DESIGN & CONSTRUCTION GROUP
THE GOVERNOR NELSON A. ROCKEFELLER
EMPIRE STATE PLAZA
ALBANY, NY 12242

ADDENDUM NO. 4 TO PROJECT NO. 47688

CONSTRUCTION, HVAC, PLUMBING, AND ELECTRICAL WORK
PROVIDE TRANSITIONAL RESIDENCE, SOUTH CAMPUS
CREEDMOOR PSYCHIATRIC CENTER
80-45 WINCHESTER BLVD
QUEENS VILLAGE, NY

July 1, 2026

NOTE: This Addendum forms a part of the Contract Documents. Insert it in the Project Manual. Acknowledge receipt of this Addendum in the space provided on the Bid Form.

CONSTRUCTION WORK SPECIFICATIONS

1. SECTION 310000 EARTHWORK: Discard the Section bound in the Project Manual and substitute with the accompanying Section (pages 310000 - 1 thru 310000 - 21) noted "Revised 06/19/2026."

2. SECTION 312500 EROSION AND SEDIMENTATION CONTROLS: Discard the Section bound in the Project Manual and substitute with the accompanying Section (pages 312500 – 1 thru 312500 - 9) noted "Revised 06/19/2026."

3. SECTION 334200 STORMWATER CONVEYANCE: Discard the Section bound in the Project Manual and substitute with the accompanying Section (pages 334200 - 1 thru 334200 - 14) noted "Revised 06/19/2026."

CONSTRUCTION WORK APPENDIX

4. STORMWATER POLLUTION PREVENTION PLAN OMH CREEDMOOR PSYCHIATRIC CENTER: Add the attached Document (pages 1 thru 460) to the Project Manual.

CONSTRUCTION WORK DRAWINGS

5. Revised Drawings:
   a. Drawing Nos. C-100, C-101, C-102, C-103, C-105, C-106, C-321, C-351. C-352, and C-353 noted Addendum #4, dated 6/19/2026, accompanies this Addendum and supersedes the same numbered previously issued drawings.

ELECTRICAL WORK DRAWINGS

6. Revised Drawings:
   a. Drawing Nos. E-001, E-002, and E-007 noted Addendum #4, dated 6/19/2026, accompanies this Addendum and supersedes the same numbered previously issued drawings.

END OF ADDENDUM

Brady Sherlock, P.E.
Director, Division of Design
Design & Construction

SECTION 310000 - EARTHWORK

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

B. Stormwater Pollution Prevention Plan (SWPPP) for the project, dated November 2024, as prepared by Tectonic Engineering Consultants, Geologists & Land Surveyors, D.P.C.

1.2 SUMMARY

A. Section Includes:

1. Disconnecting, capping, sealing, and/or removing existing utilities.
2. Site Clearing:
    a. Protecting existing vegetation to remain.
    b. Removing existing vegetation.
    c. Clearing and grubbing.
    d. Stripping and stockpiling topsoil, topsoil material, and rock.
    e. Removing above- and below-grade improvements.
    f. Disconnecting, capping or sealing, and removing or abandoning site utilities in place.
3. Excavation:
    a. Excavating for buildings and structures.
    b. Excavating trenches for utilities and pits for buried utility structures.
4. Fill and Backfill:
    a. Backfilling for building and site structures to subgrade elevations.
    b. Backfilling for trenches.
    c. Fill under slabs-on-grade.
    d. Fill under pavements.
    e. Fill for over-excavation.
    f. Subsurface drainage backfill for walls and trenches.
5. Preparation of subgrades.
6. Compaction.
7. Riprap placement.
8. Rough and final grading.
9. Work within fifty (50) feet of tree in public right-of-way

B. Related Requirements:

1. Section 310001 – Earthwork Materials.

2. Section 312319 – Dewatering.
3. Section 312323.33 – Flowable Fill.
4. Section 312500 – Erosion and Sedimentation Controls.
5. Section 315000 – Excavation Support and Protection
6. Section 329200 – Turf and Grasses.
7. Section 329300 – Plants.

1.3 REFERENCE STANDARDS

A. ASTM International:

1. ASTM C88 - Standard Test Method for Soundness of Aggregates by Use of Sodium Sulfate or Magnesium Sulfate
2. ASTM C136 - Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates.
3. ASTM D698 - Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft^3).
4. ASTM D1557 - Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft^3).
5. ASTM D2419 – Standard Test Method for Sand Equivalent Value of Soils and Fine Aggregate.
6. ASTM D2434 - Standard Test Method for Permeability of Granular Soils (Constant Head).
7. ASTM D2487 – Standard Practice for Classification of Soils for Engineering Purposes (Unified Soil Classification System).
8. ASTM D2974 – Standard Test Methods for Determining the Water (moisture) Content, Ash Content, and Organic Material of Peat and Other Organic Soils.
9. ASTM D4318 - Standard Test Methods for Liquid Limit, Plastic Limit, and Plasticity Index of Soils.
10. ASTM D4373 - Standard Test Method for Rapid Determination of Carbonate Content of Soils
11. ASTM D4873 – Standard Guide for Identification, Storage, and Handling of Geosynthetic Rolls and Samples.
12. ASTM D6938 - Standard Test Methods for In-Place Density and Water Content of Soil and Soil-Aggregate by Nuclear Methods (Shallow Depth).

B. Related Requirements:

1. Local utility standards when working in close proximity to utility lines.
2. Occupational Safety and Health Administration: Comply with the applicable requirements of the Code of Federal Regulations Title 29 – Labor, Part 1926 Safety and Health Regulations for Construction (OSHA).
3. New York City Department of Parks & Recreation (NYCDPR) Tree Protection Protocol – Standard Tree Protection Notes for Permits and Plan review; Tree Protection Best Practices and Protocol; Tree Protection Guidelines; Utility Protocol – Utility Work and City Trees: Forestry Protocol for Planned and Emergency Utility Work.
4. New York City: Comply with all applicable requirements of the Administrative Code Title 18 – Parks, Chapter 1: Parks and Recreation & The Rules of the City of New York -Title 56: Department of Parks and Recreation.

C. New York State Department of Transportation (NYS DOT)

1. NYS DOT 620 - Bank and Channel Protection
2. NYS DOT 703 - Aggregates
3. NYS DOT 733 - Earthwork Materials

1.4 DEFINITIONS

A. Surface Soil: Soil that is present at the top layer of the existing soil profile.

B. Subsurface: Soil beneath the level of subgrade; soil beneath the topsoil layers of a naturally occurring soil profile.

