.83	1.02	1.19	**2yr**	0.88	1.17	1.30	1.59	1.89	2.27	2.62	**2yr**	2.01	2.52	2.94	3.53	4.04	**2yr**
5yr	0.40	0.61	0.76	1.05	1.33	1.54	**5yr**	1.15	1.50	1.71	2.07	2.48	2.88	3.25	**5yr**	2.55	3.12	3.65	4.33	4.96	**5yr**
10yr	0.48	0.73	0.91	1.27	1.64	1.89	**10yr**	1.41	1.85	2.11	2.54	3.06	3.43	3.84	**10yr**	3.03	3.69	4.30	5.07	5.80	**10yr**
25yr	0.61	0.93	1.15	1.65	2.17	2.55	**25yr**	1.87	2.49	2.81	3.36	4.04	4.35	4.82	**25yr**	3.85	4.63	5.36	6.23	7.12	**25yr**
50yr	0.73	1.10	1.38	1.98	2.66	3.15	**50yr**	2.30	3.08	3.47	4.14	4.98	5.22	5.72	**50yr**	4.62	5.50	6.32	7.27	8.32	**50yr**
100yr	0.87	1.32	1.65	2.39	3.28	3.90	**100yr**	2.83	3.82	4.31	5.11	6.13	6.26	6.78	**100yr**	5.54	6.52	7.47	8.49	9.71	**100yr**
200yr	1.05	1.58	2.00	2.89	4.03	4.83	**200yr**	3.48	4.72	5.34	6.30	7.54	7.52	8.04	**200yr**	6.66	7.73	8.83	9.93	11.35	**200yr**
500yr	1.34	2.00	2.57	3.73	5.31	6.39	**500yr**	4.58	6.25	7.07	8.30	9.92	9.60	10.08	**500yr**	8.50	9.69	11.00	12.21	13.93	**500yr**

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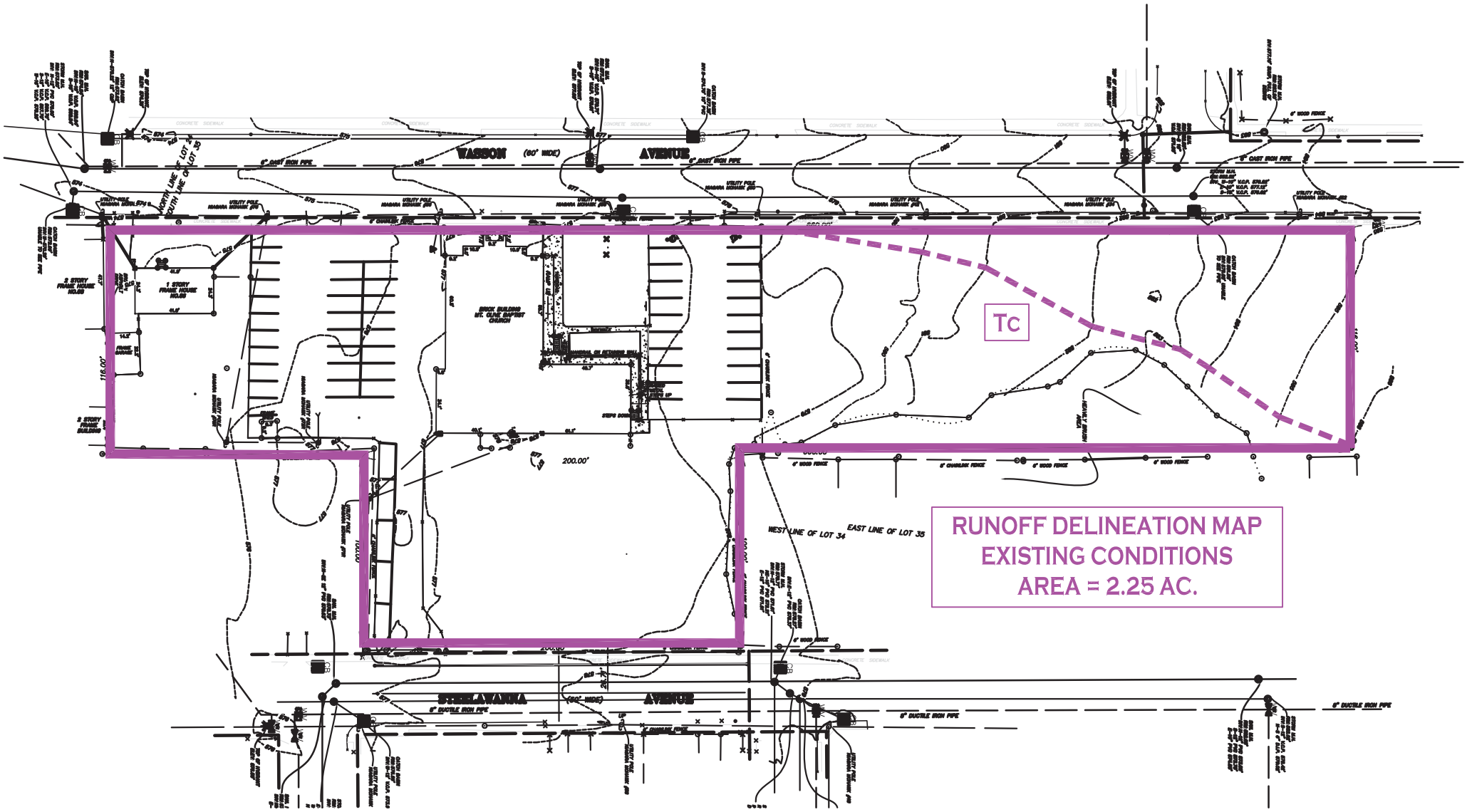
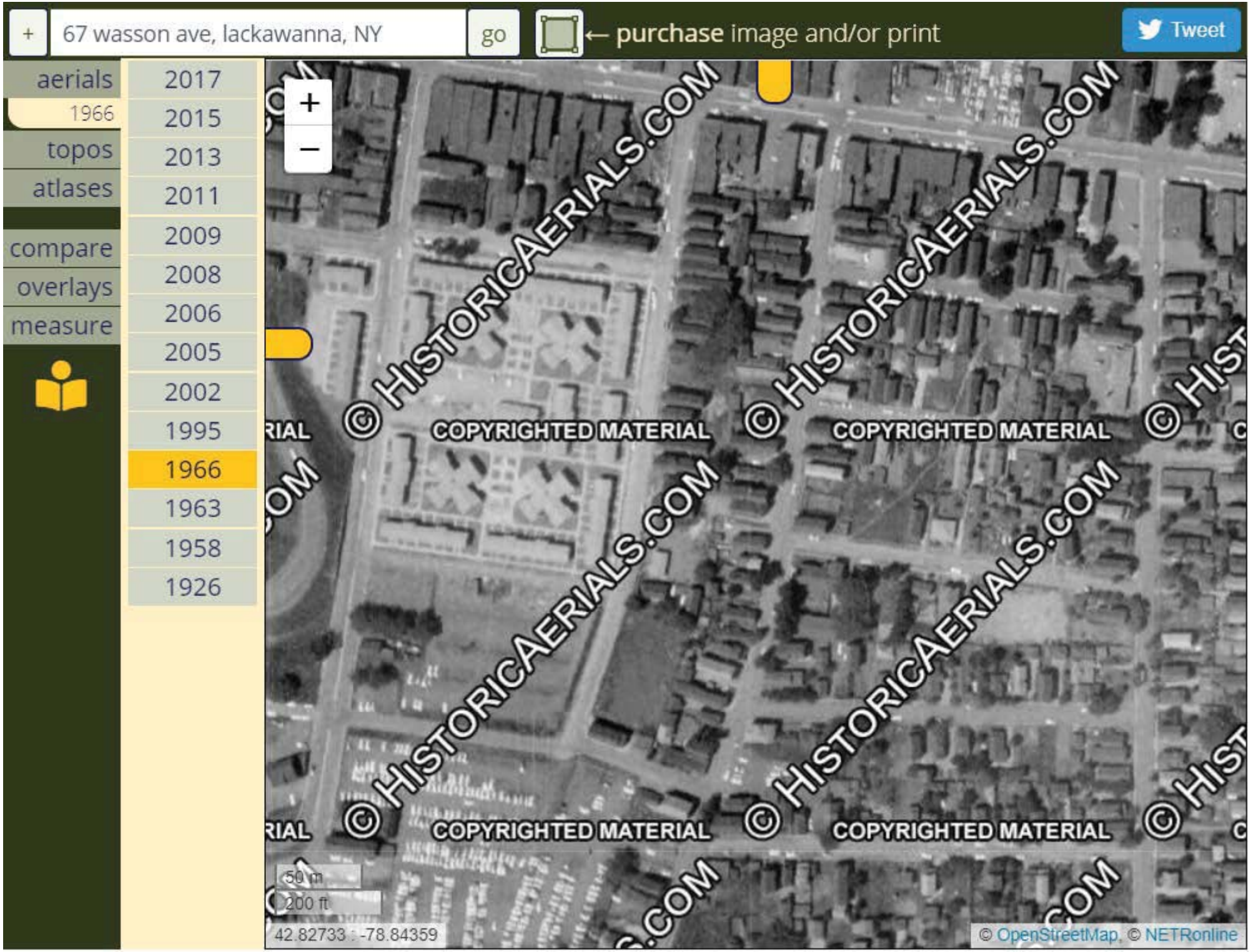

WASSON (60' WIDE) AVENUE
Tc
RUNOFF DELINEATION MAP
EXISTING CONDITIONS
AREA = 2.25 AC.
WEST LINE OF LOT 34
EAST LINE OF LOT 35
200.00'
SYCAMORE (60' WIDE) AVENUE

Events for Subcatchment 1S: Existing Site Area

Event	Runoff (cfs)	Volume (acre-feet)	Depth (inches)
1-Year	1.99	0.214	1.14
2-Year	2.61	0.283	1.51
5-Year	3.39	0.369	1.97
10-Year	4.10	0.450	2.40
25-Year	5.21	0.576	3.07
50-Year	6.23	0.695	3.71
100-Year	**7.40**	**0.833**	**4.44**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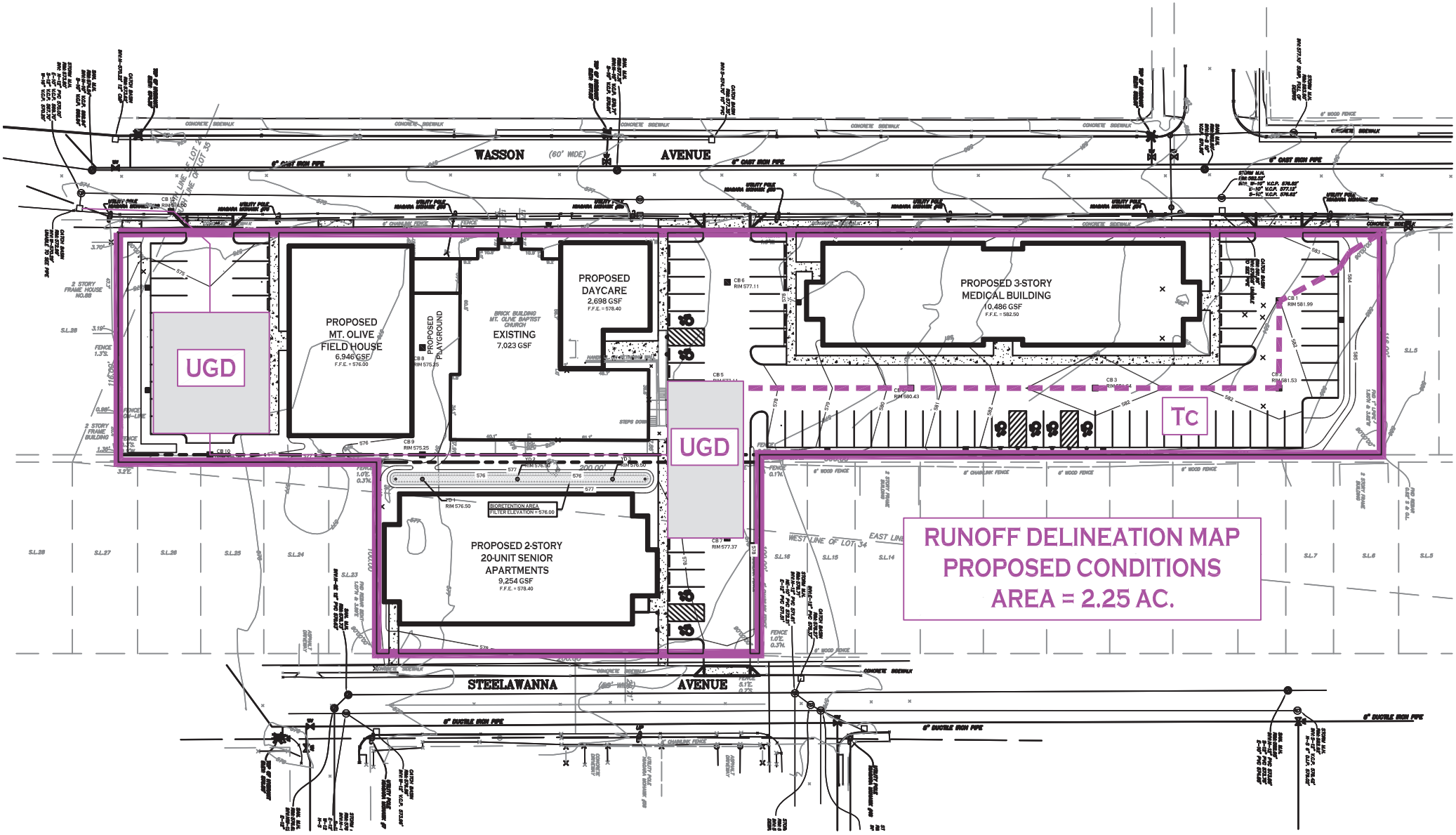
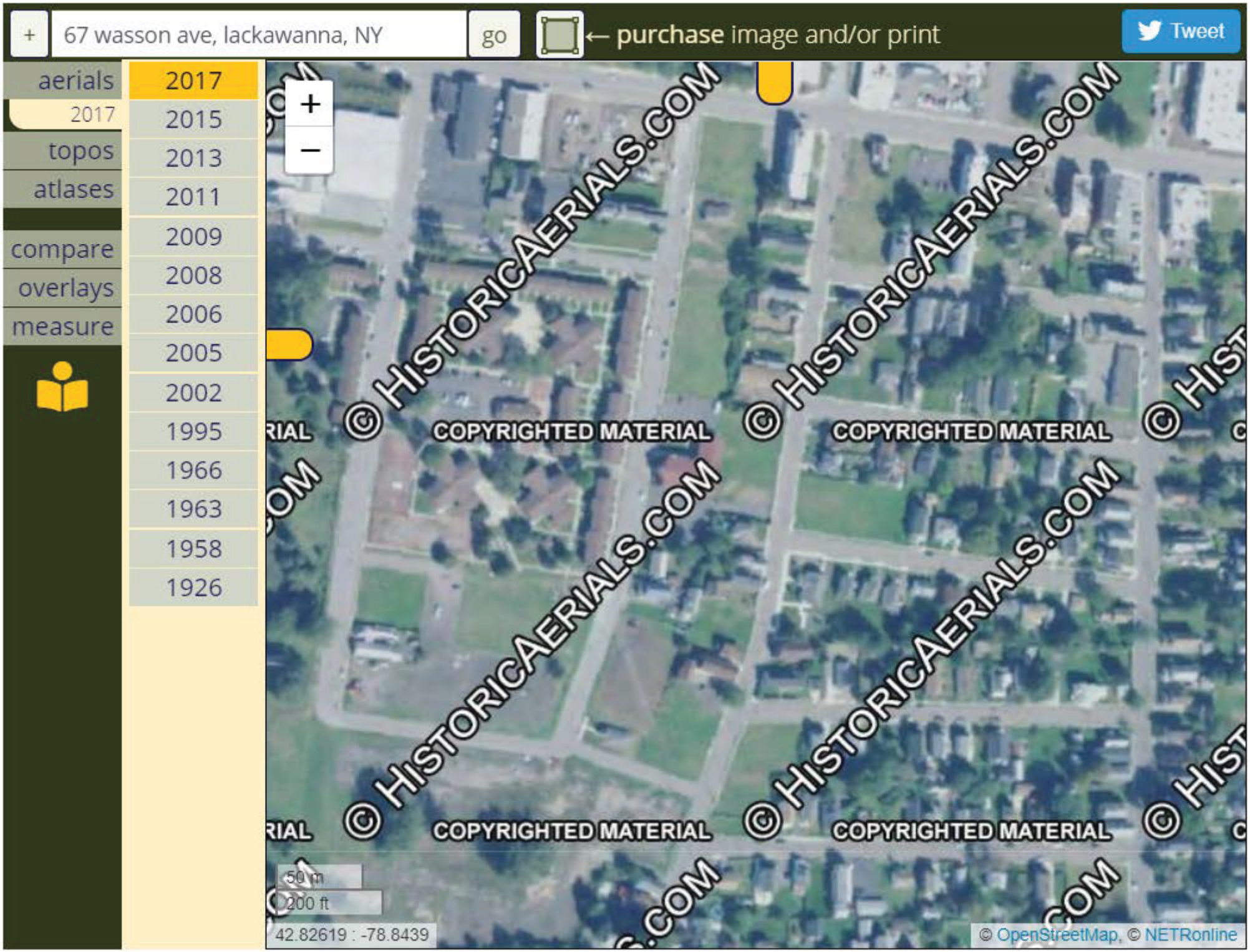

WASSON (60' WIDE) AVENUE
STEELAWANNA (60' WIDE) AVENUE
PROPOSED MT. OLIVE FIELD HOUSE 6,946 GSF F.F.E. = 576.00
PROPOSED PLAYGROUND
BRICK BUILDING MT. OLIVE BAPTIST CHURCH EXISTING 7,023 GSF
PROPOSED DAYCARE 2,698 GSF F.F.E. = 578.40
PROPOSED 3-STORY MEDICAL BUILDING 10,486 GSF F.F.E. = 582.50
PROPOSED 2-STORY 20-UNIT SENIOR APARTMENTS 9,254 GSF F.F.E. = 578.40
UGD
UGD
Tc
BIORETENTION AREA FILTER ELEVATION = 576.00
RUNOFF DELINEATION MAP
PROPOSED CONDITIONS
AREA = 2.25 AC.

Events for Pond 1P: Proposed UGD System & Outlet

Event	Inflow (cfs)	Primary (cfs)	Elevation (feet)	Storage (cubic-feet)
1-Year	4.87	1.86	571.86	3,017
2-Year	6.26	2.42	572.09	3,912
5-Year	7.97	2.91	572.36	5,060
10-Year	9.52	3.22	572.64	6,178
25-Year	11.93	3.69	573.11	7,988
50-Year	14.14	4.17	573.65	9,702
100-Year	**16.69**	**5.16**	**575.00**	**11,633**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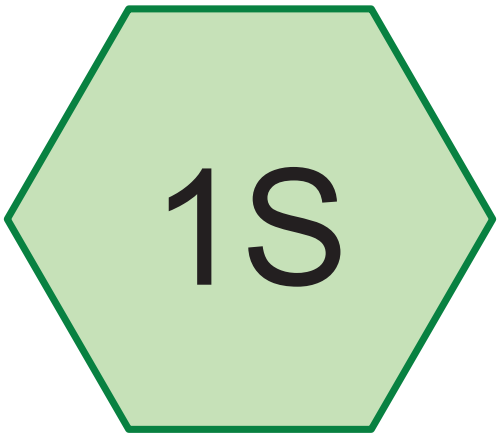
STORMWATER DRAINAGE ANALYSIS

HydroCAD



Existing Site Area

Subcat Reach Pond Link

Routing Diagram for 20.166 Existing
Prepared by HP Inc., Printed 3/31/2021
HydroCAD® 10.00-18 s/n 05021 © 2016 HydroCAD Software Solutions LLC

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.770	84	50-75% Grass cover, Fair, HSG D (1S)
1.480	98	Impervious, HSG D (1S)
2.250	**93**	**TOTAL AREA**

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
0.000	HSG B	
0.000	HSG C	
2.250	HSG D	1S
0.000	Other	
2.250		**TOTAL AREA**

Ground Covers (all nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	0.000	0.000	0.770	0.000	0.770	50-75% Grass cover, Fair	1S
0.000	0.000	0.000	1.480	0.000	1.480	Impervious	1S
0.000	**0.000**	**0.000**	**2.250**	**0.000**	**2.250**	**TOTAL AREA**	

Time span=0.00-50.00 hrs, dt=0.05 hrs, 1001 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: Existing Site Area Runoff Area=2.250 ac 65.78% Impervious Runoff Depth=1.14"
Flow Length=325' Tc=35.6 min CN=93 Runoff=1.99 cfs 0.214 af

Total Runoff Area = 2.250 ac Runoff Volume = 0.214 af Average Runoff Depth = 1.14"
34.22% Pervious = 0.770 ac 65.78% Impervious = 1.480 ac

Summary for Subcatchment 1S: Existing Site Area

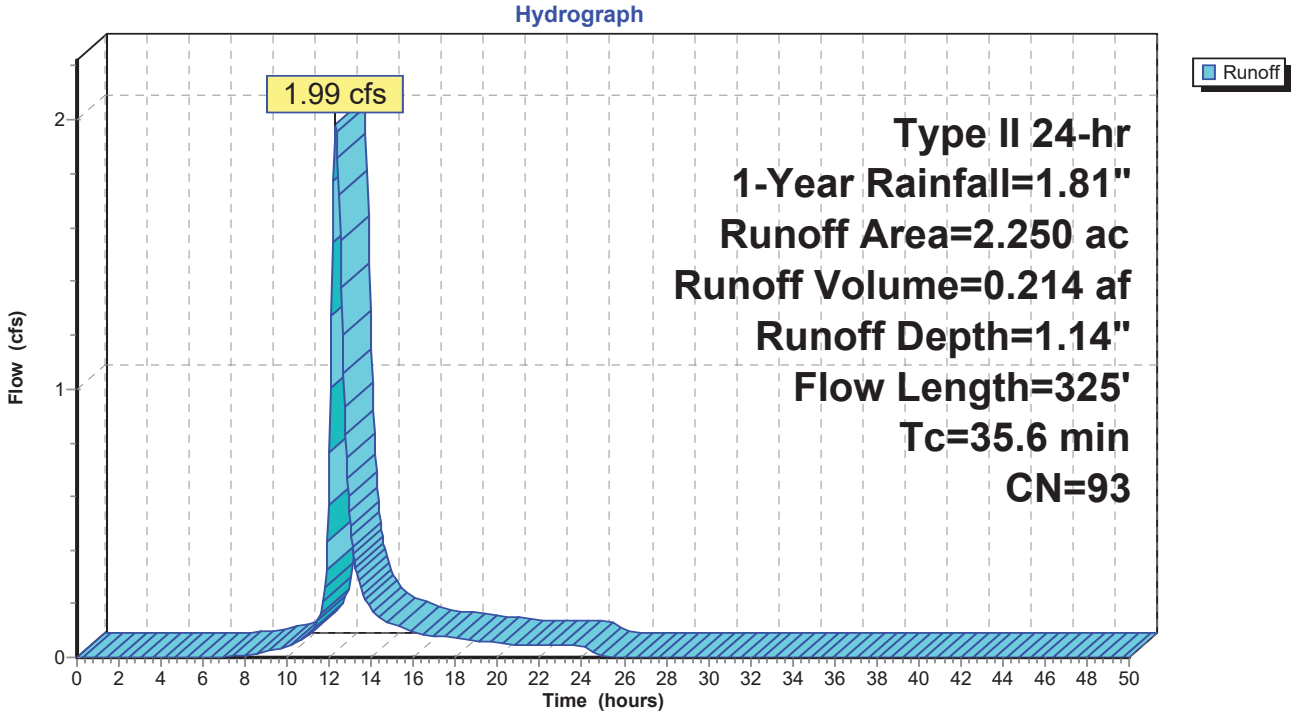
Runoff = 1.99 cfs @ 12.31 hrs, Volume= 0.214 af, Depth= 1.14"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-Year Rainfall=1.81"

	Area (ac)	CN	Description
*	0.710	98	Impervious, HSG D
	0.770	84	50-75% Grass cover, Fair, HSG D
*	0.770	98	Impervious, HSG D
	2.250	93	Weighted Average
	0.770		34.22% Pervious Area
	1.480		65.78% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
34.2	150	0.0027	0.07		**Sheet Flow, Overland - Grass** Grass: Short n= 0.150 P2= 2.50"
1.4	175	0.0170	2.10		**Shallow Concentrated Flow, Overland - Grass** Unpaved Kv= 16.1 fps
35.6	325	Total			

Subcatchment 1S: Existing Site Area



Time span=0.00-50.00 hrs, dt=0.05 hrs, 1001 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: Existing Site Area Runoff Area=2.250 ac 65.78% Impervious Runoff Depth=2.40"
Flow Length=325' Tc=35.6 min CN=93 Runoff=4.10 cfs 0.450 af

Total Runoff Area = 2.250 ac Runoff Volume = 0.450 af Average Runoff Depth = 2.40"
34.22% Pervious = 0.770 ac 65.78% Impervious = 1.480 ac

Summary for Subcatchment 1S: Existing Site Area

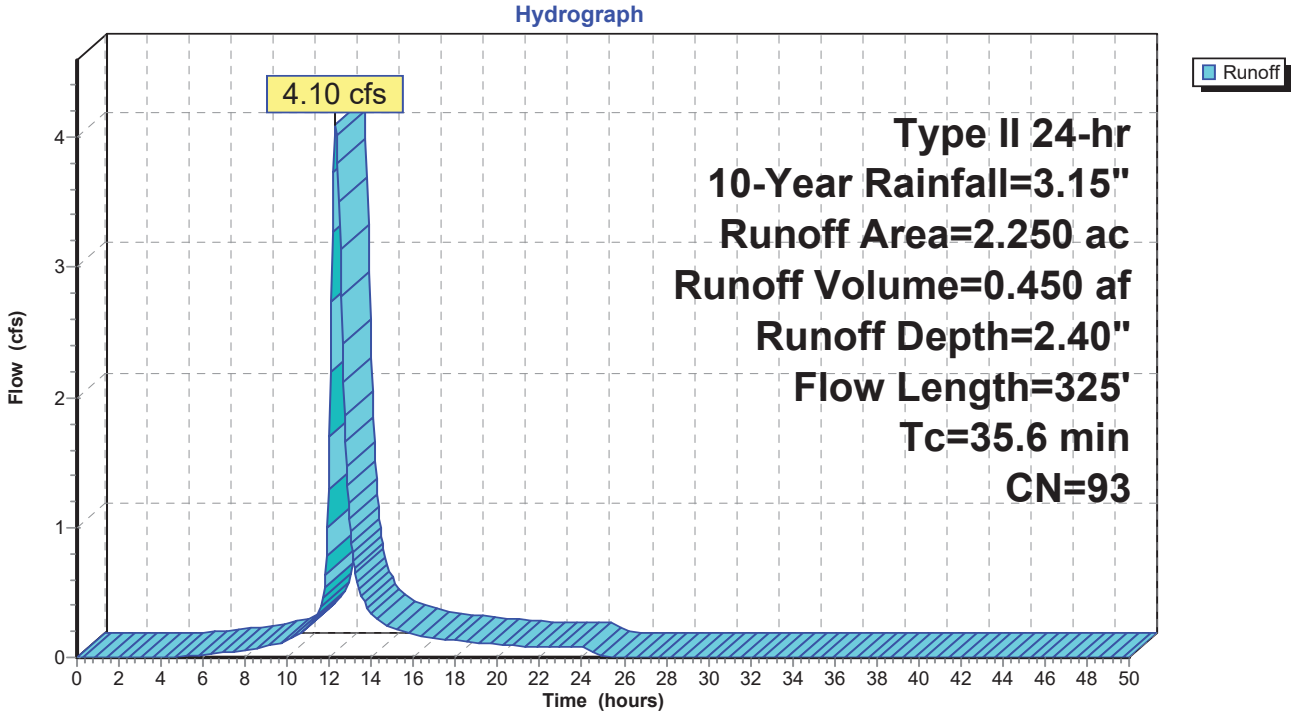
Runoff = 4.10 cfs @ 12.30 hrs, Volume= 0.450 af, Depth= 2.40"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-Year Rainfall=3.15"

	Area (ac)	CN	Description
*	0.710	98	Impervious, HSG D
	0.770	84	50-75% Grass cover, Fair, HSG D
*	0.770	98	Impervious, HSG D
	2.250	93	Weighted Average
	0.770		34.22% Pervious Area
	1.480		65.78% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
34.2	150	0.0027	0.07		**Sheet Flow, Overland - Grass** Grass: Short n= 0.150 P2= 2.50"
1.4	175	0.0170	2.10		**Shallow Concentrated Flow, Overland - Grass** Unpaved Kv= 16.1 fps
35.6	325	Total			

Subcatchment 1S: Existing Site Area



Time span=0.00-50.00 hrs, dt=0.05 hrs, 1001 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: Existing Site Area Runoff Area=2.250 ac 65.78% Impervious Runoff Depth=3.07"
Flow Length=325' Tc=35.6 min CN=93 Runoff=5.21 cfs 0.576 af

Total Runoff Area = 2.250 ac Runoff Volume = 0.576 af Average Runoff Depth = 3.07"
34.22% Pervious = 0.770 ac 65.78% Impervious = 1.480 ac

Summary for Subcatchment 1S: Existing Site Area

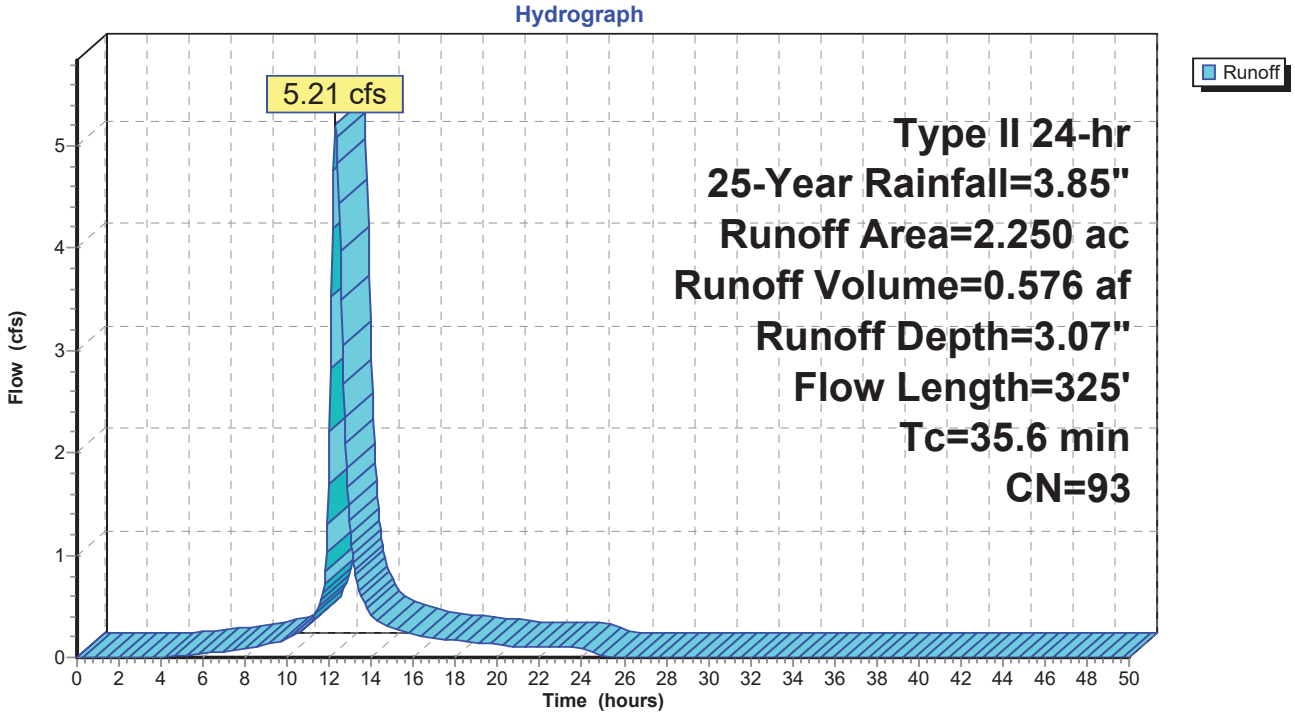
Runoff = 5.21 cfs @ 12.30 hrs, Volume= 0.576 af, Depth= 3.07"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs
Type II 24-hr 25-Year Rainfall=3.85"

	Area (ac)	CN	Description
*	0.710	98	Impervious, HSG D
	0.770	84	50-75% Grass cover, Fair, HSG D
*	0.770	98	Impervious, HSG D
	2.250	93	Weighted Average
	0.770		34.22% Pervious Area
	1.480		65.78% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
34.2	150	0.0027	0.07		**Sheet Flow, Overland - Grass** Grass: Short n= 0.150 P2= 2.50"
1.4	175	0.0170	2.10		**Shallow Concentrated Flow, Overland - Grass** Unpaved Kv= 16.1 fps
35.6	325	Total			

Subcatchment 1S: Existing Site Area



Time span=0.00-50.00 hrs, dt=0.05 hrs, 1001 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: Existing Site Area Runoff Area=2.250 ac 65.78% Impervious Runoff Depth=4.44"
Flow Length=325' Tc=35.6 min CN=93 Runoff=7.40 cfs 0.833 af

Total Runoff Area = 2.250 ac Runoff Volume = 0.833 af Average Runoff Depth = 4.44"
34.22% Pervious = 0.770 ac 65.78% Impervious = 1.480 ac

Summary for Subcatchment 1S: Existing Site Area

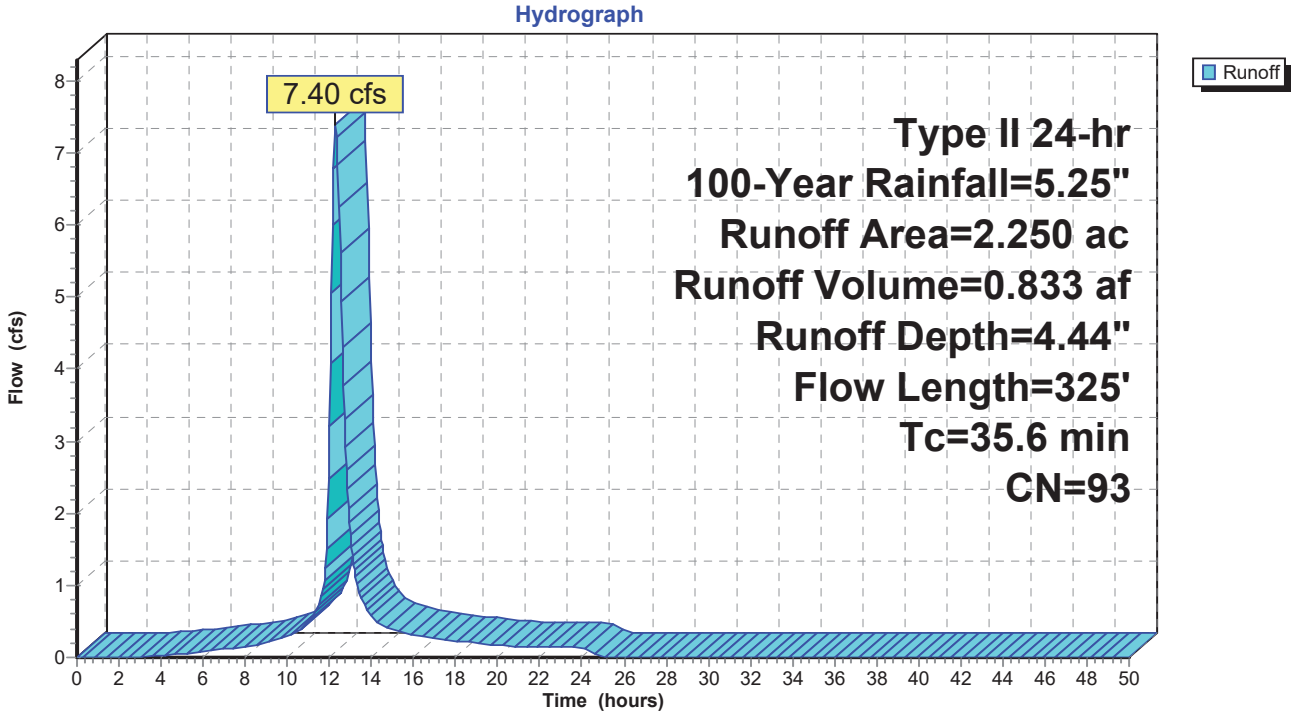
Runoff = 7.40 cfs @ 12.30 hrs, Volume= 0.833 af, Depth= 4.44"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Rainfall=5.25"

	Area (ac)	CN	Description
*	0.710	98	Impervious, HSG D
	0.770	84	50-75% Grass cover, Fair, HSG D
*	0.770	98	Impervious, HSG D
	2.250	93	Weighted Average
	0.770		34.22% Pervious Area
	1.480		65.78% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
34.2	150	0.0027	0.07		**Sheet Flow, Overland - Grass** Grass: Short n= 0.150 P2= 2.50"
1.4	175	0.0170	2.10		**Shallow Concentrated Flow, Overland - Grass** Unpaved Kv= 16.1 fps
35.6	325	Total			

Subcatchment 1S: Existing Site Area



Proposed Site Area

Proposed UGD System & Outlet

Subcat Reach Pond Link

Routing Diagram for 20.166 Proposed
Prepared by HP Inc., Printed 4/2/2021
HydroCAD® 10.00-18 s/n 05021 © 2016 HydroCAD Software Solutions LLC

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.540	80	>75% Grass cover, Good, HSG D (1S)
1.710	98	Impervious, HSG D (1S)
2.250	**94**	**TOTAL AREA**

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
0.000	HSG B	
0.000	HSG C	
2.250	HSG D	1S
0.000	Other	
2.250		**TOTAL AREA**

Ground Covers (all nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	0.000	0.000	0.540	0.000	0.540	>75% Grass cover, Good	1S
0.000	0.000	0.000	1.710	0.000	1.710	Impervious	1S
0.000	**0.000**	**0.000**	**2.250**	**0.000**	**2.250**	**TOTAL AREA**	

Pipe Listing (all nodes)

Line#	Node Number	In-Invert (feet)	Out-Invert (feet)	Length (feet)	Slope (ft/ft)	n	Diam/Width (inches)	Height (inches)	Inside-Fill (inches)
1	1P	570.72	570.70	8.0	0.0025	0.013	10.0	0.0	0.0

Time span=0.00-50.00 hrs, dt=0.01 hrs, 5001 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1S: Proposed Site Area Runoff Area=2.250 ac 76.00% Impervious Runoff Depth=1.22"
Flow Length=399' Tc=5.2 min CN=94 Runoff=4.87 cfs 0.229 af

Pond 1P: Proposed UGD System & Outlet Peak Elev=571.86' Storage=3,017 cf Inflow=4.87 cfs 0.229 af
10.0" Round Culvert n=0.013 L=8.0' S=0.0025 '/' Outflow=1.86 cfs 0.228 af

Total Runoff Area = 2.250 ac Runoff Volume = 0.229 af Average Runoff Depth = 1.22"
24.00% Pervious = 0.540 ac 76.00% Impervious = 1.710 ac