C. Topsoil: Top layer of the soil profile consisting of existing native surface topsoil or existing in-place surface soil; the zone where plant roots grow. Its appearance is generally friable, pervious, and black or a darker shade of brown, gray, or red than underlying subsurface; reasonably free of subsurface soils, clay lumps, gravel, weeds, roots, toxic materials, or other non-soil materials.

D. Borrow Soil: Approved soil imported from off-site for use as Fill. Also referred to as Imported Fill.

E. Backfill: Soil material or controlled low-strength material used to fill an excavation.

1. Initial Backfill: Backfill placed beside and over pipe in a trench, including haunches to support sides of pipe.
2. Final Backfill: Backfill placed over initial backfill to backfill a trench.

F. Fill: Pre-existing materials formerly placed within the subsurface. May include soil materials in addition to inorganic materials and debris.

G. Suitable Material (Fill approved for use within Landscaped Areas): Material generally consisting of mineral soil (inorganic), blasted or broken rock and similar materials of natural or man-made origin, including mixtures thereof. Maximum particle size will not exceed 2/3 of the specified layer thickness prior to compaction. Topsoil and organic silt may be used as suitable material in landscaped areas provided it is placed as the surface soil.

H. Unsuitable Material: Material containing cinders, industrial waste, sludge, building/construction rubble, land fill, muck, and peat.

I. Subgrade: Uppermost surface of an excavation or the top surface of Fill immediately below subbase, drainage material, or topsoil materials.

J. Subbase Course: Aggregate layer placed between the subgrade and asphaltic or concrete pavement section or concrete structure.

K. Bedding Course (Cushion Material): Aggregate layer placed over the excavated subgrade in a trench before laying pipe.

L. Drainage Material: Aggregate layer with minimal material passing the #200 sieve to promote downward water flow and minimizes upward capillary flow of pore water.

M. Classified Earth Excavation: Removal of all surface and subsurface material not classified as rock, to the lines and dimensions indicated.

N. Rock: Limestone, sandstone, shale, granite and similar material in solid beds or masses in its original or stratified position which can be removed only by blasting operations, drilling, wedging, or use of pneumatic tools, and boulders with a volume greater than 1.0 cu yd. Concrete building foundations and concrete slabs, not indicated, with a volume greater than 1.0 cu yd shall be classified as rock.

1. Limestone, sandstone, shale, granite, and similar material in a broken or weathered condition which can be removed with an excavator or backhoe equipped with a bucket with ripping teeth or any other style bucket shall be classified as earth excavation.
2. Masonry building foundations, whether indicated or not, shall be classified as earth excavation.

O. Unclassified Earth Excavation: Removal of all surface and subsurface material, of any description, necessary to perform the work of this contract. This will include:

1. All soil deposits of any description both above and below groundwater levels. These may be naturally deposited or placed by previous construction operations.
2. Ledge rock of all quality. (Limestone, Sandstone, Shale, Granite and similar materials in solid beds or masses in its original or stratified position which can only be removed by drilling, wedging, use of pneumatic tools or heavy ripping equipment). Blasting operations will not be permitted to loosen any ledge rock necessary to be removed in this contract.
3. Boulders of any size.
4. Any materials of man-made origin.

P. Authorized Additional Excavation: Excavation below subgrade elevations or beyond indicated lines and dimensions as directed by Director's Representative. Authorized additional excavation and replacement material will be paid for according to Contract provisions for changes in the Work.

Q. Bulk Excavation: Excavation more than 10 feet in width and more than 30 feet in length.

R. Unauthorized Excavation: Excavation below subgrade elevations or beyond indicated lines and dimensions without direction by Director's Representative. Unauthorized excavation, as well as remedial work directed by Director's Representative, shall be without additional compensation.

S. Structures: Buildings, footings, foundations, retaining walls, slabs, tanks, curbs, mechanical and electrical appurtenances, or other man-made stationary features constructed above or below the ground surface.

T. Utilities: On-site underground pipes, conduits, ducts, and cables as well as underground services within buildings.

U. Plant-Protection Zone: Area surrounding individual trees, groups of trees, shrubs, or other vegetation to be protected during construction.

V. Vegetation: Trees, shrubs, groundcovers, grass, and other plants.

W. Landscaped Areas: Areas not covered by structures, walks, roads, paving, or parking.

X. Grading Limit Line (Shown on Drawings): Limits of grading, excavations and filling required for the Work. Unless specifically noted otherwise, the Grading Limit Line and Contract Limit Line shall be considered the same.

Y. Public Right-of-Way: Area surrounding project limits that is owned and maintained by New York City.

1.5 MATERIAL OWNERSHIP

A. Except for materials indicated to be stockpiled or otherwise remain State's property, cleared materials shall become Contractor's property and shall be removed from Project site.

1.6 SUBMITTALS

A. Submittals for this Section are subject to the re-evaluation fee identified in Article 4 of the General Conditions.

B. Manufacturer's installation instructions shall be provided along with product data.

C. Submittals shall be provided in the order in which they are specified and tabbed (for combined submittals).

D. Existing Conditions: Submit a Pre-Construction Survey Report documenting condition of existing trees and plantings, adjoining construction, and site improvements prior to beginning earthwork activities. Report shall establish preconstruction conditions that might be misconstrued as damage caused by the Work of this Section.

1. Use sufficiently detailed photographs or video recordings.
   a. Photographs sufficient for use with NYCDPR Tree Work Permit application and to create Tree Work Permit plans shall be included.
2. Include plans and notations to indicate specific wounds and damage conditions of each tree or other plant designated to remain.

E. Qualification Data: For qualified testing agency.

F. NYCDPR Tree Work Permit Application: Contractor is responsible for acquiring Tree Work Permit from NYCDPR prior to any work within fifty (50) feet of trees in public right-of-way occurring and providing all necessary documentation, plans, survey, photographs, letters, forms, project information, and any other required information to facilitate permit submission and approval.

G. Land Survey: Land survey shall be performed and provided sufficient for use with Contractor's NYCDPR Tree Work Permit application. Survey shall include limits up to one-hundred (100) feet away from any planned tree work, sufficient to create Tree Work Permit plans in accordance with 1.6(E) of this specification and as required by NYCDPR, and must be signed and sealed by a Professional Land Surveyor, licensed in the State of New York:

1.7 QUALITY ASSURANCE

A. Geotechnical Testing Agency Qualifications: Qualified according to ASTM E329 and ASTM D3740 for testing indicated.

1.8 FIELD CONDITIONS

A. Traffic: Minimize interference with adjoining roads, streets, walks, and other adjacent occupied or used facilities during earth-moving operations.

1. Do not close or obstruct streets, walks, or other adjacent occupied or used facilities without permission from Director's Representative and authorities having jurisdiction.
2. Provide alternate routes around closed or obstructed traffic ways if required by Director's Representative or authorities having jurisdiction.

B. Improvements on Adjoining Property: Authority for performing earth moving indicated on property adjoining State's property will be obtained by Director's Representative before award of Contract.

1. Do not proceed with work on adjoining property until directed by Director's Representative.

C. Salvageable Improvements: Carefully remove items indicated to be salvaged and store as indicated.

D. Utility Locator Service: Locate underground utilities, in accordance with Section 023313 – Underground Utility Locator Service, before beginning site clearing or earth-moving operations.

E. Do not commence operations until temporary site fencing and erosion and sedimentation control measures are in place.

F. Do not commence earthwork operations until plant-protection measures specified herein are in place.

G. The following practices are prohibited within protection zones:

1. Storage of construction materials, debris, or excavated material.
2. Parking vehicles or equipment.
3. Foot traffic.
4. Erection of sheds or structures.
5. Impoundment of water.
6. Excavation or other digging unless otherwise indicated.
7. Attachment of signs to or wrapping materials around trees or plants unless otherwise indicated.

H. Do not direct vehicle or equipment exhaust towards protection zones.

I. Prohibit heat sources, flames, ignition sources, and smoking within or near protection zones.

J. Soil Stripping, Handling, and Stockpiling: Perform only when the soil is dry or slightly moist.

PART 2 - PRODUCTS

2.1 MATERIALS

A. See Section 310001 - Earthwork Materials.

B. Protection-Zone Fencing:

1. Plastic Protection-Zone Fencing: Plastic construction fencing constructed of high-density extruded and stretched polyethylene fabric with 2-inch maximum opening in pattern and weighing a minimum of 0.4 lb/ft.; remaining flexible from minus 60 to plus 200 deg F; inert to most chemicals and acids; minimum tensile yield strength of 2000 psi and ultimate tensile strength of 2680 psi; secured with plastic bands or galvanized-steel or stainless-steel wire ties; and supported by tubular or T-shape galvanized-steel posts spaced not more than 96 inches apart.

a. Height: 48 inches
b. Color: High-visibility orange, nonfading.

2. Chain-Link Protection-Zone Fencing: As specified in Section 015000 - Construction Facilities and Temporary Controls.

C. Protection-Zone Gates: Double-swing access gates matching material and appearance of fencing, to allow for maintenance activities within protection zones; leaf width as indicated.

D. Protection-Zone Signage: Shop-fabricated, rigid plastic or metal sheet with attachment holes prepunched and reinforced; legibly printed with nonfading lettering and as follows:

1. Size and Text: As shown on Drawings.
2. Lettering: 3-inch-high minimum, black characters on white background.

PART 3 - EXECUTION

3.1 PREPARATION

A. Protect and maintain benchmarks and survey control points from disturbance during construction.

B. Verify that trees, shrubs, and other vegetation to remain or to be relocated have been flagged and that protection zones have been identified and enclosed as required. If work begins prior to Contractor acquiring Tree Work Permit from NYCDPR, protection zones shall be installed a minimum of fifty (50) feet away from trees in public right-of-way and no work shall be allowed to occur in this area until permit is acquired.

C. Protect existing site features, to remain, from damage during construction. Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, undermining, washout, and other hazards created by earthwork operations.

1. Restore damaged improvements to their original condition, as acceptable to the Director’s Representative.

D. Protect and maintain erosion and sedimentation controls during earth-moving operations.

E. Protect subgrades and foundation soils from construction traffic, surface water, freezing temperatures and frost. Remove temporary protection before placing subsequent materials.

3.2 TEMPORARY EROSION AND SEDIMENTATION CONTROL

A. Provide and maintain temporary erosion and sedimentation control measures to prevent soil erosion and discharge of soil-bearing water runoff or airborne dust to adjacent properties and walkways, in accordance with Section 312500 Erosion & Sedimentation Controls, the Contract Drawings, and requirements of authorities having jurisdiction. If the erosion and sedimentation controls specified by the authorities having jurisdiction are more stringent than those specified in the Contract Documents, contact the Director's Representative.

1. Verify that flows of water redirected from construction areas or generated by construction activity do not enter or cross protection zones.
2. Inspect, maintain, and repair erosion and sedimentation control measures during construction until permanent vegetation has been established.
3. Remove erosion and sedimentation controls and restore and stabilize areas disturbed during removal.

3.3 PLANT PROTECTION

A. Locate and clearly identify trees, shrubs, and other vegetation to remain and be protected. Tie a 1-inch blue vinyl tape around each tree trunk at 54 inches above the ground.

B. Protect tree root systems from damage caused by runoff or spillage of noxious materials while mixing, placing, or storing construction materials. Protect root systems from ponding, eroding, or excessive wetting caused by dewatering operations.

C. Trunk Protection: Protect the trunk of each tree to remain as follows:

1. Install 2-by-4-inch wood planks around trunk at maximum 3 inches apart. Minimum three planks per tree. Band together with no less than three steel bands stapled to the planks to hold them securely in place. Wrap orange plastic construction fencing to a minimum of three layers outside slats. Fasten wrap with wire.

    a. Height: 48 inches

D. Protection-Zone Fencing: Install protection-zone fencing along edges of protection zones **before** materials or equipment are brought on the site and construction operations beginning a manner that will prevent people and animals from easily entering protected areas except by entrance gates. Construct fencing so as not to obstruct safe passage or visibility at vehicle intersections where fencing is located adjacent to pedestrian walkways or in close proximity to street intersections, drives, or other vehicular circulation. Install access gates where indicated.

E. Install protection-zone signage in visibly prominent locations in a manner approved by Director's Representative. Install one sign spaced approximately every 35 feet on protection-zone fencing, but no fewer than four signs with each facing a different direction.

F. Maintain protection zones free of weeds and trash.

G. Maintain protection-zone fencing and signage in good condition as acceptable to Director's Representative and remove when construction operations are complete and equipment has been removed from the site.