Summary for Subcatchment 1S: Proposed Site Area

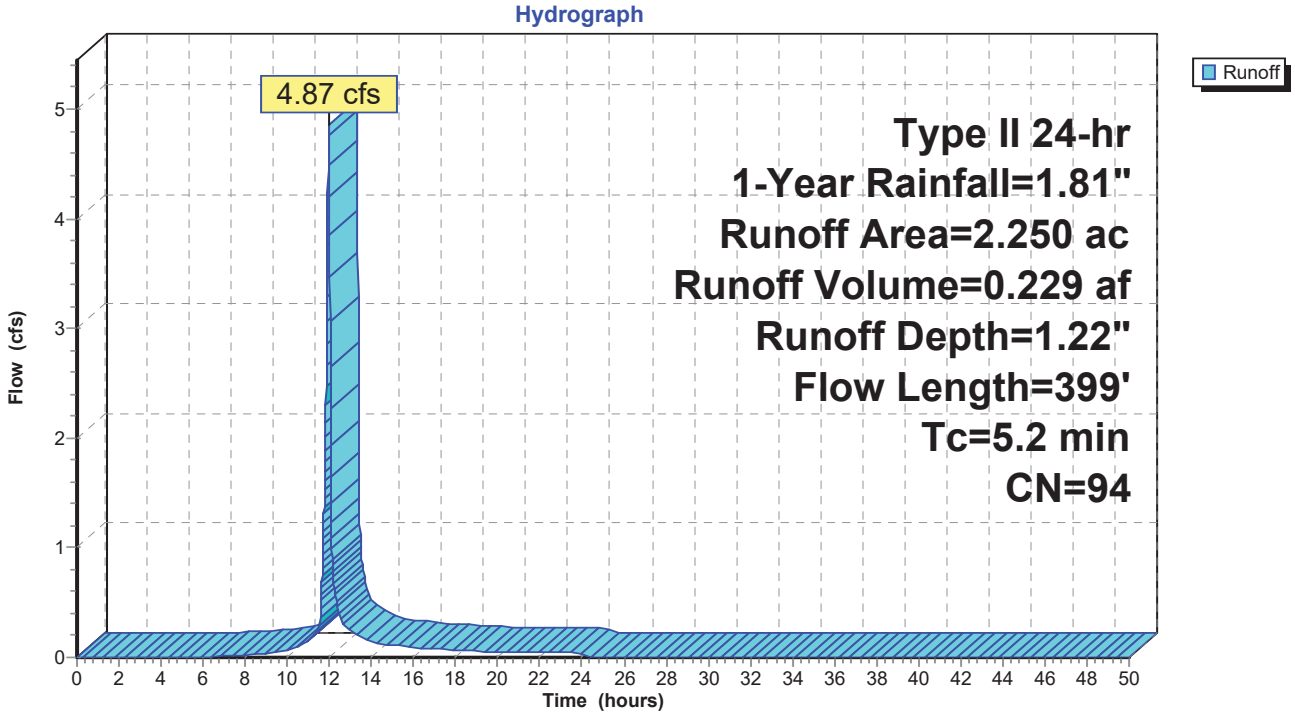
Runoff = 4.87 cfs @ 11.96 hrs, Volume= 0.229 af, Depth= 1.22"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-50.00 hrs, dt= 0.01 hrs
Type II 24-hr 1-Year Rainfall=1.81"

	Area (ac)	CN	Description
*	1.710	98	Impervious, HSG D
	0.540	80	>75% Grass cover, Good, HSG D
	2.250	94	Weighted Average
	0.540		24.00% Pervious Area
	1.710		76.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.8	30	0.0580	0.18		**Sheet Flow, Overland - Grass** Grass: Short n= 0.150 P2= 2.50"
0.5	35	0.0250	1.08		**Sheet Flow, Overland - Pvmt.** Smooth surfaces n= 0.011 P2= 2.50"
1.9	334		3.00		**Direct Entry, Pipe Flow**
5.2	399	Total			

Subcatchment 1S: Proposed Site Area



Summary for Pond 1P: Proposed UGD System & Outlet

Inflow Area = 2.250 ac, 76.00% Impervious, Inflow Depth = 1.22" for 1-Year event
Inflow = 4.87 cfs @ 11.96 hrs, Volume= 0.229 af
Outflow = 1.86 cfs @ 12.06 hrs, Volume= 0.228 af, Atten= 62%, Lag= 6.1 min
Primary = 1.86 cfs @ 12.06 hrs, Volume= 0.228 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-50.00 hrs, dt= 0.01 hrs
Peak Elev= 571.86' @ 12.06 hrs Surf.Area= 5,435 sf Storage= 3,017 cf

Plug-Flow detention time= 42.2 min calculated for 0.228 af (100% of inflow)
Center-of-Mass det. time= 41.2 min (844.9 - 803.7)

Volume	Invert	Avail.Storage	Storage Description
#1A	570.72'	3,453 cf	**63.25'W x 60.58'L x 3.50'H Field A** 13,410 cf Overall - 4,778 cf Embedded = 8,632 cf x 40.0% Voids
#2A	571.22'	4,778 cf	**ADS_StormTech SC-740 +Cap** x 104 Inside #1 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap 13 Rows of 8 Chambers
#3B	571.50'	1,473 cf	**30.00'W x 53.46'L x 3.50'H Field B** 5,613 cf Overall - 1,929 cf Embedded = 3,683 cf x 40.0% Voids
#4B	572.00'	1,929 cf	**ADS_StormTech SC-740 +Cap** x 42 Inside #3 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap 6 Rows of 7 Chambers
		11,634 cf	Total Available Storage

Storage Group A created with Chamber Wizard
Storage Group B created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	570.72'	**10.0" Round Outlet Pipe** L= 8.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 570.72' / 570.70' S= 0.0025 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.55 sf

Primary OutFlow Max=1.86 cfs @ 12.06 hrs HW=571.86' (Free Discharge)
↑—**1=Outlet Pipe** (Barrel Controls 1.86 cfs @ 3.42 fps)

Pond 1P: Proposed UGD System & Outlet - Chamber Wizard Field A

Chamber Model = ADS_StormTech SC-740 +Cap (ADS StormTech® SC-740 with cap length)
Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf
Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap

51.0" Wide + 6.0" Spacing = 57.0" C-C Row Spacing

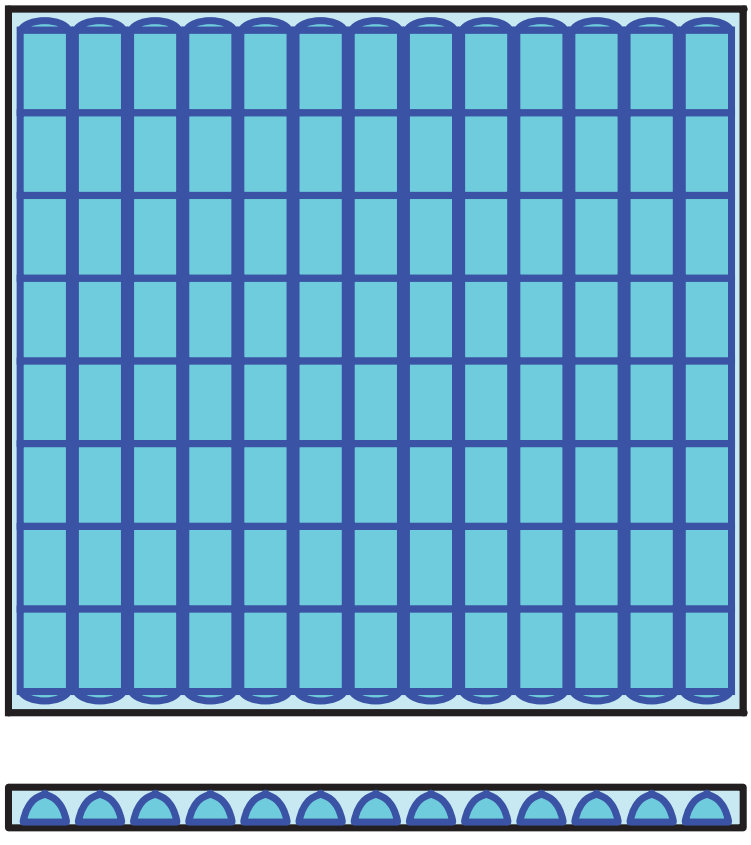
8 Chambers/Row x 7.12' Long +0.81' Cap Length x 2 = 58.58' Row Length +12.0" End Stone x 2 = 60.58' Base Length
13 Rows x 51.0" Wide + 6.0" Spacing x 12 + 12.0" Side Stone x 2 = 63.25' Base Width
6.0" Base + 30.0" Chamber Height + 6.0" Cover = 3.50' Field Height

104 Chambers x 45.9 cf = 4,777.8 cf Chamber Storage

13,410.2 cf Field - 4,777.8 cf Chambers = 8,632.4 cf Stone x 40.0% Voids = 3,453.0 cf Stone Storage

Chamber Storage + Stone Storage = 8,230.7 cf = 0.189 af
Overall Storage Efficiency = 61.4%
Overall System Size = 60.58' x 63.25' x 3.50'

104 Chambers
496.7 cy Field
319.7 cy Stone



Pond 1P: Proposed UGD System & Outlet - Chamber Wizard Field B

Chamber Model = ADS_StormTech SC-740 +Cap (ADS StormTech® SC-740 with cap length)
Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf
Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap

51.0" Wide + 6.0" Spacing = 57.0" C-C Row Spacing

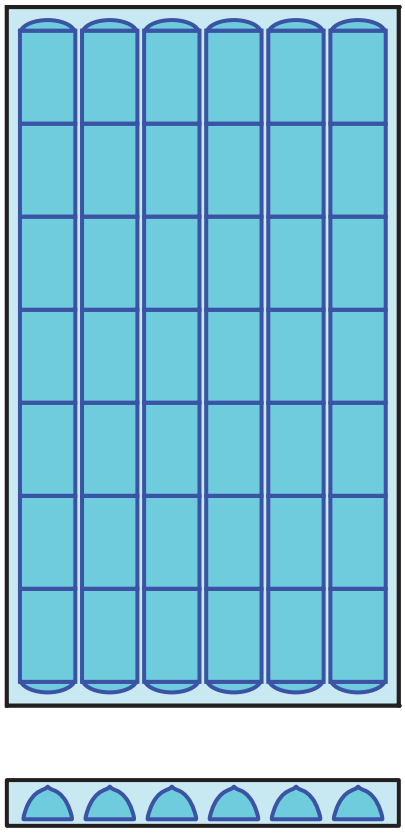
7 Chambers/Row x 7.12' Long +0.81' Cap Length x 2 = 51.46' Row Length +12.0" End Stone x 2 = 53.46' Base Length
6 Rows x 51.0" Wide + 6.0" Spacing x 5 + 12.0" Side Stone x 2 = 30.00' Base Width
6.0" Base + 30.0" Chamber Height + 6.0" Cover = 3.50' Field Height

42 Chambers x 45.9 cf = 1,929.5 cf Chamber Storage

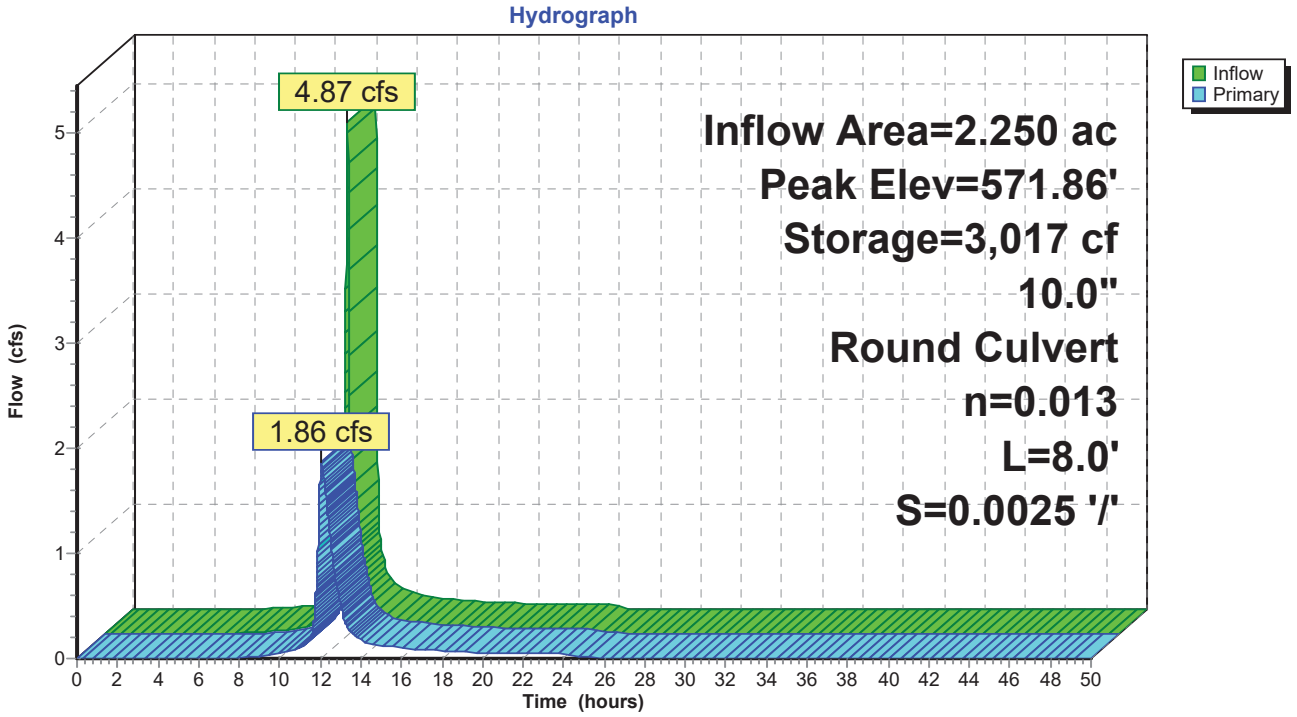
5,613.0 cf Field - 1,929.5 cf Chambers = 3,683.5 cf Stone x 40.0% Voids = 1,473.4 cf Stone Storage

Chamber Storage + Stone Storage = 3,402.9 cf = 0.078 af
Overall Storage Efficiency = 60.6%
Overall System Size = 53.46' x 30.00' x 3.50'

42 Chambers
207.9 cy Field
136.4 cy Stone



Pond 1P: Proposed UGD System & Outlet



Time span=0.00-50.00 hrs, dt=0.01 hrs, 5001 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1S: Proposed Site Area Runoff Area=2.250 ac 76.00% Impervious Runoff Depth=2.50"
Flow Length=399' Tc=5.2 min CN=94 Runoff=9.52 cfs 0.468 af

Pond 1P: Proposed UGD System & Outlet Peak Elev=572.64' Storage=6,178 cf Inflow=9.52 cfs 0.468 af
10.0" Round Culvert n=0.013 L=8.0' S=0.0025 '/' Outflow=3.22 cfs 0.468 af

Total Runoff Area = 2.250 ac Runoff Volume = 0.468 af Average Runoff Depth = 2.50"
24.00% Pervious = 0.540 ac 76.00% Impervious = 1.710 ac

Summary for Subcatchment 1S: Proposed Site Area

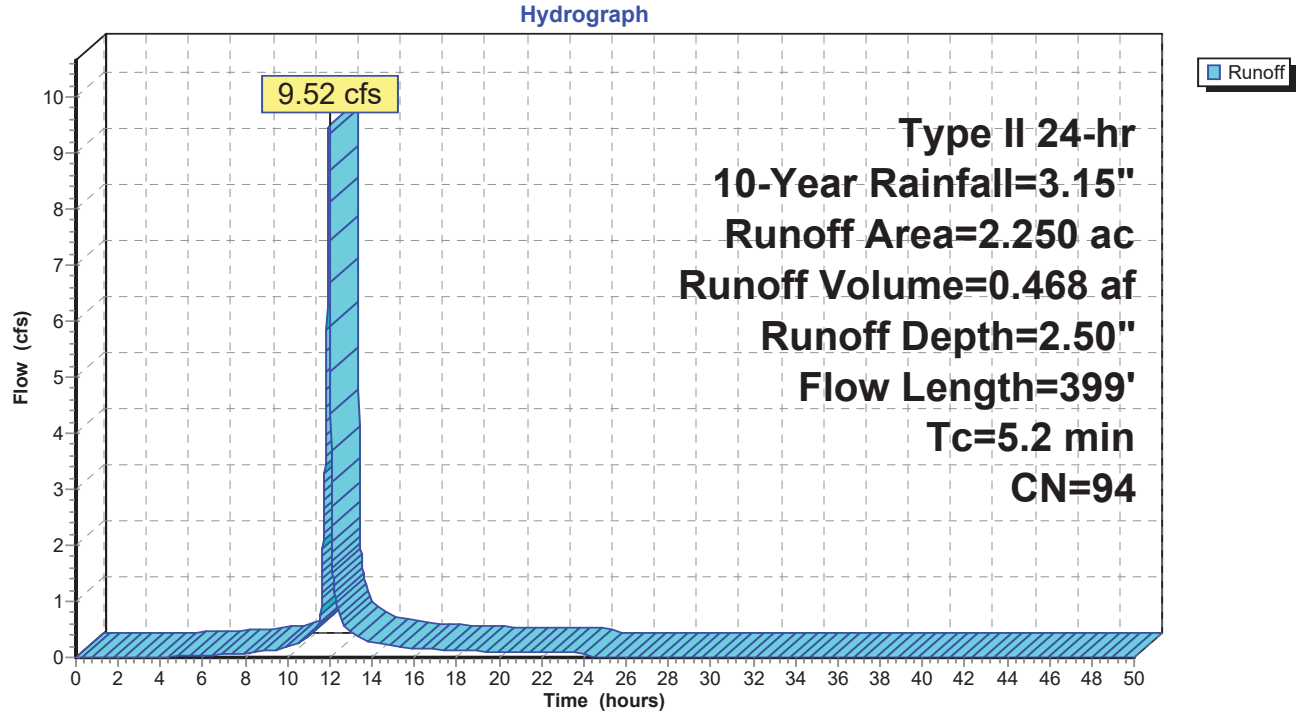
Runoff = 9.52 cfs @ 11.96 hrs, Volume= 0.468 af, Depth= 2.50"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-50.00 hrs, dt= 0.01 hrs
Type II 24-hr 10-Year Rainfall=3.15"

	Area (ac)	CN	Description
*	1.710	98	Impervious, HSG D
	0.540	80	>75% Grass cover, Good, HSG D
	2.250	94	Weighted Average
	0.540		24.00% Pervious Area
	1.710		76.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.8	30	0.0580	0.18		**Sheet Flow, Overland - Grass** Grass: Short n= 0.150 P2= 2.50"
0.5	35	0.0250	1.08		**Sheet Flow, Overland - Pvmt.** Smooth surfaces n= 0.011 P2= 2.50"
1.9	334		3.00		**Direct Entry, Pipe Flow**
5.2	399	Total			

Subcatchment 1S: Proposed Site Area



Summary for Pond 1P: Proposed UGD System & Outlet

Inflow Area = 2.250 ac, 76.00% Impervious, Inflow Depth = 2.50" for 10-Year event
Inflow = 9.52 cfs @ 11.96 hrs, Volume= 0.468 af
Outflow = 3.22 cfs @ 12.07 hrs, Volume= 0.468 af, Atten= 66%, Lag= 6.6 min
Primary = 3.22 cfs @ 12.07 hrs, Volume= 0.468 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-50.00 hrs, dt= 0.01 hrs
Peak Elev= 572.64' @ 12.07 hrs Surf.Area= 5,435 sf Storage= 6,178 cf

Plug-Flow detention time= 35.6 min calculated for 0.468 af (100% of inflow)
Center-of-Mass det. time= 35.2 min (818.8 - 783.6)

Volume	Invert	Avail.Storage	Storage Description
#1A	570.72'	3,453 cf	**63.25'W x 60.58'L x 3.50'H Field A** 13,410 cf Overall - 4,778 cf Embedded = 8,632 cf x 40.0% Voids
#2A	571.22'	4,778 cf	**ADS_StormTech SC-740 +Cap** x 104 Inside #1 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap 13 Rows of 8 Chambers
#3B	571.50'	1,473 cf	**30.00'W x 53.46'L x 3.50'H Field B** 5,613 cf Overall - 1,929 cf Embedded = 3,683 cf x 40.0% Voids
#4B	572.00'	1,929 cf	**ADS_StormTech SC-740 +Cap** x 42 Inside #3 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap 6 Rows of 7 Chambers
		11,634 cf	Total Available Storage

Storage Group A created with Chamber Wizard
Storage Group B created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	570.72'	**10.0" Round Outlet Pipe** L= 8.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 570.72' / 570.70' S= 0.0025 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.55 sf

Primary OutFlow Max=3.22 cfs @ 12.07 hrs HW=572.64' (Free Discharge)
↑—**1=Outlet Pipe** (Inlet Controls 3.22 cfs @ 5.90 fps)

Pond 1P: Proposed UGD System & Outlet - Chamber Wizard Field A

Chamber Model = ADS_StormTech SC-740 +Cap (ADS StormTech® SC-740 with cap length)
Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf
Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap

51.0" Wide + 6.0" Spacing = 57.0" C-C Row Spacing

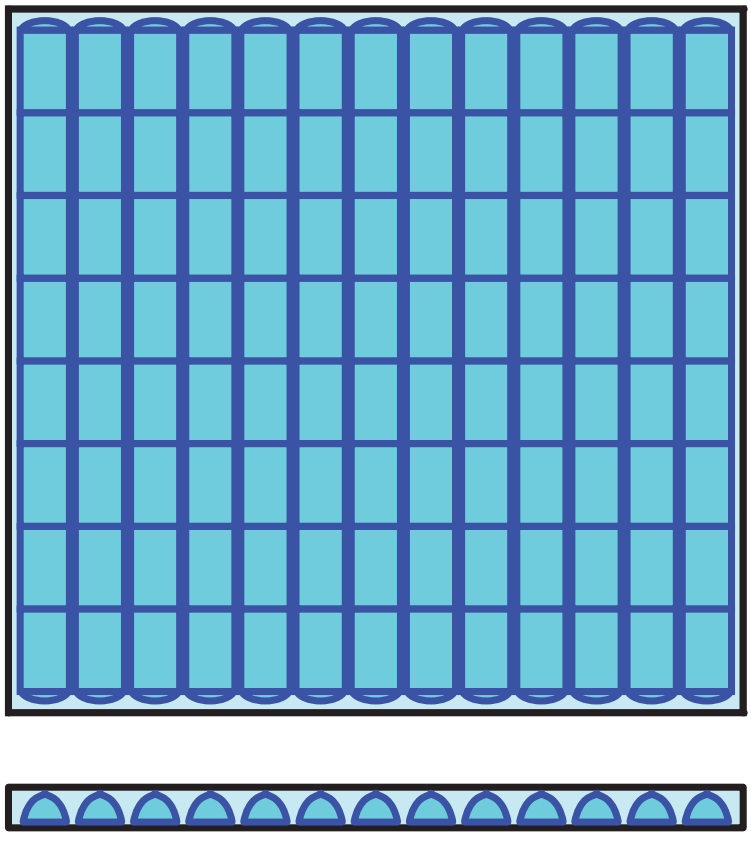
8 Chambers/Row x 7.12' Long +0.81' Cap Length x 2 = 58.58' Row Length +12.0" End Stone x 2 = 60.58' Base Length
13 Rows x 51.0" Wide + 6.0" Spacing x 12 + 12.0" Side Stone x 2 = 63.25' Base Width
6.0" Base + 30.0" Chamber Height + 6.0" Cover = 3.50' Field Height

104 Chambers x 45.9 cf = 4,777.8 cf Chamber Storage

13,410.2 cf Field - 4,777.8 cf Chambers = 8,632.4 cf Stone x 40.0% Voids = 3,453.0 cf Stone Storage

Chamber Storage + Stone Storage = 8,230.7 cf = 0.189 af
Overall Storage Efficiency = 61.4%
Overall System Size = 60.58' x 63.25' x 3.50'

104 Chambers
496.7 cy Field
319.7 cy Stone



Pond 1P: Proposed UGD System & Outlet - Chamber Wizard Field B

Chamber Model = ADS_StormTech SC-740 +Cap (ADS StormTech® SC-740 with cap length)
Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf
Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap

51.0" Wide + 6.0" Spacing = 57.0" C-C Row Spacing

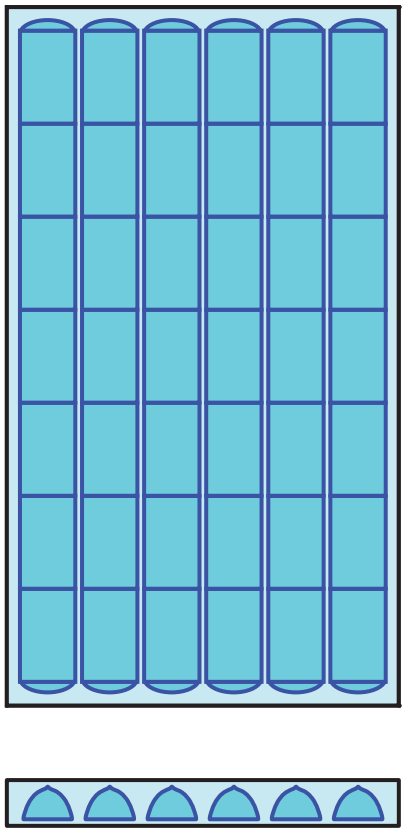
7 Chambers/Row x 7.12' Long +0.81' Cap Length x 2 = 51.46' Row Length +12.0" End Stone x 2 = 53.46' Base Length
6 Rows x 51.0" Wide + 6.0" Spacing x 5 + 12.0" Side Stone x 2 = 30.00' Base Width
6.0" Base + 30.0" Chamber Height + 6.0" Cover = 3.50' Field Height

42 Chambers x 45.9 cf = 1,929.5 cf Chamber Storage

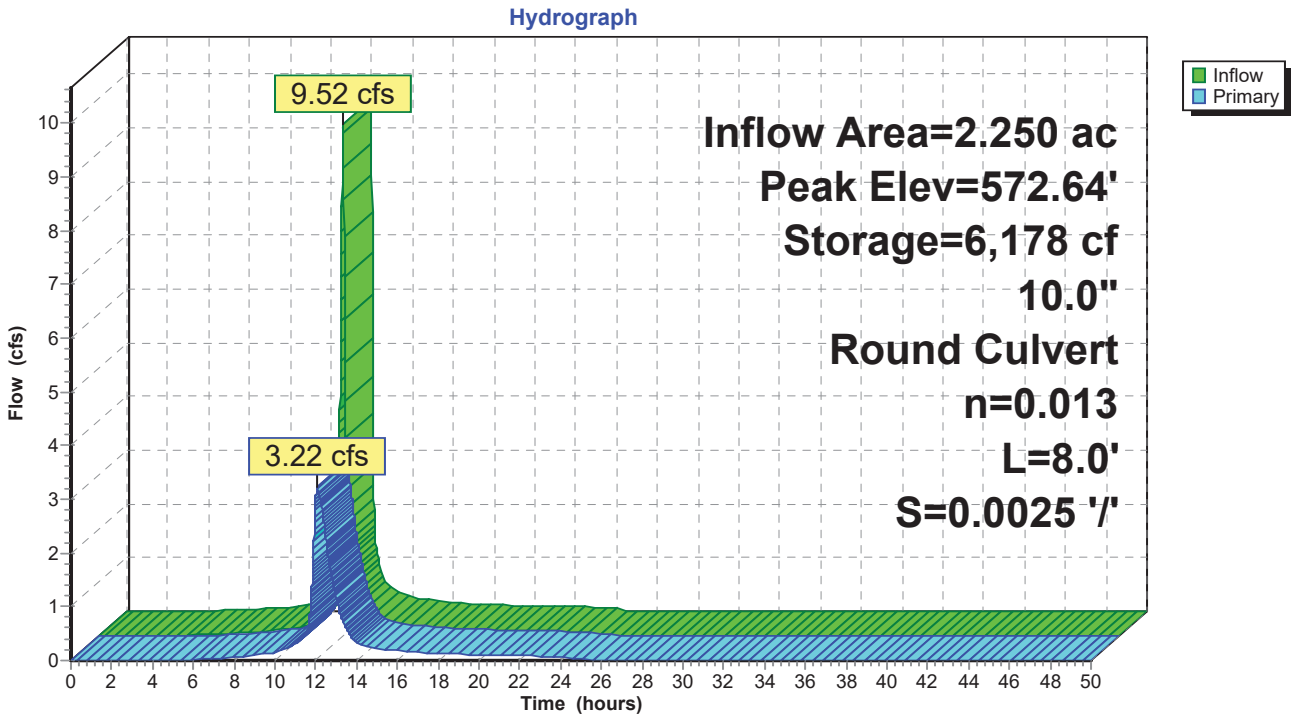
5,613.0 cf Field - 1,929.5 cf Chambers = 3,683.5 cf Stone x 40.0% Voids = 1,473.4 cf Stone Storage

Chamber Storage + Stone Storage = 3,402.9 cf = 0.078 af
Overall Storage Efficiency = 60.6%
Overall System Size = 53.46' x 30.00' x 3.50'

42 Chambers
207.9 cy Field
136.4 cy Stone



Pond 1P: Proposed UGD System & Outlet



Time span=0.00-50.00 hrs, dt=0.01 hrs, 5001 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1S: Proposed Site Area Runoff Area=2.250 ac 76.00% Impervious Runoff Depth=3.18"
Flow Length=399' Tc=5.2 min CN=94 Runoff=11.93 cfs 0.596 af

Pond 1P: Proposed UGD System & Outlet Peak Elev=573.11' Storage=7,988 cf Inflow=11.93 cfs 0.596 af
10.0" Round Culvert n=0.013 L=8.0' S=0.0025 '/' Outflow=3.69 cfs 0.595 af

Total Runoff Area = 2.250 ac Runoff Volume = 0.596 af Average Runoff Depth = 3.18"
24.00% Pervious = 0.540 ac 76.00% Impervious = 1.710 ac

Summary for Subcatchment 1S: Proposed Site Area

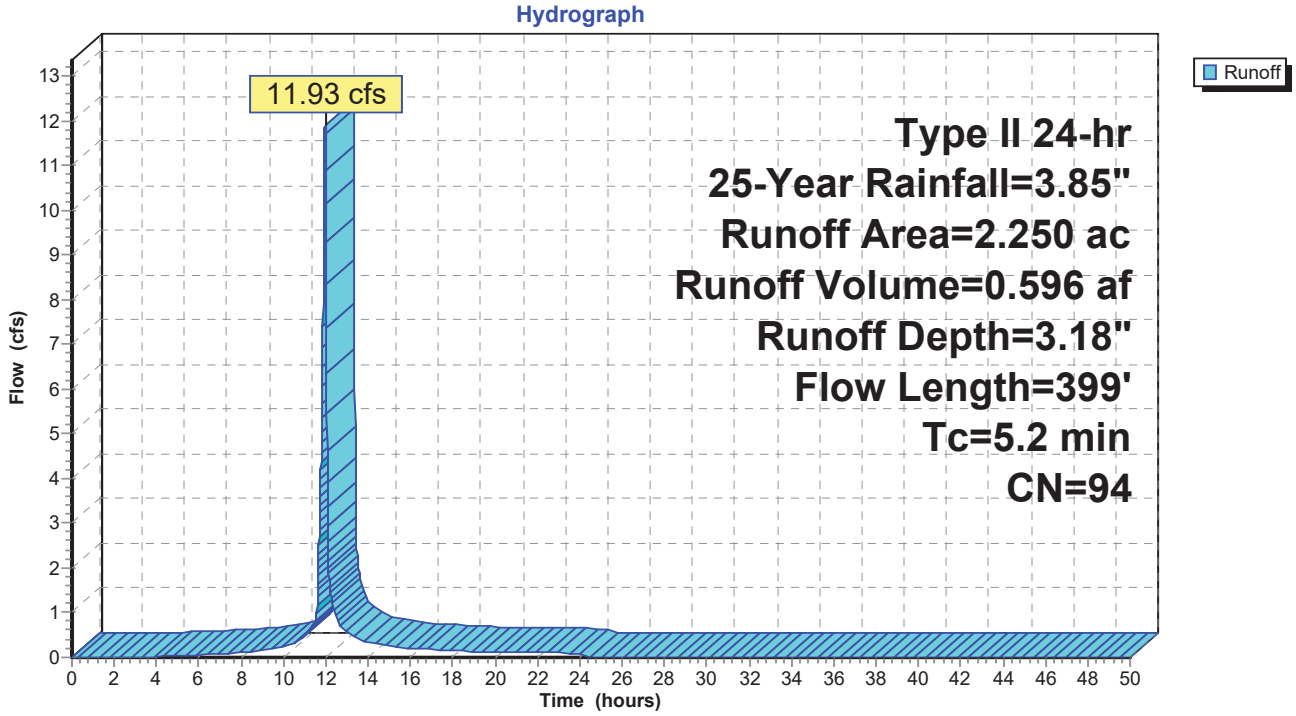
Runoff = 11.93 cfs @ 11.96 hrs, Volume= 0.596 af, Depth= 3.18"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-50.00 hrs, dt= 0.01 hrs
Type II 24-hr 25-Year Rainfall=3.85"

	Area (ac)	CN	Description
*	1.710	98	Impervious, HSG D
	0.540	80	>75% Grass cover, Good, HSG D
	2.250	94	Weighted Average
	0.540		24.00% Pervious Area
	1.710		76.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.8	30	0.0580	0.18		**Sheet Flow, Overland - Grass** Grass: Short n= 0.150 P2= 2.50"
0.5	35	0.0250	1.08		**Sheet Flow, Overland - Pvmt.** Smooth surfaces n= 0.011 P2= 2.50"
1.9	334		3.00		**Direct Entry, Pipe Flow**
5.2	399	Total			

Subcatchment 1S: Proposed Site Area



Summary for Pond 1P: Proposed UGD System & Outlet

Inflow Area = 2.250 ac, 76.00% Impervious, Inflow Depth = 3.18" for 25-Year event
Inflow = 11.93 cfs @ 11.96 hrs, Volume= 0.596 af
Outflow = 3.69 cfs @ 12.07 hrs, Volume= 0.595 af, Atten= 69%, Lag= 6.9 min
Primary = 3.69 cfs @ 12.07 hrs, Volume= 0.595 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-50.00 hrs, dt= 0.01 hrs
Peak Elev= 573.11' @ 12.07 hrs Surf.Area= 5,435 sf Storage= 7,988 cf

Plug-Flow detention time= 34.6 min calculated for 0.595 af (100% of inflow)
Center-of-Mass det. time= 34.4 min (811.5 - 777.1)

Volume	Invert	Avail.Storage	Storage Description
#1A	570.72'	3,453 cf	**63.25'W x 60.58'L x 3.50'H Field A** 13,410 cf Overall - 4,778 cf Embedded = 8,632 cf x 40.0% Voids
#2A	571.22'	4,778 cf	**ADS_StormTech SC-740 +Cap** x 104 Inside #1 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap 13 Rows of 8 Chambers
#3B	571.50'	1,473 cf	**30.00'W x 53.46'L x 3.50'H Field B** 5,613 cf Overall - 1,929 cf Embedded = 3,683 cf x 40.0% Voids
#4B	572.00'	1,929 cf	**ADS_StormTech SC-740 +Cap** x 42 Inside #3 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap 6 Rows of 7 Chambers
		11,634 cf	Total Available Storage

Storage Group A created with Chamber Wizard
Storage Group B created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	570.72'	**10.0" Round Outlet Pipe** L= 8.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 570.72' / 570.70' S= 0.0025 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.55 sf

Primary OutFlow Max=3.69 cfs @ 12.07 hrs HW=573.11' (Free Discharge)
↑—**1=Outlet Pipe** (Inlet Controls 3.69 cfs @ 6.77 fps)

Pond 1P: Proposed UGD System & Outlet - Chamber Wizard Field A

Chamber Model = ADS_StormTech SC-740 +Cap (ADS StormTech® SC-740 with cap length)
Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf
Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap

51.0" Wide + 6.0" Spacing = 57.0" C-C Row Spacing

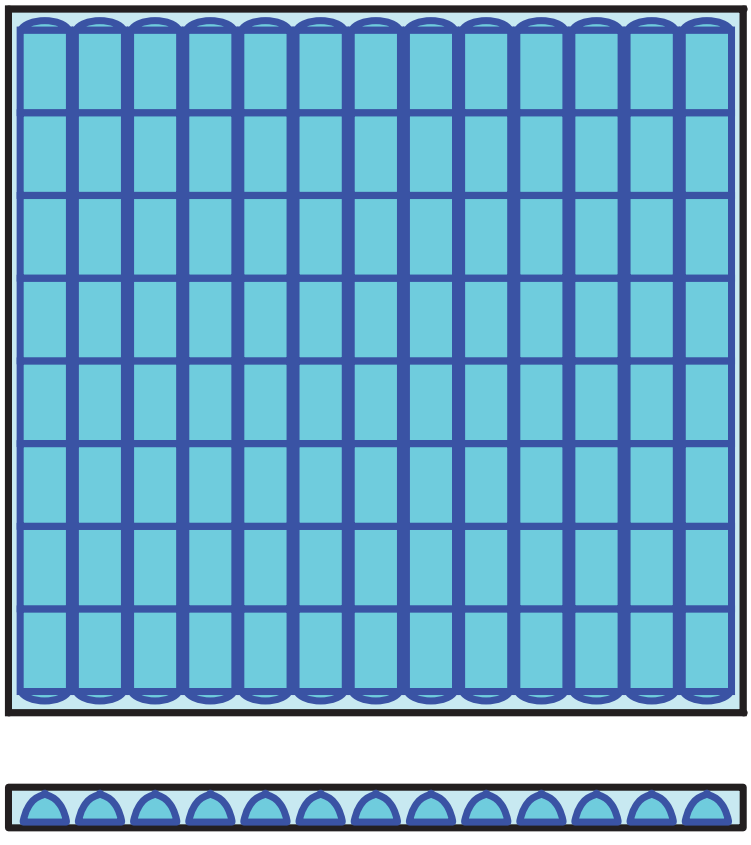
8 Chambers/Row x 7.12' Long +0.81' Cap Length x 2 = 58.58' Row Length +12.0" End Stone x 2 = 60.58' Base Length
13 Rows x 51.0" Wide + 6.0" Spacing x 12 + 12.0" Side Stone x 2 = 63.25' Base Width
6.0" Base + 30.0" Chamber Height + 6.0" Cover = 3.50' Field Height

104 Chambers x 45.9 cf = 4,777.8 cf Chamber Storage

13,410.2 cf Field - 4,777.8 cf Chambers = 8,632.4 cf Stone x 40.0% Voids = 3,453.0 cf Stone Storage

Chamber Storage + Stone Storage = 8,230.7 cf = 0.189 af
Overall Storage Efficiency = 61.4%
Overall System Size = 60.58' x 63.25' x 3.50'

104 Chambers
496.7 cy Field
319.7 cy Stone



Pond 1P: Proposed UGD System & Outlet - Chamber Wizard Field B

Chamber Model = ADS_StormTech SC-740 +Cap (ADS StormTech® SC-740 with cap length)
Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf
Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap

51.0" Wide + 6.0" Spacing = 57.0" C-C Row Spacing

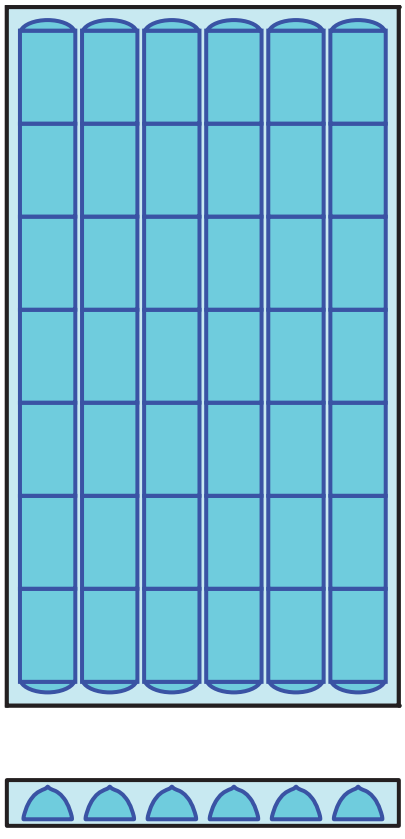
7 Chambers/Row x 7.12' Long +0.81' Cap Length x 2 = 51.46' Row Length +12.0" End Stone x 2 = 53.46' Base Length
6 Rows x 51.0" Wide + 6.0" Spacing x 5 + 12.0" Side Stone x 2 = 30.00' Base Width
6.0" Base + 30.0" Chamber Height + 6.0" Cover = 3.50' Field Height