1. Do not remove protection-zone fencing, even temporarily, to allow deliveries or equipment access through the protection zone.
2. Temporary access is permitted subject to preapproval in writing by arborist if a root buffer effective against soil compaction is constructed as directed by arborist. Maintain root buffer so long as access is permitted.

H. Repair or replace trees, shrubs, and other vegetation indicated to remain or be relocated that are damaged by construction operations.

1. Small Trees: Provide new trees of same size and species as those being replaced for each tree that measures 4 inches or smaller in caliper size.
2. Large Trees: Provide two new tree(s) of 4-inchcaliper size for each tree being replaced that measures more than 6 inches in caliper size.

    a. Species: to match existing, unless otherwise directed by Director's Representative.

3. Plant and maintain new trees as specified in Section 329300 - Plants.

I. Comply with all NYCDPR requirements in NYCDPR standards and all stipulations of NYCDPR Tree Work Permit for plant protection when work is within fifty (50) feet of trees in public right-of-way.

3.4 EXISTING UTILITIES

A. Locate, identify, disconnect, and seal or cap utilities indicated to be removed or abandoned in place.

1. Arrange with utility companies to shut off indicated utilities as necessary

B. Interrupting Existing Utilities: Do not interrupt utilities serving occupied facilities unless permitted under the following conditions and then only after arranging to provide temporary utility services according to requirements indicated:

1. Notify Director's Representative not less than seven days in advance of proposed utility interruptions.
2. Do not proceed with utility interruptions without the Director's Representative's written permission.

C. Excavate for and remove underground utilities indicated to be removed. Resulting excavations shall be backfilled with Fill in accordance with relevant specifications.

3.5 CLEARING AND GRUBBING

A. Remove obstructions, trees, shrubs, and other vegetation to permit installation of new construction.

1. Do not remove trees, shrubs, and other vegetation indicated to remain.
2. Grind down stumps and remove roots, obstructions, and debris to a depth of 18 inches below exposed subgrade to lines and grades as shown on the Construction Drawings.
3. Use only hand methods or air spade for grubbing within protection zones.
4. Chip removed tree branches and stockpile in areas approved by the Director's Representative or dispose of off-site when directed by the Director's Representative

B. Fill depressions caused by clearing and grubbing operations with suitable material unless further excavation or earthwork is indicated.

1. Where beyond limits of proposed structures, place General Fill in horizontal layers not exceeding a loose depth of 8 inches and compact each layer to specified density.

3.6 TOPSOIL STRIPPING

A. Remove sod and grass before stripping topsoil.

B. Strip topsoil to depth of 4 inches in a manner to prevent intermingling with underlying soil or other waste materials.

1. Remove subsurface soil and non-soil materials from topsoil, including clay lumps, gravel, and other objects larger than 2 inches in diameter; trash, debris, weeds, roots, and other waste materials.

C. Stockpile topsoil away from edge of excavations without intermixing with subsurface soil or other materials. Grade and shape stockpiles to drain surface water. Cover to prevent windblown dust and erosion by water.

1. Limit height of topsoil stockpiles to 120 inches.
2. Do not stockpile topsoil within protection zones.
3. Stockpile surplus topsoil to allow for respreading deeper topsoil.
4. Dispose of surplus topsoil. Surplus topsoil is that which exceeds quantity indicated to be stockpiled or reused.

D. Where surficial materials are identified as Topsoil Materials, stripping provisions presented herein may be performed in-kind, however use of the material throughout the site should be authorized by the Directors Representative.

3.7 STORAGE OF SOIL MATERIALS

A. Stockpile borrow soil (Imported Fill) materials and excavated suitable materials away from the edge of excavations and without intermixing. Place, grade, and shape stockpiles to drain surface water. Cover to prevent windblown dust and erosion by water.

1. Limit height of soil stockpiles to 180 inches.

2. Do not stockpile soil material within protection zones.
3. Dispose of surplus soils. Surplus soil is that which exceeds quantity indicated to be stockpiled or reused.

3.8 STOCKPILING ROCK

A. Remove from construction area naturally formed boulders that measure more than 1 foot across in least dimension. Do not include excavated or crushed rock.

1. Separate or wash off non-rock materials from rocks, including soil, clay lumps, gravel, and other objects larger than 2 inches in diameter; trash, debris, weeds, roots, and other waste materials.

B. Stockpile rock where indicated on Drawings without intermixing with other materials. Cover to prevent windblown debris from accumulating among rocks.

1. Limit height of rock stockpiles to 240 inches.
2. Do not stockpile rock within protection zones.
3. Stockpile surplus rock to allow for later use.
4. Dispose of surplus rock. Surplus rock is that which exceeds quantity indicated to be stockpiled or reused.

3.9 DEWATERING

A. Provide dewatering system of sufficient scope, size, and capacity to control hydrostatic pressures and to lower, control, remove, and dispose of ground water and permit excavation and construction to proceed on dry, stable subgrades. Refer to Section 312319 – Dewatering.

B. Prevent surface water and ground water from entering excavations, from ponding on prepared subgrades, and from flooding Project site and surrounding area.

C. Protect subgrades from rain or water accumulation that can cause softening, undermining/undercutting, washout, damage, and other soil changes that would be detrimental to the stability of subgrades.

1. Reroute surface water runoff away from excavated areas. Do not allow water to accumulate in excavations. Do not use excavated trenches as temporary drainage ditches.

D. Dispose of water removed by dewatering in a manner that avoids endangering public health, property, and portions of work under construction or completed. Dispose of water and sediment in a manner that avoids inconvenience to others.

E. Dewatering shall be performed as to allow performance of work, including placement of backfill materials and concrete, to be performed in the dry.

F. Dewatering systems, if necessary, should be designed by a New York State license Professional Engineer.

3.10 EXCAVATION, GENERAL

A. Unclassified Earth Excavation: Excavate to subgrade elevations regardless of the character of surface and subsurface conditions encountered. No changes in the Contract Sum or the Contract Time will be authorized for rock excavation or removal of obstructions.

1. All excavated soils proposed for use as Fill should be tested and approved by the geotechnical engineer prior to their placement. Non-conforming soils may be suitable for use as General Fill.

B. Classified Earth Excavation: Excavate to subgrade elevations. Material to be excavated will be classified as earth and rock. Do not excavate rock until it has been classified and cross sectioned. The Contract Sum will be adjusted for rock excavation according to Contract provisions for changes in the Work. Changes in the Contract Time may be authorized for rock excavation.

1. Earth excavation includes excavating pavements and obstructions visible on surface; underground structures, utilities, and other items indicated to be removed; and soil, boulders, and other materials not classified as rock or unauthorized excavation.

a. Intermittent drilling; blasting, if permitted; ram hammering; or ripping of material not classified as rock excavation is earth excavation.

3.11 EXCAVATION

A. Excavation for Structures: Excavate to indicated elevations and dimensions within a tolerance of plus or minus 1 inch. If applicable, extend excavations a sufficient distance from structures for placing and removing concrete formwork, for installing services and other construction, and for inspections.

B. Excavations for Footings and Foundations:

1. Do not disturb bottom of excavation when concrete is to bear on undisturbed native soil. Excavate by hand to final foundation bearing grade just before placing concrete reinforcement. Trim bottoms to required lines and grades to leave solid base to receive other work.
2. Where concrete is to bear entirely on existing rock, remove loose soil and loose rock and place concrete to required lines and grades.
3. Where concrete is to bear partially on rock and partially on soil, immediately notify the Director's Representative before any backfilling or concrete placement occurs; the Director's Representative will determine the correct foundation treatment for the Work.

C. Excavation for Underground Tanks, Basins, and Mechanical or Electrical utility structures: Excavate to elevations and dimensions indicated within a tolerance of plus or minus 1 inch. Do not disturb bottom of excavations intended as bearing surfaces.

D. Excavation for Slabs and Floors: Excavate to the following depths below bottom of concrete for addition of Fill

1. Interior Floors: 6 inches, unless otherwise indicated.

2. Exterior Slabs and Steps: 6 inches, unless otherwise indicated.

E. Excavations at Edges of Plant-Protection Zones:

1. Excavate by hand or with an air spade to indicated lines, cross sections, elevations, and subgrades. If excavating by hand, use narrow-tine spading forks to comb soil and expose roots. Do not break, tear, or chop exposed roots. Do not use mechanical equipment that rips, tears, or pulls roots.
2. Redirect roots in backfill areas where possible. If encountering large, main lateral roots, expose roots beyond excavation limits as required to bend and redirect them without breaking. If encountered immediately adjacent to location of new construction and redirection is not practical, cut roots approximately 3 inches back from new construction and as required for root pruning.
3. Do not allow exposed roots to dry out before placing permanent backfill. Provide temporary earth cover or pack with peat moss and wrap with burlap. Water and maintain in a moist condition. Temporarily support and protect roots from damage until they are permanently relocated and covered with soil.
4. Comply with all NYCDPR requirements in NYCDPR standards and all stipulations of NYCDPR Tree Work Permit for excavation within fifty (50) feet of trees in public right-of-way.

F. Excavation for Walks and Pavements: Excavate surfaces under walks and pavements to indicated lines, cross sections, elevations, and subgrades.

G. Excavation for Open Ditches: Cut ditches to cross sections and grades indicated.

H. Excavation for Utility Trenches: Excavate trenches to indicated gradients, lines, depths, and elevations.

1. Beyond building perimeter, excavate trenches to allow installation of top of pipe below frost line, unless noted otherwise in contract plans.
2. Trench Width: Excavate trenches to uniform widths to provide 12 inches of clearance on each side of pipe or conduit.
3. Trench Bottoms: Excavate trenches 6 inches deeper than bottom of pipe and conduit elevations to allow for bedding course. Hand-excavate deeper for bells and coupling joints of pipe.

I. Trenching within Protection Zones: Where utility trenches are required within protection zones, excavate under or around tree roots by hand or with air spade, or tunnel under the roots by drilling, auger boring, or pipe jacking. Do not cut main lateral tree roots or taproots; cut only smaller roots that interfere with installation of utilities. Cut roots as required for root pruning. If excavating by hand, use narrow-tine spading forks to comb soil and expose roots.

J. Excavation for Stormwater Vault: Prior to installation of vault system, ensure that deep ripping decompaction is completed in conformance with NYSDEC Standards as referenced in the project SWPPP.

3.12 UNAUTHORIZED EXCAVATION

A. Fill unauthorized excavation under foundations, wall footings, and retaining walls with Fill without altering top elevation of footing, foundation, or wall.

1. Unauthorized excavations under structural work shall be reported to the Director's Representative immediately before any backfilling or concrete work commences.

B. Elsewhere, backfill and compact unauthorized excavations as specified for authorized excavation of the same classification, unless otherwise directed by the Director's Representative.

3.13 SUBGRADE INSPECTION

A. Notify Director's Representative when excavations have reached required subgrade and are ready for inspection.

B. Proof-roll subgrade below the building slabs and pavements with a minimum 10-ton roller to identify soft pockets and areas of excess yielding. Where access is confined, use of a minimum 1.5-ton trench roller is permitted. Do not proof-roll wet or saturated subgrades.

1. Completely proof-roll subgrade with a minimum of four passes in perpendicular directions. Limit vehicle speed to 3 mph.

C. If Director's Representative determines that unsuitable material is present or that there are soft spots or areas of excessive pumping or rutting, excavate and replace with compacted backfill material as directed.

1. Have cross section taken, under the supervision of an independent land surveyor, to determine volume of additional excavations.

D. Authorized additional excavation and replacement material will be paid for according to Contract provisions for changes in the Work.

E. Reconstruct subgrades damaged by freezing temperatures, frost, rain, accumulated water, or construction activities, as directed by the Director's Representative, without additional compensation.

3.14 BACKFILL

A. Place and compact backfill in excavations promptly, but not before completing the following:

1. Construction below finish grade including, where applicable, subdrainage, dampproofing, waterproofing, and perimeter insulation.
2. Surveying locations of underground utilities for Record Documents.
3. Testing and inspecting underground utilities.
4. Removing concrete formwork.
5. Removing trash and debris.
6. Removing temporary shoring, bracing, and sheeting.
7. Cutting off top of permanent sheeting or sheetpiling.
8. Installing permanent or temporary horizontal bracing on horizontally supported walls.
9. Acceptance by the Director's Representative of construction below finish grade.

B. Plow, scarify, bench, or break up sloped surfaces steeper than 1 vertical to 4 horizontal so backfill material will bond with existing material.

C. Place backfill on subgrades free of mud, frost, snow, or ice.

D. Place backfill materials in layers not more than twelve inches thick in loose depth, unless otherwise specified. Before compaction, moisten or aerate each layer as necessary to facilitate compaction to the specified density.