42 Chambers x 45.9 cf = 1,929.5 cf Chamber Storage

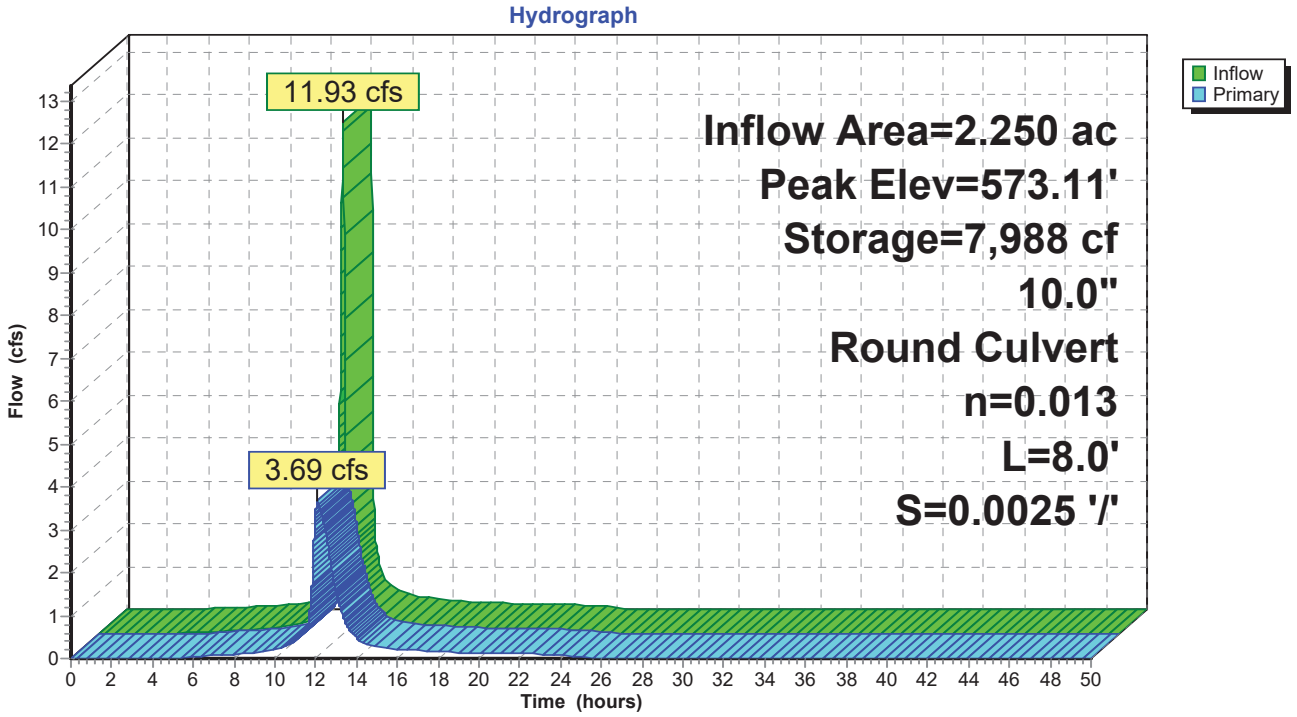
5,613.0 cf Field - 1,929.5 cf Chambers = 3,683.5 cf Stone x 40.0% Voids = 1,473.4 cf Stone Storage

Chamber Storage + Stone Storage = 3,402.9 cf = 0.078 af
Overall Storage Efficiency = 60.6%
Overall System Size = 53.46' x 30.00' x 3.50'

42 Chambers
207.9 cy Field
136.4 cy Stone



Pond 1P: Proposed UGD System & Outlet



Time span=0.00-50.00 hrs, dt=0.01 hrs, 5001 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1S: Proposed Site Area Runoff Area=2.250 ac 76.00% Impervious Runoff Depth=4.55"
Flow Length=399' Tc=5.2 min CN=94 Runoff=16.69 cfs 0.854 af

Pond 1P: Proposed UGD System & Outlet Peak Elev=575.00' Storage=11,633 cf Inflow=16.69 cfs 0.854 af
10.0" Round Culvert n=0.013 L=8.0' S=0.0025 '/' Outflow=5.16 cfs 0.854 af

Total Runoff Area = 2.250 ac Runoff Volume = 0.854 af Average Runoff Depth = 4.55"
24.00% Pervious = 0.540 ac 76.00% Impervious = 1.710 ac

Summary for Subcatchment 1S: Proposed Site Area

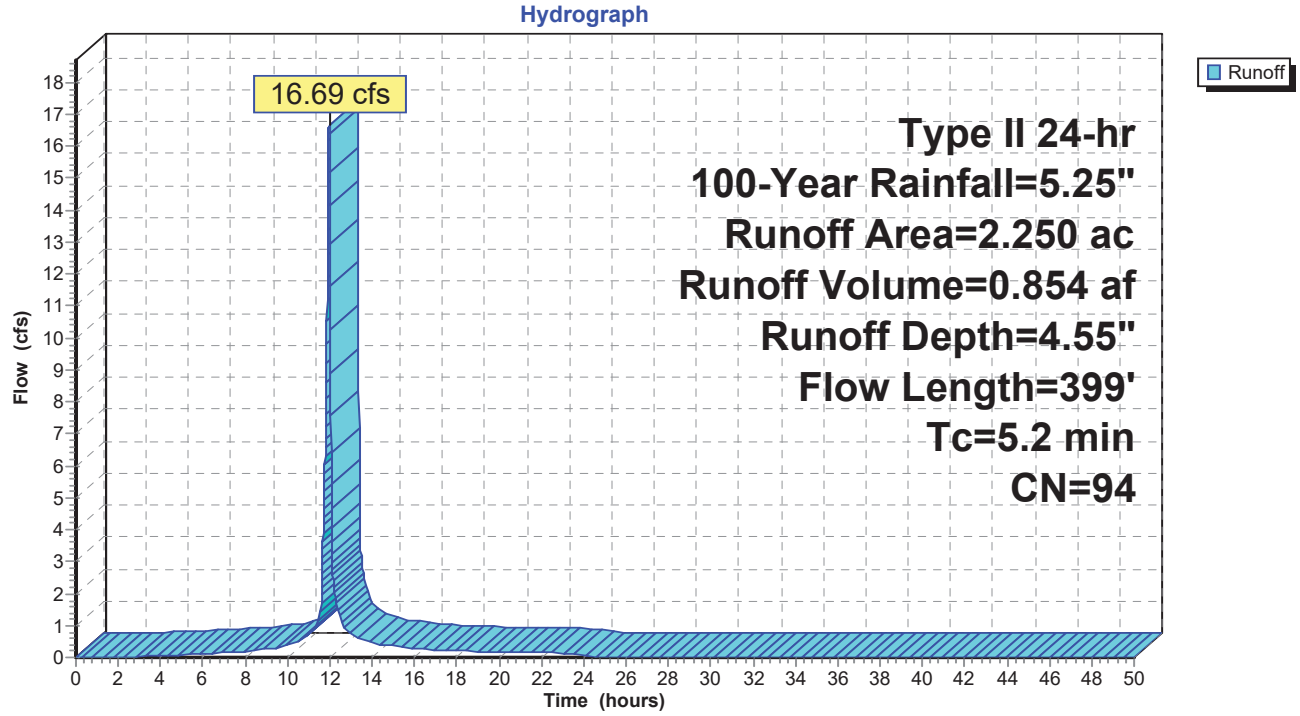
Runoff = 16.69 cfs @ 11.96 hrs, Volume= 0.854 af, Depth= 4.55"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-50.00 hrs, dt= 0.01 hrs
Type II 24-hr 100-Year Rainfall=5.25"

	Area (ac)	CN	Description
*	1.710	98	Impervious, HSG D
	0.540	80	>75% Grass cover, Good, HSG D
	2.250	94	Weighted Average
	0.540		24.00% Pervious Area
	1.710		76.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.8	30	0.0580	0.18		**Sheet Flow, Overland - Grass** Grass: Short n= 0.150 P2= 2.50"
0.5	35	0.0250	1.08		**Sheet Flow, Overland - Pvmt.** Smooth surfaces n= 0.011 P2= 2.50"
1.9	334		3.00		**Direct Entry, Pipe Flow**
5.2	399	Total			

Subcatchment 1S: Proposed Site Area



Summary for Pond 1P: Proposed UGD System & Outlet

Inflow Area = 2.250 ac, 76.00% Impervious, Inflow Depth = 4.55" for 100-Year event
Inflow = 16.69 cfs @ 11.96 hrs, Volume= 0.854 af
Outflow = 5.16 cfs @ 12.07 hrs, Volume= 0.854 af, Atten= 69%, Lag= 6.9 min
Primary = 5.16 cfs @ 12.07 hrs, Volume= 0.854 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-50.00 hrs, dt= 0.01 hrs
Peak Elev= 575.00' @ 12.07 hrs Surf.Area= 5,435 sf Storage= 11,633 cf

Plug-Flow detention time= 34.3 min calculated for 0.854 af (100% of inflow)
Center-of-Mass det. time= 34.1 min (801.9 - 767.8)

Volume	Invert	Avail.Storage	Storage Description
#1A	570.72'	3,453 cf	**63.25'W x 60.58'L x 3.50'H Field A** 13,410 cf Overall - 4,778 cf Embedded = 8,632 cf x 40.0% Voids
#2A	571.22'	4,778 cf	**ADS_StormTech SC-740 +Cap** x 104 Inside #1 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap 13 Rows of 8 Chambers
#3B	571.50'	1,473 cf	**30.00'W x 53.46'L x 3.50'H Field B** 5,613 cf Overall - 1,929 cf Embedded = 3,683 cf x 40.0% Voids
#4B	572.00'	1,929 cf	**ADS_StormTech SC-740 +Cap** x 42 Inside #3 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap 6 Rows of 7 Chambers
		11,634 cf	Total Available Storage

Storage Group A created with Chamber Wizard
Storage Group B created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	570.72'	**10.0" Round Outlet Pipe** L= 8.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 570.72' / 570.70' S= 0.0025 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.55 sf

Primary OutFlow Max=5.16 cfs @ 12.07 hrs HW=574.99' (Free Discharge)
↑—**1=Outlet Pipe** (Inlet Controls 5.16 cfs @ 9.46 fps)

Pond 1P: Proposed UGD System & Outlet - Chamber Wizard Field A

Chamber Model = ADS_StormTech SC-740 +Cap (ADS StormTech® SC-740 with cap length)
Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf
Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap

51.0" Wide + 6.0" Spacing = 57.0" C-C Row Spacing

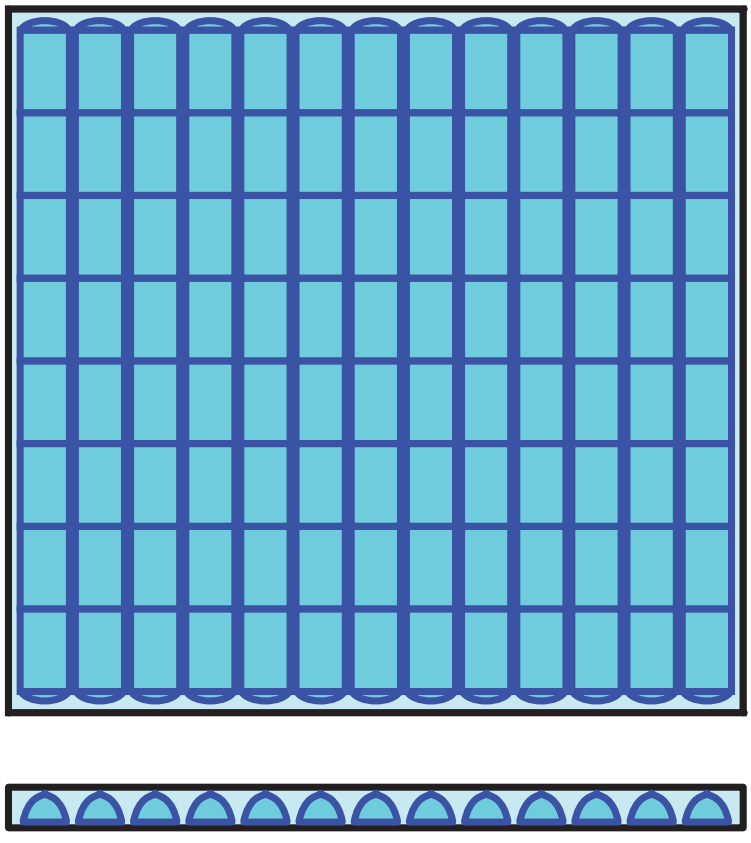
8 Chambers/Row x 7.12' Long +0.81' Cap Length x 2 = 58.58' Row Length +12.0" End Stone x 2 = 60.58' Base Length
13 Rows x 51.0" Wide + 6.0" Spacing x 12 + 12.0" Side Stone x 2 = 63.25' Base Width
6.0" Base + 30.0" Chamber Height + 6.0" Cover = 3.50' Field Height

104 Chambers x 45.9 cf = 4,777.8 cf Chamber Storage

13,410.2 cf Field - 4,777.8 cf Chambers = 8,632.4 cf Stone x 40.0% Voids = 3,453.0 cf Stone Storage

Chamber Storage + Stone Storage = 8,230.7 cf = 0.189 af
Overall Storage Efficiency = 61.4%
Overall System Size = 60.58' x 63.25' x 3.50'

104 Chambers
496.7 cy Field
319.7 cy Stone



Pond 1P: Proposed UGD System & Outlet - Chamber Wizard Field B

Chamber Model = ADS_StormTech SC-740 +Cap (ADS StormTech® SC-740 with cap length)
Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf
Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap

51.0" Wide + 6.0" Spacing = 57.0" C-C Row Spacing

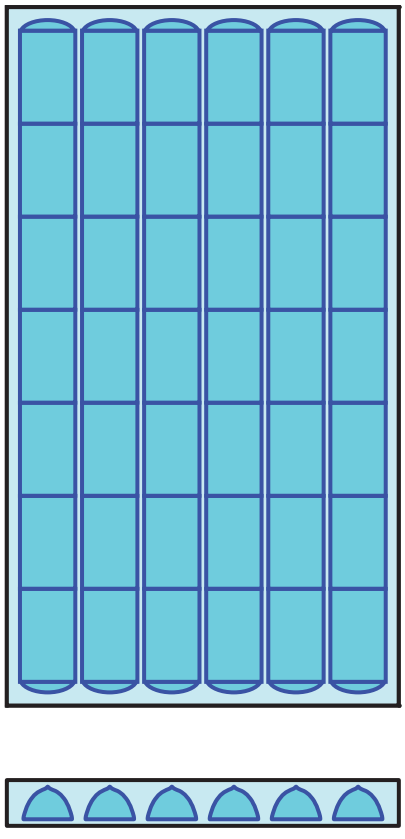
7 Chambers/Row x 7.12' Long +0.81' Cap Length x 2 = 51.46' Row Length +12.0" End Stone x 2 = 53.46' Base Length
6 Rows x 51.0" Wide + 6.0" Spacing x 5 + 12.0" Side Stone x 2 = 30.00' Base Width
6.0" Base + 30.0" Chamber Height + 6.0" Cover = 3.50' Field Height

42 Chambers x 45.9 cf = 1,929.5 cf Chamber Storage

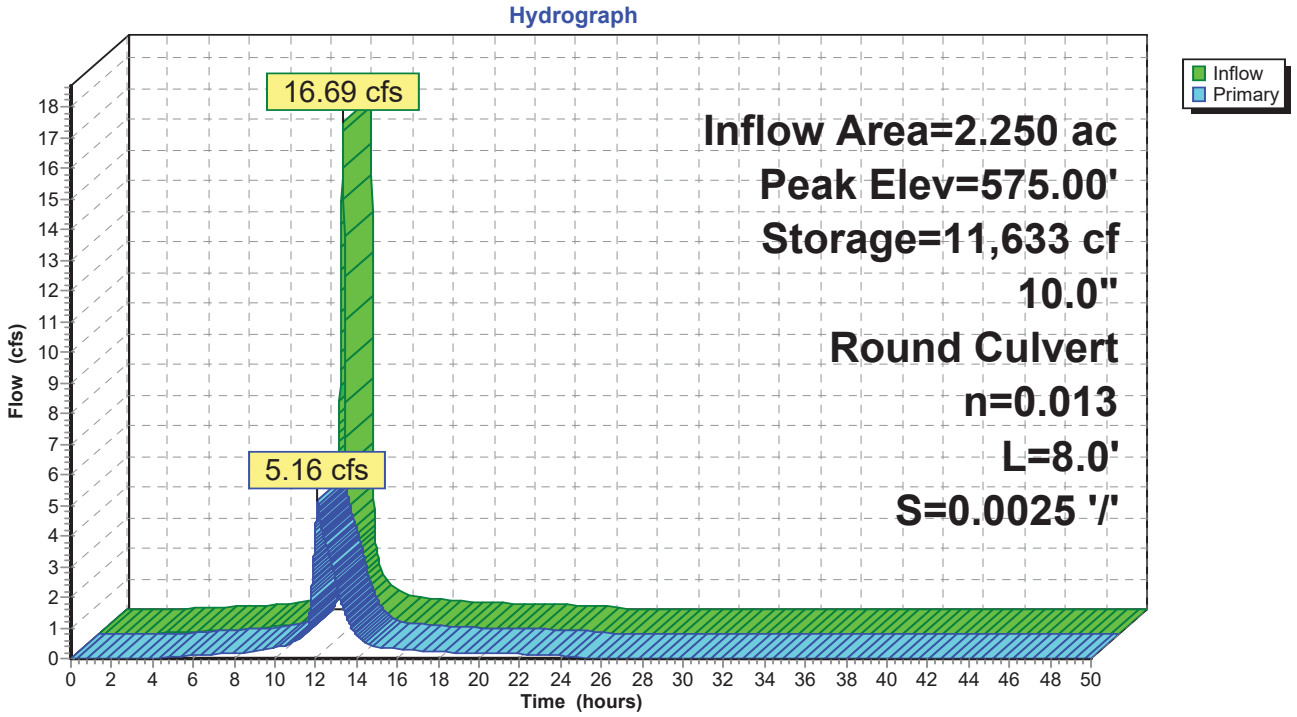
5,613.0 cf Field - 1,929.5 cf Chambers = 3,683.5 cf Stone x 40.0% Voids = 1,473.4 cf Stone Storage

Chamber Storage + Stone Storage = 3,402.9 cf = 0.078 af
Overall Storage Efficiency = 60.6%
Overall System Size = 53.46' x 30.00' x 3.50'

42 Chambers
207.9 cy Field
136.4 cy Stone



Pond 1P: Proposed UGD System & Outlet



SOILS INFORMATION

Map Scale: 1:1,080 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 15 30 60 90

Feet: 0 50 100 200 300

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 17N WGS84

MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Rating Polygons

- 0 - 25
- 25 - 50
- 50 - 100
- 100 - 150
- 150 - 200
- > 200
- Not rated or not available

Soil Rating Lines

- 0 - 25
- 25 - 50
- 50 - 100
- 100 - 150
- 150 - 200
- > 200
- Not rated or not available

Soil Rating Points

- 0 - 25
- 25 - 50
- 50 - 100
- 100 - 150
- 150 - 200
- > 200
- Not rated or not available

Water Features

- Streams and Canals

Transportation

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

Background

- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:15,800.

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

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

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

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

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

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

Soil Survey Area: Erie County, New York
Survey Area Data: Version 20, Jun 11, 2020

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

Date(s) aerial images were photographed: Jul 14, 2019—Jul 27, 2019

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

Depth to Water Table

Map unit symbol	Map unit name	Rating (centimeters)	Acres in AOI	Percent of AOI
Uh	Urban land-Churchville complex	>200	1.7	77.1%
UrA	Urban land-Lima complex, 1 to 6 percent slopes	>200	0.5	22.9%
Totals for Area of Interest			**2.2**	**100.0%**

Description

"Water table" refers to a saturated zone in the soil. It occurs during specified months. Estimates of the upper limit are based mainly on observations of the water table at selected sites and on evidence of a saturated zone, namely grayish colors (redoximorphic features) in the soil. A saturated zone that lasts for less than a month is not considered a water table.

This attribute is actually recorded as three separate values in the database. A low value and a high value indicate the range of this attribute for the soil component. A "representative" value indicates the expected value of this attribute for the component. For this soil property, only the representative value is used.

Rating Options

Units of Measure: centimeters

Aggregation Method: Dominant Component

Component Percent Cutoff: None Specified

Tie-break Rule: Lower

Interpret Nulls as Zero: No

Beginning Month: January

Ending Month: December

Appendix E

NYSDEC SPDES General Permit for Stormwater Discharges from Construction Activity Permit No. GP-0-20-001

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SPDES GENERAL PERMIT
FOR STORMWATER DISCHARGES

From

CONSTRUCTION ACTIVITY

Permit No. GP- 0-20-001

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

of the Environmental Conservation Law

Effective Date: January 29, 2020

Expiration Date: January 28, 2025

John J. Ferguson

Chief Permit Administrator

1-23-20

Authorized Signature

Date

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

PREFACE

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

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

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

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

Table of Contents

Part 1. PERMIT COVERAGE AND LIMITATIONS

A. Permit Application

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

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

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

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

B. Effluent Limitations Applicable to Discharges from Construction Activities

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

(i) Wastewater from washout of concrete;

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

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

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

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

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

C. Post-construction Stormwater Management Practice Requirements

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

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

a. Sizing Criteria for New Development

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

c. Sizing Criteria for Redevelopment Activity

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

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

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

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

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

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

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

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

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

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

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

D. Maintaining Water Quality

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

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

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

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

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

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

E. Eligibility Under This General Permit

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

d. Documentation that:

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

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

Part II. PERMIT COVERAGE

A. How to Obtain Coverage

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

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

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

B. Notice of Intent (NOI) Submittal

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

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

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

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

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

C. Permit Authorization

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

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

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

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

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

c. the final SWPPP has been prepared, and

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

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

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

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

      (ii) Sixty (60) business days from the date the Department receives a complete NOI (electronic or paper version) for *construction activities* with a SWPPP that has 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;

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

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

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

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

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

D. General Requirements For Owners or Operators With Permit Coverage

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

F. Change of Owner or Operator

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

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

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

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

Part III. STORMWATER POLLUTION PREVENTION PLAN (SWPPP)

A. General SWPPP Requirements

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

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

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

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

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

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

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

d. to document the final construction conditions.

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

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

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

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

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

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

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

B. Required SWPPP Contents

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

e. Infiltration test results, when required; and

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

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

C. Required SWPPP Components by Project Type

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

Part IV. INSPECTION AND MAINTENANCE REQUIREMENTS

A. General Construction Site Inspection and Maintenance Requirements

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

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

B. Contractor Maintenance Inspection Requirements

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

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

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

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

C. Qualified Inspector Inspection Requirements

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

a. Date and time of inspection;

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

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

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

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

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

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

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

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

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

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

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

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

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

Part V. TERMINATION OF PERMIT COVERAGE

A. Termination of Permit Coverage

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

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

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

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

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

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

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

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

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

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

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

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

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

Part VI. REPORTING AND RETENTION RECORDS

A. Record Retention

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

B. Addresses

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

Part VII. STANDARD PERMIT CONDITIONS

A. Duty to Comply

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

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

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

B. Continuation of the Expired General Permit

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

C. Enforcement

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

D. Need to Halt or Reduce Activity Not a Defense

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

E. Duty to Mitigate

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

F. Duty to Provide Information

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

G. Other Information

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

H. Signatory Requirements

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

I. Property Rights

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

J. Severability

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

K. Requirement to Obtain Coverage Under an Alternative Permit

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

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

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

L. Proper Operation and Maintenance

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

M. Inspection and Entry

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

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

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

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

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

N. Permit Actions

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

O. Definitions

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

P. Re-Opener Clause

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

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

Q. Penalties for Falsification of Forms and Reports

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

R. Other Permits

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

APPENDIX A – Acronyms and Definitions

Acronyms

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

Definitions

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

APPENDIX B – Required SWPPP Components by Project Type

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

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

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

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

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

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

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

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

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

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

Table 2
CONSTRUCTION ACTIVITIES THAT REQUIRE THE PREPARATION OF A SWPPP THAT INCLUDES POST-CONSTRUCTION STORMWATER MANAGEMENT PRACTICES

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

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

Table 2 (Continued)

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

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

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

APPENDIX C – Watersheds Requiring Enhanced Phosphorus Removal

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

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

Figure 1 - New York City Watershed East of the Hudson

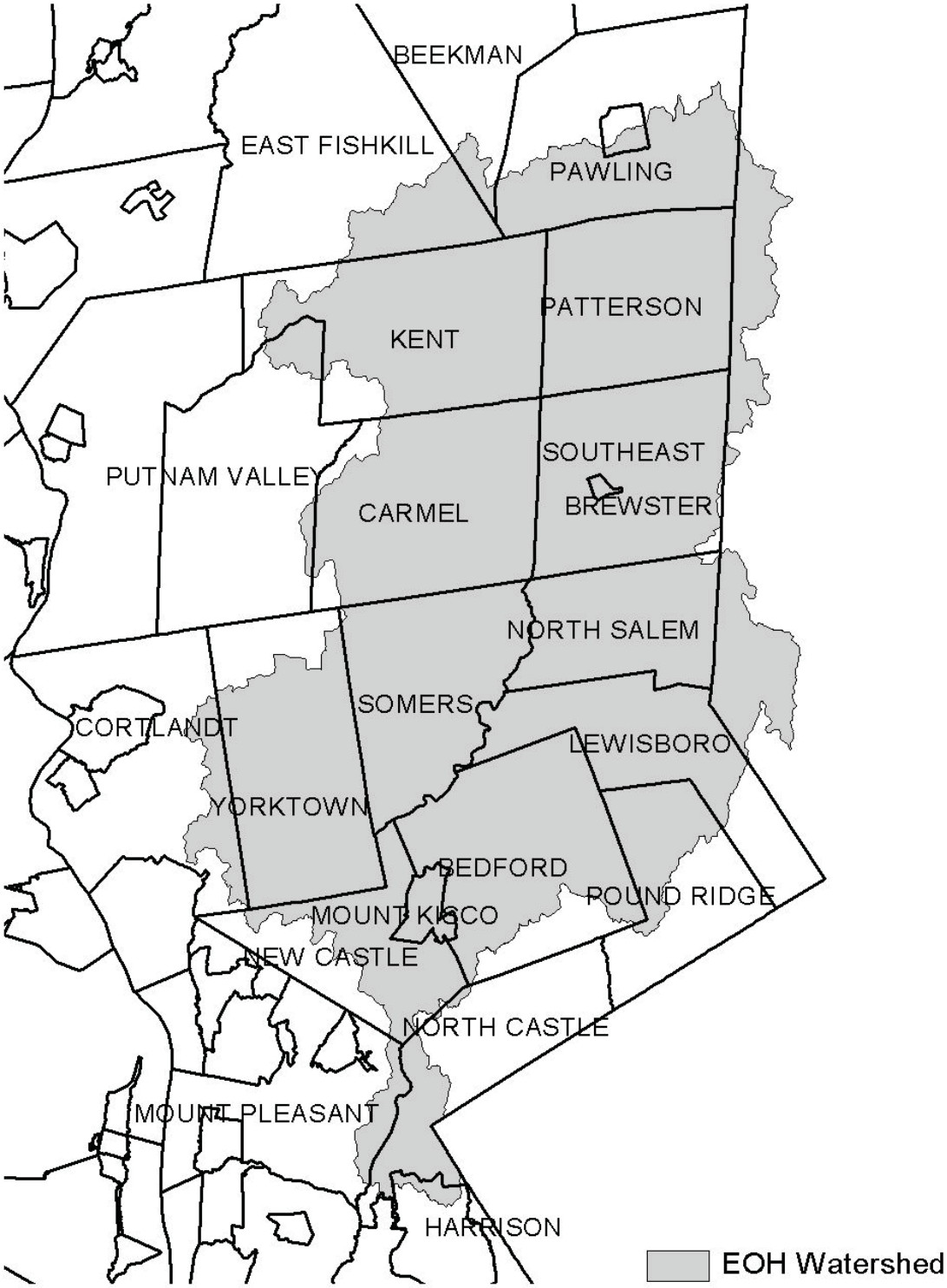


Figure 2 - Onondaga Lake Watershed

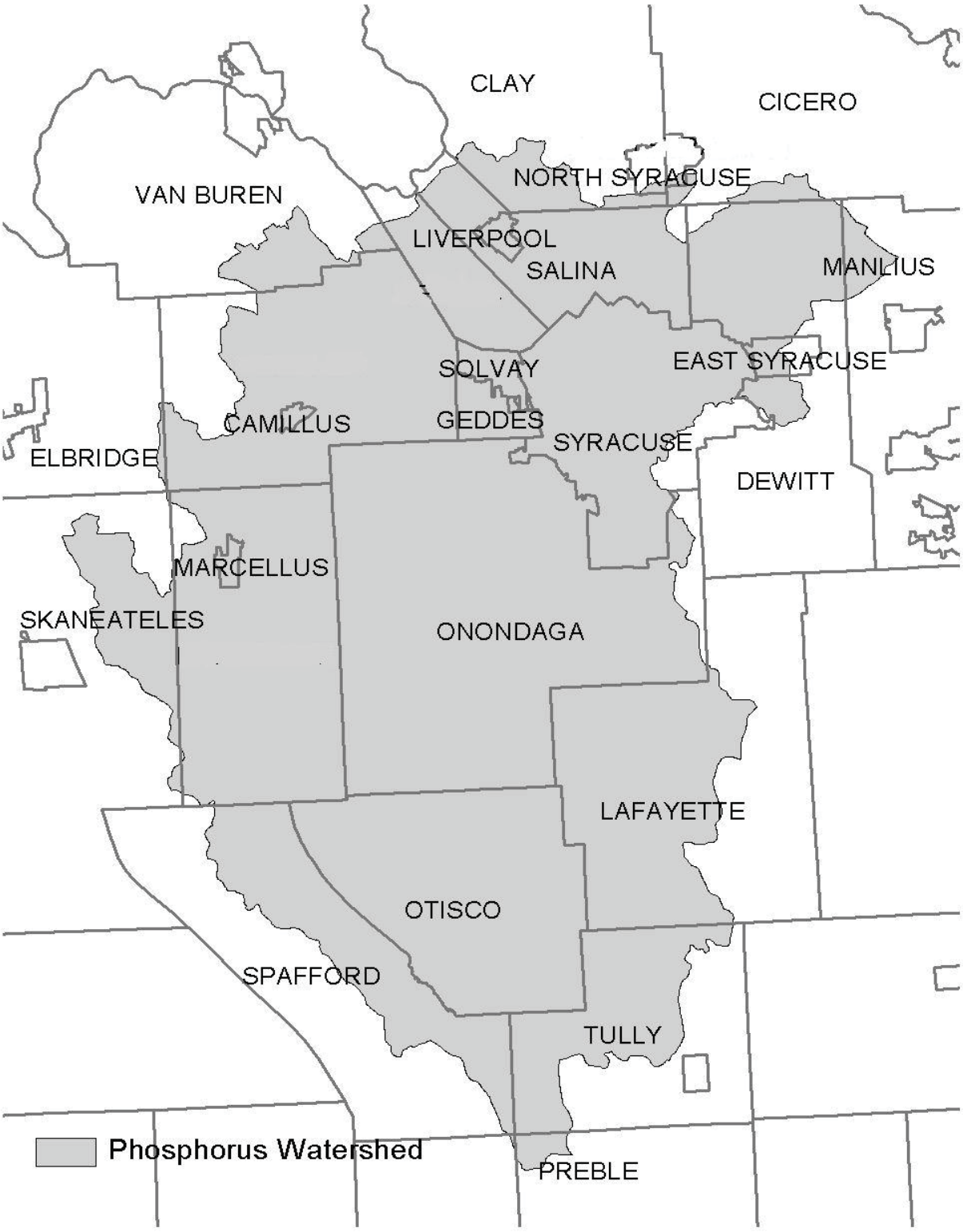


Figure 3 - Greenwood Lake Watershed

Figure 4 - Oscawana Lake Watershed

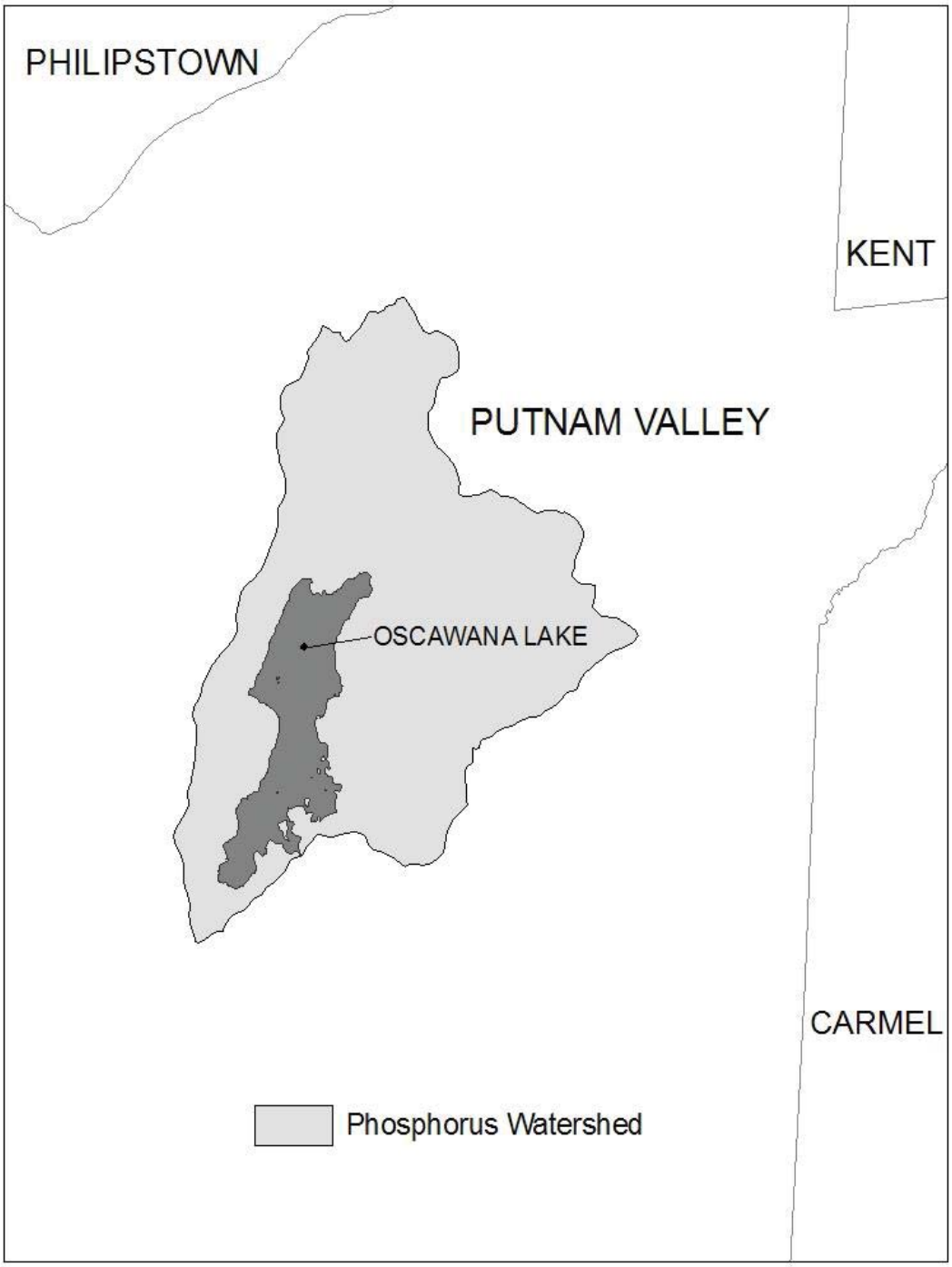
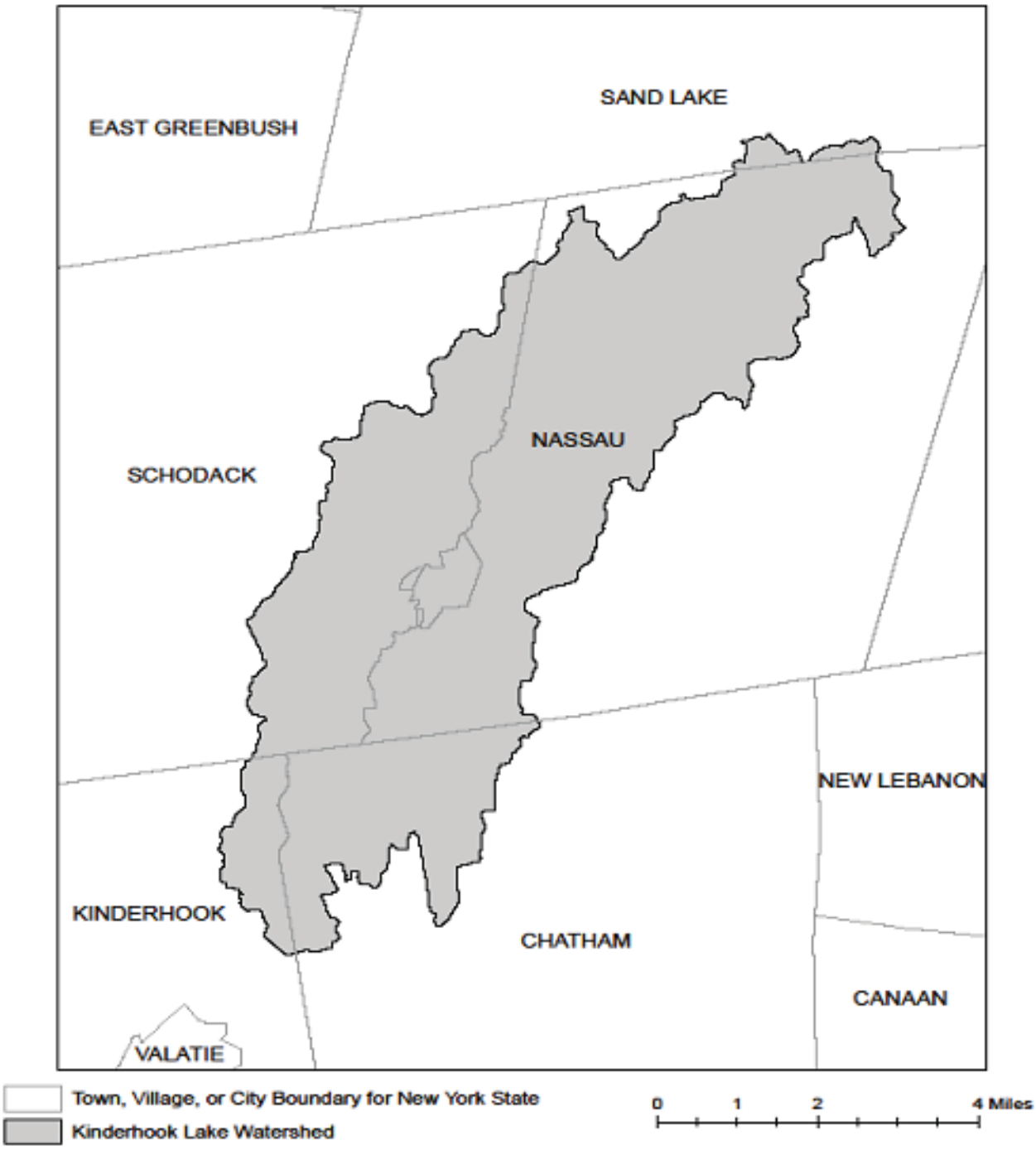


Figure 5 - Kinderhook Lake Watershed



APPENDIX D – Watersheds with Lower Disturbance Threshold

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

APPENDIX F – List of NYS DEC Regional Offices

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

Appendix F

Forms

STORM WATER POLLUTION PREVENTION PLAN

CONTRACTOR'S CERTIFICATION LOG

FORM SWPPP-1

Mt. Olive Missionary Baptist Church - 66 Wasson Ave. - City of Lackawanna, NY 14218

Company Name _____
Address

Contact Name _____
Telephone Number
Cell Phone/Pager

Scope of Services _____

Certification Date _____

Company Name _____
Address

Contact Name _____
Telephone Number
Cell Phone/Pager

Scope of Services _____

Certification Date _____

Company Name _____
Address

Contact Name _____
Telephone Number
Cell Phone/Pager

Scope of Services _____

Certification Date _____

Contractor's Project Manager_____

STORM WATER POLLUTION PREVENTION PLAN
CONTRACTOR'S CERTIFICATION STATEMENT

FORM SWPPP-2

Construction Site

STORM WATER POLLUTION PREVENTION PROGRAM

Mt. Olive Missionary Baptist Church - 66 Wasson Ave. - City of Lackawanna, NY 14218

SUBCONTRACTOR'S CERTIFICATION:

"I certify under penalty of law that I understand and agree to comply with the terms and conditions of the SWPPP for the construction site identified in such SWPPP as a condition of authorization to discharge storm water. I also understand that the operator must comply with the terms and conditions of the New York State Pollutant Discharge Elimination System (SPDES) general permit for storm water discharges from construction activities and that it is unlawful for any person to cause or contribute to a violation of water quality standards."