1. Place backfill against foundation walls and in confined areas such as trenches not easily accessible by larger compaction equipment in maximum 4-inch-thick loose depth layers.
2. For large backfill areas, the layer thickness may be modified by the Director's Representative, at the Contractor's written request, if in the Director's Representative's judgment, the equipment used is capable of compacting the backfill material in a greater layer thickness. This request will include the type and specifications of compaction equipment intended for use.
3. For Open Graded Stone/Clean Stone (Item B-12, No. 1 crushed stone, No. 2 crushed stone, etc.) in excess of six inches: Material must be wrapped in separation fabric.

E. Concrete Walls

1. Do not place backfill against concrete walls until the walls have attained 70 percent of their design strength. Place backfill against walls of structures containing basements or crawl spaces only after the first floor structural members are in place and any concrete components of the first floor structural system have attained 70 percent of their concrete design strength.
2. Prevent wedging action of backfill against structures backfilled on both sides, by placing backfill uniformly around structure so that the elevation on each side never differs by more than 24 inches.

F. Foundation Drains

1. Line pipe trench loosely with drainage geotextile. Lap successive sheets 18 inches.
2. Place drainage/cushion material a minimum of 4 inches deep under pipe and [12 inches] on both sides and over top of pipe.
3. Completely wrap drainage/cushion material with drainage geotextile.

G. Perimeter Insulation: Before the insulation is installed, place and tamp specified backfill to a smooth plane even with the required elevation of the lower surface of the insulation.

H. Under Exterior Concrete Slabs and Steps:

1. Up to Subgrade Surface Elevation: Place Fill when backfill is required.
2. Subbase Material: Place 12 inches of Fill over subgrade surface.

I. Under Interior Concrete Slabs:

1. Up to Subgrade Surface Elevation: Place Fill when backfill is required.
2. Subbase Material: Place 6 inches of Fill over subgrade surface.

J. Under Pavements and Walks:

1. Up to Subgrade Surface Elevation: Place Fill when backfill is required.
2. Subbase Material: Place as indicated.

K. Landscaped Areas: Place Suitable Material (Approved General Fill) when required to complete backfill areas up to subgrade surface elevation. Do not use material containing particles over four inches in diameter within the top 12 inches of suitable material.
   1. Comply with all NYCDPR requirements in NYCDPR standards and all stipulations of NYCDPR Tree Work Permit for final grading and turf establishment within fifty (50) feet of trees in public right-of-way.

L. Utility Trench Backfill

   1. Place and compact bedding course on trench bottoms and where indicated. Shape bedding course to provide continuous support for bells, joints, and barrels of pipes and for joints, fittings, and bodies of conduits.
   2. Backfill voids with Fill while removing shoring and bracing.
   3. Initial Backfill:

      a. Soil Backfill: Place and compact initial backfill of Fill to a minimum depth of 4 inches below the bottom, 12 inches to the sides, and to a height of 12 inches over the pipe or conduit.

         1) Carefully compact initial backfill under pipe haunches and compact evenly up on both sides and along the full length of piping or conduit to avoid damage or displacement of piping or conduit.

      b. Flowable Fill: Place initial backfill of flowable fill (controlled low strength material) to a height of 12 inches over the pipe or conduit.

   4. Coordinate backfilling with utilities testing.
   5. Final Backfill:

      a. Soil Backfill: Place and compact final backfill soil to final subgrade elevation.

M. Backfilling Excavation Resulting from Removal of Unsuitable Material:

   1. Up to Subgrade Surface Elevation: Place Fill when backfill is needed unless otherwise specified by the Directors Representative.

3.15 SOIL MOISTURE CONTROL

A. Where backfill must be moisture conditioned before compaction, uniformly apply water to the surface and to each layer of backfill to within 2 percent of optimum moisture content.

B. Prevent ponding or other free water on surface during and after compaction operations.

C. Remove and replace, or scarify and air dry, soil that is too wet to permit compaction to specified density. Soil that has been removed because it is too wet to permit compaction may be stockpiled or spread and allowed to dry. Assist drying by discing, harrowing or pulverizing, until moisture content is reduced to a value which will permit compaction to the percentage of maximum density specified.

D. When the existing ground surface to be compacted has a density less than that specified for the particular area classification, break up and pulverize, and moisture condition to facilitate compaction to the required percentage of maximum density.

3.16 COMPACTION OF SOIL BACKFILLS

A. Compact soil materials to not less than the following percentages of maximum density according to ASTM D1557 for the following:

1. Under structures, including area within 10-ft outside perimeter: 95 percent.
2. Under concrete slabs, steps, and pavements: 95 percent.
3. Under walkways: 95 percent.
4. Under landscaped areas, turf, or unpaved areas: 95 percent.
5. Pipe bedding: 95 percent.
6. Behind retaining walls: 95 percent.

3.17 RIPRAP PLACEMENT

A. Do not place riprap over frozen or spongy subgrade surfaces.

B. Install separation geotextile over properly prepared subgrade.

C. Spread layer of bedding course prior to placing riprap at depth indicated on Drawings. Prevent mixing of bedding course with subgrade.

D. Place riprap into position at thickness as indicated on Drawings.

E. End Dumped: End dump riprap to conform to the lines, grades and thicknesses indicated. End dumped riprap shall be a well graded mass of variable size stones with no areas of uniform size material. Rearrange individual stones, if necessary, by hand or with mechanical equipment to obtain the specified results.

F. Hand Placed: Hand place riprap with the largest stones placed at the bottom of slope. Align stones to obtain a close fit and to minimize voids. Fill spaces between stones with spalls of suitable size.

3.18 GRADING

A. General: Uniformly grade areas to a smooth surface, free of irregular surface changes. Comply with compaction requirements and grade to cross sections, lines, and elevations indicated.

1. Provide a smooth transition between adjacent existing grades and new grades.
2. Cut out soft spots, fill low spots, and trim high spots to comply with required surface tolerances.

B. Rough Grading:

1. Interior Grading: Trim unexcavated spaces within the building to levels indicated.

a. Subgrade for Interior Slabs: Compact as specified to receive backfill material. Finish subgrade surface within 1 inch above or below level specified for backfill required.