Note: The contractor shall have at least one NYSDEC trained individual onsite at all times when earthwork and other SWPPP associated work is being performed from each contractor(s) and subcontractor(s). Each contractor(s) and subcontractor(s) shall provide copies of these individuals' certifications to the Town of Orchard Park.

Name: _____
(Print)

Signature: _____

Title: _____

Company Name: _____

Address: _____

Telephone Number: _____

Date: _____

Scope of Services: _____

Contractor's Project Manager_____

This form must be signed by a responsible corporate officer or other party meeting the "Signatory Requirements" of the NYSDEC SPDES General Permit

STORM WATER POLLUTION PREVENTION PLAN
INSPECTION REPORT (Page 1 of 2)

FORM SWPPP-3

Mt. Olive Missionary Baptist Church - 66 Wasson Ave. - City of Lackawanna, NY 14218

Inspections/reports are required at least once every seven (7) calendar days.

Inspection Type: ☐ **Routine (every 7 calendar days)** ☐ **Routine (every 30 calendar days)** ☐ **Storm**

Date: _____ Week Ending: _____

Weather/Storm Event Information:

Storm Start Time: _____ Storm Duration: _____

Time Elapsed Since Last Storm: _____ Approximate Amount of Rainfall (inches): _____

Based on the results of the inspection, necessary control modifications shall be implemented within seven (7) calendar days. These reports shall be kept on file as part of the Storm Water Pollution Prevention Plan for at least five (5) years from the date of completion and submission of the Final Stabilization Certification/Termination Checklist and Notice of Termination. A copy of the SWPPP shall be kept at the site at all times during construction.

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

Name of Inspector: _____ Title of Inspector: _____

Qualifications of Inspector: _____

_____

Inspector's Signature: _____

Construction phasing/sequencing is consistent with the SWPPP and Erosion Control Plans: ☐ **Yes** ☐ **No**

Compliance Certification
I certify that, based on no incidents of non-compliance identified during the inspection, the site is in compliance with the SWPPP and the Construction General Permit.

Name of Operator's Duly Authorized Representative (Printed): _____

Signature of Operator's Duly Authorized Representative: _____

Date: _____

*Note: This Compliance Certification is only to be signed by the Operator's Duly Authorized Representative (Project Manager) when there are no **"unsatisfactory" conditions and the construction phasing/sequencing is consistent with the SWPPP, rendering the site in full compliance with** the SWPPP and the Construction General Permit.

Form SWPPP-3 Continued

Inspection Areas (Structural)	Satisfactory	Unsatisfactory (provide location or numeric identification per plan sheet)	N/A	Corrective Action Required	Implementation Date of Corrective Action
Construction Entrance/Exit					
Perimeter Silt Fence					

Contractor's Project Manager_____

STORM WATER POLLUTION PREVENTION PLAN

Stabilization Schedule for Major Grading Activities

FORM SWPPP-4

Mt. Olive Missionary Baptist Church - 66 Wasson Ave. - City of Lackawanna, NY 14218

*This form should be updated as necessary

Major Grading Activity/Area to be Stabilized	Begin Date	Date Activity Temporarily Ceased / Date Activity Resumed	Date Temporary Stabilization Measures Initiated and Method of Stabilization (if activities cease for more than 14 days, this column must be completed)	Date Activity Permanently Ceased	Date Permanent Stabilization Measures Initiated	Permanent Stabilization Measure(s) Used (i.e., stone, seeded, rolled, tracked)	Name of Contractor Responsible for Implementing Stabilization Measures
Construction Entrance(s)/Exit(s)							
Seeded, Landscaped Areas							

Major Grading Activity/Area to be Stabilized	Begin Date	Date Activity Temporarily Ceased / Date Activity Resumed	Date Temporary Stabilization Measures Initiated and Method of Stabilization (if activities cease for more than 14 days, this column must be completed)	Date Activity Permanently Ceased	Date Permanent Stabilization Measures Initiated	Permanent Stabilization Measure(s) Used (i.e., stone, seeded, rolled, tracked)	Name of Contractor Responsible for Implementing Stabilization Measures

FORM SWPPP-4 CONTINUED

STORM WATER POLLUTION PREVENTION PLAN

FINAL STABILIZATION CERTIFICATION /NOTICE OF TERMINATION CHECKLIST

FORM SWPPP-5

Mt. Olive Missionary Baptist Church - 66 Wasson Ave. - City of Lackawanna, NY 14218

1. ☐ **All soil disturbing activities are complete.**

2. ☐ **Temporary Erosion and Sediment Control Measures have been removed or will be removed at the appropriate time.**

3. ☐ **All areas of the Construction Site not otherwise covered by a permanent pavement or structure have been stabilized with a uniform perennial vegetative cover with a density of 85% or equivalent measures have been employed.**

CONTRACTOR'S CERTIFICATION:

"I certify under penalty of law that I understand and agree to comply with the terms and conditions of the SWPPP for the construction site identified in such SWPPP as a condition of authorization to discharge storm water. I also understand that the operator must comply with the terms and conditions of the New York State Pollutant Discharge Elimination System (SPDES) general permit for storm water discharges from construction activities and that it is unlawful for any person to cause or contribute to a violation of water quality standards."

Company Name _____

Name (Print) _____

Signature _____

Title _____

Date _____

Contractor's Project Manager _____

YEAR 20___

Mt. Olive Missionary Baptist Church - 66 Wasson Ave. - City of Lackawanna, NY 14218

FORM SWPPP-6

STORM WATER POLLUTION PREVENTION PLAN

PROJECT RAINFALL LOG

Month	Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec
Day												
1												
2												
3												
4												
5												
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31												
PM Initials												

STORM WATER POLLUTION PREVENTION PLAN
MODIFICATION REPORT

FORM SWPPP-7

Mt. Olive Missionary Baptist Church - 66 Wasson Ave. - City of Lackawanna, NY 14218

CHANGES REQUIRED FOR STORM WATER POLLUTION PREVENTION PLAN

The SWPPP must be amended whenever there is a change in design, construction, operation, or maintenance at the construction site that has a significant effect on the discharge of pollutants to the waters of the United States that has not been previously addressed in the SWPPP, if inspections or investigations by site staff, local, state or federal officials determine that discharges are causing water quality exceedances or the SWPPP is ineffective in eliminating or significantly minimizing pollutants in storm water discharges from the construction site, or based on the results of an inspection, the SWPPP must be modified to include additional or modified BMPs designed to correct identified problems. Revisions must be completed within seven (7) calendar days following the inspection.

To:	**Project Manager**	**Date:**	
Address:			
Telephone:			
Facsimile:			
Sent Via:	☐ **Facsimile**	☐ **Courier**	☐ **US Mail**

INSPECTOR: _____ DATE: _____
(Print)

_____
(Signature)

QUALIFICATIONS OF INSPECTOR: _____

CHANGES REQUIRED TO THE STORMWATER POLLUTION PREVENTION PLAN: _____

_____

_____

REASONS FOR CHANGES: _____

_____

_____

TO BE PERFORMED BY: _____ ON OR BEFORE: _____

Contractor's Project Manager: _____

STORM WATER POLLUTION PREVENTION PLAN
MONTHLY TRAINING LOG

FORM SWPPP-8

Mt. Olive Missionary Baptist Church - 66 Wasson Ave. - City of Lackawanna, NY 14218

Storm Water Pollution Prevention Plan Topic: (Check as appropriate)

☐ **Temporary Soil Stabilization**
☐ **Temporary Sediment Control**
☐ **Wind Erosion Control**
☐ **Tracking Control**
☐ **Non-Storm Water Management**
☐ **Waste Management and Materials Pollution Control**
☐ **Erosion & Sediment Control Plan**

Specific Training Objective: _____

Date: _____

Instructor: _____
Location: _____
Telephone: _____

Attendance Roster

Name	Company	Telephone Number	Signature

Contractor's Project Manager _____

STORM WATER POLLUTION PREVENTION PLAN
REPORTABLE QUANTITY RELEASE FORM

FORM SWPPP-9

Mt. Olive Missionary Baptist Church - 66 Wasson Ave. - City of Lackawanna, NY 14218

The discharges of hazardous substances or oil in storm water discharges from construction sites must be prevented or minimized in accordance with the SWPPP. Where a release containing a hazardous substance or oil in an amount equal to or in excess of a reportable quantity established under 40CFR110, 40CFR117 and 40CFR302 occurs, the following steps must be taken:

1. All measures must be taken to contain and abate the spill and to prevent the discharge of the pollutant(s) to storm water or off-site.

2. Notice must be provided to the National Response Center (NRC) at 1-800-424-8802 and the NYSDEC in accordance with regulations referenced above as soon as site staff has knowledge of the discharge.

3. Contact the Project Manager or Engineer of Record immediately upon knowledge of release.

4. The SWPPP must be modified within seven (7) calendar days of knowledge of the discharge to provide a description of the release, the circumstances leading to the release, and the date of the release. The plans must identify measures to prevent the recurrence of such releases and to respond to such releases.

Date of Spill	Material Spilled	Approximate Quantity of Spill (in gallons)	Agency(s) Notified	Date of Notification	SWPPP Revision Date

STORM WATER POLLUTION PREVENTION PLAN
IMPLEMENTATION SCHEDULE

FORM SWPPP-10

Mt. Olive Missionary Baptist Church - 66 Wasson Ave. - City of Lackawanna, NY 14218

*To be completed prior to initiation of construction by the contractor.

The Contractor will be responsible for implementing all erosion control and storm water management control structures. 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 functioning remains with the Contractor.

Refer to Section 812.3 for Sequence of Activities

Construction Activity	Proposed Initiation Date	Proposed Completion Date	Contractor Responsible for Implementation

STORM WATER POLLUTION PREVENTION PLAN
SIGNATORY AUTHORIZATION DESIGNATION

FORM SWPPP-11

Construction Site

STORMWATER POLLUTION PREVENTION PLAN

Mt. Olive Missionary Baptist Church - 66 Wasson Ave. - City of Lackawanna, NY 14218

"In accordance with the **NYSDEC SPDES General Permit for Storm Water Discharges from Construction Activities, Part V, paragraph H, Signatory Requirements**, _____is hereby duly authorized to sign on my behalf, all reports and certifications that are required under the Permit and as part of this Storm Water Pollution Prevention Plan."

Signed: _____

Printed Name: _____

Title: _____

Company Name: _____

Address: _____

Telephone Number: _____

Date: _____

Note: Multiple designation forms may be required
(i.e., one from the Operator and one from the General Contractor).

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

SWPPP Preparer Certification Form

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

Project Site Information

Project/Site Name

Mt. Olive Missionary Baptist Church - 66 Wasson Ave. - City of Lackawanna, NY 14218

Owner/Operator Information

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

Telco Construction, Inc. - 500 Buffalo Rd. - East Auroroa, NY 14052

Certification Statement – SWPPP Preparer

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

Christopher		Wood
First name	MI	Last Name

Signature Date

Revised: January 2020

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Owner/Operator Certification Form

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

Project/Site Name: Mt. Olive Missionary Baptist Church - 66 Wasson Ave. - City of Lackawanna, NY 14218

eNOI Submission Number: _____

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

Certification Statement - Owner/Operator

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

Owner/Operator First Name M.I. Last Name

_____

Signature

_____

Date

Appendix G

NYSDEC Notice of Termination (NOT)

New York State Department of Environmental Conservation
Division of Water
625 Broadway, 4th Floor
Albany, New York 12233-3505
(NOTE: Submit completed form to address above)

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

Please indicate your permit identification number: NYR ___ ___ ___ ___ ___ ___

I. Owner or Operator Information

1. Owner/Operator Name:

2. Street Address:

3. City/State/Zip:

4. Contact Person: | 4a.Telephone:

4b. Contact Person E-Mail:

II. Project Site Information

5. Project/Site Name:

6. Street Address:

7. City/Zip:

8. County:

III. Reason for Termination

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

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

9c. □ Other (Explain on Page 2)

IV. Final Site Information:

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

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

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

_____

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

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

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

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

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

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

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

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

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

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

V. Additional Information/Explanation:

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

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

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

Printed Name:	
Title/Position:	
Signature:	Date:

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

VII. Qualified Inspector Certification - Final Stabilization:

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

Printed Name:	
Title/Position:	
Signature:	Date:

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

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

Printed Name:	
Title/Position:	
Signature:	Date:

IX. Owner or Operator Certification

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

Printed Name:	
Title/Position:	
Signature:	Date:

(NYS DEC Notice of Termination - January 2015)

Appendix H

StormTech Maintenance & Bioretention Construction and Maintenance Checklist

StormTech®

Detention • Retention • Water Quality

A division of ADS®

Save Valuable Land and Protect Water Resources

Isolator® Row O&M Manual

StormTech® Chamber System for Stormwater Management

1.0 The Isolator® Row

1.1 INTRODUCTION

An important component of any Stormwater Pollution Prevention Plan is inspection and maintenance. The StormTech Isolator Row is a patented technique to inexpensively enhance Total Suspended Solids (TSS) removal and provide easy access for inspection and maintenance.

Looking down the Isolator Row from the manhole opening, woven geotextile is shown between the chamber and stone base.

1.2 THE ISOLATOR ROW

The Isolator Row is a row of StormTech chambers, either SC-310, SC-310-3, SC-740, DC-780, MC-3500 or MC-4500 models, that is surrounded with filter fabric and connected to a closely located manhole for easy access. The fabric-wrapped chambers provide for settling and filtration of sediment as storm water rises in the Isolator Row and ultimately passes through the filter fabric. The open bottom chambers and perforated sidewalls (SC-310, SC-310-3 and SC-740 models) allow storm water to flow both vertically and horizontally out of the chambers. Sediments are captured in the Isolator Row protecting the storage areas of the adjacent stone and chambers from sediment accumulation.

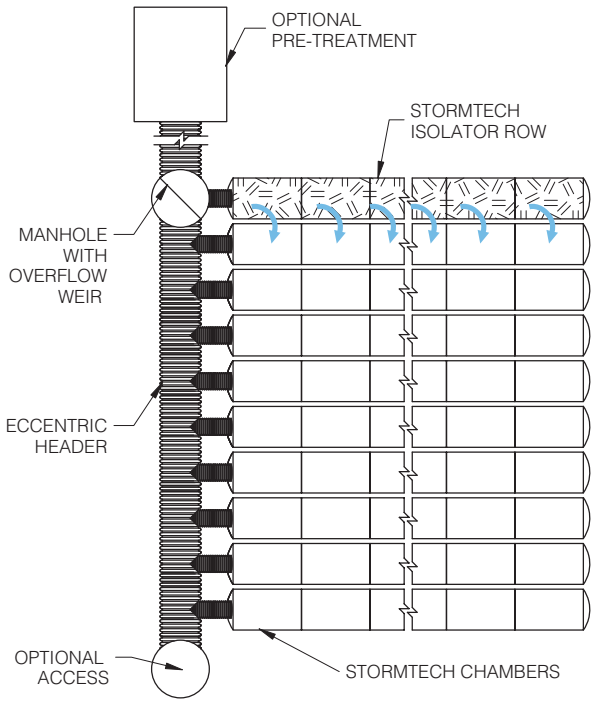
Two different fabrics are used for the Isolator Row. A woven geotextile fabric is placed between the stone and the Isolator Row chambers. The tough geotextile provides a media for storm water filtration and provides a durable surface for maintenance operations. It is also designed to prevent scour of the underlying stone and remain intact during high pressure jetting. A non-woven fabric is placed over the chambers to provide a filter media for flows passing through the perforations in the sidewall of the chamber. The non-woven fabric is not required over the DC-780, MC-3500 or MC-4500 models as these chambers do not have perforated side walls.

The Isolator Row is typically designed to capture the "first flush" and offers the versatility to be sized on a volume basis or flow rate basis. An upstream manhole not only provides access to the Isolator Row but typically includes a high flow weir such that storm water flowrates or volumes that exceed the capacity of the Isolator Row overtop the over flow weir and discharge through a manifold to the other chambers.

The Isolator Row may also be part of a treatment train. By treating storm water prior to entry into the chamber system, the service life can be extended and pollutants such as hydrocarbons can be captured. Pre-treatment best management practices can be as simple as deep sump catch basins, oil-water separators or can be innovative storm water treatment devices. The design of the treatment train and selection of pretreatment devices by the design engineer is often driven by regulatory requirements. Whether pretreatment is used or not, the Isolator Row is recommended by StormTech as an effective means to minimize maintenance requirements and maintenance costs.

Note: See the StormTech Design Manual for detailed information on designing inlets for a StormTech system, including the Isolator Row.

StormTech Isolator Row with Overflow Spillway
(not to scale)



2.0 Isolator Row Inspection/Maintenance

2.1 INSPECTION

The frequency of Inspection and Maintenance varies by location. A routine inspection schedule needs to be established for each individual location based upon site specific variables. The type of land use (i.e. industrial, commercial, residential), anticipated pollutant load, percent imperviousness, climate, etc. all play a critical role in determining the actual frequency of inspection and maintenance practices.

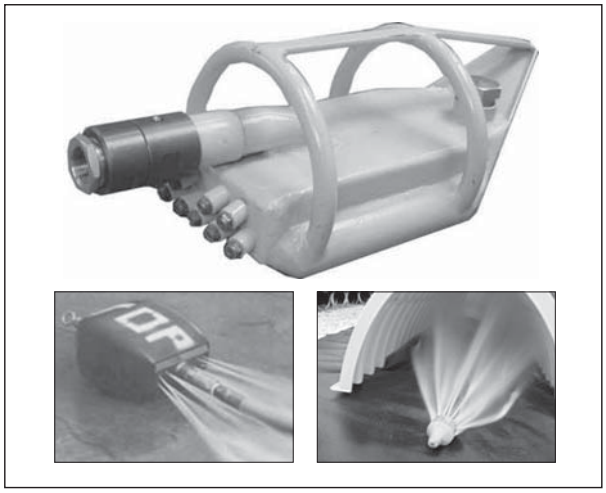
At a minimum, StormTech recommends annual inspections. Initially, the Isolator Row should be inspected every 6 months for the first year of operation. For subsequent years, the inspection should be adjusted based upon previous observation of sediment deposition.

The Isolator Row incorporates a combination of standard manhole(s) and strategically located inspection ports (as needed). The inspection ports allow for easy access to the system from the surface, eliminating the need to perform a confined space entry for inspection purposes.

If upon visual inspection it is found that sediment has accumulated, a stadia rod should be inserted to determine the depth of sediment. When the average depth of sediment exceeds 3 inches throughout the length of the Isolator Row, clean-out should be performed.

2.2 MAINTENANCE

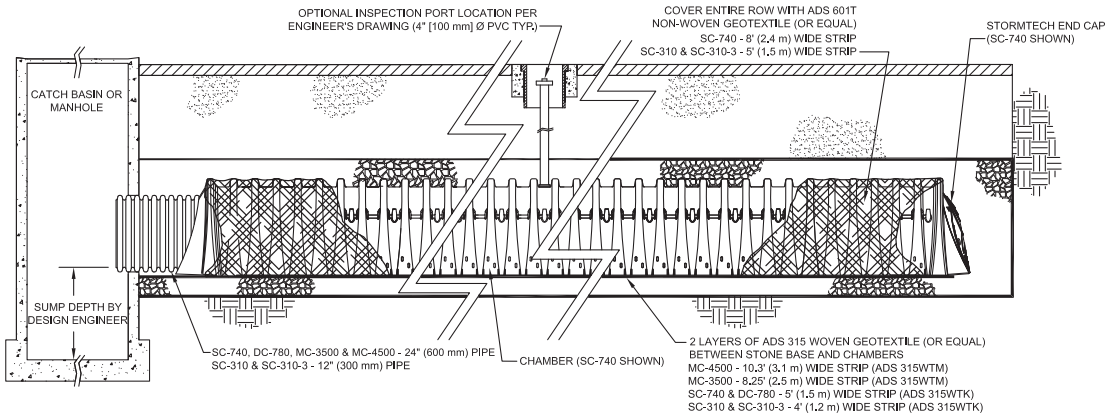
The Isolator Row was designed to reduce the cost of periodic maintenance. By "isolating" sediments to just one row, costs are dramatically reduced by eliminating the need to clean out each row of the entire storage bed. If inspection indicates the potential need for maintenance, access is provided via a manhole(s) located on the end(s) of the row for cleanout. If entry into the manhole is required, please follow local and OSHA rules for a confined space entries.



Examples of culvert cleaning nozzles appropriate for Isolator Row maintenance. (These are not StormTech products.)

Maintenance is accomplished with the JetVac process. The JetVac process utilizes a high pressure water nozzle to propel itself down the Isolator Row while scouring and suspending sediments. As the nozzle is retrieved, the captured pollutants are flushed back into the manhole for vacuuming. Most sewer and pipe maintenance companies have vacuum/JetVac combination vehicles. Selection of an appropriate JetVac nozzle will improve maintenance efficiency. Fixed nozzles designed for culverts or large diameter pipe cleaning are preferable. Rear facing jets with an effective spread of at least 45" are best. Most JetVac reels have 400 feet of hose allowing maintenance of an Isolator Row up to 50 chambers long. **The JetVac process shall only be performed on StormTech Isolator Rows that have AASHTO class 1 woven geotextile (as specified by StormTech) over their angular base stone.**

StormTech Isolator Row (not to scale)



NOTE: NON-WOVEN FABRIC IS ONLY REQUIRED OVER THE INLET PIPE CONNECTION INTO THE END CAP FOR DC-780, MC-3500 AND MC-4500 CHAMBER MODELS AND IS NOT REQUIRED OVER THE ENTIRE ISOLATOR ROW.

3.0 Isolator Row Step By Step Maintenance Procedures

Step 1) Inspect Isolator Row for sediment

A) Inspection ports (if present)

i. Remove lid from floor box frame

ii. Remove cap from inspection riser

iii. Using a flashlight and stadia rod, measure depth of sediment and record results on maintenance log.

iv. If sediment is at, or above, 3 inch depth proceed to Step 2. If not proceed to step 3.

B) All Isolator Rows

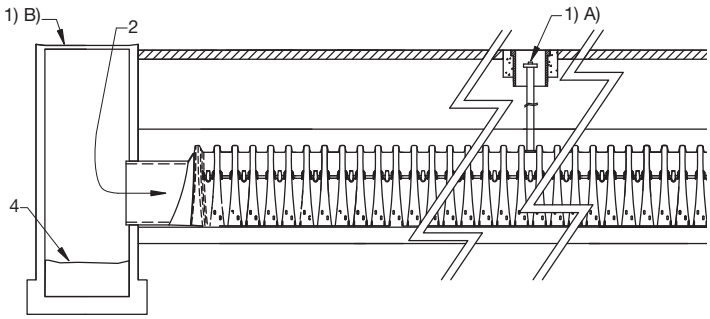
i. Remove cover from manhole at upstream end of Isolator Row

ii. Using a flashlight, inspect down Isolator Row through outlet pipe

1. Mirrors on poles or cameras may be used to avoid a confined space entry
2. Follow OSHA regulations for confined space entry if entering manhole

iii. If sediment is at or above the lower row of sidewall holes (approximately 3 inches) proceed to Step 2. If not proceed to Step 3.

StormTech Isolator Row (not to scale)



Step 2) Clean out Isolator Row using the JetVac process

A) A fixed culvert cleaning nozzle with rear facing nozzle spread of 45 inches or more is preferable

B) Apply multiple passes of JetVac until backflush water is clean

C) Vacuum manhole sump as required

Step 3) Replace all caps, lids and covers, record observations and actions

Step 4) Inspect & clean catch basins and manholes upstream of the StormTech system

Sample Maintenance Log

Date	Stadia Rod Readings		Sediment Depth (1) - (2)	Observations/Actions	Inspector
	Fixed point to chamber bottom (1)	Fixed point to top of sediment (2)			
3/15/01	6.3 ft.	none		New installation. Fixed point is CI frame at grade	djm
9/24/01		6.2	0.1 ft.	Some grit felt	sm
6/20/03		5.8	0.5 ft.	Mucky feel, debris visible in manhole and in isolator row, maintenance due	rv
7/7/03	6.3 ft.		0	System jetted and vacuumed	djm

StormTech®

Detention • Retention • Water Quality

A division of ADS

70 Inwood Road, Suite 3 | Rocky Hill | Connecticut | 06067

860.529.8188 | 888.892.2694 | fax 866.328.8401 | www.stormtech.com

ADS "Terms and Conditions of Sale" are available on the ADS website, www.ads-pipe.com

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Bioretention Construction Inspection Checklist

Project:
Location:
Site Status:

Date:

Time:

Inspector:

CONSTRUCTION SEQUENCE	SATISFACTORY/ UNSATISFACTORY	COMMENTS
1. Pre-Construction		
Pre-construction meeting		
Runoff diverted		
Facility area cleared		
If designed as exfilter, soil testing for permeability		
Facility location staked out		
2. Excavation		
Size and location		
Lateral slopes completely level		
If designed as exfilter, ensure that excavation does not compact susoils.		
Longitudinal slopes within design range		

CONSTRUCTION SEQUENCE	SATISFACTORY / UNSATISFACTORY	COMMENTS
3. Structural Components		
Stone diaphragm installed correctly		
Outlets installed correctly		
Underdrain		
Pretreatment devices installed		
Soil bed composition and texture		
4. Vegetation		
Complies with planting specs		
Topsoil adequate in composition and placement		
Adequate erosion control measures in place		
5. Final Inspection		
Dimensions		
Proper stone diaphragm		
Proper outlet		
Soil/ filter bed permeability testing		
Effective stand of vegetation and stabilization		
Construction generated sediments removed		
Contributing watershed stabilized before flow is diverted to the practice		

Comments:

Actions to be Taken:

Bioretention Operation, Maintenance and Management Inspection Checklist

Project:
Location:
Site Status:

Date:

Time:

Inspector:

MAINTENANCE ITEM	SATISFACTORY / UNSATISFACTORY	COMMENTS
1. Debris Cleanout (Monthly)		
Bioretention and contributing areas clean of debris		
No dumping of yard wastes into practice		
Litter (branches, etc.) have been removed		
2. Vegetation (Monthly)		
Plant height not less than design water depth		
Fertilized per specifications		
Plant composition according to approved plans		
No placement of inappropriate plants		
Grass height not greater than 6 inches		
No evidence of erosion		
3. Check Dams/Energy Dissipaters/Sumps (Annual, After Major Storms)		
No evidence of sediment buildup		

MAINTENANCE ITEM	SATISFACTORY / UNSATISFACTORY	COMMENTS
Sumps should not be more than 50% full of sediment		
No evidence of erosion at downstream toe of drop structure		
4. Dewatering (Monthly)		
Dewaters between storms		
No evidence of standing water		
5. Sediment Deposition (Annual)		
Swale clean of sediments		
Sediments should not be > 20% of swale design depth		
6. Outlet/Overflow Spillway (Annual, After Major Storms)		
Good condition, no need for repair		
No evidence of erosion		
No evidence of any blockages		
7. Integrity of Filter Bed (Annual)		
Filter bed has not been blocked or filled inappropriately		

Comments:

Actions to be Taken:

Appendix I

Construction Documents

Mt. Olive Missionary Baptist Church

66 Wasson Avenue

City of Lackawanna, New York 14218

SITE DEVELOPMENT DRAWINGS

AGENCIES

CITY OF LACKAWANNA
NAME/TITLE: RICHARD E. STANTON, ESQ.
COMPANY/DEPT: CITY OF LACKAWANNA DIRECTOR OF DEVELOPMENT
ADDRESS: 714 RIDGE ROAD – ROOM 309
LACKAWANNA, NY 14218
TELEPHONE 716 827–6421

CODE ENFORCEMENT
NAME/TITLE: SCOTT HAYES
COMPANY/DEPT: CODE ENFORCEMENT OFFICER
ADDRESS: 714 RIDGE ROAD
LACKAWANNA, NY 14218
TELEPHONE 716–827–6427

LAND SURVEYOR
COMPANY/DEPT: GPI, LLP
ADDRESS: 4950 GENESEE ST, SUITE 100
BUFFALO, NEW YORK 14224
TELEPHONE 716–633–4844

UTILITIES

NATURAL GAS
COMPANY: NATIONAL FUEL GAS
TELEPHONE: 1–716–686–6123

ELECTRIC
COMPANY: NATIONAL GRID
TELEPHONE: 1–800–642–4272

CABLE
COMPANY: CHARTER SPECTRUM
TELEPHONE: 1–888–406–7063

WATER
COMPANY: ERIE COUNTY WATER AUTHORITY
TELEPHONE: 1–716–684–0900

SEWER
COMPANY: ERIE COUNTY SEWER DISTRICT NO. 6
TELEPHONE: 1–716–858–6202

TELEPHONE
COMPANY: VERIZON COMMUNICATIONS INC.
TELEPHONE: 1–716–840–8688

UNDERGROUND FACILITIES PROTECTION ORGANIZATION
COMPANY: DIG SAFELY NEW YORK
TELEPHONE: 811

OWNER/DEVELOPER

NAME: TELCO CONSTRUCTION, INC.
CONTACT: JOHN R MILKS
ADDRESS: 500 BUFFALO RD.
EAST AURORA, NY 14052
TELEPHONE: 716-805-1520

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487 Main Street Suite 600
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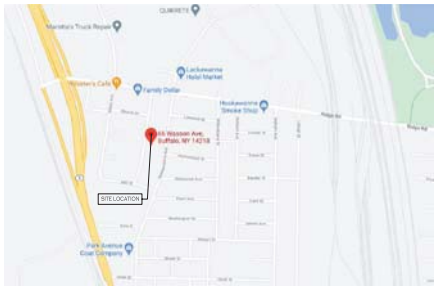


LOCATION MAP
NOT TO SCALE

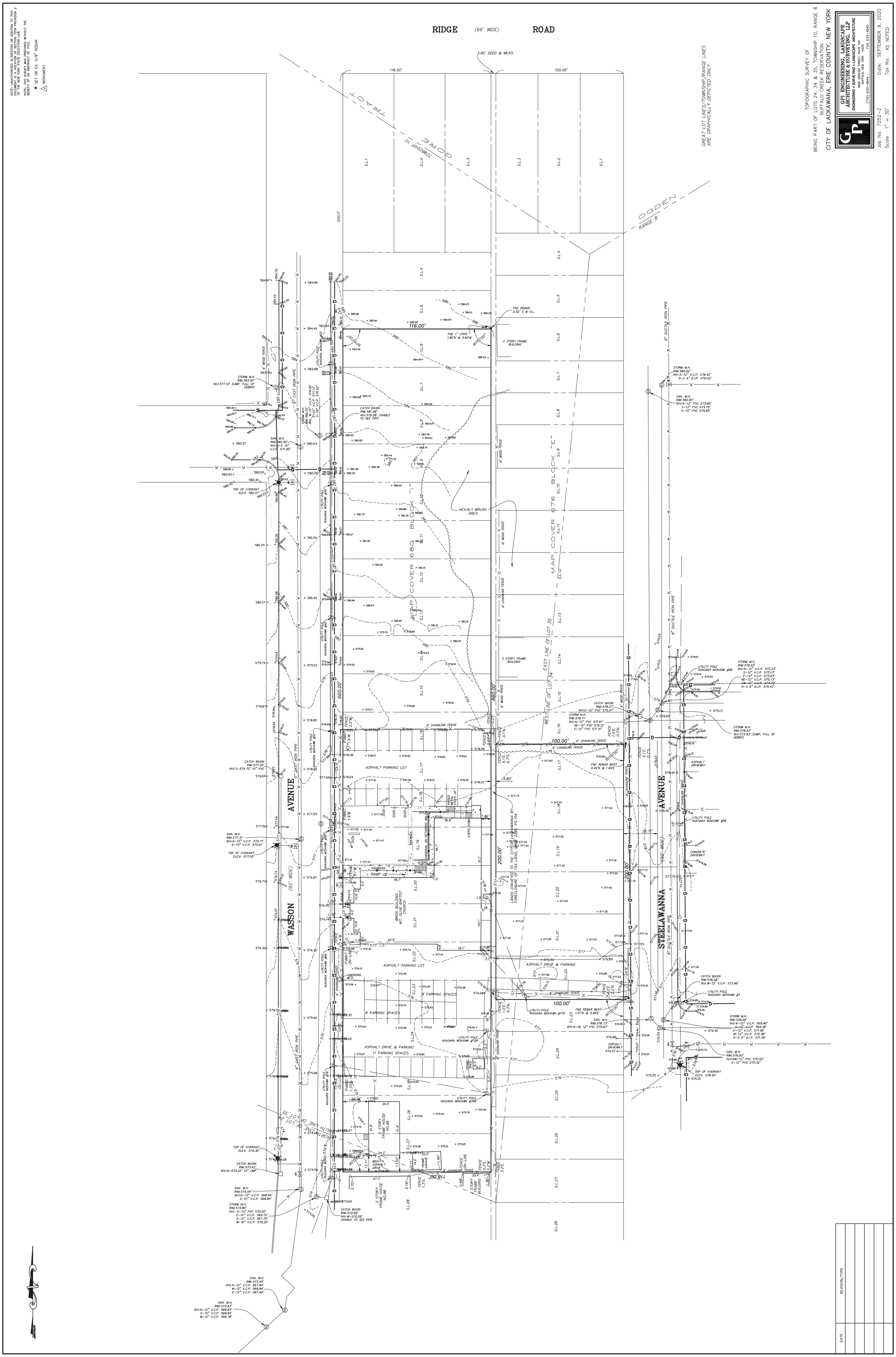
DWG NO.	DRAWING TITLE
–	COVER SHEET
–	TOPOGRAPHIC SURVEY (GPI, LLP)
C–001	DEMOLITION & EROSION CONTROL PLAN
C–002	DEMOLITION & EROSION CONTROL DETAILS
C–100	SITE PLAN
C–101	SITE DETAILS
C–200	GRADING PLAN
C–300	STORM DRAINAGE PLAN
C–301	STORM DRAINAGE DETAILS
C–302	STORM DRAINAGE DETAILS
C–400	UTILITY PLAN
C–401	UTILITY DETAILS
C–402	UTILITY DETAILS
C–403	UTILITY DETAILS
C–500	SITE LIGHTING PLAN
C–501	SITE LIGHTING DETAILS
L–100	LANDSCAPE PLAN

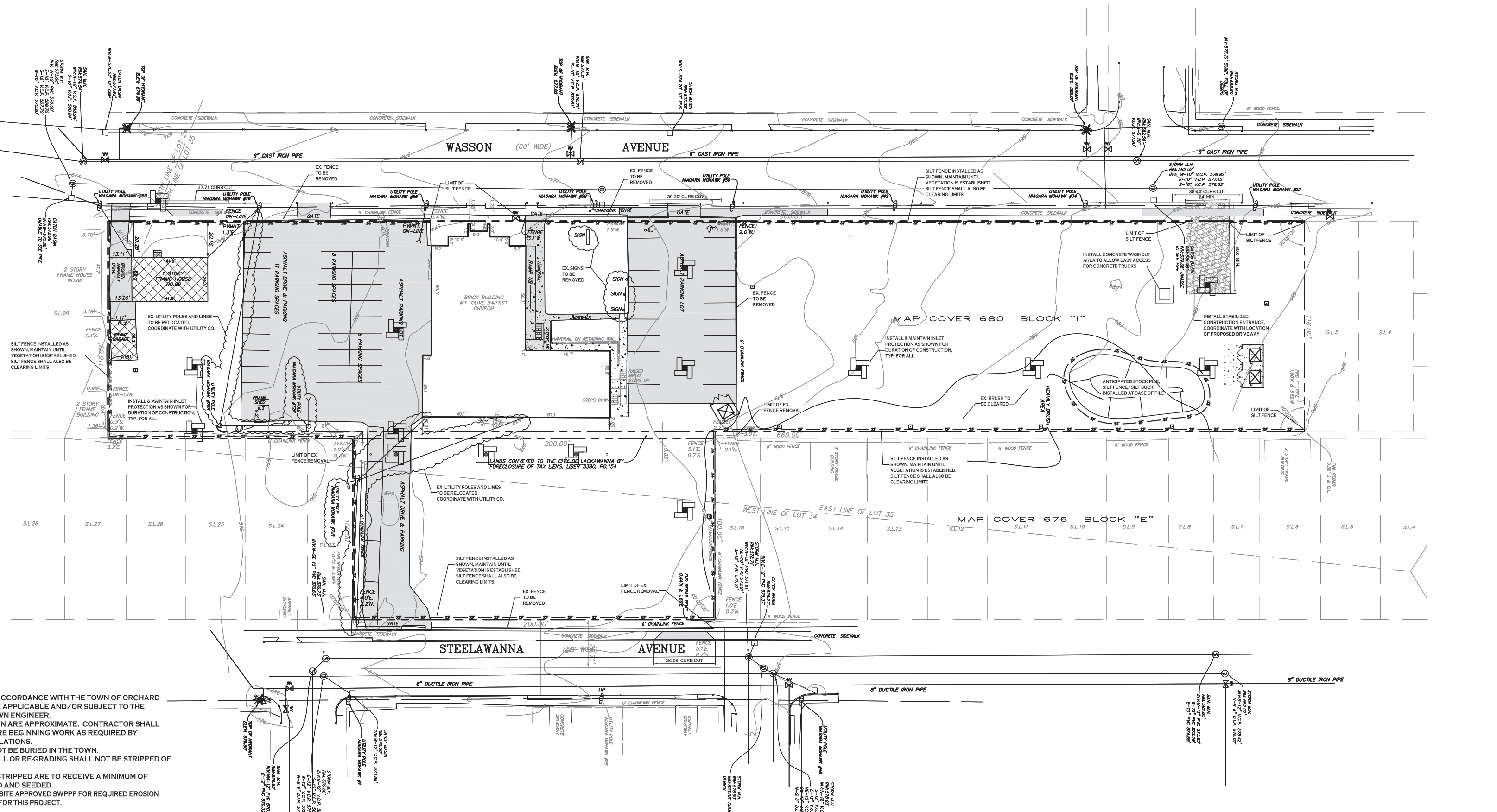
January 2021

REVISIONS:

No.	Description	Date

Mt. Olive Missionary Baptist Church
66 Wasson Avenue
City of Lackawanna, New York 14218
SITE DEVELOPMENT DRAWINGS


RIDGE (66' WIDE) ROAD
WASSON AVENUE (60' WIDE)
STEELAWANNA AVENUE
MAP COVER 680 BLOCK "I"
MAP COVER 676 BLOCK "E"
WEST LINE OF LOT 34
EAST LINE OF LOT 35
OGDEN
GORE TRACT
TOWNSHIP 10
RANGE 8
GREAT LOT LINES/TOWNSHIP/RANGE LINES ARE GRAPHICALLY DEPICTED ONLY
HEAVILY BRUSH AREA
ASPHALT PARKING LOT
ASPHALT DRIVE & PARKING
2 STORY FRAME BUILDING
BRICK BUILDING MT. OLIVE BAPTIST CHURCH
RAMP UP
8 PARKING SPACES
11 PARKING SPACES
TOPOGRAPHIC SURVEY OF
BEING PART OF LOTS 24, 34 & 35, TOWNSHIP 10, RANGE 8
BUFFALO CREEK RESERVATION
CITY OF LACKAWANNA, ERIE COUNTY, NEW YORK
GPI ENGINEERING, LANDSCAPE ARCHITECTURE & SURVEYING, LLP
Job No. 7252-2
Date: SEPTEMBER 9, 2020
Scale 1" = 30'
Tax No. AS NOTED
DATE
REVISION/TYPE



DEMOLITION & EROSION CONTROL PLAN

SCALE: 1"=30'

GENERAL NOTES

1. CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE TOWN OF ORCHARD PARK SPECIFICATIONS WHERE APPLICABLE AND/OR SUBJECT TO THE LATEST REVISIONS BY THE TOWN ENGINEER.
2. ALL UTILITY LOCATIONS SHOWN ARE APPROXIMATE. CONTRACTOR SHALL VERIFY ALL LOCATIONS BEFORE BEGINNING WORK AS REQUIRED BY APPLICABLE LAWS AND REGULATIONS.
3. STUMPS AND BRUSH SHALL NOT BE BURIED IN THE TOWN.
4. ANY AREAS NOT REQUIRING FILL OR RE-GRADING SHALL NOT BE STRIPPED OF TOPSOIL.
5. ALL AREAS THAT HAVE BEEN STRIPPED ARE TO RECEIVE A MINIMUM OF 6-INCHES OF TOPSOIL, GRADED AND SEEDED.
6. CONTRACTOR SHALL ADHERE TO SITE APPROVED SWPPP FOR REQUIRED EROSION AND SEDIMENT CONTROLS NEED FOR THIS PROJECT.

INSPECTION AND MAINTENANCE PROCEDURES

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ASSIGNING AN INDIVIDUAL TO BE RESPONSIBLE FOR THE INSPECTION AND MAINTENANCE OF TEMPORARY EROSION AND SEDIMENTATION CONTROL MEASURES. THE WORK MAY INCLUDE, BUT NOT LIMITED TO THE FOLLOWING:
   - 1.1. ALL EROSION CONTROL MEASURES SHALL BE INSPECTED AT LEAST ONCE EVERY SEVEN CALENDER DAYS.
   - 1.2. ALL EROSION CONTROL MEASURES SHALL BE MAINTAINED IN GOOD WORKING ORDER. AS DEEMED NECESSARY BY THE TOWN AND ENGINEER, REPAIRS SHALL BE COMPLETED WITHIN 24 HOURS OF BEING REPORTED.
   - 1.3. CHECK AND REPAIR SILT FENCING AND STRAW BALE BARRIERS, AS NECESSARY.
   - 1.4. TEMPORARY AND PERMANENT SEEDING AND PLANTING WILL BE INSPECTED FOR BARE SPOTS, WASHOUTS, AND HEALTHY GROWTH AND REPAIRED AS NECESSARY.
   - 1.5. NEIGHBORING ROADWAYS WILL BE MONITORED TO ENSURE THAT ANY TRACKED MUD, DIRT, OR ROCK IS SWEPT AS NECESSARY.

RESTORATION NOTES

1. THE ADJACENT AREAS DISTURBED OR DAMAGED DURING CONSTRUCTION MUST BE RESTORED IN KIND TO THE SATISFACTION OF THE OWNER.
2. WHEN RESTORING LAWN AREAS ADJACENT TO NEW CONSTRUCTION, ON-SITE MATERIAL MAY BE USED TO BACKFILL THE AREA WITHIN SIX INCHES OF THE FINISHED SURFACE. ON-SITE MATERIAL SHALL BE THOROUGHLY COMPACTED AND FREE OF GRASS CLUMPS, TREE ROOTS PIECES OF ASPHALT AND OTHER EXTRANEOUS MATERIALS, AND STONES LARGER THAN 1 INCH IN SIZE.
3. ALL DISTURBED UNSURFACED AREAS SHALL RECEIVE FOUR INCHES OF TOPSOIL, SEED AND MULCH AND SHALL BE WATERED UNTIL A HEALTHY STAND OF GRASS IS OBTAINED.
4. WHEN ADJACENT ASPHALT, CONCRETE OR PAVING STONE AREAS ARE DISTURBED AS PART OF THE CONSTRUCTION, THE CONTRACTOR SHALL BE REQUIRED TO REPLACE THE DAMAGED OR EXCAVATED AREA. THE PERIMETER OF THE DISTURBED AREA SHALL BE SAW CUT FULL DEPTH, SO THAT ALL LINES ARE STRAIGHT AND TRUE. PAVING STONES SHALL BE REPLACED IN WHOLE UNITS ONLY, AND ALL REPLACEMENT PAVING STONES ARE TO MATCH THE EXISTING ONES IN SIZE, SHAPE AND COLOR. ASPHALT SHALL BE COMPACTED TO A SMOOTH FINISH AND SHALL BE FLUSH WITH THE EXISTING ADJACENT AREA THAT IS TO REMAIN.

SEQUENCE OF MAJOR ACTIVITIES

THE CONTRACTOR WILL BE RESPONSIBLE FOR IMPLEMENTING THE FOLLOWING EROSION CONTROL AND STORM WATER MANAGEMENT CONTROL MEASURES. THE CONTRACTOR MAY DESIGNATE THESE TASKS TO CERTAIN SUBCONTRACTORS AS HE SEES FIT, BUT THE ULTIMATE RESPONSIBILITY FOR IMPLEMENTING THESE CONTROLS AND ENSURING THEIR PROPER FUNCTIONING REMAINS WITH THE CONTRACTOR. THE ORDER OF ACTIVITIES WILL BE AS FOLLOWS:

A. CONSTRUCT TEMPORARY CONSTRUCTION EXIT AT LOCATION SHOWN ON THE DEMOLITION & EROSION CONTROL PLAN SHEET.
B. INSTALL PERIMETER SILT FENCES IN THE LOCATIONS SHOWN ON THE DEMOLITION AND EROSION CONTROL PLAN SHEET.
C. CLEAR & GRUB SITE.
D. N/A.
E. COMMENCE SITE GRADING.
F. DISTURBED AREAS OF THE SITE WHERE CONSTRUCTION ACTIVITY HAS CEASED FOR MORE THAN 14 DAYS SHALL BE TEMPORARILY SEEDED AND WATERED.
G. CONSTRUCTION OF BUILDING
H. INSTALLATION OF PROPOSED UTILITIES
I. FINALIZE PAVEMENT SUBGRADE PREPARATION.
J. CONSTRUCT ALL CURB, DRAINAGE INLETS, STORM SEWER PIPES AND STORM SEWER MANHOLES, AS SHOWN ON THE PLANS. INSTALL TEMPORARY INLET PROTECTION AT THE LOCATIONS OF ALL NEW INLETS.
K. DUST CONTROL.
L. REMOVE INLET PROTECTION AROUND INLETS AND MANHOLES NO MORE THAN 48 HOURS PRIOR TO PLACING STABILIZED BASE COURSE.
M. INSTALL BASE MATERIAL AS REQUIRED FOR PAVEMENT.
N. CARRY OUT FINAL GRADING AND SEEDING AND PLANTING.
O. CLEAN STORM SYSTEM FOLLOWING CONSTRUCTION.
P. REMOVE SILT FENCING ONLY AFTER ALL PAVING IS COMPLETE AND EXPOSED SURFACES ARE STABILIZED.
Q. REMOVE TEMPORARY CONSTRUCTION EXITS ONLY PRIOR TO PAVEMENT CONSTRUCTION IN THESE AREAS.

EROSION CONTROL PLAN

THE FOLLOWING EROSION CONTROL PROCEDURE SHALL BE ADHERED TO BY THE CONTRACTOR:

1. INSTALL TEMPORARY SILT FENCE BARRIERS AS DIRECTED BY THE OWNER AND AT ALL EXISTING STORMWATER CATCH BASINS WITHIN THE WORK AREA TO PREVENT SEDIMENT MIGRATION. ALL SILT FENCE BARRIERS SHALL BE INSTALLED IN ACCORDANCE WITH THE DETAILS SHOWN ON THE PLANS.
2. THE TOPSOIL SHALL BE STRIPPED AND STOCKPILED ON SITE FOR RE-USE AS DIRECTED BY THE OWNER. ALL LOCAL ORDINANCES REGARDING THE SALE OF TOPSOIL MUST BE FOLLOWED. TOPSOIL MAY NOT BE REMOVED WITHOUT A PERMIT.
3. ALL SILT FENCE BARRIERS SHALL BE REPLACED WHEREVER THEY BECOME CLOGGED OR INOPERABLE.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTENANCE AND REMOVAL OF TEMPORARY SEDIMENTATION CONTROLS.
5. THE CONTRACTOR MUST CONTROL DUST DURING CONSTRUCTION. DURING EARTHWORK OPERATIONS, WATER-SPREADING EQUIPMENT SHALL BE PROVIDED BY THE CONTRACTOR, AND WATER SPREAD AS NECESSARY AND AS DIRECTED BY THE OWNER IN ORDER TO CONTROL DUST.
6. DIRT OR DEBRIS LEFT ON LOCAL PUBLIC ROADS AS A RESULT OF THIS CONSTRUCTION PROJECT SHALL BE REMOVED AND ROAD SURFACES CLEANED BY THE CONTRACTOR ON A DAILY BASIS.
7. ALL DISTURBED AREAS (EXCEPT AREAS TO BE PAVED OR BUILT UPON) SHALL BE TOPSOILED TO A MINIMUM 4" DEPTH AND SEEDED IMMEDIATELY AFTER FINE GRADING TAKES PLACE AND AS SOON AS PHYSICALLY POSSIBLE.
8. THE CONTRACTOR IS RESPONSIBLE FOR THE MAINTENANCE OF DOWNSTREAM STORM SEWERS, DITCHES, AND CULVERTS. SILT BUILDUP FOUND TO BE A RESULT OF THIS SITE CONSTRUCTION WORK SHALL BE REMOVED FROM DOWNSTREAM CULVERTS BY THE CONTRACTOR AT NO ADDITIONAL EXPENSE TO THE OWNER OR THE CITY.
9. ALL SOIL EROSION AND SEDIMENT CONTROL DEVICES AND MATERIALS SHALL BE IN PLACE PRIOR TO BEGINNING EARTHWORK OPERATIONS AND SHALL BE MAINTAINED UNTIL THE NEW SLOPES ARE STABILIZED WITH SEEDING AND/OR SLOPE PROTECTION, AS DIRECTED BY THE ENGINEER.
10. INSTALL TEMPORARY SILT FENCE AROUND THE BASE OF STOCKPILES.

NOTES:

1. THE CONTRACTOR SHALL TAKE PRECAUTIONS TO PROTECT THOSE ITEMS TO REMAIN, SUCH AS TREES, PROPERTY CORNER PINS, UTILITY POLES, VALVES, HYDRANTS, CURBS, MANHOLES AND CATCH BASINS.
2. TEMPORARY SILT FENCE AND STRAW BALES TO BE INSTALLED AS DIRECTED BY THE OWNERS FIELD REPRESENTATIVE. MAINTAIN UNTIL VEGATATION IS ESTABLISHED AND PAVEMENT IS INSTALLED.
3. FOR THOSE STRUCTURES TO BE DEMOLISHED, ALL EXISTING UTILITY SERVICES SHALL BE ABANDONED IN ACCORDANCE WITH LOCAL REGULATIONS, ALL METERS SHALL BE RETURNED TO PROPER OWNERS.
4. THE CONTRACTOR SHALL INSTALL STABILIZED CONSTRUCTION ENTRANCES WHERE ACCESSING THE SITE FROM PAVED ROADWAYS.
5. THE CONTRACTOR SHALL INSTALL TEMPORARY TRAFFIC CONTROL DEVICES IN ACCORDANCE WITH NYS M.U.T.C.D. STANDARDS PRIOR TO STARTING WORK.
6. ADD SILT SACKS TO ALL CATCH BASINS. CATCH BASINS ARE TO RECEIVE REGULAR MAINTENANCE THROUGHOUT THE ENTIRE PROJECT.
7. COVERED DUMPSTERS SHALL BE PROVIDED ONSITE AS REQUIRED FOR CONSTRUCTION WASTE.
8. SILT SOCK (COMPOST FILTER SOCK) CAN BE USED AS AN ACCEPTABLE SUBSTITUTE FOR SILT FENCE PER THE "NYS STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL". BOTH SILT SOCKS AND FENCE CAN BE USED WHERE EROSION WILL OCCUR IN THE FORM OF SHEET EROSION WITH NO CONCENTRATION OF WATER FLOWING TO THE BARRIER. BOTH PRACTICES CAN BE UTILIZED AT THE PERIMETER OF THE SITE.

DEMOLITION & EROSION CONTROL LEGEND

- APPROXIMATE LIMITS OF EXISTING BUILDING FOUNDATION, WALL, SLAB, SUPERSTRUCTURE, ETC. TO BE REMOVED
- APPROXIMATE LIMITS OF IMPERVIOUS & PERVIOUS SURFACES TO BE CLEARED/ REMOVED. ABOVE & BELOW GROUND AMENITIES WITHIN LIMITS TO BE REMOVED UNLESS NOTED OTHERWISE
- INSTALL SILT FENCE (SF)
- INSTALL STORM DRAINAGE INLET PROTECTION
- EXISTING TREE TO BE REMOVED

NOTE: BOUNDARY AND TOPOGRAPHIC INFORMATION PROVIDED BY OTHERS, CARMINA WOOD MORRIS, D.P.C. ASSUMES NO RESPONSIBILITY FOR ITS ACCURACY.

30' — 30 0 30 60Ft.

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Buffalo, New York 14203
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REVISIONS:

No.	Description	Date

PROJECT NAME:

Site Development Plans for:

Mt. Olive Missionary Baptist Church

66 Wasson Avenue
Lackawanna, New York 14218

Date: 1/18/2021
Drawn by: JPB
Scale: As Noted

DRAWING NAME:

Demolition & Erosion Control Plan

DRAWING NO.

C-001

Project no.: 20.166

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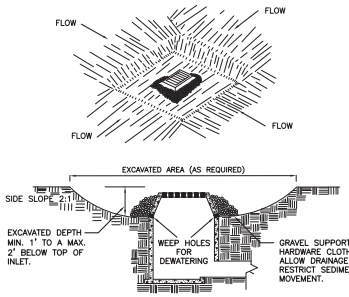


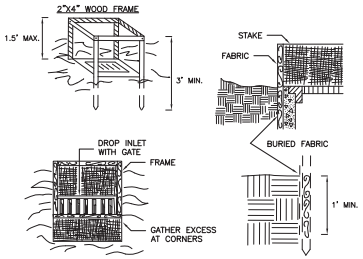
CONSTRUCTION SPECIFICATIONS

1. CLEAR THE AREA OF ALL DEBRIS THAT WILL HINDER EXCAVATION.
2. GRADE APPROACH TO THE INLET UNIFORMLY AROUND THE BASIN.
3. WEEP HOLES SHALL BE PROTECTED BY GRAVEL.
4. UPON STABILIZATION OF CONTRIBUTING DRAINAGE AREA, SEAL WEEP HOLES, FILL BASIN WITH STABLE SOIL TO FINAL GRADE, COMPACT IT PROPERLY AND STABILIZE WITH PERMANENT SEEDING.

MAXIMUM DRAINAGE AREA 1 ACRE

INLET PROTECTION DETAIL 1

NOT TO SCALE



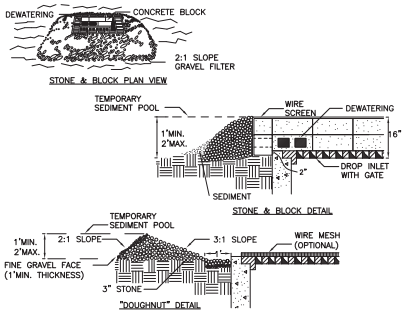
CONSTRUCTION SPECIFICATIONS

1. FILTER FABRIC SHALL HAVE AN EOS OF 40-85. BURLAP MAY BE USED FOR SHORT TERM APPLICATIONS.
2. CUT FABRIC FROM A CONTINUOUS ROLL TO ELIMINATE JOINTS. IF JOINTS ARE NEEDED THEY WILL BE OVERLAPPED TO THE NEXT STAKE.
3. STAKE MATERIALS WILL BE STANDARD 2" x 4" WOOD OR EQUIVALENT. METAL WITH A MINIMUM LENGTH OF 3 FEET.
4. SPACE STAKES EVENLY AROUND INLET 3 FEET APART AND DRIVE A MINIMUM 18 INCHES DEEP. SPANS GREATER THAN 3 FEET MAY BE BRIDGED WITH THE USE OF WIRE MESH BEHIND THE FILTER FABRIC FOR SUPPORT.
5. FABRIC SHALL BE EMBEDDED 1 FOOT MINIMUM BELOW GROUND AND BACKFILLED. IT SHALL BE SECURELY FASTENED TO THE STAKES AND FRAME.
6. A 2" x 4" WOOD FRAME SHALL BE COMPLETED AROUND THE CREST OF THE FABRIC FOR OVER FLOW STABILITY.

MAXIMUN DRAINAGE AREA 1 ACRE

INLET PROTECTION DETAIL 2

NOT TO SCALE



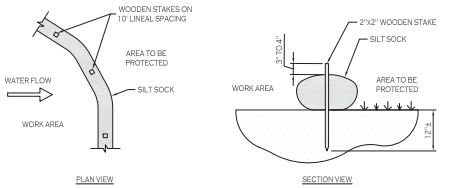
CONSTRUCTION SPECIFICATIONS

1. LAY ONE BLOCK ON EACH SIDE OF THE STRUCTURE ON ITS SIDE FOR DEWATERING. FOUNDATION SHALL BE 2 INCHES MINIMUM BELOW REST OF INLET AND BLOCKS SHALL BE PLACED AGAINST INLET FOR SUPPORT.
2. HARDWARE CLOTH OR 1/2" WIRE MESH SHALL BE PLACED OVER BLOCK OPENINGS TO SUPPORT STONE.
3. USE CLEAN STONE OR GRAVEL 1/2-3/4 INCH IN DIAMETER PLACED 2 INCHES BELOW TOP OF THE BLOCK ON A 2:1 SLOPE OR FLATTER.
4. FOR STONE STRUCTURES ONLY, A 1 FOOT THICK LAYER OF THE FILTER STONE WILL BE PLACED AGAINST THE 3 INCH STONE AS SHOWN ON THE DRAWINGS.

MAXIMUM DRAINAGE AREA 1 ACRE

INLET PROTECTION DETAIL 3

NOT TO SCALE



NOTES:

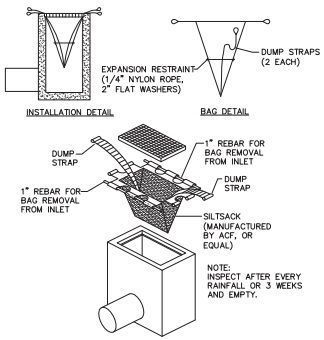
CONTRACTOR SHALL INSPECT AND MAINTAIN SILT SOCK AS NEEDED DURING THE DURATION OF CONSTRUCTION PROJECT.

CONTRACTOR SHALL REMOVE SEDIMENT COLLECTED AT THE BASE OF THE SILT SOCK WHEN IT HAS REACHED ½ OF THE EXPOSED HEIGHT OF THE SILT SOCK. ALTERNATIVELY, RATHER THAN CREATE A SOIL DISTURBING ACTIVITY, THE ENGINEER MAY CALL FOR ADDITIONAL SILT SOCK TO BE ADDED AT AREAS OF HIGH SEDIMENTATION, PLACED IMMEDIATELY ON TOP OF THE EXISTING SEDIMENT LADEN SILT SOCK.

SILT SOCK DETAIL

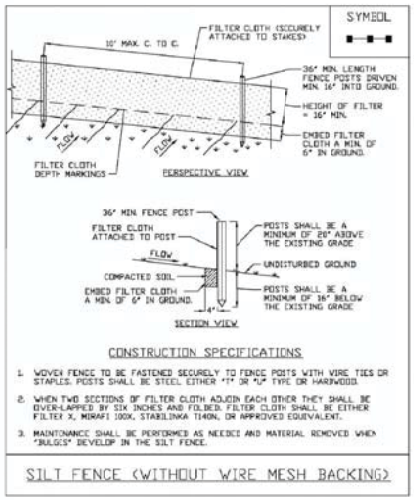
N.T.S.

NOTE: INSTALL ONE OF THE INLET PROTECTION OPTIONS SHOWN FOLLOWING INSTALLATION OF THE PROPOSED CB'S



SILT SACK DETAIL

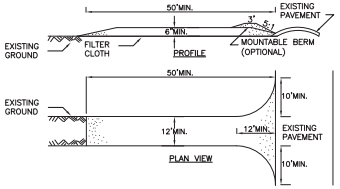
NOT TO SCALE



CONSTRUCTION SPECIFICATIONS

1. WOVEN FENCE TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES OR STAPLES. POSTS SHALL BE STEEL EITHER "T" OR "L" TYPE OR HARDWOOD.
2. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVER-LAPPED BY SIX INCHES AND FOLDED. FILTER CLOTH SHALL BE EITHER FILTER X, MIRAFI 100X, STABILINKA T140N, OR APPROVED EQUIVALENT.
3. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE.

SILT FENCE (WITHOUT WIRE MESH BACKING)

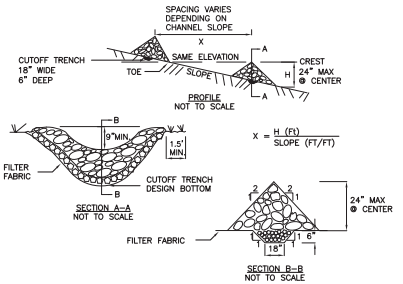


CONSTRUCTION SPECIFICATIONS

1. STONE SIZE – USE 2" STONE, OR RECLAIMED OR RECYCLED CONCRETE EQUIVALENT.
2. LENGTH – NOT LESS THAN 50 FEET (EXCEPT ON A SINGLE RESIDENCE LOT WHERE A 30 FOOT MINIMUM LENGTH WOULD APPLY).
3. THICKNESS – NOT LESS THAN SIX (6) INCHES.
4. WIDTH – TWELVE (12) FOOT MINIMUM, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS. TWENTY-FOUR (24) FOOT IF SINGLE ENTRANCE TO SITE.
5. FILTER CLOTH – WILL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING OF STONE.
6. SURFACE WATER – ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED ACROSS THE ENTRANCE. IF PIPING IS IMPRACTICAL, A MOUNTABLE BERM WITH 5:1 SLOPES WILL BE PERMITTED.
7. MAINTENANCE – THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACTED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY.
8. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON A AREA STABILIZED WITH STONE AND WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.
9. PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED AFTER EACH RAIN.

STABILIZED CONSTRUCTION ENTRANCE DETAIL

NOT TO SCALE



CONSTRUCTION SPECIFICATIONS

1. STONE WILL BE PLACED ON A FILTER FABRIC FOUNDATION TO THE LINES, GRADES AND LOCATIONS SHOWN IN THE PLAN.
2. SET SPACING OF CHECK DAMS TO ASSUME THAT THE ELEVATIONS OF THE CREST OF THE DOWNSTREAM DAM IS AT THE SAME ELEVATION OF THE TOE OF THE UPSTREAM DAM.
3. EXTEND THE STONE A MINIMUM OF 1.5 FEET BEYOND THE DITCH BANKS TO PREVENT CUTTING AROUND THE DAM.
4. PROTECT THE CHANNEL DOWNSTREAM OF THE LOWEST CHECK DAM FROM SCOUR AND EROSION WITH STONE OR LINER AS APPROPRIATE.
5. ENSURE THAT CHANNEL APPURTENANCES SUCH AS CULVERT ENTRANCES BELOW CHECK DAMS ARE NOT SUBJECT TO DAMAGE OR BLOCKAGE FROM DISPLACED STONE.

MAXIMUM DRAINAGE AREA 2 ACRES.

STONE CHECK DAM DETAIL

NOT TO SCALE

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REVISIONS:

No.	Description	Date

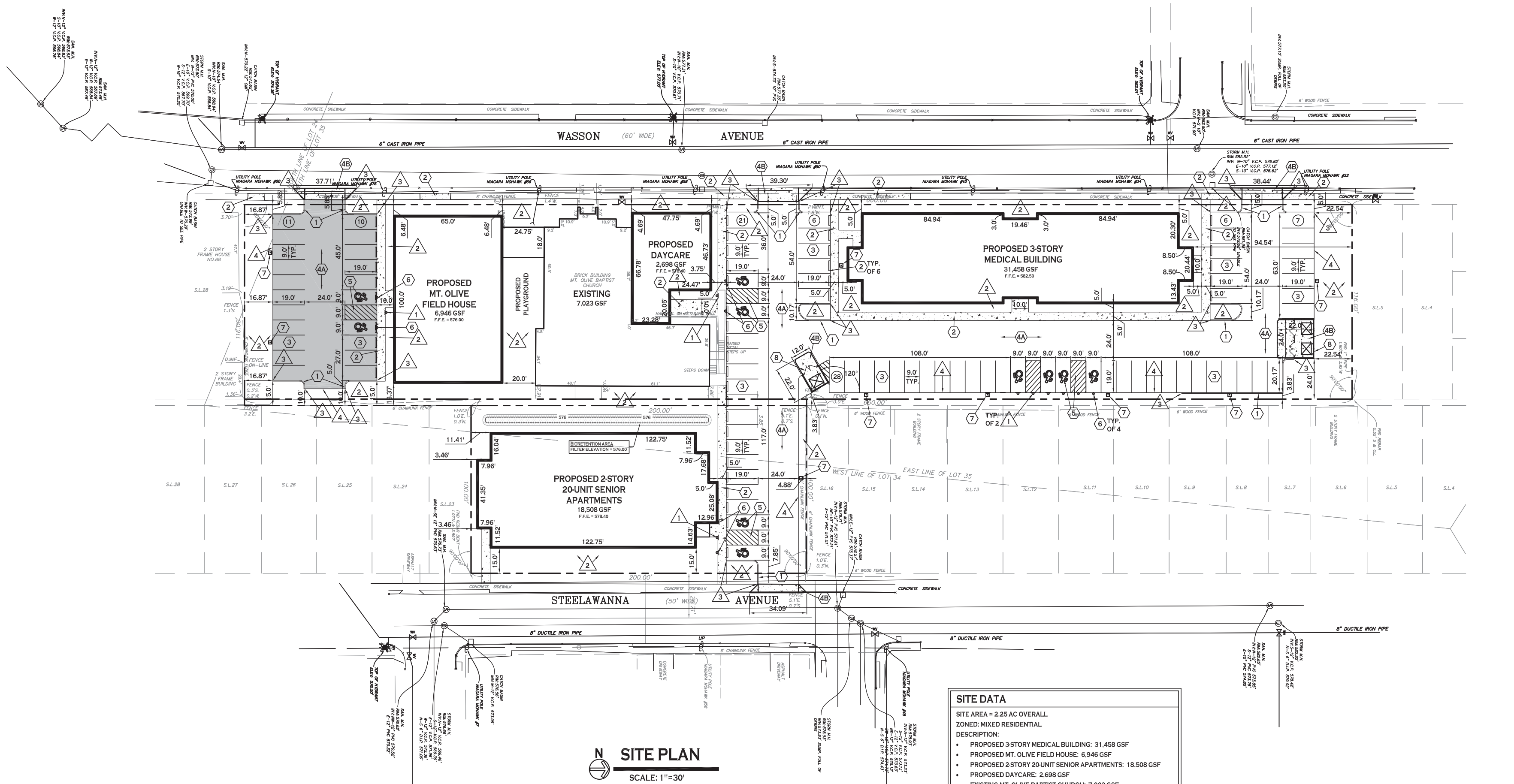
PROJECT NAME:
Site Development Plans for:
Mt. Olive Missionary Baptist Church
66 Wasson Avenue
Lackawanna, New York 14218

Date: 1/18/2021
Drawn by: JPB
Scale: As Noted

DRAWING NAME:
Demolition & Erosion Control Details

DRAWING NO.
C-002

Project no.: 20.166



SITE PLAN

SCALE: 1"=30'

NOTES:

1. ALL RADII SHALL BE 3'-0" UNLESS OTHERWISE NOTED.
2. ALL DISTURBED AREAS: SHALL HAVE 4" MIN. OF TOPSOIL AND SEED.
3. ALL DIMENSIONS FROM PROPERTY LINES SHALL BE MEASURED PERPENDICULAR TO THE PROPERTY LINE.
4. CENTER ENTRANCE SIDEWALKS ON DOOR OPENINGS.
5. ALL HANDICAPPED RAMPS OR SIDEWALKS THAT ARE FLUSH SHALL HAVE ADA COMPLIANT TACTILE WARNING STRIPS WHERE ENTERING PARKING AREAS/DRIVEWAYS
6. BUILDING DIMENSIONS ARE APPROXIMATE, REFER TO ARCHITECTURAL DRAWINGS FOR LAYOUT DIMENSIONS.
7. ALL SIDEWALKS 5' WIDE UNLESS OTHERWISE NOTED

GENERAL NOTES:

1. INSTALL ALL MATERIALS TO MANUFACTURER'S RECOMMENDATIONS AND BEST STANDARDS OF TRADE INVOLVED.
2. SUBSTITUTIONS SHALL BE MADE ONLY WITH OWNER'S APPROVAL AND BE OF EQUIVALENT QUALITY TO WHAT IS SPECIFIED.
3. WORK SHALL BE COMPLETED IN STRICT ACCORDANCE WITH ALL LOCAL CODES AND OSHA SAFETY RULES AND REGULATIONS.
4. VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS AT THE SITE. NOTIFY OWNER & ENGINEER OF DISCREPANCIES IN CONDITIONS SHOWN ON DRAWINGS PRIOR TO PROCEEDING WITH THE WORK.
5. CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTION OF ANY EXISTING STRUCTURES TO REMAIN AND ANY FINISH MATERIAL INSTALLED WHILE WORKING ON OTHER COMPONENTS.
6. CONTRACTOR SHALL KEEP JOB FREE OF DEBRIS AND MAKE FINAL CLEANUP TO SATISFACTION OF OWNER.
7. CONTRACTOR SHALL ASCERTAIN THE LOCATION OF ALL UTILITIES PRIOR TO CONSTRUCTION SO THAT THIS WORK WILL NOT DISTURB EXISTING LINES AND/OR INSTALLATIONS. COORDINATE ALL WORK WITH THE APPLICABLE UTILITY COMPANIES.
8. ALL OTHER PERMITS REQUIRED BY STATE OF NEW YORK, COUNTY OF ERIE, AND CITY OF LACKAWANNA ARE THE RESPONSIBILITY OF THE CONTRACTOR/DEVELOPER/OWNER.

NOTES:

1. CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE CITY OF LACKAWANNA'S SPECIFICATIONS WHERE APPLICABLE.
2. FILL SHALL BE PLACED AND SATISFACTORILY COMPACTED PRIOR TO THE INSTALLATION OF WATER AND SEWER LINES (TYPICAL).
3. ALL UTILITY LOCATIONS SHOWN ARE APPROXIMATE. CONTRACTOR SHALL VERIFY ALL LOCATION BEFORE BEGINNING WORK AS REQUIRED BY APPLICABLE LAWS AND REGULATIONS.

DETAIL LEGEND SEE SITE DETAIL SHEET

1. TYPE "A" CONCRETE CURB
2. CONCRETE SIDEWALK, 5' WIDE UNLESS OTHERWISE NOTED
3. 90° PARKING STALL
4A. STANDARD DUTY ASPHALT
4B. EXTERIOR CONCRETE SLAB ON GRADE
5. HANDICAP PAVEMENT MARKINGS
6. HANDICAPPED PARKING SIGN
7. LIGHT POLE FOUNDATION
8. DUMPSTER ENCLOSURE
9. PRECAST CONCRETE BUMPER

NOTE LEGEND

1. INSTALL "NO PARKING" SIGN, M.U.T.C.D. SIGN NO. R7-1
2. LANDSCAPED AREA - SEE LANDSCAPE PLAN, IF NO PLANTINGS, INSTALL TOPSOIL & SEED
3. RUNOUT CURB IN 2' OR MATCH EXISTING CURB
4. EDGE OF PAVEMENT
5. EXISTING PAVEMENT TO REMAIN, BE SEALED AND STRIPED
6. SAWCUT LINE, MATCH EXISTING EDGE OF PAVEMENT

SITE DATA

SITE AREA = 2.25 AC OVERALL
ZONED: MIXED RESIDENTIAL
DESCRIPTION:

- PROPOSED 3-STORY MEDICAL BUILDING: 31,458 GSF
- PROPOSED MT. OLIVE FIELD HOUSE: 6,946 GSF
- PROPOSED 2-STORY 20-UNIT SENIOR APARTMENTS: 18,508 GSF
- PROPOSED DAYCARE: 2,698 GSF
- EXISTING MT. OLIVE BAPTIST CHURCH: 7,023 GSF

TOTAL ON-SITE BUILDINGS: 66,633 GSF

	REQUIRED	PROVIDED
SETBACKS - BUILDING		
FRONT:	25 FT	*1.76 FT EX
SIDE:	30 FT	*3.46 FT
REAR:	30 FT	*13.37 FT
SETBACKS - PARKING		
FRONT:	25 FT	*5.0 FT
SIDE:	30 FT	*4.88 FT
REAR:	30 FT	*3.83 FT
GREENSPACE		
MINIMUM LANDSCAPE COVERAGE:	20%	(0.54 AC) 24%
PARKING (9' x 19')		
# OF SPACES - SEE CALCULATION BELOW:	121	*89
MAX. BUILDING HEIGHT:	3 STORIES OR 30 FT	< 30 FT
MAXIMUM LOT COVERAGE:	50%	*(1.71 AC) 76%
MAXIMUM BUILDING COVERAGE:	35%	*37%

*VARIANCE REQUIRED

REQUIRED PARKING CALCULATION:

MEDICAL OFFICES, HEALTH CLINICS: 1 PER EXAMINING ROOM PLUS 1 PER EMPLOYEE
"MEDICAL BUILDING" REQUIRED = 40 EXAM ROOMS + 20 EMPLOYEES = 60 SPACES
PUBLIC ASSEMBLY PLACES (AUDITORIUMS, GYMNASIUMS, THEATERS): 1 PER 5 SEATS OR 9 LINEAR FEET OF FIXED BENCHES
"MT OLIVE FIELD HOUSE" REQUIRED = 0 SEATS/BENCHES = 0 SPACES
RESIDENTIAL (MULTIPLE FAMILY OR APARTMENTS): 1 1/2 PER ONE-BEDROOM OR STUDIO UNIT
"SENIOR APARTMENTS" REQUIRED = 20 UNITS X 1 1/2 = 30 SPACES
HOUSES OF WORSHIP: 1 PER 5 FIXED SEATS IN MAIN ASSEMBLY ROOM
"MT OLIVE CHURCH" REQUIRED = 130 SEATS / 5 SEATS = 26 SPACES
SCHOOLS (NURSERY AND PRIMARY): 1 PER EMPLOYEE
"DAYCARE" = 5 EMPLOYEES = 5 SPACES

TOTAL REQUIRED PARKING SPACES = 60 + 0 + 30 + 26 + 5 = 121 SPACES REQUIRED

SITE LEGEND

- PROPERTY LINE
- PROPOSED CONCRETE CURB
- PROPOSED CONCRETE SIDEWALK
- PROPOSED ASPHALT PAVEMENT
- PROPOSED SIGN
- PROPOSED PARKING NUMBER
- PROPOSED LIGHT POLE
- PROPOSED WALL MOUNTED LIGHT

NOTE: BOUNDARY AND TOPOGRAPHIC INFORMATION PROVIDED BY OTHERS, CARMINA WOOD MORRIS, D.P.C. ASSUMES NO RESPONSIBILITY FOR ITS ACCURACY.

30' 30 0 30 60Ft.

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REVISIONS:

No.	Description	Date

PROJECT NAME:

Site Development Plans for:

Mt. Olive Missionary Baptist Church

66 Wasson Avenue
Lackawanna, New York 14218

Date: 1/18/2021
Drawn by: JPB
Scale: As Noted

DRAWING NAME:

Site Plan

DRAWING NO.

C-100

Project no.: 20.166

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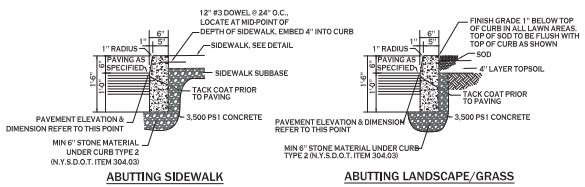
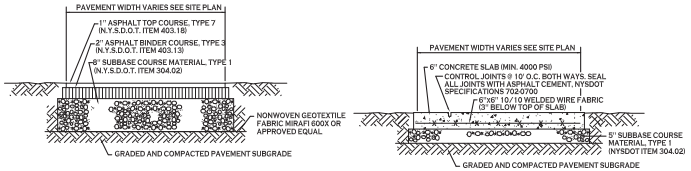


ABUTTING SIDEWALK

ABUTTING LANDSCAPE/GRASS

NOTES:
1. CONTROL JOINTS TO BE 2" DEEP AT 15'-0" O.C. - SEE SPECIFICATIONS FOR FURTHER JOINT REQUIREMENTS NYSDOT 702-0700
2. WHERE THE CURB DROPS (IS FLUSH WITH ASPHALT) THE DEPTH OF CURB BELOW GRADE SHALL BE INCREASED TO 1'-6" AND OTHER DIMENSIONS ADJUSTED ACCORDINGLY

TYPE "A" CONCRETE CURB - 1



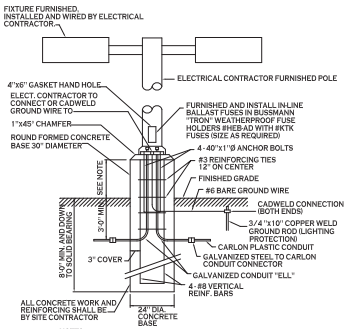
NOTE: CONSTRUCTION METHODS FOR ASPHALT PAVEMENT SHALL CONFORM TO NYSDOT STANDARD SPECIFICATION 401-3, WITH SUBBASE CONSTRUCTION METHODS CONFORMING TO NYSDOT STANDARD SPECIFICATION 304-3.

STANDARD DUTY ASPHALT SECTION - 4A

NOTE: CONCRETE PAVEMENT MATERIAL SHALL CONFORM TO NYSDOT STANDARD SPECIFICATION 501 AND CONSTRUCTION METHODS SHALL CONFORM TO NYSDOT STANDARD SPECIFICATION 502-3.

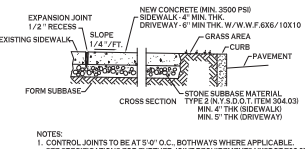
EXTERIOR CONCRETE

SLAB-ON-GRADE SECTION - 4B



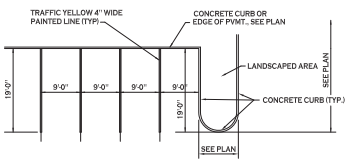
NOTES:
1. FOR LOCATIONS OF FOUNDATIONS SEE SITE PLAN
2. FOR LIGHT FIXTURE ORDERING INFORMATION SEE SITE LIGHTING PLAN
3. LIGHT POLE BASE EXPOSURE ABOVE GRADE SHALL BE:
   IN CURBED ISLANDS: 6" ABOVE TOP OF CURB ELEVATION
   IN PAVEMENT: 3" ABOVE GRADE
   IN NON-CURBED GRASS AREAS: 6" ABOVE GRADE

LIGHT POLE FOUNDATION - 7

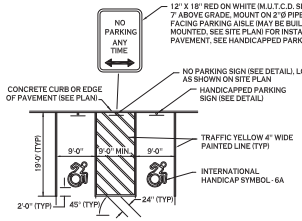


NOTES:
1. CONTROL JOINTS TO BE AT 5'-0" O.C., BOTHWAYS WHERE APPLICABLE. SEE SPECIFICATIONS FOR FURTHER JOINT REQUIREMENTS NYSDOT 702-0700.
2. CONCRETE SIDEWALK AND DRIVEWAY MATERIAL SHALL CONFORM TO NYSDOT STANDARD SPECIFICATION 501 AND CONSTRUCTION METHODS SHALL CONFORM TO NYSDOT STANDARD SPECIFICATION 608-3.
3. SUBBASE GRADE SHALL FOLLOW THE PROPOSED GRADE OF THE SIDEWALK AND SLOPE AWAY FROM BUILDING WHERE APPLICABLE, PROVIDE CONTINUOUS STONE PATH TO CURB UNDERDRAIN WHERE PROVIDED.
4. FULL DEPTH EXPANSION JOINTS SHALL BE INSTALLED EVERY 20' O.C., BOTHWAYS WHERE APPLICABLE. SEE SPECIFICATIONS FOR FURTHER JOINT REQUIREMENTS NYSDOT 702-0700.
5. SEE CURB DETAIL FOR DOWLING REQUIREMENTS WHERE ABUTTING CURB
6. INSTALL 6' LONG #3 DOWELS @ 12" O.C. WHERE SIDEWALK ABUTS A BUILDING WALL AT AN ENTRANCE. THICKEN SIDEWALK TO 6" AT BUILDING WALL AND INSTALL DOWEL CENTERED IN THE 6" DEPTH. DOWELS AND THICKENING OF SIDEWALK SHALL EXTEND 18" EITHER SIDE OF ENTRANCE.
7. INSTALL ½" PREMOLDED EXPANSION JOINT WITH BACKER ROD & SEALANT WHERE SIDEWALK ABUTS BUILDING OR OTHER STRUCTURE

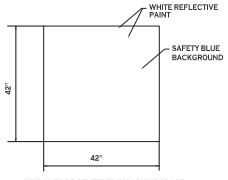
CONCRETE SIDEWALK - 2



90° PARKING STALL LAYOUT - 3

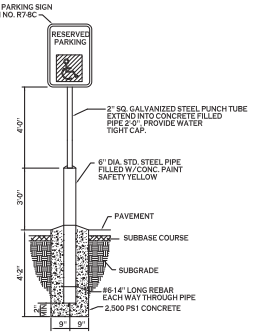


HANDICAPPED PAVEMENT MARKINGS & SIGNAGE - 5



SYMBOL TO BE CENTERED IN PARKING SPACE

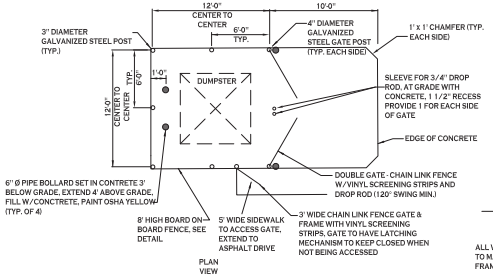
INTERNATIONAL HANDICAP SYMBOL



NOTES:
1. HANDICAPPED PARKING SIGN SHALL CONFORM WITH CURRENT STATE AND LOCAL CODES AND REGULATIONS.