2. Exterior Grading: Trim and grade area within the Grading Limit Line and excavations outside the limit line, required by this Contract, to a level of 4 inches below the finish grades indicated unless otherwise specified herein or where greater depths are indicated. Provide smooth uniform transition to adjacent areas.

a. Slope cut and fill in transition areas, outside of the grading limit line, to meet corresponding levels of existing grades at a slope of 1 vertical to 2 horizontal unless otherwise indicated.
b. Landscaped Areas: Provide uniform subgrade surface within 1 inch of required level to receive topsoil thickness specified. Compact backfill as specified to within 3 inches of subgrade surface. Remove objectionable material detrimental to proper compaction or to placing full depth of topsoil. If the top 3 inches of subgrade has become compacted before placement of topsoil, harrow or otherwise loosen rough graded surface to receive topsoil to a depth of three inches immediately prior to placing topsoil.

C. Subgrade Surface for Walks and Pavement

1. Shape and grade subgrade surface as follows:

a. Walks: Shape the surface of areas under walks to required line, grade and cross section, with the finish surface not more than 1 inch above or below the required subgrade surface elevation.
b. Pavements: Shape the surface of areas under pavement to required line, grade and cross section, with the finish surface not more than 1/2 inch above or below the required subgrade surface elevation.

2. Grade Control: During construction, maintain lines and grades including crown and cross-slope of subbase course.
3. Thoroughly compact subgrade surface for walks and pavement by mechanical rolling, tamping, or with vibratory equipment as approved to the density specified.
4. Shoulders: Place shoulders along edges of filled subgrades to prevent lateral movement. Construct shoulders of Fill material, placed in such quantity to compact to thickness of each subgrade course layer. Compact and roll at least a 2-foot wide additional layer of each subgrade course.

D. Finish Grading:

1. Uniformly grade rough graded areas within limits of the Grading Limit Line to finish grade elevations indicated.
2. Grade and compact to smooth finished surface within tolerances specified, and to uniform levels or slopes between points where finish elevations are indicated or between such points and existing finished grade.
3. Grade areas adjacent to building lines so as to drain away from structures and to prevent ponding.
4. Finish surfaces free from irregular surface changes, and as follows:

a. Walks: Place and compact subbase material as specified. Shape surface of areas under walks to required line, grade and cross section, with the finish surface not more than 1/4 inch above or below the required subbase elevation.
b. Pavements: Place and compact subbase material as specified. Shape surface of areas under pavement to required line, grade and cross section, with the finish surface not more than 1/4 inch above or below the required subbase elevation.
c. Building Slabs: Grade subbase material smooth and even, free of voids, compacted as specified, and to required subbase elevation. Finish final grades within a tolerance of 1/4 inch when tested with a ten-foot straightedge.
d. Surfaces To Receive Vapor Barrier: Provide smooth surfaces graded, tamped and/or rolled, entirely free of obstructions or protruding objects.

5. Spread topsoil directly upon prepared subgrade surface to a depth measuring 4 inches after natural settlement of the topsoil has occurred in areas to be seeded or to receive sod. Perform topsoil spreading operations only during dry weather. Place to greater depth when necessary to adjust grades to required elevations.

a. Approved existing topsoil within the Grading Limit Line may be used. Provide additional topsoil from outside sources as required. Topsoil material within Grading Limit Line may be suitable for re-use provided approval of the Director's Representative.
b. Comply with all NYCDPR requirements in NYCDPR standards and all stipulations of NYCDPR Tree Work Permit for topsoil placement within fifty (50) feet of trees in public right-of-way.

6. Finish topsoil surface free of depressions that would trap water, free of stones over 1 inch in any dimension, and free of debris or other objectionable material. Finished surfaces shall conform to the contour lines and elevations indicated on the drawings or as directed by the Director's Representative.

3.19 FIELD QUALITY CONTROL

A. Special Inspections: Director's Representative will engage a qualified Special Inspector to perform the following special inspections:

1. Determine prior to placement of backfill that site has been prepared in compliance with requirements.
2. Determine that backfill material classification and maximum lift thickness comply with requirements.
3. Determine, during placement and compaction, that in-place density of compacted backfill complies with requirements.

B. Testing Agency: Director's Representative will engage a qualified geotechnical engineering testing agency to perform tests and inspections.

C. Coordinate with and allow testing agency to inspect and test subgrades and each backfill layer; provide testing agency minimum three working days advanced notice prior to all phases of filling and backfilling operations. Proceed with subsequent earthwork activities only after test results for previously completed work comply with requirements.

D. Footing Subgrade: At footing subgrades, at least one visual test of each soil stratum will be performed to verify design bearing capacities. Subsequent verification and approval of other footing subgrades may be based on a visual comparison of subgrade with verified subgrade when approved by Director's Representative.

E. Testing agency will test compaction of soils in place according to ASTM D1557, as applicable. Tests will be performed at the following locations and frequencies:

1. Paved and Building Slab Areas: At subgrade and at each compacted backfill layer, at least one test for every 2000 sq. ft. or less of paved area or building slab but in no case fewer than three tests.
2. Foundation Wall Backfill: At each compacted backfill layer, at least one test for every 100 feet or less of wall length but no fewer than two tests.
3. Trench Backfill: At each compacted initial and final backfill layer, at least one test for every 150 feet or less of trench length but no fewer than two tests.

F. When testing agency reports that subgrades, fills, or backfills have not achieved degree of compaction specified, scarify and moisten or aerate, or remove and replace soil materials to depth required; recompact and retest until specified compaction is obtained.

3.20 PROTECTION

A. Protecting Graded Areas: Protect newly graded areas from traffic, freezing, and erosion. Keep free of trash and debris.

B. Repair and reestablish grades to specified tolerances where completed or partially completed surfaces become eroded, rutted, settled, or where they lose compaction due to subsequent construction operations or weather conditions.

1. Scarify or remove and replace soil material to depth as directed by Director's Representative; reshape and recompact.

C. Where settling occurs before Project correction period elapses, remove finished surfacing, backfill with additional soil material, compact, and reconstruct surfacing.

1. Restore appearance, quality, and condition of finished surfacing to match adjacent work, and eliminate evidence of restoration to greatest extent possible.

3.21 DISPOSAL OF SURPLUS AND WASTE MATERIALS

A. Transport excess and unsuitable materials, including materials resulting from clearing and grubbing and removal of existing improvements, to spoil areas on State property designated by the Director's Representative, and dispose of such materials as directed.

B. Transport excess topsoil to areas on State property designated by the Director's Representative. Smooth grade deposited topsoil.