HANDICAPPED PARKING SIGN - 6

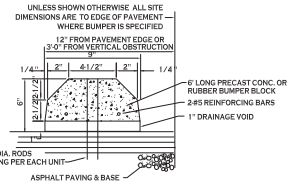
INSTALLED IN PAVEMENT



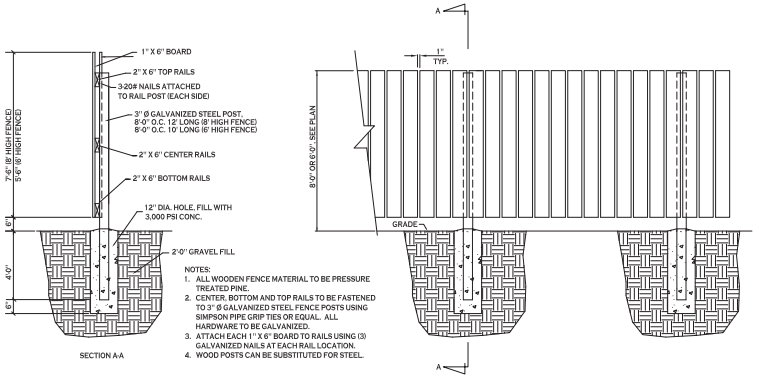
CHAIN LINK FENCE GATE NOTES:

1. GATE POST FOOTINGS TO BE MIN. 36" DEEP x (4x) POST DIAMETER, EXTEND POST TO WITHIN 6" OF BOTTOM.
2. GATE FRAMES TO BE 2" SQ. GALVANIZED STEEL, WEIGHING 2.60 LB/FT IN ACCORDANCE WITH ASTM F 900.
3. CHAIN LINK FENCE FABRIC SHALL BE 2" MESH, 9 GAUGE, ZINC COATED STEEL CORE WIRE. INSTALL MESH WITH HOOK BOLTS AND TENSION BARS ON ALL 4 SIDES, ATTACH AT 15" MAX.
4. DOUBLE GATE LATCH TO BE FORKED TYPE CAPABLE OF RETAINING GATE IN CLOSED POSITION AND HAVE PROVISION FOR PAD LOCK. LATCH SHALL BE OPERABLE FROM EITHER SIDE OF GATE.
5. ALL HARDWARE TO BE HOT DIPPED GALVANIZED STEEL TO SUIT GATE SIZE.

DUMPSTER ENCLOSURE - 8



PRECAST PARKING BUMPER - 9



NOTES:
1. ALL WOODEN FENCE MATERIAL TO BE PRESSURE TREATED PINE.
2. CENTER, BOTTOM AND TOP RAILS TO BE FASTENED TO 3" Ø GALVANIZED STEEL FENCE POSTS USING SIMPSON PIPE GRIP TIES OR EQUAL. ALL HARDWARE TO BE GALVANIZED.
3. ATTACH EACH 1" X 6" BOARD TO RAILS USING (3) GALVANIZED NAILS AT EACH RAIL LOCATION.
4. WOOD POSTS CAN BE SUBSTITUTED FOR STEEL.

BOARD ON BOARD FENCE FENCE

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REVISIONS:
No. Description Date

PROJECT NAME:
Site Development Plans for:
Mt. Olive Missionary Baptist Church
66 Wasson Avenue
Lackawanna, New York 14218

Date: 1/18/2021
Drawn by: JPB
Scale: As Noted

DRAWING NAME:
Site Details

DRAWING NO.
C-101

Project no.: 20.166

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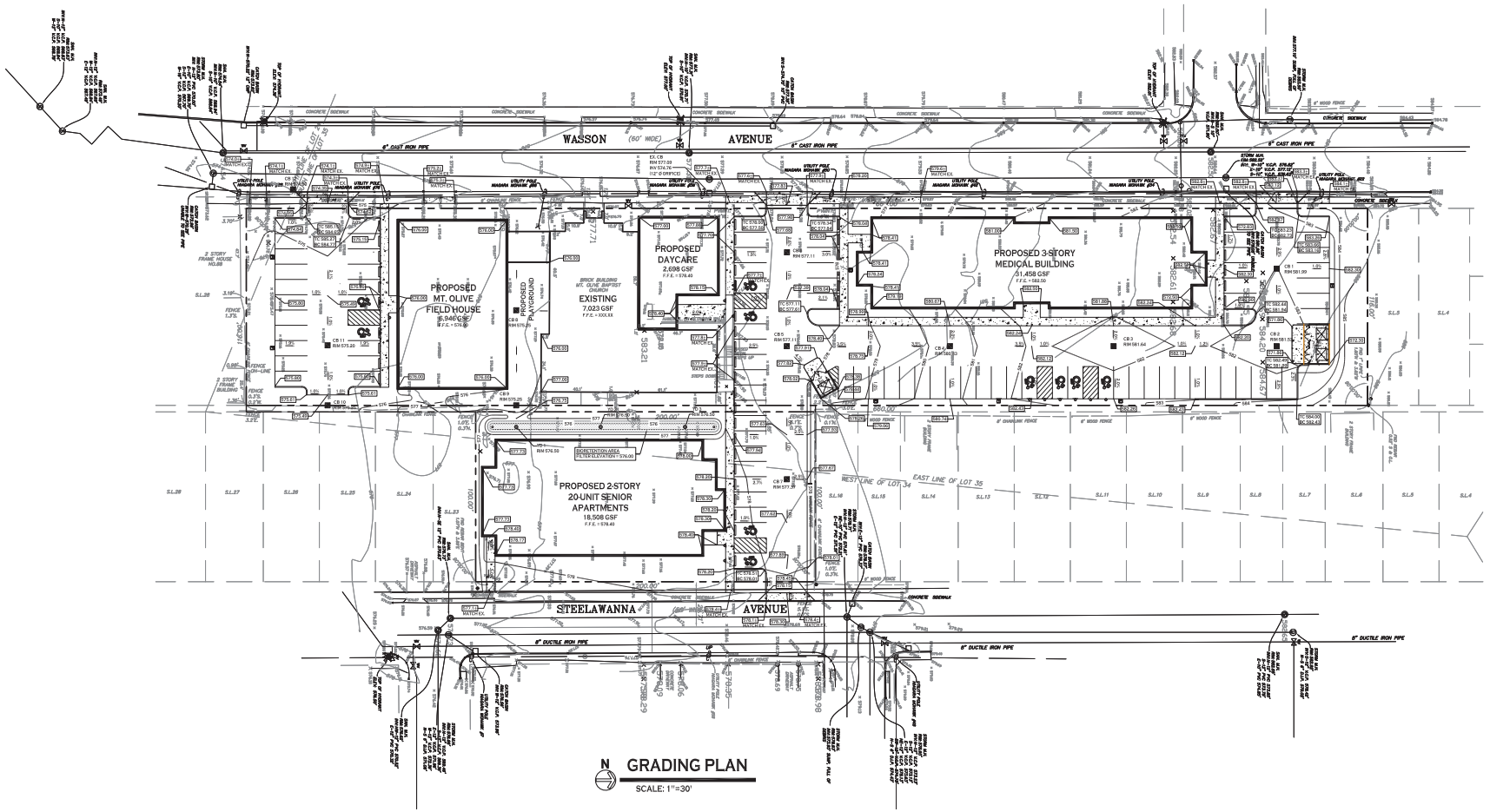

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GRADING PLAN

SCALE: 1"=30'

RUNOFF ANALYSIS:

STORM EVENT	EXISTING RUNOFF	PROPOSED RUNOFF
1 YEAR	1.99 CFS	1.86 CFS @ 571.86
10 YEAR	4.10 CFS	3.22 CFS @ 572.64
25 YEAR	5.21 CFS	3.69 CFS @ 573.11
100 YEAR	7.40 CFS	5.16 CFS @ 575.00

WATER QUALITY SUMMARY:

WQv REQUIRED = 2,369 CF (0.054 AC-FT)
RRv MIN. REQUIRED = 159 CF (0.004 AC-FT)
RRv PROVIDED WITHIN BIORETENTION AREA = 383 CF (0.009 AC-FT)
WQv PROVIDED WITHIN BIORETENTION AREA = 957 CF (0.022 AC-FT)
WQv PROVIDED BY TREATMENT STRUCTURE = 1,412 CF (0.032 AC-FT)
TOTAL WQv PROVIDED = 2,369 CF (0.054 AC-FT)

BIORETENTION FILTER AREA & ELEVATION SUMMARY:

FILTER AREA = 870 SF @ 576.00

PROPOSED GRADING LEGEND

- PROPOSED CONTOUR — 101
- PROPOSED SPOT ELEVATION — 100.80
- PROPOSED TOP/BOTTOM OF CURB ELEV. — TC 100.50 / BC 100.00
- PROPOSED CATCH BASIN — CB
- PAVEMENT/GROUND SLOPE
- PROPOSED YARD DRAIN — YD
- PROPOSED MANHOLE — MH
- PROPOSED STORM SEWER — ST
- PROPOSED STORM W/ SELECT FILL — ST

NOTE: BOUNDARY AND TOPOGRAPHIC INFORMATION PROVIDED BY OTHERS. CARMINA WOOD MORRIS, D.P.C. ASSUMES NO RESPONSIBILITY FOR ITS ACCURACY.

30' 30 0 30 60FT.

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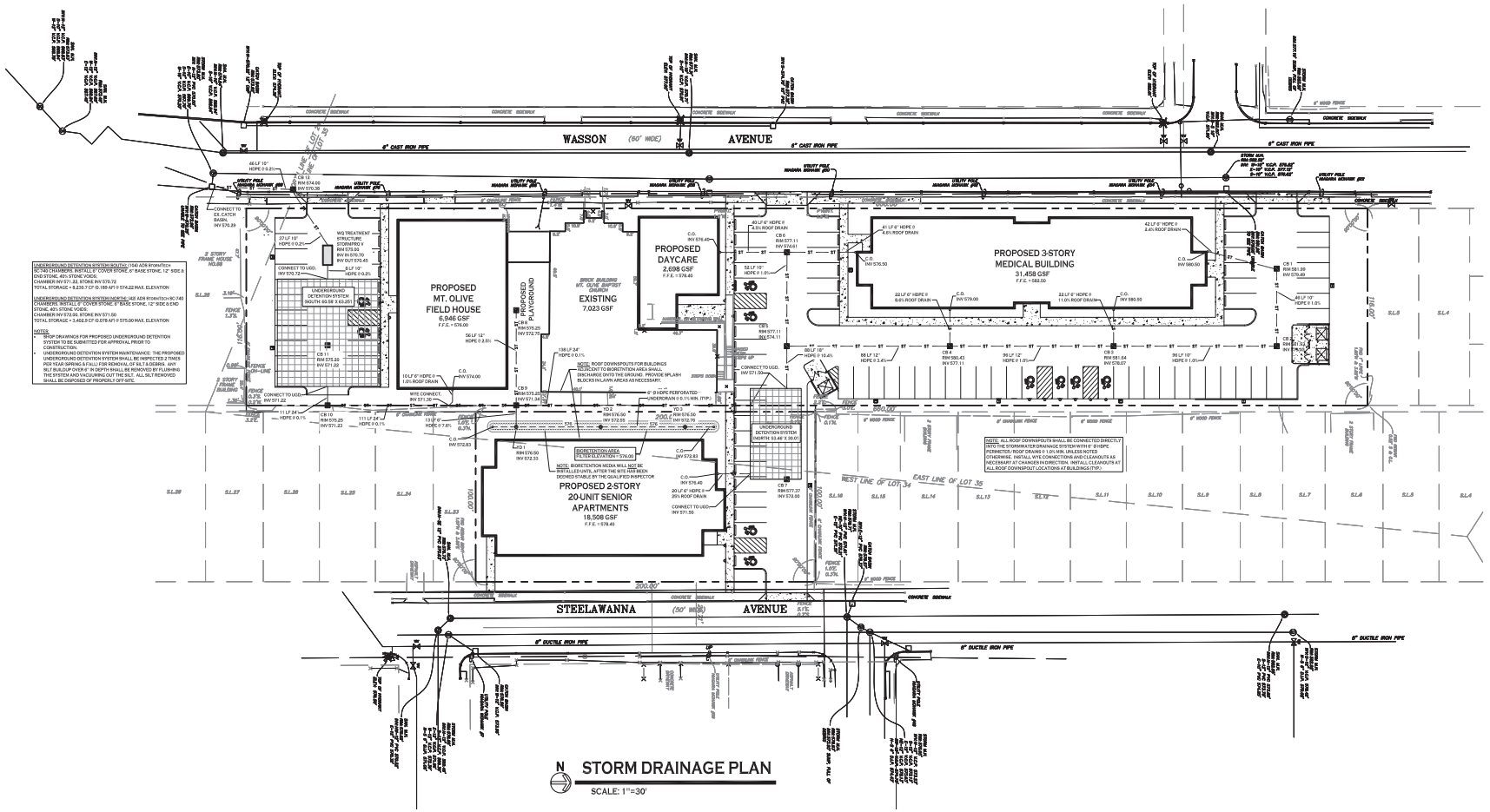
DRAWING NAME:
Grading Plan

DRAWING NO.
C-200

Project no.: 20.166



N

STORM DRAINAGE PLAN

SCALE: 1"=30'

RUNOFF ANALYSIS:

STORM EVENT	EXISTING RUNOFF	PROPOSED RUNOFF
1 YEAR	1.99 CFS	1.86 CFS @ 571.86
10 YEAR	4.10 CFS	3.22 CFS @ 572.64
25 YEAR	5.21 CFS	3.69 CFS @ 573.11
100 YEAR	7.40 CFS	5.16 CFS @ 575.00

WATER QUALITY SUMMARY:

WQv REQUIRED = 2,369 CF (0.054 AC-FT)
RRv MIN. REQUIRED = 159 CF (0.004 AC-FT)
RRv PROVIDED WITHIN BIORETENTION AREA = 383 CF (0.009 AC-FT)
WQv PROVIDED WITHIN BIORETENTION AREA = 957 CF (0.022 AC-FT)
WQv PROVIDED BY TREATMENT STRUCTURE = 1,412 CF (0.032 AC-FT)
TOTAL WQv PROVIDED = 2,369 CF (0.054 AC-FT)

BIORETENTION FILTER AREA & ELEVATION SUMMARY:

FILTER AREA = 870 SF @ 576.00

PROPOSED UTILITY LEGEND

- PROPOSED STORM SEWER — ST —
- PROPOSED SANITARY SEWER — 6"SA —
- PROPOSED WATERLINE — 1"W —
- PROPOSED GAS (G), ELECTRIC (E), CABLE (C), & TELEPHONE (T)
- PROPOSED CATCH BASIN ■ CB
- PROPOSED YARD DRAIN ● YD
- PROPOSED MANHOLE ● MH
- PROPOSED HYDRANT ASSEMBLY
- PROPOSED GATE VALVE ⊕ GV

NOTE: FOR PROPOSED VALVE BOXES, CLEANOUTS, ETC., INSTALL A 3000 PSI CONCRETE COLLAR AROUND THE ITEM AT GRADE. THE COLLAR SHALL BE A MIN. OF 6" WIDER, ON ALL SIDES, THAN THE BOX, CLEANOUT, ETC. THE COLLAR SHALL BE A MIN. OF 6" THICK.

NOTE: BOUNDARY AND TOPOGRAPHIC INFORMATION PROVIDED BY OTHERS. CARMINA WOOD MORRIS, D.P.C. ASSUMES NO RESPONSIBILITY FOR ITS ACCURACY.

30' 30 0 30 60Ft.

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REVISIONS:
No. Description Date

PROJECT NAME:
Site Development Plans for:
Mt. Olive Missionary Baptist Church
66 Wasson Avenue
Lackawanna, New York 14218

Date: 1/18/2021
Drawn by: JPB
Scale: As Noted

DRAWING NAME:
Storm Drainage Plan

DRAWING NO.
C-300

Project no.: 20.166

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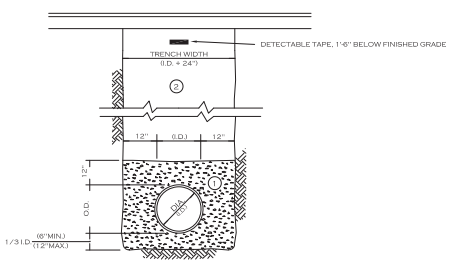


NOTES:

A. PIPE INSTALLATION SHALL BE IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS.

B. TRENCHING OPERATIONS SHALL INCLUDE ALL NECESSARY DEWATERING.

C. TRENCH DETAILS ARE ONLY SHOWN FOR PURPOSES OF MATERIAL PLACEMENT AND MAXIMUM PAY LIMITS.

D. AN OSHA APPROVED MOVABLE PROTECTIVE TRENCH SHIELD SHALL BE USED IN ALL UNSHEETED TRENCH AREAS.

MATERIALS

PIPE BEDDING MATERIAL (NYSDOT 1985 EDITION)

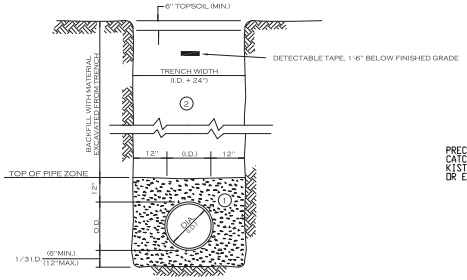
(1) NO. 1 CRUSHED STONE OR CRUSHED GRAVEL WITH A GRADATION CONFORMING WITH NYSDOT SECTION 703-02. THE MATERIAL SHALL BE WELL GRADED WITH NO PARTICLES LARGER THAN ONE INCH AND HAVING A MAXIMUM GRADATION MEETING THE LIMITS DESCRIBED IN THE SPECIFICATIONS. THE BEDDING SHALL BE COMPACTED IN 6" LIFTS WITH EQUIPMENT ACCEPTABLE TO THE PIPE MANUFACTURER.

NO SLAG SHALL BE ALLOWED FOR MATERIAL (1)

(2) TYPE 2 CRUSHED STONE OR CRUSHED GRAVEL WITH A GRADATION CONFORMING WITH NYSDOT SECTION 304-2.02 TYPE 2. THE MATERIAL SHALL BE WELL GRADED WITH NO PARTICLES LARGER THAN TWO INCHES AND HAVING A MAXIMUM GRADATION MEETING THE LIMITS DESCRIBED IN THE SPECIFICATIONS. THE BEDDING SHALL BE COMPACTED IN 6" LIFTS WITH EQUIPMENT ACCEPTABLE TO THE PIPE MANUFACTURER.

NO SLAG SHALL BE ALLOWED FOR MATERIAL (2)

STORM SEWER TRENCH SECTION IN PAVED AREAS



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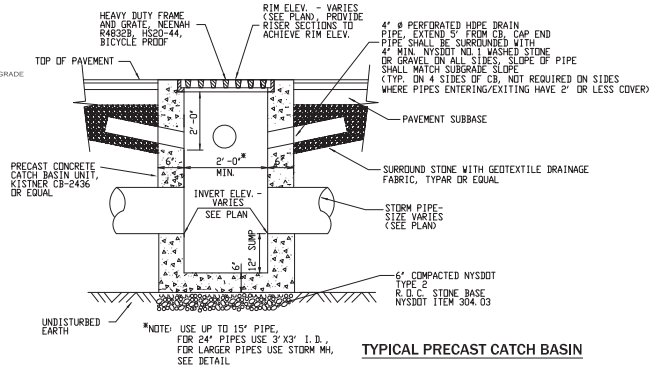
NO SLAG SHALL BE ALLOWED FOR MATERIAL (1)

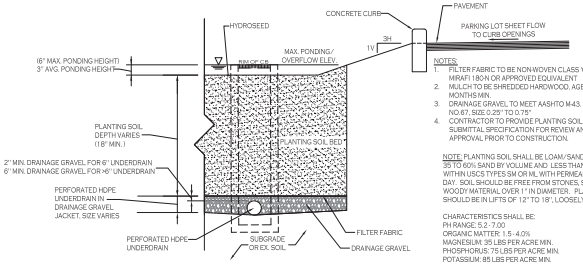
(2) BACKFILL MATERIAL SHALL BE NATIVE SOIL CONTAINING NO UNSUITABLE MATERIAL COMPACTED IN 6" LIFTS.

STORM SEWER TRENCH SECTION IN UNPAVED AREAS



*NOTE: USE UP TO 15' PIPE, FOR 24" PIPES USE 3' X3' I.D., FOR LARGER PIPES USE STORM MH, SEE DETAIL

TYPICAL PRECAST CATCH BASIN



NOTES:
1. FILTER FABRIC TO BE NON-WOVEN CLASS 'C', MIRAFI 180N OR APPROVED EQUIVALENT.
2. MULCH TO BE SHREDDED HARDWOOD, AGED 12 MONTHS MIN.
3. DRAINAGE GRAVEL, TO MEET AASHTO M-43, NO.67, SIZE 0.25" TO 0.75"
4. CONTRACTOR TO PROVIDE PLANTING SOIL SUBMITTAL SPECIFICATION FOR REVIEW AND APPROVAL PRIOR TO CONSTRUCTION.

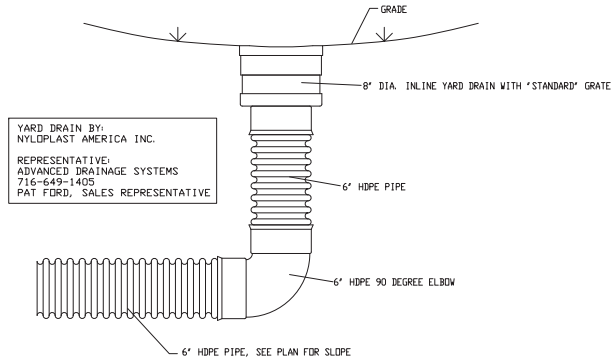
NOTE: PLANTING SOIL SHALL BE LOAM/SAND MIX CONTAINING A MINIMUM OF 35 TO 60% SAND BY VOLUME AND LESS THAN 25% CLAY. SOIL SHOULD FALL WITHIN USCS TYPES SM OR ML WITH PERMEABILITY OF AT LEAST 1.0 FEET PER DAY. SOIL SHOULD BE FREE FROM STONES, STUMPS, ROOTS OR OTHER WOODY MATERIAL OVER 1" IN DIAMETER. PLACEMENT OF THE PLANTING SOIL SHOULD BE IN LIFTS OF 12" TO 18", LOOSELY COMPACTED.

CHARACTERISTICS SHALL BE:
PH RANGE: 5.2 -7.00
ORGANIC MATTER: 1.5 - 4.0%
MAGNESIUM: 35 LBS PER ACRE MIN.
PHOSPHORUS: 75 LBS PER ACRE MIN.
POTASSIUM: 85 LBS PER ACRE MIN.
SOLUBLE SALTS: 500 PPM
CLAY: 10 TO 25%
SILT: 30 TO 55%
SAND: 35 TO 60%

BIO-RETENTION AREA SEEDING SPEC (NORTHEAST WETLAND GRASS SEED MIX):

SEED MIXTURE	VARIETY	PERCENT BY NO. OF SEEDS
CREEPING BENTGRASS	AGROSTIS STOLONIFERA	63.0
ROUGH BLUEGRASS	POA TRIVIALIS	17.0
MEADOW FOXTAIL	ALOPECURUS ARUNDINACEUS	11.0
ANNUAL RYEGRASS	LOLIUM MULTIFLORUM	4.5
DEERTONGUE	PANICUM CLANDESTINUN	4.5

BIORETENTION AREA - TYPICAL SECTION



NOTE:
SEE TYPICAL TRENCH SECTION FOR BEDDING REQUIREMENTS

TYPICAL YARD DRAIN DETAIL

PRECAST CONCRETE CATCH BASIN

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REVISIONS:
No. Description Date

PROJECT NAME:
Site Development Plans for:
Mt. Olive Missionary Baptist Church
66 Wasson Avenue
Lackawanna, New York 14218

Date: 1/18/2021
Drawn by: JPB
Scale: As Noted

DRAWING NAME:
Storm Drainage Details

DRAWING NO.
C-301

Project no.: 20.166

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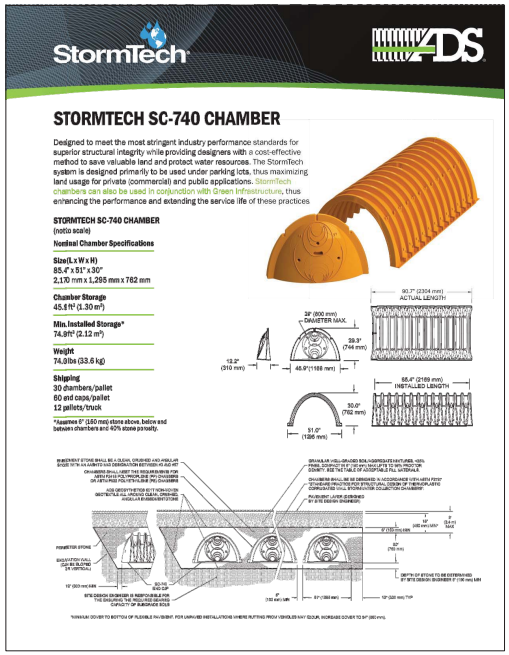


StormTech

ADS

STORMTECH SC-740 CHAMBER

Designed to meet the most stringent industry performance standards for superior structural integrity while providing designers with a cost-effective method to save valuable land and protect water resources. The StormTech system is designed primarily to be used under parking lots, thus maximizing land usage for private (commercial) and public applications. StormTech chambers can also be used in conjunction with Green Infrastructure, thus enhancing the performance and extending the service life of these practices.

STORMTECH SC-740 CHAMBER
(not to scale)

Nominal Chamber Specifications

Size (L x W x H)
85.4" x 51" x 30"
2,170 mm x 1,295 mm x 762 mm

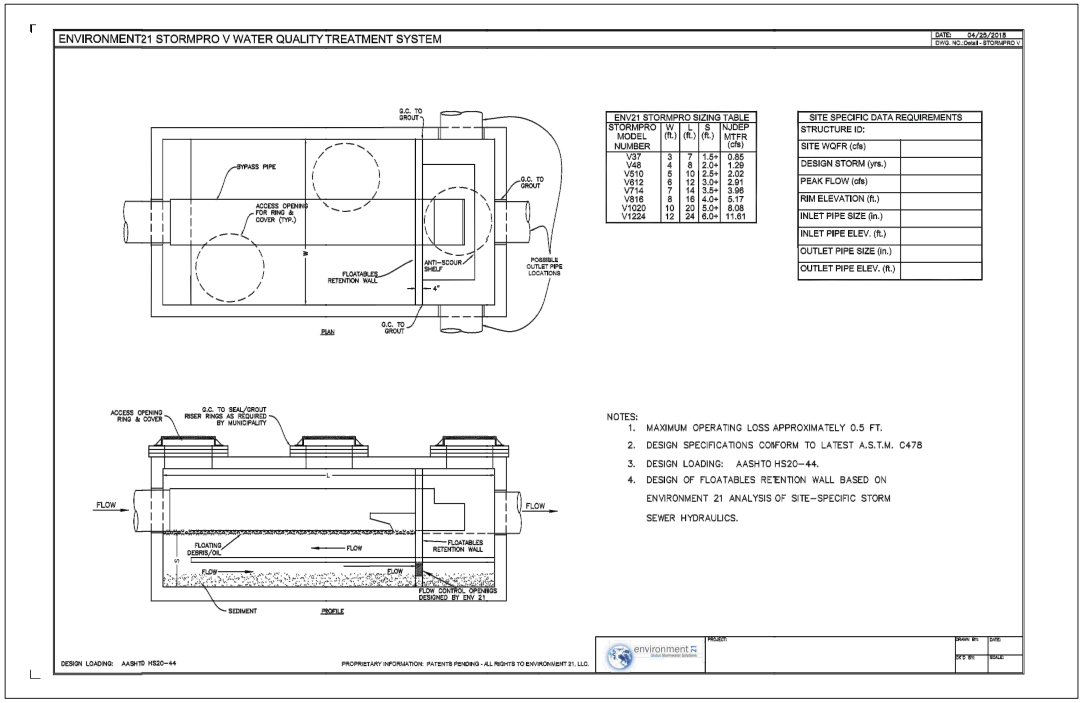
Chamber Storage
45.6 ft³ (1.30 m³)

Min. Installed Storage*
74.9ft³ (2.12 m³)

Weight
74.0lbs (33.6 kg)

Shipping
30 chambers/pallet
60 end caps/pallet
12 pallets/truck

*Assumes 6" (150 mm) stone above, below and between chambers and 40% stone porosity.



ENVIRONMENT21 STORMPRO V WATER QUALITY TREATMENT SYSTEM

DATE: 04/20/2018
DWG. NO.: Detail - STORMPRO V

ENV21 STORMPRO SIZING TABLE

STORMPRO MODEL NUMBER	W (ft.)	L (ft.)	S (ft.)	NJDEP MTFR (cfs)
V37	3	7	1.5+	0.85
V48	4	8	2.0+	1.29
V510	5	10	2.5+	2.02
V612	6	12	3.0+	2.91
V714	7	14	3.5+	3.96
V816	8	16	4.0+	5.17
V1020	10	20	5.0+	8.08
V1224	12	24	6.0+	11.61

SITE SPECIFIC DATA REQUIREMENTS	
STRUCTURE ID:	
SITE WQFR (cfs)	
DESIGN STORM (yrs.)	
PEAK FLOW (cfs)	
RIM ELEVATION (ft.)	
INLET PIPE SIZE (in.)	
INLET PIPE ELEV. (ft.)	
OUTLET PIPE SIZE (in.)	
OUTLET PIPE ELEV. (ft.)	

NOTES:
1. MAXIMUM OPERATING LOSS APPROXIMATELY 0.5 FT.
2. DESIGN SPECIFICATIONS CONFORM TO LATEST A.S.T.M. C478
3. DESIGN LOADING: AASHTO HS20-44.
4. DESIGN OF FLOATABLES RETENTION WALL BASED ON ENVIRONMENT 21 ANALYSIS OF SITE-SPECIFIC STORM SEWER HYDRAULICS.

DESIGN LOADING: AASHTO HS20-44

PROPRIETARY INFORMATION. PATENTS PENDING - ALL RIGHTS TO ENVIRONMENT 21, LLC.

environment 21

PROJECT:
DRAWN BY:
DATE:
CK'D BY:
SCALE:

Carmina Wood Morris DPC
487 Main Street Suite 600
Buffalo, New York 14203
P 716.842.3165
F 716.842.0263

REVISIONS:
No. Description Date

PROJECT NAME:
Site Development Plans for:
Mt. Olive Missionary Baptist Church
66 Wasson Avenue
Lackawanna, New York 14218

Date: 1/18/2021
Drawn by: JPB
Scale: As Noted

DRAWING NAME:
Storm Drainage Details

DRAWING NO.
C-302

Project no.: 20.166

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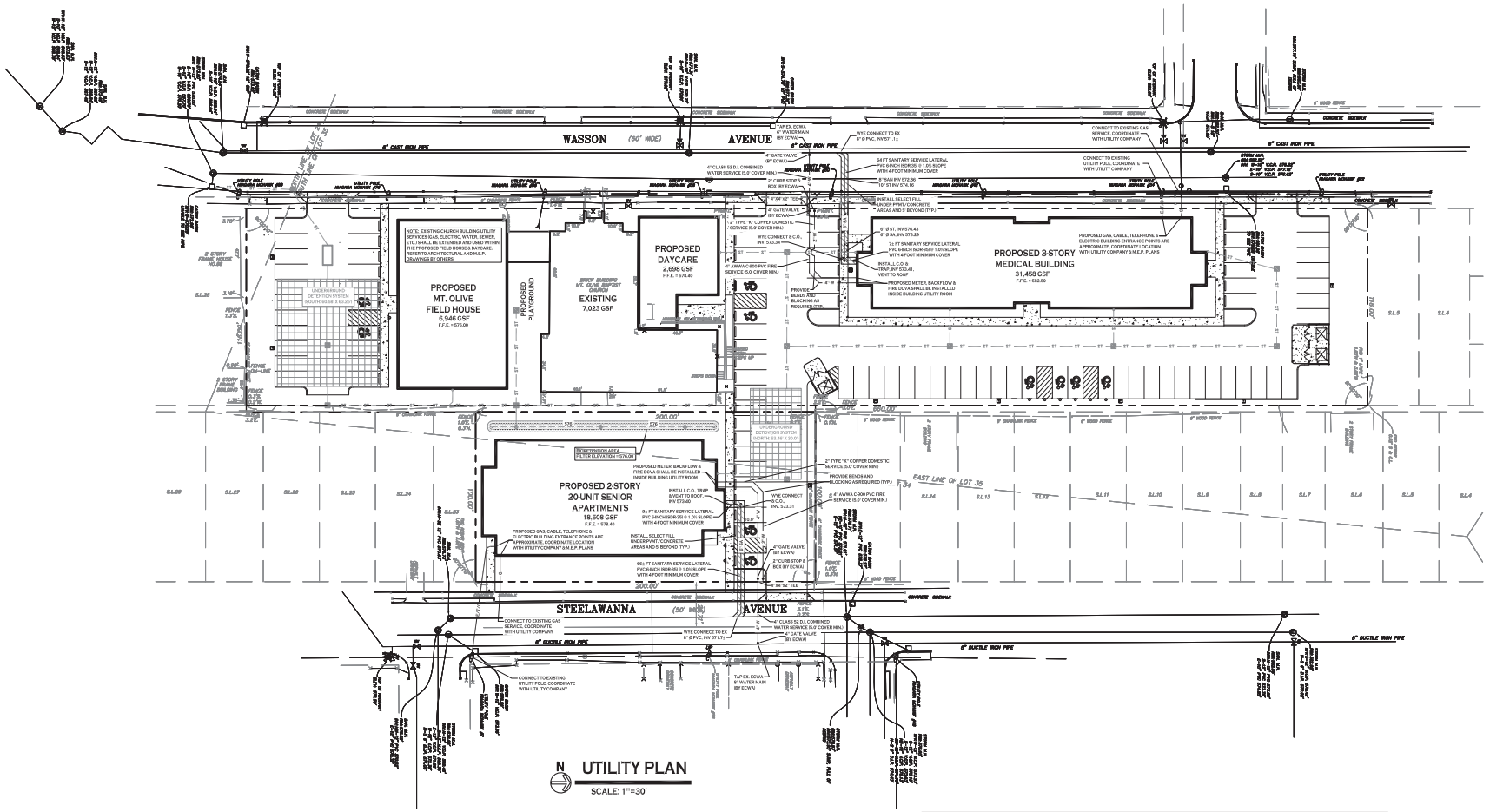

N

UTILITY PLAN

SCALE: 1"=30'

SANITARY SEWER NOTES:

A. "THE CONTRACTOR IS ADVISED THAT A TRENCH SHIELD AND/OR SHORING DESIGNED IN ACCORDANCE WITH OSHA STANDARDS SHALL BE USED IN ALL OPEN TRENCH EXCAVATIONS."

B. "ANY CONTRACTOR AND/OR PLUMBER PERFORMING WORK IN A CONFINED SPACE (i.e. MANHOLES, WETWELLS, CHAMBERS) OWNED BY AN ERIE COUNTY SEWER DISTRICT, MUST CERTIFY TO THE COUNTY THAT THEY HAVE THEIR OWN CONFINED SPACE ENTRY PROGRAM THAT MEETS OR EXCEEDS OSHA'S REGULATIONS. CERTIFICATION MUST BE NOTARIZED BY A NOTARY PUBLIC."

C. "CONSTRUCTION SHALL CONFORM TO THE RULES AND REGULATIONS FOR ERIE COUNTY SEWER DISTRICTS."

D. IF ANY PROPOSED SEWER LATERAL RUNS UNDER PAVED AREA AND HAS LESS THAN FOUR (4) FEET OF COVER, CONCRETE ENCASEMENT IS REQUIRED. IF MORE THAN FOUR (4) FEET OF COVER IS PROVIDED IN PAVED AREAS, SELECT FILL IS REQUIRED.

E. THE CONTRACTOR MUST NOTIFY THE DISTRICT OFFICE 24 HOURS IN ADVANCE OF CONSTRUCTION.

F. VENTS MUST BE INSTALLED SIX (6) INCHES ABOVE GRADE, IN A GRASSY AREA WITH A MUSHROOM CAP. IF THE VENT IS IN A SIDEWALK OR PAVED AREA, PROTECT WILL BOLLARDS (3 MINIMUM).

G. CLEANOUTS (C.O.) ARE REQUIRED EVERY ONE HUNDRED FEET (100') AND AT CHANGE IN DIRECTION.

H. ABANDONED SANITARY SEWER CONNECTIONS FROM THE SITE, IF ANY, REQUIRE PROOF OF A DISTRICT PERMIT FOR DISCONNECTION PRIOR TO THE NEW CONNECTION BEING MADE.

I. REUSE OF EXISTING BUILDING SEWERS SHALL CONFORM TO RULES & REGULATIONS FOR ECSD, ARTICLE III, SECTION 304.

J. NEW YORK STATE EXCAVATOR LAW: ALL EXCAVATION PERFORMED ON OR AFTER MAY 4, 2019 SHALL BE CONDUCTED BY AN EXCAVATOR OPERATOR WHO HAS COMPLETED THE TRAINING AND EDUCATION PROGRAM PROVIDED BY THE ONE-CALL NOTIFICATION SYSTEM OR ANOTHER AUTHORIZED PROVIDER PURSUANT TO NEW YORK STATE SENATE BILL S.6756A. NO EXCAVATOR OPERATOR IS PERMITTED TO PERFORM ANY EXCAVATION ON OR AFTER MAY 4, 2019 WITHOUT RECEIVING THE PROPER TRAINING AND EDUCATION PROGRAM.

UTILITY NOTES:

1. FOR ALL SANITARY SEWERS, INSTALL SELECT FILL IN PAVED AREAS, EXTEND 5' MIN. BEYOND PAVEMENT LIMITS
2. COORDINATE GAS & ELEC. METER BANK LOCATIONS ON BUILDING WITH M.E.P. PLANS & UTILITY CO.'S.
3. COORDINATE LOCATION OF CTV & TELEPHONE SERVICE TO BUILDING WITH M.E.P. PLANS AND UTILITY CO.'S.
4. ANY EXISTING UTILITIES WHICH ARE TO BE ABANDONED AND FALL UNDER PAVEMENT OR BUILDINGS SHALL BE REMOVED VS. BEING ABANDONED UNLESS THOSE UTILITIES ARE FILLED WITH FLOWABLE FILL.
5. EXISTING GAS SERVICES TO REMAIN UNLESS OTHERWISE NOTED. ANY PORTIONS TO BE RELOCATED SHALL BE COORDINATED WITH NATIONAL FUEL GAS.
6. ALL UNDERGROUND TELEPHONE SERVICES SHALL REMAIN AND BE PROTECTED DURING CONSTRUCTION.
7. A MINIMUM OF 10 FEET HORIZONTAL AND 18 INCHES OF VERTICAL SEPARATION MUST BE MAINTAINED BETWEEN ALL SANITARY SEWER AND WATER SERVICES.
8. SELECT BACKFILL IS REQUIRED FOR ALL UTILITIES (GAS, WATER, STORM, SANITARY) THAT CROSS THROUGH PAVEMENT AREAS.
9. ALL SANITARY SEWER CONSTRUCTION SHALL CONFORM TO THE CITY OF LACKAWANNA SPECIFICATIONS AND DETAILS, AND ERIE COUNTY DEPARTMENT DIVISION OF SEWER MANAGEMENT RULES AND REGULATIONS.
10. FILL SHALL BE PLACED AND SATISFACTORILY COMPACTED PRIOR TO INSTALLATION OF UTILITIES, AND MUST BE APPROVED BY THE SUPERVISING PROJECT ENGINEER.
11. ALL WATERLINE SERVICE CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE ERIE COUNTY WATER AUTHORITY AND ERIE COUNTY DEPARTMENT OF HEALTH REQUIREMENTS.
12. ALL NEW WATER SERVICES TO HAVE 5'-0" MINIMUM COVER.
13. THE ERIE COUNTY WATER AUTHORITY IS TO BE NOTIFIED A MINIMUM OF 48-HOURS PRIOR TO STARTING THE CONNECTION TO THE NEW WATER SERVICE.
14. ALL OTHER REQUIRED PERMITS BY THE STATE OF NEW YORK, COUNTY OF ERIE AND CITY OF LACKAWANNA ARE THE RESPONSIBILITY OF THE CONTRACTOR/DEVELOPER.

LOCATION MAP

NOT TO SCALE

PROPOSED UTILITY LEGEND

PROPOSED STORM SEWER	ST
PROPOSED SANITARY SEWER	6"SA
PROPOSED WATERLINE	1"W
PROPOSED GAS (G), ELECTRIC (E), CABLE (C), & TELEPHONE (T)	
PROPOSED CATCH BASIN	CB
PROPOSED YARD DRAIN	YD
PROPOSED MANHOLE	MH
PROPOSED HYDRANT ASSEMBLY	
PROPOSED GATE VALVE	GV

NOTE: FOR PROPOSED VALVE BOXES, CLEANOUTS, ETC., INSTALL A 3000 PSI CONCRETE COLLAR AROUND THE ITEM AT GRADE. THE COLLAR SHALL BE A MIN. OF 6" WIDER, ON ALL SIDES, THAN THE BOX, CLEANOUT, ETC. THE COLLAR SHALL BE A MIN. OF 6" THICK.

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30' 30 0 30 60FT.

Carmina Wood Morris DPC
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REVISIONS:

No.	Description	Date

PROJECT NAME:
Site Development Plans for:
Mt. Olive Missionary Baptist Church
66 Wasson Avenue
Lackawanna, New York 14218

Date: 1/18/2021
Drawn by: JPB
Scale: As Noted

DRAWING NAME:
Utility Plan

DRAWING NO.
C-400

Project no.: 20.166

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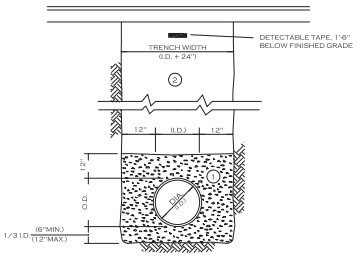

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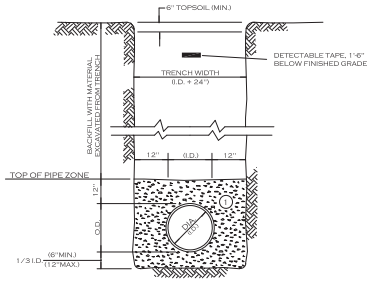
SELECT MATERIAL BACKFILL (NYSDOT LATEST EDITION)

② NO.2 RUN OF CRUSHER STONE OR NO.2 RUN OF CRUSHER GRAVEL WITH A GRADATION CONFORMING WITH NYSDOT SECTION 304-2.02 TYPE 4 AND NYSDOT SECTION 703-02. (COMPACTED IN 6"LIFTS TO 90% DENSITY) NOTE: SLAG SHALL NOT BE ALLOWED FOR MATERIALS ① AND ②

UTILITY TRENCH SECTION IN PAVED AREAS



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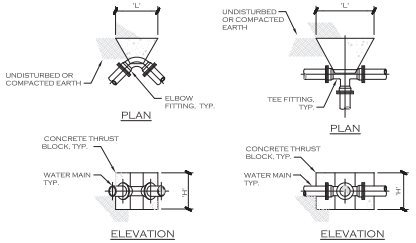
② NO.2 RUN OF CRUSHER STONE OR NO.2 RUN OF CRUSHER GRAVEL WITH A GRADATION CONFORMING WITH NYSDOT SECTION 304-2.02 TYPE 4 AND NYSDOT SECTION 703-02. (COMPACTED IN 6"LIFTS TO 90% DENSITY) NOTE: SLAG SHALL NOT BE ALLOWED FOR MATERIALS ① AND ②

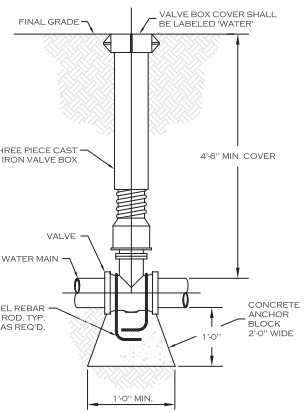
UTILITY TRENCH SECTION IN UNPAVED AREAS



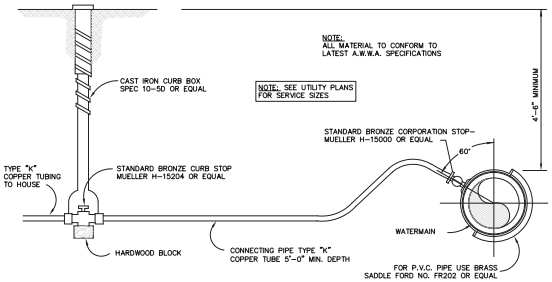
DIMENSION SCHEDULE		
PIPE SIZE	TEE OR TAP SLEEVE	
—	'H'	'L'
4"	1.5'	1.0'
6"	1.5'	2.5'
8"	1.5'	3.5'
10"	2.5'	3.5'
12"	3.5'	3.5'

DIMENSION SCHEDULE									
PIPE SIZE	90° ELBOW		45° ELBOW		22.5° ELBOW		11.25° ELBOW		
	'H'	'L'	'H'	'L'	'H'	'L'	'H'	'L'
4"	1.5'	2.0'	1.0'	2.0'	1.0'	1.0'	1.0'	1.0'
6"	2.0'	2.5'	1.5'	2.0'	1.0'	1.5'	1.0'	1.5'
8"	2.5'	3.5'	2.0'	2.5'	1.5'	1.5'	1.0'	2.0'
10"	3.0'	4.5'	2.5'	3.0'	1.5'	3.0'	1.0'	2.5'
12"	3.5'	5.0'	3.0'	3.5'	2.5'	2.5'	1.5'	2.5'

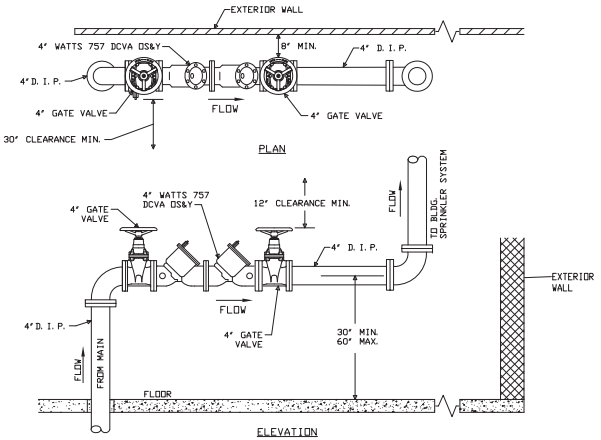
THRUST BLOCK SCHEDULE



TYPICAL GATE VALVE DETAIL



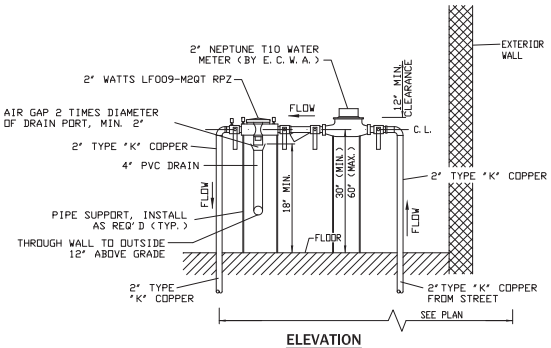
TYPICAL WATER SERVICE LINE INSTALLATION



4" FIRE SERVICE - WATTS 757 DCVA OS&Y

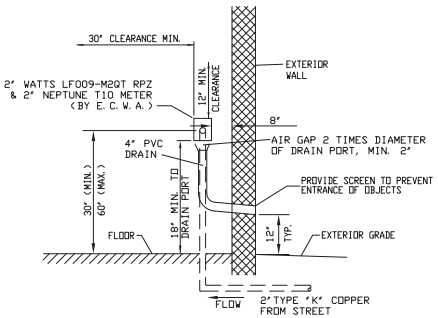
SCALE: NONE

NOTES:
1. NO TAPS TO BE MADE UPSTREAM OF RPZ & METER.
2. HEAT, LIGHT AND ELECTRIC TO BE PROVIDED AT RPZ LOCATION.
3. COORDINATE LOCATION WITH ARCHITECTURAL PLANS.



ELEVATION

SCALE: NONE



ELEVATION

SCALE: NONE

2" DOMESTIC SERVICE BACKFLOW PREVENTER INSTALLATION

SCALE: NONE

NOTES:
1. NO TAPS TO BE MADE UPSTREAM OF RPZ & METER.
2. HEAT, LIGHT AND ELECTRIC TO BE PROVIDED AT RPZ LOCATION.
3. COORDINATE LOCATION WITH ARCHITECTURAL PLANS.

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REVISIONS:

No.	Description	Date

PROJECT NAME:
Site Development Plans for:
Mt. Olive Missionary Baptist Church
66 Wasson Avenue
Lackawanna, New York 14218

Date: 1/18/2021
Drawn by: JPB
Scale: As Noted

DRAWING NAME:
Utility Details

DRAWING NO.
C-401

Project no.: 20.166

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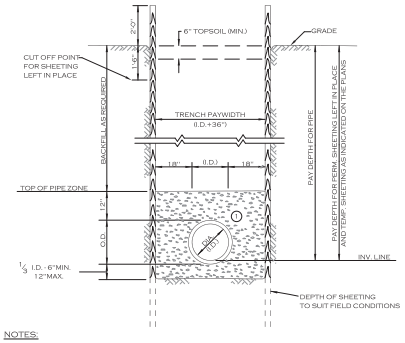
SHEETED TRENCH
(JANUARY 2012)



NOTES:

1. MAINTAIN 18" BETWEEN PIPE AND INSIDE FACE OF TEMPORARY SHEETING. IF SHEETING EXTENDS BELOW PIPE INVERT AS SHOWN, WHEN PVC PIPE MATERIAL IS USED, COMPACT MATERIAL ① 1 BEFORE PULLING THE SHEETING.
2. SHEETED TRENCH OPERATIONS SHALL INCLUDE ALL NECESSARY DEWATERING EQUIPMENT.
3. SHEETING DRIVEN BELOW THE INVERT OF THE PIPE FOR BEDDING MATERIAL AND TOE SUPPORT WILL NOT BE CONSIDERED IN THE FORMULA FOR PAYMENT BUT SHOULD BE FIGURED BY THE CONTRACTOR IN DETERMINING HIS UNIT BID PRICE PER SQUARE FOOT OF SHEETING.
4. WHERE INDICATED ON THE PLANS OR AS ORDERED BY THE ENGINEER, TEMPORARY SHEETING WILL BE PAID FOR UNDER THE APPLICABLE BID ITEM. OTHER AREAS WHERE THE CONTRACTOR ELECTS TO USE TEMPORARY SHEETING NOT PREVIOUSLY AUTHORIZED BY THE ENGINEER SHALL BE AT HIS OPTION AND EXPENSE.

MATERIALS

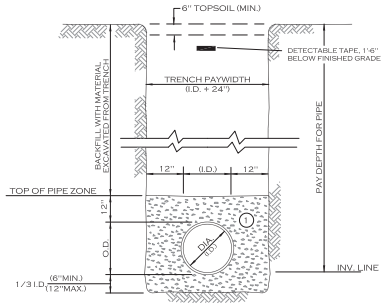
PIPE BEDDING MATERIAL (NYSDOT LATEST EDITION)

① **NO.1 CRUSHED STONE WITH A GRADATION CONFORMING WITH NYSDOT SECTION 703-02. THE CRUSHED STONE SHALL BE WELL GRADED WITH NO PARTICLES LARGER THAN 1" AND HAVING A MAXIMUM GRADATION MEETING THE LIMITS DESCRIBED IN THE SPECIFICATIONS. THE BEDDING SHALL BE COMPACTED IN 6" LIFTS WITH EQUIPMENT ACCEPTABLE TO THE PIPE MANUFACTURER.**

NOTE: SLAG SHALL NOT BE ALLOWED FOR MATERIALS ①

ERIE COUNTY DEPT. OF ENVIRONMENT & PLANNING DIVISION OF SEWERAGE MANAGEMENT	Rev. 1 2/7/94	REVISED TOPSOIL DIMENSION	STD.DETAIL 2
	Rev. 2 6/5/06	UPDATED MATERIALS TO NYSDOT LATEST EDITION	
	File: D-02	Date: 3/1/91	

UNSHEETED TRENCH DETAIL
(JANUARY 2012)



NOTES:

A. PIPE INSTALLATION SHALL BE IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS.

B. TRENCHING OPERATIONS SHALL INCLUDE ALL NECESSARY DEWATERING.

C. TRENCH DETAILS ARE ONLY SHOWN FOR PURPOSES OF MATERIAL PLACEMENT AND MAXIMUM PAY LIMITS.

D. AN OSHA APPROVED MOVABLE PROTECTIVE TRENCH SHIELD SHALL BE USED IN ALL UNSHEETED TRENCH AREAS.

MATERIALS

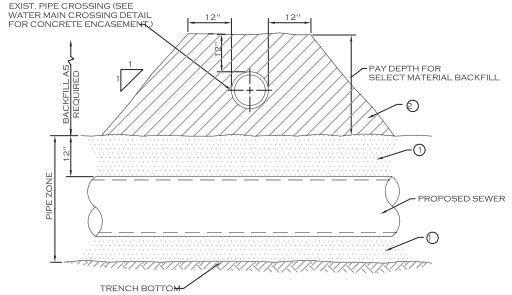
PIPE BEDDING MATERIAL (NYSDOT LATEST EDITION)

① **NO.1 CRUSHED STONE WITH A GRADATION CONFORMING WITH NYSDOT SECTION 703-02. THE CRUSHED STONE SHALL BE WELL GRADED WITH NO PARTICLES LARGER THAN 1" AND HAVING A MAXIMUM GRADATION MEETING THE LIMITS DESCRIBED IN THE SPECIFICATIONS. THE BEDDING SHALL BE COMPACTED IN 6" LIFTS WITH EQUIPMENT ACCEPTABLE TO THE PIPE MANUFACTURER.**

NOTE: SLAG SHALL NOT BE ALLOWED FOR MATERIALS ①

ERIE COUNTY DEPT. OF ENVIRONMENT & PLANNING DIVISION OF SEWERAGE MANAGEMENT	Rev. 1 5/20/93	NOTE 2: PIPE INSTALLATION	STD.DETAIL 1
	Rev. 2 2/7/94	ADDED NOTE C & D	
	File:D1	Date: 3/1/91	

PIPE CROSSING SUPPORT DETAIL
(JANUARY 2012)



MATERIALS

PIPE BEDDING MATERIAL (NYSDOT LATEST EDITION)

① **NO.1 CRUSHED STONE WITH A GRADATION CONFORMING WITH NYSDOT SECTION 703-02. THE CRUSHED STONE SHALL BE WELL GRADED WITH NO PARTICLES LARGER THAN 1" AND HAVING A MAXIMUM GRADATION MEETING THE LIMITS DESCRIBED IN THE SPECIFICATIONS. THE BEDDING SHALL BE COMPACTED IN 6" LIFTS WITH EQUIPMENT ACCEPTABLE TO THE PIPE MANUFACTURER.**

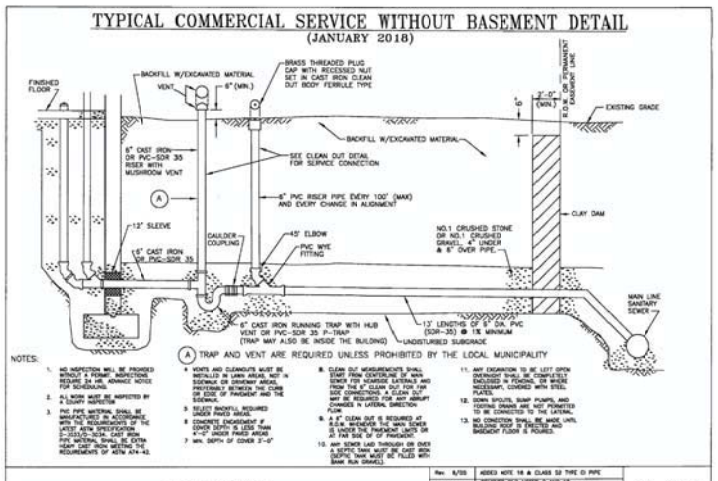
SELECT MATERIAL BACKFILL (NYSDOT LATEST EDITION)

② **NO.2 RUN OF CRUSHER STONE OR NO.2 RUN OF CRUSHER GRAVEL WITH A GRADATION CONFORMING WITH NYSDOT SECTION 204-2.02 TYPE 4 AND NYSDOT SECTION 703-02. (COMPACTED IN 6"LIFTS TO 90% DENSITY)**

NOTE: SLAG SHALL NOT BE ALLOWED FOR MATERIALS ① AND ②

ERIE COUNTY DEPT. OF ENVIRONMENT & PLANNING DIVISION OF SEWERAGE MANAGEMENT	Rev. 1 12/01	UPDATED MATERIALS TO NYSDOT LATEST EDITION	STD.DETAIL 9
	Rev. 2		
	File: D-09	Date: 3/1/91	

TYPICAL COMMERCIAL SERVICE WITHOUT BASEMENT DETAIL
(JANUARY 2018)



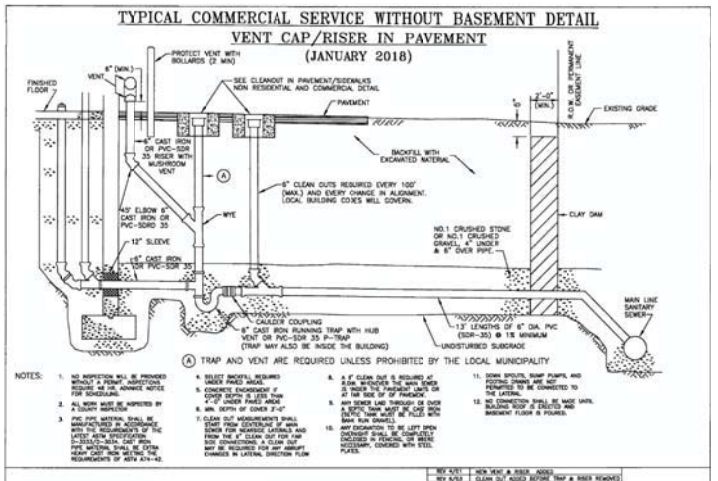
Ⓐ TRAP AND VENT ARE REQUIRED UNLESS PROHIBITED BY THE LOCAL MUNICIPALITY

NOTES:

1. NO INSPECTION WILL BE PROVIDED WITHOUT A PERMIT. INSPECTIONS REQUIRE 24 HR. ADVANCE NOTICE FOR SCHEDULING.
2. ALL WORK MUST BE INSPECTED BY A COUNTY INSPECTOR
3. PVC PIPE MATERIAL SHALL BE MANUFACTURED IN ACCORDANCE WITH THE REQUIREMENTS OF THE LATEST REFERENCED STANDARD D-2665,D-3034. CAST IRON PIPE MATERIAL SHALL BE EXTRA HEAVY CAST IRON MEETING THE REQUIREMENTS OF ASTM A74-42.
4. VENTS AND CLEANOUTS MUST BE INSTALLED IN LAWN AREAS, NOT IN SIDEWALK OR DRIVEWAY AREAS. PREFERABLY BETWEEN THE CURB AND SIDE OF PAVEMENT AND THE R.O.W.
5. SELECT BACKFILL REQUIRED UNDER PAVED AREAS.
6. CONCRETE ENCASEMENT IF COVER DEPTH IS LESS THAN 4'-0" UNDER PAVED AREAS
7. MIN. DEPTH OF COVER 3'-0"
8. CLEAN OUT MEASUREMENTS SHALL START FROM CENTERLINE OF MAIN SEWER FOR NEAREST LATERALS AND FROM THE CLEAN OUT FOR OUT SIDE CONNECTIONS. A CLEAN OUT MAY BE REQUIRED FOR ANY ABRUPT CHANGES IN LATERAL DIRECTION FLOW
9. A 4" CLEAN OUT IS REQUIRED AT R.O.W. WHENEVER THE MAIN SEWER IS UNDER THE PAVEMENT LIMITS OR AT FAR SIDE OF 8" PAVEMENT.
10. ANY SEWER LAID THROUGH OR OVER SEPTIC TANK MUST BE CAST IRON (SAME RUN GRAVEL)
11. ANY EXCAVATION TO BE LEFT OPEN OVERNIGHT SHALL BE COMPLETELY ENCLOSED IN FENCING, OR WHERE NECESSARY, COVERED WITH STEEL PLATES.
12. SUMP SPOUTS, SUMP PUMPS, AND FOOTING DRAINS ARE NOT PERMITTED TO BE CONNECTED TO THE LATERAL.
13. NO CONNECTION SHALL BE MADE UNTIL BUILDING ROOF IS ERECTED AND BASEMENT FLOOR IS POURED.

ERIE COUNTY DEPT. OF ENVIRONMENT & PLANNING DIVISION OF SEWERAGE MANAGEMENT	Rev. 5/05	ADDED NOTE 14 & CLASS 52 TYPE CI PIPE	STD. DETAIL 22
	Rev. 1/07	REMOVED 10.3 NOTES 2 AND 14 ADDED 14 MIN. TO SEWAGE PIPE DECIMAL	
	Rev. 11/08	ADDED SLEEVE AND PVC-SDR 35	
	Rev. 1/12	REVISED 6" CAST IRON TRAP NOTE	
	Rev. 1/18	ADDED VENT & TRAP Ⓐ	
	File: d-22	Date: 3/1/91	

TYPICAL COMMERCIAL SERVICE WITHOUT BASEMENT DETAIL
VENT CAP/RISER IN PAVEMENT
(JANUARY 2018)



Ⓐ TRAP AND VENT ARE REQUIRED UNLESS PROHIBITED BY THE LOCAL MUNICIPALITY

NOTES:

1. NO INSPECTION WILL BE PROVIDED WITHOUT A PERMIT. INSPECTIONS REQUIRE 24 HR. ADVANCE NOTICE FOR SCHEDULING.
2. ALL WORK MUST BE INSPECTED BY A COUNTY INSPECTOR
3. PVC PIPE MATERIAL SHALL BE MANUFACTURED IN ACCORDANCE WITH THE REQUIREMENTS OF THE LATEST REFERENCED STANDARD D-2665,D-3034. CAST IRON PIPE MATERIAL SHALL BE EXTRA HEAVY CAST IRON MEETING THE REQUIREMENTS OF ASTM A74-42.
4. SELECT BACKFILL REQUIRED UNDER PAVED AREAS.
5. CONCRETE ENCASEMENT IF COVER DEPTH IS LESS THAN 4'-0" UNDER PAVED AREAS
6. MIN. DEPTH OF COVER 3'-0"
7. CLEAN OUT MEASUREMENTS SHALL START FROM CENTERLINE OF MAIN SEWER FOR NEAREST LATERALS AND FROM THE CLEAN OUT FOR OUT SIDE CONNECTIONS. A CLEAN OUT MAY BE REQUIRED FOR ANY ABRUPT CHANGES IN LATERAL DIRECTION FLOW
8. A 4" CLEAN OUT IS REQUIRED AT R.O.W. WHENEVER THE MAIN SEWER IS UNDER THE PAVEMENT LIMITS OR AT FAR SIDE OF 8" PAVEMENT.
9. ANY SEWER LAID THROUGH OR OVER SEPTIC TANK MUST BE CAST IRON (SAME RUN GRAVEL)
10. ANY EXCAVATION TO BE LEFT OPEN OVERNIGHT SHALL BE COMPLETELY ENCLOSED IN FENCING, OR WHERE NECESSARY, COVERED WITH STEEL PLATES.
11. SUMP SPOUTS, SUMP PUMPS, AND FOOTING DRAINS ARE NOT PERMITTED TO BE CONNECTED TO THE LATERAL.
12. NO CONNECTION SHALL BE MADE UNTIL BUILDING ROOF IS ERECTED AND BASEMENT FLOOR IS POURED.

ERIE COUNTY DEPT. OF ENVIRONMENT & PLANNING DIVISION OF SEWERAGE MANAGEMENT	REV 4/07	NEW VENT & RISER ADDED	STD. DETAIL 22a
	REV 5/13	CLEAN OUT ADDED BEFORE TRAP & RISER REMOVED	
	REV 6/15	ADDED RISER AND NOTE 11	
	REV 1/17	REMOVED OLD NOTES 2 AND 11 ADDED 14 MIN. TO SEWAGE PIPE DECIMAL NOTE REVISION (FROM 12 TO 13)	
	REV 1/08	ADDED 12" SLEEVE AND PVC-SDR 35	
	REV 1/12	REVISED 6" CAST IRON TRAP NOTE	
	REV 1/18	ADDED VENT AND TRAP Ⓐ	
	File: d-22A	Date: 4/17/01	

Carmina Wood Morris DPC
487 Main Street Suite 600
Buffalo, New York 14203
P 716.842.3165
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REVISIONS:
No. Description Date

PROJECT NAME:
Site Development Plans for:
Mt. Olive Missionary Baptist Church
66 Wasson Avenue
Lackawanna, New York 14218

Date: 1/18/2021
Drawn by: JPB
Scale: As Noted

DRAWING NAME:
Utility Details

DRAWING NO.
C-402

Project no.: 20.166

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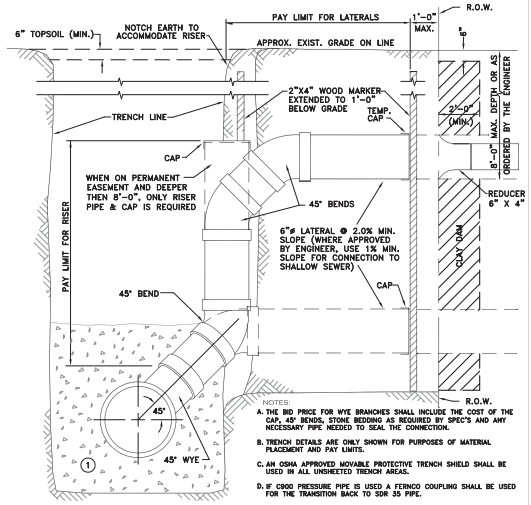
RISER DETAIL - SDR35
(MAIN LINE LATERAL CONNECTION)
(JANUARY 2012)



NOTES:
A. THE BID PRICE FOR WYE BRANCHES SHALL INCLUDE THE COST OF THE CAP, 45° BENDS, STONE BEDDING AS REQUIRED BY SPEC'S AND ANY NECESSARY PIPE NEEDED TO SEAL THE CONNECTION.
B. TRENCH DETAILS ARE ONLY SHOWN FOR PURPOSES OF MATERIAL PLACEMENT AND PAY LIMITS.
C. AN OSHA APPROVED MOVABLE PROTECTIVE TRENCH SHIELD SHALL BE USED IN ALL UNSHEETED TRENCH AREAS.
D. IF C900 PRESSURE PIPE IS USED A FERNCO COUPLING SHALL BE USED FOR THE TRANSITION BACK TO SDR 35 PIPE.

MATERIALS
PIPE BEDDING MATERIAL (NYSDOT LATEST EDITION)

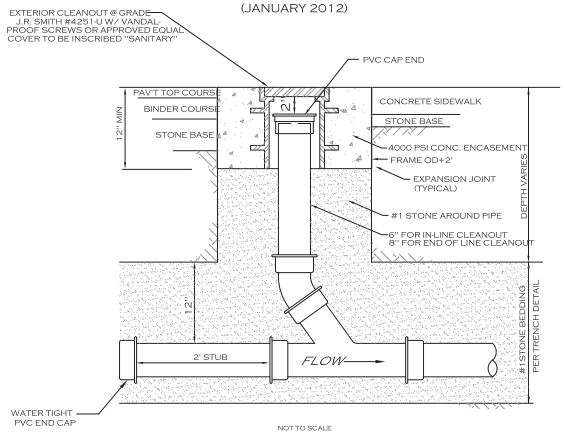
① NO. 1 CRUSHED STONE WITH A GRADATION CONFORMING WITH NYSDOT SECTION 703-02. THE CRUSHED STONE SHALL BE WELL GRADED WITH NO PARTICLES LARGER THAN ONE INCH AND HAVING A MAXIMUM GRADATION MEETING THE LIMITS DESCRIBED IN THE SPECIFICATIONS. THE BEDDING SHALL BE COMPACTED IN 6" LIFTS WITH EQUIPMENT ACCEPTABLE TO THE PIPE MANUFACTURER. NO SLAG WILL BE ALLOWED.

ERIE COUNTY
DEPT. OF ENVIRONMENT & PLANNING
DIVISION OF SEWERAGE MANAGEMENT

REV. 2	1/97	ADDED 1/8 BELL & SPIGOT LONG SWEEP BEND
REV. 1	12/01	ADDED NOTE D REGARDING LOCATION OF VENTS AND CLEAN OUTS
REV. 0	5/02	CHANGED LONG SWEEP TO NORMAL 45° ADDED CAPS & CORRECTED PAY LIMITS
FILE: D-27		DATE: 3/1/91

STD.DETAIL 27

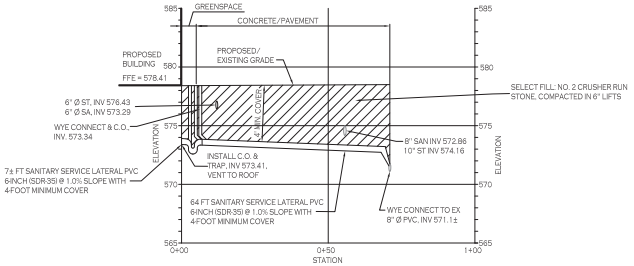
CLEANOUT IN PAVEMENT/SIDEWALKS
NON RESIDENTIAL AND COMMERCIAL PROJECTS
(JANUARY 2012)



NOT TO SCALE

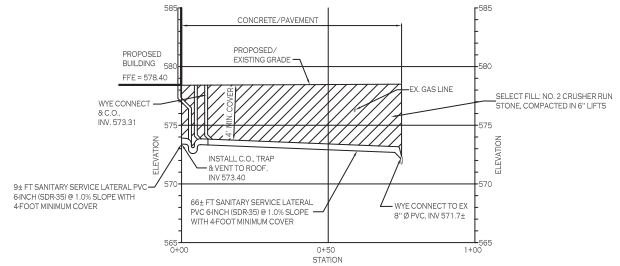
ERIE COUNTY
DEPT. OF ENVIRONMENT & PLANNING
DIVISION OF SEWERAGE MANAGEMENT

REV 07/96	ADD MIN. DISTANCE AND MARKER	STD. DETAIL
REV 12/01	ADDED #1 STONE AROUND PIPE	
REV 01/11	REMOVED 2X4 MARKER	53
FILE: D-53	DATE: 5/13/97	



6" SANITARY SEWER LATERAL PROFILE - MEDICAL BUILDING
SCALE: HORIZ. 1" = 20'
VERT. 1" = 5'

NOTE: FILL IS TO BE SATISFACTORILY INSTALLED AND COMPACTED PRIOR TO SANITARY SEWER INSTALLATION



6" SANITARY SEWER LATERAL PROFILE - SENIOR APARTMENTS
SCALE: HORIZ. 1" = 20'
VERT. 1" = 5'

Carmina Wood Morris DPC
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Buffalo, New York 14203
P 716.842.3165
F 716.842.0263

REVISIONS:
No. Description Date

PROJECT NAME:
Site Development Plans for:
Mt. Olive Missionary Baptist Church
66 Wasson Avenue
Lackawanna, New York 14218

Date: 1/18/2021
Drawn by: JPB
Scale: As Noted

DRAWING NAME:
Utility Details

DRAWING NO.
C-403

Project no.: 20.166

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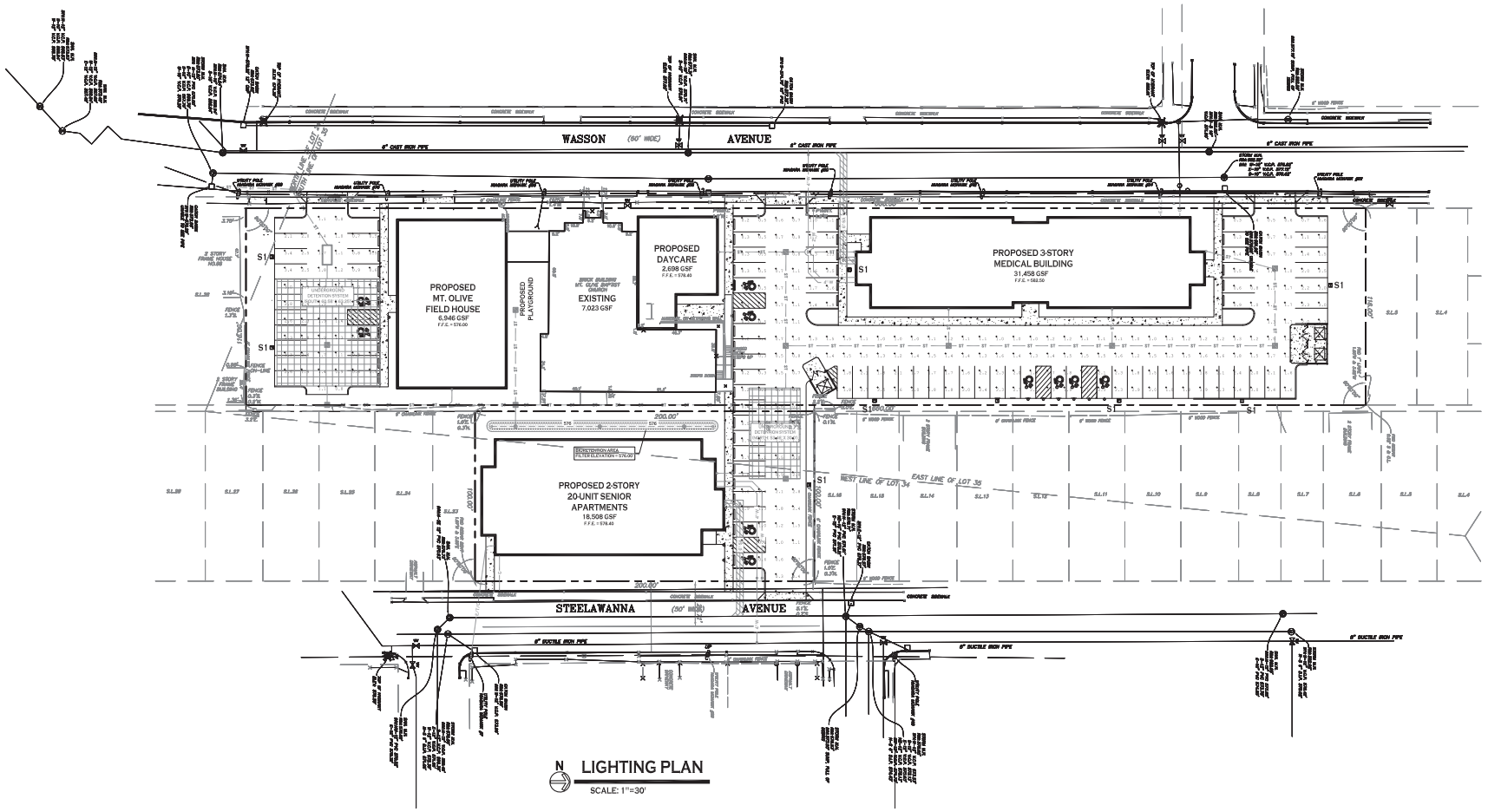

N

LIGHTING PLAN

SCALE: 1"=30'

Luminaire Schedule			
Symbol	Qty	Label	Description
⊡	9	S1	ECF-S-32L-700-NW-G2-4-HIS

Calculation Summary					
Label	CalcType	Units	Avg	Max	Min
Larger Lot Top	Illuminance	Fc	1.25	3.0	0.1
Smaller Lot Top	Illuminance	Fc	1.51	3.4	0.5

NOTE: Each fixture at 20' mounting height with house side shields

NOTE: BOUNDARY AND TOPOGRAPHIC INFORMATION PROVIDED BY OTHERS. CARMINA WOOD MORRIS, D.P.C. ASSUMES NO RESPONSIBILITY FOR ITS ACCURACY.

30' 30 0 30 60FT.

Carmina Wood Morris DPC
487 Main Street Suite 600
Buffalo, New York 14203
P 716.842.3165
F 716.842.0263

REVISIONS:
No. Description Date

PROJECT NAME:
Site Development Plans for:
Mt. Olive Missionary Baptist Church
66 Wasson Avenue
Lackawanna, New York 14218

Date: 11/24/20
Drawn by: JPB
Scale: As Noted

DRAWING NAME:
Lighting Plan

DRAWING NO.
C-500

Project no.: 20.166

VERTEX solutions
David Suriani
dsuriani@vertex-ny.com
220 Dingens Street
Buffalo, NY 14206
O: 716-362-3500
C: 716-860-0187

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GARDCO by signify

Site & Area
EcoForm
ECF-S small area light

Project:
Location:
Cat.No:
Type:
Lamps: Qty:
Notes:

Gardco EcoForm Gen-2 combines economy with performance in an LED area luminaire. Capable of delivering up to 27,800 lumens or more in a compact, low profile LED luminaire, EcoForm offers a new level of customer value. EcoForm features an innovative retrofit arm kit, simplifying site conversions to LED by eliminating the need to drill additional holes in most existing poles. Integral control systems available for further energy savings. Includes Service Tag, our innovative way to provide assistance throughout the life of the product.

Ordering guide

example: ECF-S-64L-900-NW-G2-AR-5-120-HIS-MGY

Prefix	Number of LEDs	Drive Current	LED Color - Generation	Mounting	Distribution	Voltage	Options: Dimming controls	Options: Motion sensing lens	Options: Photo-sensing	Options: Electrical	Options: Luminaire	Finish
ECF-S EcoForm site and area, small	32L 32 LEDs (2 modules)	365 365mA; 530 530mA; 700 700 mA; 1A 1050mA; 1.2A 1200mA	WW-G2 Warm White 3000K, 70 CRI Generation 2; NW-G2 Neutral White 4000K, 70 CRI Generation 2; CW-G2 Cool White 5000K, 70 CRI Generation 2	AR Arm Mount (standard)[2]; The following mounting kits must be ordered separately (See accessories); SF Slip Fitter Mount[3] (fits to 2 3/8" O.D. tenon); WS Wall mount with surface conduit rear entry permitted; RAM Retrofit arm mount kit[2]	Type 2: 2 Type 2; 2-90 Rotated left 90°; 2-270 Rotated right 270°; Type 3: 3 Type 3; 3-90 Rotated left 90°; 3-270 Rotated right 270°; Type 4: 4 Type 4; 4-90 Rotated left 90°; 4-270 Rotated right 270°; Type 5: 5 Type 5; 5W Type 5W; AFR Auto Front Row; AFR-90 Auto Front Row, Rotated left 90°; AFR-270 Auto Front Row, Rotated right 270°	120 120V; 208 208V; 240 240V; 277 277V; 347 347V; 480 480V; UNV 120-277V (50/60Hz); HVU 347-480V (50/60Hz)	DD 0-10V External dimming (by others)[4]; DCC Dual Circuit Control[4,5,6]; FAWS Field Adjustable Wattage Selector[4,5]; SW Interface module for SiteWise[4,6,7]; LLC Integral wireless module[4,5,6,8]; BL Bi-level functionality[1,4,5]; DynaDimmer: Automatic Profile Dimming; CS50 Safety 50% Dimming, 7 hours[4,5]; CM50 Median 50% Dimming, 8 hours[4,5]; CS30 Safety 30% Dimming, 7 hours[4,5]; CM30 Median 30% Dimming, 8 hours[4,5]	IMRI3 Integral with #3 lens[6]; IMRI7 Integral with #7 lens[6]	PCB Photocontrol Button[8,9]; TLRD5 Twist Lock Receptacle 5 Pin[10]; TLRD7 Twist Lock Receptacle 7 Pin[10]; TLRPC Twist Lock Receptacle w/ Photocell[9,11]	Fusing: F1 Single (120, 277, 347VAC)[9]; F2 Double (208, 240, 480VAC)[9]; Pole Mount Fusing: FP1 Single (120, 277, 347VAC)[9]; FP2 Double (208, 240, 480VAC)[9]; FP3 Canadian Double Pull (208, 240, 480VAC)[9]; Surge Protection (10kA standard); SP2 Increased 20kA	Square Pole Adapter included in standard product; TB Terminal Block[12]; RPA Round Pole Adapter (fits to 3"-3.9" O.D. pole)[13]; HIS Internal Housing Side Shield[14]	Textured: BK Black; WH White; BZ Bronze; DGY Dark Gray; MGY Medium Gray; Customer specified: RAL Specify optional color or RAL (ex: RAL7024); CC Custom color (Must supply color chip for required factory quote)
	48L 48 LEDs (3 modules)	900 900mA; 1A 1050mA; 1.2A 1200mA										
	64L 64 LEDs (4 modules)	900 900mA; 1A 1050mA										

1. BL-IMRI3/7 equipped with out-boarded sensor housing when voltage is HVU (347-480V)
2. Mounts to a 4" round pole with adapter included for square poles.
3. Limited to a maximum of 45 degrees aiming above horizontal.
4. Not available with other dimming control options.
5. Not available with motion sensor.
6. Not available with photocontrol.
7. Available only in 120 or 277V.
8. Not available in 347 or 480V
9. Must specify input voltage.
10. Dimming will not be connected to NEMA receptacle if ordering with other control options.
11. Not available in 480V. Order photocell separately with TLRD5/7.
12. Not available with DCC.
13. Not available with SF and WS. RPAs provided with black finish standard.
14. HIS not available with Type 5 and 5W optics.
15. Not available with DD, DCC, and FAWS dimming control options.
16. Not available with DD, DCC, FAWS and LLC dimming control options.
17. Must specify a motion sensor lens.

ida DLC PREMIUM DLC cULus

ECF-S EcoForm small

Area luminaire

EcoForm Accessories (ordered separately, field installed)

Shielding Accessories

House Side shield

Standard optic orientation:
HIS-32-H[18] Internal House Side Shield for 32 LEDs (2 modules)
HIS-48-H[18] Internal House Side Shield for 48 LEDs (3 modules)
HIS-64-H[18] Internal House Side Shield for 64 LEDs (4 modules)

Optic at 90 or 270 orientation:
HIS-32-V[18] Internal House Side Shield for 32 LEDs (2 modules)
HIS-48-V[18] Internal House Side Shield for 48 LEDs (3 modules)
HIS-64-V[18] Internal House Side Shield for 64 LEDs (4 modules)

18. Not available with Type 5 or 5W optics

Luminaire Accessories

ECF-BD-G2 Bird deterrent
ECF-RAM-G2-(F) Retrofit Arm mount kit
ECF-SF-G2-(F) Slip Fitter Mount (fits to 2 3/8" O.D. tenon)
ECF-WS-G2-(F) Wall mount with surface conduit rear entry permitted

EcoForm PTF2 (pole top fitter fits 23/8-21/2" OD x 4" depth tenon)
PTF2-ECF-S/L-1-90-(F) 1 luminaire at 90°
PTF2-ECF-S/L-2-90-(F) 2 luminaires at 90°
PTF2-ECF-S/L-2-180-(F) 2 luminaires at 180°
PTF2-ECF-S/L-3-90-(F) 3 luminaires at 90°
PTF2-ECF-S/L-4-90-(F) 4 luminaires at 90°
PTF2-ECF-S/L-3-120-(F) 3 luminaires at 120°

EcoForm PTF3 (pole top fitter fits 3-31/2" OD x 6" depth tenon)
PTF3-ECF-S/L-1-90-(F) 1 luminaire at 90°
PTF3-ECF-S/L-2-90-(F) 2 luminaires at 90°
PTF3-ECF-S/L-2-180-(F) 2 luminaires at 180°
PTF3-ECF-S/L-3-90-(F) 3 luminaires at 90°
PTF3-ECF-S/L-4-90-(F) 4 luminaires at 90°
PTF3-ECF-S/L-3-120-(F) 3 luminaires at 120°

EcoForm PTF4 (pole top fitter fits 31/2-4" OD x 6" depth tenon)
PTF4-ECF-S/L-1-90-(F) 1 luminaire at 90°
PTF4-ECF-S/L-2-90-(F) 2 luminaires at 90°
PTF4-ECF-S/L-2-180-(F) 2 luminaires at 180°
PTF4-ECF-S/L-3-90-(F) 3 luminaires at 90°
PTF4-ECF-S/L-4-90-(F) 4 luminaires at 90°
PTF4-ECF-S/L-3-120-(F) 3 luminaires at 120°

(F) = Specify finish

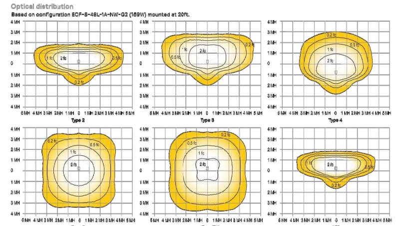
Predicted Lumen Depreciation Data

Predicted performance derived from LED manufacturer's data and engineering design estimates, based on IESNA LM-80 methodology. Actual experience may vary due to field application conditions. L_{70} is the predicted time when LED performance depreciates to 70% of initial lumen output. Calculated per IESNA TM21-11. Published L_{70} hours limited to 6 times actual LED test hours

Ambient Temperature °C	Driver mA	Calculated L_{70} Hours	L_{70} per TM-21	Lumen Maintenance % at 60,000 hrs
25°C	up to 1200 mA	>100,000 hours	>60,000 hours	>88%

Optical distribution

Based on configuration ECF-S-48L-1A-NW-G2 (159W) mounted at 20ft.



ECF-S EcoForm small

Area luminaire

3000K LED Wattage and Lumen Values

Ordering Code	Total LEDs	LED Current (mA)	Color Temp.	Average System Watts	Type 2 Lumen Output	Type 2 BUG Rating	Type 2 Efficacy (LPW)	Type 3 Lumen Output	Type 3 BUG Rating	Type 3 Efficacy (LPW)	Type 4 Lumen Output	Type 4 BUG Rating	Type 4 Efficacy (LPW)
ECF-S-32L-365-WW-G2-x	32	365	3000	40	5,508	B1-U0-G1	138	5,428	B1-U0-G2	136	5,637	B1-U0-G2	141
ECF-S-32L-530-WW-G2-x	32	530	3000	56	7,159	B2-U0-G2	129	7,055	B1-U0-G2	127	7,327	B1-U0-G2	132
ECF-S-32L-700-WW-G2-x	32	700	3000	73	9,234	B2-U0-G2	127	9,034	B2-U0-G2	124	9,452	B2-U0-G2	130
ECF-S-32L-1A-WW-G2-x	32	1050	3000	106	13,001	B3-U0-G2	123	12,719	B2-U0-G2	120	13,306	B2-U0-G3	126
ECF-S-32L-1.2A-WW-G2-x	32	1200	3000	122	14,421	B3-U0-G3	119	14,108	B2-U0-G3	116	14,760	B2-U0-G3	121
ECF-S-48L-900-WW-G2-x	48	900	3000	135	17,115	B3-U0-G3	127	16,744	B3-U0-G3	124	17,518	B2-U0-G3	130
ECF-S-48L-1A-WW-G2-x	48	1050	3000	159	19,381	B3-U0-G3	122	18,950	B3-U0-G3	119	19,836	B3-U0-G4	125
ECF-S-48L-1.2A-WW-G2-x	48	1200	3000	183	21,515	B3-U0-G3	118	21,048	B3-U0-G4	115	22,020	B3-U0-G4	121
ECF-S-64L-900-WW-G2-x	64	900	3000	178	22,682	B3-U0-G3	127	22,181	B3-U0-G4	125	23,185	B3-U0-G4	130
ECF-S-64L-1A-WW-G2-x	64	1050	3000	206	25,520	B3-U0-G3	124	24,966	B3-U0-G4	121	26,120	B3-U0-G4	127

Ordering Code	Total LEDs	LED Current (mA)	Color Temp.	Average System Watts	Type AFR Lumen Output	Type AFR BUG Rating	Type AFR Efficacy (LPW)	Type 5 Lumen Output	Type 5 BUG Rating	Type 5 Efficacy (LPW)	Type 5W Lumen Output	Type 5W BUG Rating	Type 5W Efficacy (LPW)
ECF-S-32L-365-WW-G2-x	32	365	3000	40	5,706	B2-U0-G1	143	5,790	B3-U0-G1	145	5,604	B3-U0-G1	140
ECF-S-32L-530-WW-G2-x	32	530	3000	56	7,417	B2-U0-G1	133	7,526	B3-U0-G2	135	7,284	B3-U0-G2	131
ECF-S-32L-700-WW-G2-x	32	700	3000	73	9,567	B2-U0-G2	131	9,707	B4-U0-G2	133	9,396	B4-U0-G2	129
ECF-S-32L-1A-WW-G2-x	32	1050	3000	106	13,467	B3-U0-G2	128	13,665	B4-U0-G2	129	13,227	B4-U0-G2	125
ECF-S-32L-1.2A-WW-G2-x	32	1200	3000	122	14,939	B3-U0-G2	123	15,158	B4-U0-G2	125	14,671	B4-U0-G2	121
ECF-S-48L-900-WW-G2-x	48	900	3000	135	17,731	B3-U0-G2	131	17,990	B4-U0-G2	133	17,413	B5-U0-G3	129
ECF-S-48L-1A-WW-G2-x	48	1050	3000	159	20,076	B3-U0-G2	127	20,372	B5-U0-G3	128	19,717	B5-U0-G3	124
ECF-S-48L-1.2A-WW-G2-x	48	1200	3000	183	22,288	B3-U0-G2	122	22,616	B5-U0-G3	124	21,888	B5-U0-G3	120
ECF-S-64L-900-WW-G2-x	64	900	3000	178	23,485	B3-U0-G2	132	23,810	B5-U0-G3	134	23,045	B5-U0-G3	130
ECF-S-64L-1A-WW-G2-x	64	1050	3000	206	26,437	B4-U0-G3	128	26,150	B5-U0-G3	127	25,964	B5-U0-G4	126

4000K LED Wattage and Lumen Values

Ordering Code	Total LEDs	LED Current (mA)	Color Temp.	Average System Watts	Type 2 Lumen Output	Type 2 BUG Rating	Type 2 Efficacy (LPW)	Type 3 Lumen Output	Type 3 BUG Rating	Type 3 Efficacy (LPW)	Type 4 Lumen Output	Type 4 BUG Rating	Type 4 Efficacy (LPW)
ECF-S-32L-365-NW-G2-x	32	365	4000	40	5,798	B1-U0-G1	145	5,713	B1-U0-G2	143	5,934	B1-U0-G2	148
ECF-S-32L-530-NW-G2-x	32	530	4000	56	7,536	B2-U0-G2	135	7,426	B1-U0-G2	133	7,713	B1-U0-G2	138
ECF-S-32L-700-NW-G2-x	32	700	4000	73	9,720	B2-U0-G2	133	9,509	B2-U0-G2	130	9,949	B2-U0-G2	136
ECF-S-32L-1A-NW-G2-x	32	1050	4000	106	13,685	B3-U0-G2	130	13,388	B2-U0-G3	127	14,006	B2-U0-G3	133
ECF-S-32L-1.2A-NW-G2-x	32	1200	4000	122	15,180	B3-U0-G3	125	14,851	B2-U0-G3	122	15,537	B2-U0-G3	128
ECF-S-48L-900-NW-G2-x	48	900	4000	135	18,016	B3-U0-G3	133	17,625	B3-U0-G3	130	18,440	B3-U0-G3	136
ECF-S-48L-1A-NW-G2-x	48	1050	4000	159	20,401	B3-U0-G3	129	19,958	B3-U0-G4	126	20,880	B3-U0-G4	132
ECF-S-48L-1.2A-NW-G2-x	48	1200	4000	183	22,647	B3-U0-G3	124	22,156	B3-U0-G4	121	23,179	B3-U0-G4	127
ECF-S-64L-900-NW-G2-x	64	900	4000	178	23,844	B3-U0-G3	134	23,327	B3-U0-G4	131	24,405	B3-U0-G4	137
ECF-S-64L-1A-NW-G2-x	64	1050	4000	206	26,863	B3-U0-G3	130	26,280	B3-U0-G4	128	27,495	B3-U0-G4	134

Ordering Code	Total LEDs	LED Current (mA)	Color Temp.	Average System Watts	Type AFR Lumen Output	Type AFR BUG Rating	Type AFR Efficacy (LPW)	Type 5 Lumen Output	Type 5 BUG Rating	Type 5 Efficacy (LPW)	Type 5W Lumen Output	Type 5W BUG Rating	Type 5W Efficacy (LPW)
ECF-S-32L-365-NW-G2-x	32	365	4000	40	6,006	B2-U0-G1	150	6,094	B3-U0-G1	152	5,898	B3-U0-G2	147
ECF-S-32L-530-NW-G2-x	32	530	4000	56	7,807	B2-U0-G1	140	7,922	B3-U0-G2	142	7,667	B3-U0-G2	138
ECF-S-32L-700-NW-G2-x	32	700	4000	73	10,070	B2-U0-G2	138	10,218	B4-U0-G2	140	9,889	B4-U0-G2	136
ECF-S-32L-1A-NW-G2-x	32	1050	4000	106	14,176	B3-U0-G2	134	14,384	B4-U0-G2	136	13,923	B4-U0-G2	132
ECF-S-32L-1.2A-NW-G2-x	32	1200	4000	122	15,725	B3-U0-G2	129	15,956	B4-U0-G2	131	15,443	B4-U0-G2	127
ECF-S-48L-900-NW-G2-x	48	900	4000	135	18,664	B3-U0-G2	138	18,937	B4-U0-G3	140	18,329	B5-U0-G3	136
ECF-S-48L-1A-NW-G2-x	48	1050	4000	159	21,133	B3-U0-G2	133	21,444	B5-U0-G3	135	20,735	B5-U0-G3	131
ECF-S-48L-1.2A-NW-G2-x	48	1200	4000	183	23,461	B3-U0-G2	128	23,806	B5-U0-G3	130	23,040	B5-U0-G3	126
ECF-S-64L-900-NW-G2-x	64	900	4000	178	24,700	B3-U0-G2	139	25,063	B5-U0-G3	141	24,258	B5-U0-G4	136
ECF-S-64L-1A-NW-G2-x	64	1050	4000	206	27,828	B4-U0-G3	135	27,526	B5-U0-G3	134	27,330	B5-U0-G4	133

ECF-S EcoForm small

Area luminaire

5000K LED Wattage and Lumen Values

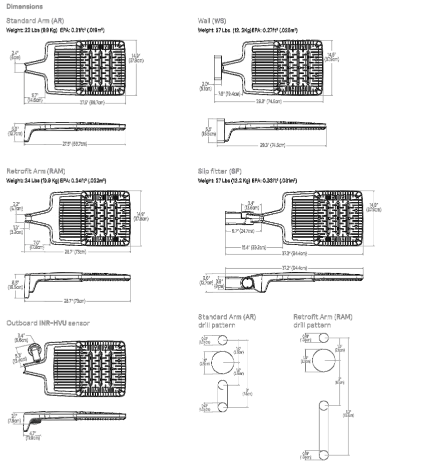
Ordering Code	Total LEDs	LED Current (mA)	Color Temp.	Average System Watts	Type 2 Lumen Output	Type 2 BUG Rating	Type 2 Efficacy (LPW)	Type 3 Lumen Output	Type 3 BUG Rating	Type 3 Efficacy (LPW)	Type 4 Lumen Output	Type 4 BUG Rating	Type 4 Efficacy (LPW)
ECF-S-32L-365-CW-G2-x	32	365	5000	40	5,798	B1-U0-G1	145	5,713	B1-U0-G2	143	5,934	B1-U0-G2	148
ECF-S-32L-530-CW-G2-x	32	530	5000	56	75,36	B2-U0-G2	135	7,426	B1-U0-G2	133	7,713	B1-U0-G2	138
ECF-S-32L-700-CW-G2-x	32	700	5000	73	9,720	B2-U0-G2	133	9,509	B2-U0-G2	130	9,949	B2-U0-G2	136
ECF-S-32L-1A-CW-G2-x	32	1050	5000	106	13,685	B3-U0-G2	130	13,388	B2-U0-G3	127	14,006	B2-U0-G3	133
ECF-S-32L-1.2A-CW-G2-x	32	1200	5000	122	15,180	B3-U0-G3	125	14,851	B2-U0-G3	122	15,537	B2-U0-G3	128
ECF-S-48L-900-CW-G2-x	48	900	5000	135	18,016	B3-U0-G3	133	17,625	B3-U0-G3	130	18,440	B3-U0-G3	136
ECF-S-48L-1A-CW-G2-x	48	1050	5000	159	20,401	B3-U0-G3	129	19,958	B3-U0-G4	126	20,880	B3-U0-G4	132
ECF-S-48L-1.2A-CW-G2-x	48	1200	5000	183	22,647	B3-U0-G3	124	22,156	B3-U0-G4	121	23,179	B3-U0-G4	127
ECF-S-64L-900-CW-G2-x	64	900	5000	178	23,844	B3-U0-G3	134	23,327	B3-U0-G4	131	24,406	B3-U0-G4	137
ECF-S-64L-1A-CW-G2-x	64	1050	5000	206	26,863	B3-U0-G3	130	26,280	B3-U0-G4	128	27,495	B3-U0-G4	134

Ordering Code	Total LEDs	LED Current (mA)	Color Temp.	Average System Watts	Type APR Lumen Output	Type APR BUG Rating	Type APR Efficacy (LPW)	Type 5 Lumen Output	Type 5 BUG Rating	Type 5 Efficacy (LPW)	Type 5W Lumen Output	Type 5W BUG Rating	Type 5W Efficacy (LPW)
ECF-S-32L-365-CW-G2-x	32	365	5000	40	6,006	B2-U0-G1	150	6,094	B3-U0-G1	152	5,898	B3-U0-G2	147
ECF-S-32L-530-CW-G2-x	32	530	5000	56	7,807	B2-U0-G1	140	7,922	B3-U0-G2	142	7,667	B3-U0-G2	138
ECF-S-32L-700-CW-G2-x	32	700	5000	73	10,070	B2-U0-G2	138	10,218	B4-U0-G2	140	9,889	B4-U0-G2	136
ECF-S-32L-1A-CW-G2-x	32	1050	5000	106	14,176	B3-U0-G2	134	14,384	B4-U0-G2	136	13,923	B4-U0-G2	132
ECF-S-32L-1.2A-CW-G2-x	32	1200	5000	122	15,725	B3-U0-G2	129	15,936	B4-U0-G2	131	15,443	B4-U0-G2	127
ECF-S-48L-900-CW-G2-x	48	900	5000	135	18,664	B3-U0-G2	138	18,937	B4-U0-G3	140	18,329	B5-U0-G3	136
ECF-S-48L-1A-CW-G2-x	48	1050	5000	159	21,133	B3-U0-G2	133	21,444	B5-U0-G3	135	20,755	B5-U0-G3	131
ECF-S-48L-1.2A-CW-G2-x	48	1200	5000	183	23,461	B3-U0-G2	128	23,806	B5-U0-G3	130	23,040	B5-U0-G3	126
ECF-S-64L-900-CW-G2-x	64	900	5000	178	24700	B3-U0-G2	139	25063	B5-U0-G3	141	24258	B5-U0-G4	136
ECF-S-64L-1A-CW-G2-x	64	1050	5000	206	27828	B4-U0-G3	135	27526	B5-U0-G3	134	27330	B5-U0-G4	133

ECF-S EcoForm small

Area luminaire

Dimensions



ECF-S EcoForm small

Area luminaire

Optical Orientation Information

Standard Optic Position
Luminaires ordered with asymmetric optical systems in the standard optic position will have the optical system oriented as shown below:

Note: The hand hole will normally be located on the pole at the 0° point.

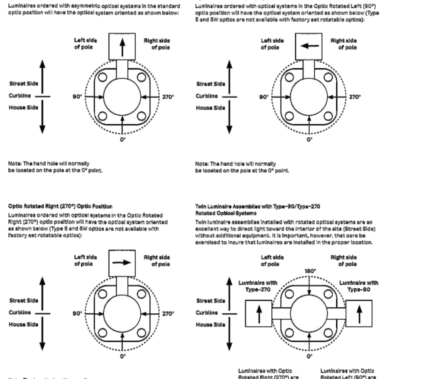
Optic Rotated Right (270°) Optic Position
Luminaires ordered with optical systems in the Optic Rotated Right (270°) optic position will have the optical system oriented as shown below (Type 5 and 5W optics are not available with factory set rotatable optics):

Note: The hand hole will normally be located on the pole at the 0° point.

Optic Rotated Left (90°) Optic Position
Luminaires ordered with optical systems in the Optic Rotated Left (90°) optic position will have the optical system oriented as shown below (Type 5 and 5W optics are not available with factory set rotatable optics):

Note: The hand hole will normally be located on the pole at the 0° point.

Twin Luminaire Assemblies with Type-90/Type-270 Rotated Optical Systems
Twin luminaire assemblies installed with rotated optical systems are an excellent way to direct light toward the interior of the site (Street Side) without additional equipment. It is important, however, that care be exercised to insure that luminaires are installed in the proper location.



Note: The hand hole location will depend on the drilling configuration ordered for the pole.

ECF-S EcoForm small

Area luminaire

Specifications

Housing
One-piece die cast aluminum housing with integral arm and separate, self-retained hinged, one-piece die cast door frame. Luminaire housing rated to IP66, tested in accordance to Section 9 of IEC 60598-1.

Vibration resistance
Luminaire is tested and rated 3G over 100,000 cycles conforming to standards set forth by ANSI C136.31-2010. Testing includes vibration in three axes, all performed on the same luminaire.

Light engine
Light engine comprises of a module of 16-LED aluminum metal clad board fully sealed with optics offered in multiples of 2, 3, and 4 modules or 32, 48, and 64 LEDs. Module is RoHS compliant. Color temperatures: 3000K +/-125K, 4000K, 5000K +/- 230K. Minimum CRI of 70. LED light engine is rated IP66 in accordance to Section 9 of IEC 60598-1.

Energy saving benefits
System efficacy up to 133 lms/W with significant energy savings over Pulse Start Metal Halide luminaires. Optional control options provide added energy savings during unoccupied periods.

Optical systems
Type 2, 3, 4, 5, 5W, and AFR distributions available. Internal Shield option mounts to LED optics and is available with Type 2, 3, 4, and AFR distributions. Types 2, 3, 4, and AFR when specified and used as rotated, are factory set only. Performance tested per LM-79 and TM-15 (IESNA) certifying its photometric performance. Luminaire designed with 0% uplight (U0 per IESNA TM-15).

Mounting
Standard luminaire arm mounts to 4" O.D. round poles. Can also be used with 5" O.D. poles. Square pole adapter included with every luminaire. Round Pole Adapter (RPA) required for 3-3.9" poles. EcoForm features a retrofit arm kit. When specified with the retrofit arm (RAM) option, EcoForm seamlessly simplifies site conversions to LED by eliminating the need for additional pole drilling on most existing poles. RAM will be boxed separately. Also optional are slipfitter and wall mounting accessories. Note that only fixed mounts (AR, RAM, WS) are required to meet IDA compliance. SF mounting will not meet IDA.

Control options
0-10V dimming (DD): Access to 0-10V dimming leads supplied through back of luminaire (for secondary dimming controls by others). Cannot be used with other control options.
Dual Circuit Control (DCC): Luminaire equipped with the ability to have two separate circuits controlling drivers and light engines independently. Permits separate switching of separate modules controlled by use of two sets of leads, one for each circuit. Not recommended to be used with other control options, motion response, or photocells.
SiteWise (SW): SiteWise system includes a controller fully integrated in the luminaire that enables the luminaires to communicate with a dimming signal transmitter cabinet located on site using patented central dimming technology. A locally accessible mobile app allows users to access the system and set functionalities such as ON/OFF, dimming levels and scheduling. SiteWise is available with motion response options in order to bring the light back to 100% when motion is detected. Cannot be used with other control options or photocell options. Additional functionalities are available such as communication with indoor lighting and connection to BMS systems. Complete information on the control system can be found on the SiteWise website at philips.com/sitewise.
Automatic Profile Dimming (CS/CM/CE/CA): Standard dimming profiles provide flexibility towards energy savings goals while optimizing light levels during specific dark hours. Dimming profiles include two dimming settings including dim to 30% or 50% of the total lumen output. When used in combination with not programmed motion response it overrides the controller's schedule when motion is detected. After 5 minutes with no motion, it will return to the automatic dimming profile schedule. Automatic dimming profile scheduled with the following settings:

- CS50/CS30: Security for 7 hours night duration (Ex.. 11 PM - 6 AM)
- CM50/CM30: Median for 8 hours night duration (Ex.. 10 PM - 6 AM)

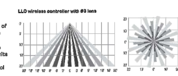
All above profiles are calculated from mid point of the night. Dimming is set for 6 hours after the mid point and 1 or 2 hours before depending of the duration of dimming. Cannot be used with other dimming control options.

Field Adjustable Wattage Selector (FAWS): Luminaire equipped with the ability to manually adjust the wattage in the field to reduce total luminaire lumen output and light levels. Comes pre-set to the highest position at the lumen output selected. Use chart below to estimate reduction in lumen output desired. Cannot be used with other control options or motion response.

FAWS Position	Percent of Typical Lumen Output
1	25%
2	50%
3	55%
4	65%
5	75%
6	80%
7	85%
8	90%
9	95%
10	100%

Note: Typical value accuracy +/- 5%

Wireless system (LLC): Optional wireless controller integral to luminaire ready to be connected to a Limelight system (sold by others). The system allows you to wirelessly manage the entire site. Independent lighting groups or individual luminaires while on-site or remotely. Based on a high-density mesh network with an easy to use web-based portal, you can conveniently access, monitor and manage your lighting network remotely. Wireless controls can be combined with site and area, pedestrian, and parking garage luminaires as well, for a completely connected outdoor solution. Equipped with motion response with #3 lens for 8-25' mounting heights. Also available with remote pod accessory where pod is mounted separate from luminaire to pole or wall.



Motion response options
Bi-Level Infrared Motion Response (BL-IMRI): Motion Response module is mounted integral to luminaire factory pre-programmed to 50% dimming when not ordered with other control options. BL-IMRI is set/operates in the following fashion: The motion sensor is set to a constant 50%. When motion is detected by the PIR sensor, the luminaire returns to full power/light output. Dimming on low is factory set to 50% with 5 minutes default in "full power" prior to dimming back to low. When no motion is detected for 5 minutes, the motion response system reduces the wattage by 50%, to 50% of the normal constant wattage reducing the light level. Other dimming settings can be provided if different dimming levels are required. This can also be done with FSIR-100 Wireless Remote Programming Tool (contact Technical Support for details).

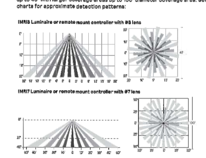
ECF-S EcoForm small

Area luminaire

Specifications

Infrared Motion Response with Other Controls: When used in combination with other controls (Automatic Dimming Profile and SiteWise), motion response device will simply override controller's schedule with the added benefits of a combined dimming profile and sensor detection. In this configuration, the motion response device cannot be re-programmed with FSIR-100 Wireless Remote Programming Tool. The profile can only be re-programmed via the controller.

Infrared Motion Response Lenses (IMRI3/IMRI7): Infrared Motion Response integral module is available with two different sensor lens types to accommodate various mounting heights and occupancy detection ranges. Lens #3 (IMRI3) is designed for mounting heights up to 20' with a 40' diameter coverage area. Lens #7 is designed for higher mounting heights up to 40' with larger coverage areas up to 100' diameter coverage area. See charts for approximate detection patterns:



Electrical
Twist-Lock Receptacle (TLRD5/TLRD7/ TLRPC): Twist Lock Receptacle with 5 pins enabling dimming or with 7 pins with additional functionality (by others) can be used with a twistlock photoelectric cell or a shorting cap. Dimming Receptacle Type B (5-pin) and Type D-24 (7-pin) in accordance to ANSI C136.41. Can be used with third-party control system. Receptacle located on top of luminaire housing. When specifying receptacle with twistlock photoelectric cell, voltage must be specified. When ordering Twist-lock receptacle (TLRD5 or TLRD7), photocell or shorting cap is not included. TLRPC is shipped standard with 5 pin.
Driver: Driver efficiency (>90% standard). 120-480V available (restrictions apply). Open/short circuit protection. Optional 0-10V dimming to 10% power. RoHS compliant.

Button Photocontrol (PCB): Button style design for internal luminaires mounting applications. The photocontrol is constructed of a high impact UV stabilized polycarbonate housing. Rated voltage of 120V or 208-277V with a load rating of 1000 VA. The photocell will turn on with 1-4Fc of ambient light.
Surge protection (SP1/SP2): Surge protection device tested in accordance with ANSI/IEEE C62.45 per ANSI/IEEE C62.41.2 Scenario I Category C High Exposure 10kV/10kA waveforms for Line-Ground, Line-Neutral and Neutral-Ground, and in accordance with DOE MSSLC Model Specification for LED Roadway Luminaires Appendix D Electrical Immunity High test level 10kV/10kA. 20kV / 10kA surge protection device that provides extra protection beyond the SP1 10kV/10kA level.

Listings
UL/cUL wet location listed to the UL 1598 standard, suitable for use in ambient temperatures from -40° to 40°C (-40° to 104°F). Most EcoForm configurations are qualified under Premium and Standard DesignLights Consortium® categories. Consult DLC Qualified Products list to confirm your specific luminaire selection is approved. CCTs 3000K and warmer are Dark Sky Approved.

Finish
Each standard color luminaire receives a fade and abrasion resistant, electrostatically applied, thermally cured, triglycidal isocyanurate (TGIC) textured polyester powdercoat finish. Standard colors include bronze (BZ), black (BK), white (WH), dark gray (DGY), and medium gray (MGY). Consult factory for specs on optional or custom colors.

Service Tag
Each individual luminaire is uniquely identifiable, thanks to the Service tag application. With a simple scan of a QR code, placed on the inside of the mast door, you gain instant access to the luminaire configuration, making installation and maintenance operations faster and easier, no matter what stage of the luminaire's lifetime. Just download the APP and register your product right away. For more details visit: signify.com

Warranty
EcoForm luminaires feature a 5-year limited warranty
See signify.com/warranties for complete details and exclusions.

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REVISIONS:

No.	Description	Date

PROJECT NAME:
Site Development Plans for:
Mt. Olive Missionary Baptist Church
66 Wasson Avenue
Lackawanna, New York 14218

Date: 11/24/20
Drawn by: JPB
Scale: As Noted

DRAWING NAME:
Lighting Details

VERTEX solutions
David Suriani
dsuriani@vertex-ny.com
230 Dingens Street
Buffalo, NY 14206
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DRAWING NO.
C-501

Project no.: 20.166

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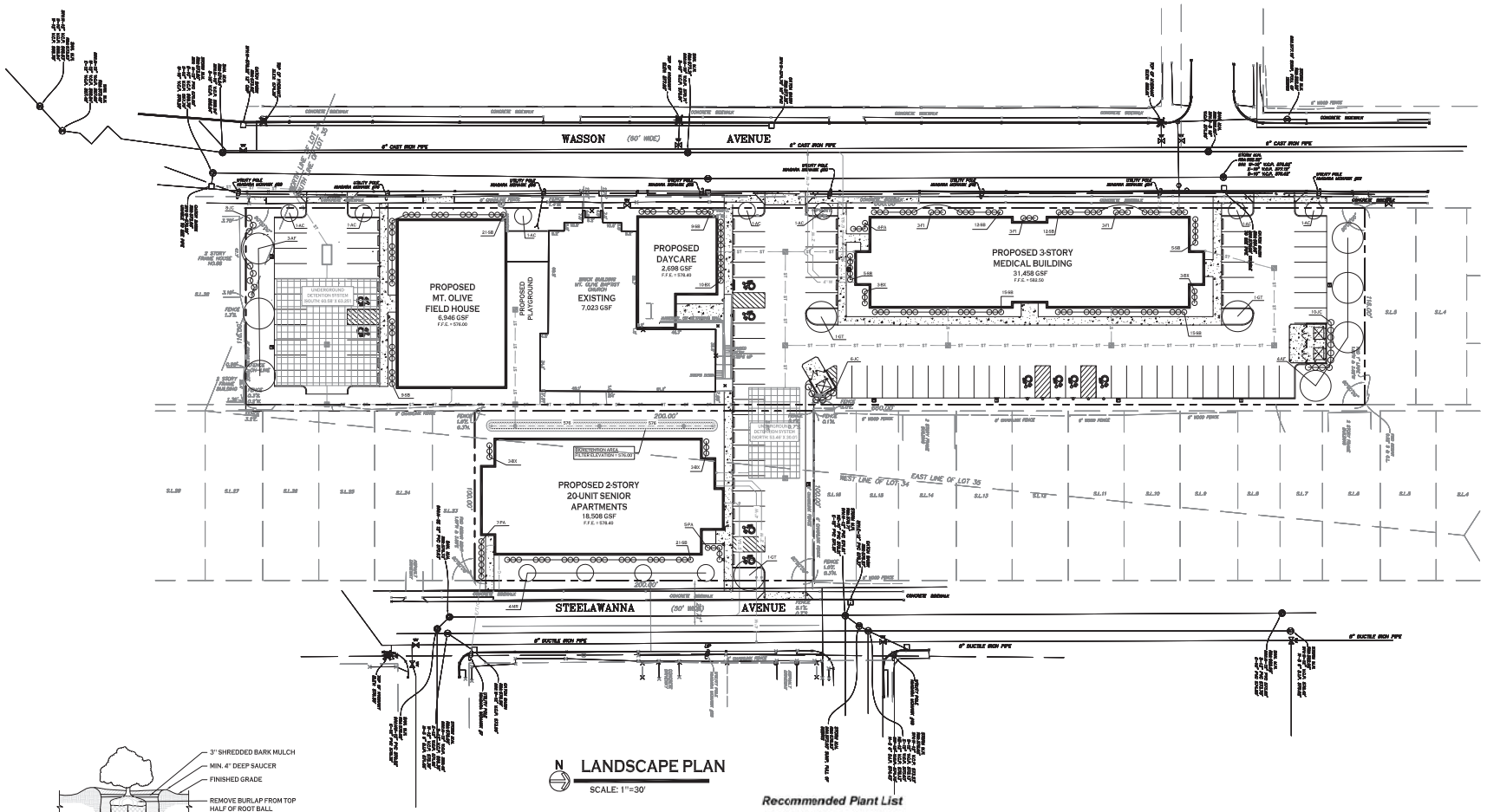

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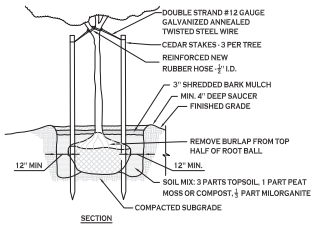
LANDSCAPE PLAN

SCALE: 1"=30'

SHRUB PLANTING DETAIL

NOT TO SCALE



TREE PLANTING DETAIL

NOT TO SCALE

PLANTING NOTES:

1. ALL INTERIOR LANDSCAPED AREAS SHALL HAVE A MINIMUM PLANTING SOIL DEPTH OF THREE (3) FEET AND BE FREE FROM ALL FORMS OF CONSTRUCTION DEBRIS AND FOREIGN MATERIAL.
2. ALL TREE PIT SAUCERS, SHRUB BEDS, ORNAMENTAL GRASS BEDS, AND PERENNIAL FLOWER BEDS SHALL RECEIVE THREE (3) INCHES DEPTH OF DARK SHREDDED HARDWOOD BARK MULCH.
3. ALL SEASONAL FLOWER BEDS SHALL BE A MINIMUM OF TWELVE (12) INCHES DEEP WITH A WELL-BLENDED MIXTURE OF 50% PEAT MOSS & 50% SCREENED TOPSOIL. NO MULCH SHALL BE INSTALLED IN THE SEASONAL FLOWER BEDS.
4. ALL DECIDUOUS AND EVERGREEN TREES SHALL BE STAKED WITH THREE (3) TREE STAKES AS PER TREE PLANTING DETAIL.
5. ALL SHRUBS SHALL BE INSTALLED AT A MINIMUM HEIGHT OF TWENTY-FOUR (24) INCHES.

Recommended Plant List

SYMBOL	QUANTITY	BOTANICAL NAME	COMMON NAME	SIZE	NOTES
DECIDUOUS TREES					
AF	7	Acer x freemanni 'Jeffersred'	Autumn Blaze Maple	2½"-3" Cal.	B&B;
GT	3	Gleditsia triacanthos inermis	Skyline Honeylocust	2½"-3"Cal.	B&B
SMALL/ORNAMENTAL TREES					
AC	7	Amelanchier canadensis	Serviceberry	8'-10' high	Multi-stem; 3 major stems minimum
MR	4	Malus 'Red Barron'	Red Barron Flowering Crabapple	1¾"-2"Cal.	B&B (18 ft. High to 8' wide)
SHRUBS					
BX	22	Buxus 'Green Velvet'	Green Velvet Boxwood	24" min. ht.	No. 5 Cont.
FI	9	Forsythia xintermedia 'Kolgold'	Magical Gold Forsythia	24" min. ht.	No. 5 Cont.
SB	124	Spiraea x bumalda 'Goldflame'	Goldflame Spirea	24" min. ht..	No. 5 Cont.
JC	24	JUNIPERUS CHINENSIS "HETZ STAKED"	HETZ STAKED JUNIPER	4' min. ht.	B&B/FULL TO GROUND
ORNAMENTAL GRASSES					
PA	16	Pennsetum alopecuroides 'Hameln'	Dwarf Fountain Grass**	No. 3 Cont.	

**Ornamental grasses should be pruned back in late fall or early spring to allow new foliage to grow in spring.

NOTE: All planting beds and tree pits shall receive a minimum 3-inch depth of dark shredded hardwood bark mulch

NOTE: BOUNDARY AND TOPOGRAPHIC INFORMATION PROVIDED BY OTHERS. CARMINA WOOD MORRIS, D.P.C. ASSUMES NO RESPONSIBILITY FOR ITS ACCURACY.

30' 30 0 30 60Ft.

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REVISIONS:

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Site Development Plans for:
Mt. Olive Missionary Baptist Church
66 Wasson Avenue
Lackawanna, New York 14218

Date: 1/18/2021
Drawn by: JPB
Scale: As Noted

DRAWING NAME:
Landscape Plan

DRAWING NO.
L-100

Project no.: 20.166