C. Separate recyclable materials produced during site clearing from other nonrecyclable materials. Store or stockpile without intermixing with other materials and transport them to recycling facilities. Do not interfere with other Project work.

END OF SECTION 310000

SECTION 312500 - EROSION AND SEDIMENTATION CONTROLS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Temporary Structural Measures
2. Permanent Structural Measures
3. Vegetative Measures
4. Biotechnical measures
5. Rock Energy Dissipator
6. Sediment Traps.

1.3 REFERENCES

A. New York State Standards and Specifications for Erosion and Sediment Control, current version as published by the New York State Department of Environmental Conservation.

B. New York State Department of Environmental Conservation SPDES General Permit for Stormwater Discharges from Construction Activity, current version, as published by the New York State Department of Environmental Conservation.

C. New York City: Chapter 19: Use of the Public Sewers; Appendix: New York City Stormwater Manual

D. NYCDEP BEPA Stormwater Permitting Program, Stormwater Permitting and Tracking System (SWPTS) User Manual, latest version.

E. Stormwater Pollution Prevention Plan (SWPPP) for the project, dated November 2024, as prepared by Tectonic Engineering Consultants, Geologists & Land Surveyors, D.P.C. included with this specification, pending approval from New York City Department of Environmental Protection (NYCDEP) and the NYCDEP issuance of the Stormwater Permit.

F. SWPPP Narrative for the project, dated June 2026, included with Addendum #4, outlining the anticipated changes to the SWPPP upon review and approval of the SWPPP by NYCDEP.

G. ASTM International:

1. ASTM C127 - Standard Test Method for Density, Relative Density (Specific Gravity), and Absorption of Coarse Aggregate.
2. ASTM D698 - Standard Test Method for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft3 (600 kN-m/m3).
3. ASTM D1557 - Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft3 (2,700 kN-m/m3).
4. ASTM D6938 - Standard Test Method for In-Place Density and Water Content of Soil and Soil-Aggregate by Nuclear Methods (Shallow Depth).

1.4 SUBMITTALS

A. Submittals for this Section are subject to the re-evaluation fee identified in Article 4 of the General Conditions.

B. Manufacturer's installation instructions shall be provided along with product data.

C. Submittals shall be provided in the order in which they are specified and tabbed (for combined submittals).

D. Trained Contractor Documentation:

1. Name and Title of individual from each contractor or subcontractor performing land disturbance, who will be known as the Trained Contractor and responsible for implementation of the SWPPP.
2. For each Trained Contractor, submit copy of completion certificate or card for NYS Department of Environmental Conservation endorsed Erosion & Sediment Control training.

E. Product Data: Submit data on temporary and permanent erosion and sediment control measures.

F. Submit proposed mix design of each class of concrete for review prior to commencement of Work.

G. Samples:

1. Submit two samples or rock, minimum 5 tons each or one-half total Project quantity, whichever is smaller. Provide one sample in place at construction site and provide other sample at quarry. Construction site sample may be incorporated into the Work. Samples will be used as reference for judging size, and graduation of rock supplied and placed.

H. Test Reports: Indicate certified tests results for precast concrete at manufacturing facility, cast-in-place concrete in field, and granular backfill.

I. Manufacturer's Certificate: Certify Products meet or exceed specified requirements.

1.5 QUALITY ASSURANCE

A. Perform Work according to NEW YORK STATE STANDARDS AND SEPCIFICATIONS FOR EROSION AND SEDIMENT CONTROL by NYS Department of Environmental Conservation

(i.e., Bluebook) standards and New York City Stormwater Manual New York State Department of Environmental Protection.

1.6 PRE-INSTALLATION MEETING & NOTIFICATION

A. Section 013000 - Administrative Requirements: Pre-installation meeting.

B. Convene minimum one week prior to commencing Work of this Section.

C. Contractor shall notify NYCDEP seven (7) calendar days prior to starting construction.

1.7 ENVIRONMENTAL REQUIREMENTS

A. Do not place grout when air temperature is below freezing.

B. Do not place concrete when base surface temperature is less than [40 degrees F], or surface is wet or frozen.

1.8 RESPONSIBILITY

A. Adhere to all erosion and sediment control requirements presented in the contract Drawings and outlined in the SWPPP. Comply with all applicable NYSDEC and NYCDEP regulatory requirements.

B. A SWPPP has been prepared for this project. Prior to commencing any land disturbance (i.e. clearing, grading, excavation, etc.), install the temporary erosion and sediment control measures as shown on the drawings, outlined in the SWPPP, and/or as directed by the Director's Representative. Maintain all temporary erosion and sediment control measures in compliance with NYSDEC SPDES permit and NYCDEP Stormwater permit regulations for the duration of construction. Adjust temporary measures as needed to prevent erosion and sediment transport beyond the contract limit line. Place required permanent control practices prior to removal of temporary stormwater diversion, or erosion and sediment control measures.

C. The contractor shall create an account within the NYCDEP SWPTS Portal system to serve as the primary medium of communication related to the Stormwater Construction Permit and NYCDEP. The contractor shall use the portal for conformance with the permit requirements such as providing proof of certifications and insurance.

D. The Trained Contractor(s) shall inspect erosion and sediment controls on a daily basis to ensure that they are being maintained in effective operating condition at all times. If deficiencies are identified, begin implementing corrective actions within one business day and complete the corrective actions in a reasonable time frame.

1. For construction activities 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 maintenance inspections. The trained contractor shall recommence maintenance inspections as soon as soil disturbance activities resume or winter shutdown ceases.

2. For winter shutdown, the stabilization activities must be completed before snow cover or frozen ground. If vegetation is required, seeding, planting and/or sodding must be scheduled to avoid die-off from fall frosts and allow for proper germination/establishment. Trained contractor inspections must resume no later than April 1.
3. For construction sites where soil disturbance activities have been shut down with partial project completion, the trained contractor can stop conducting maintenance inspections if all areas disturbed as of the project shutdown date have achieved final stabilization and all post-construction stormwater management practice required (if applicable) for the completed portion of the project have been constructed in conformance with the SWPPP and are operational.

E. A qualified inspector will be obtained by the Director's Representative to perform SWPPP Inspections, at the frequency specified in the project SWPPP, performed every seven (7) calendar days and within 24 hours of any storm event producing 0.5 inch of precipitation or more. If deficiencies are identified, begin implementing corrective actions within one business day of notification and complete the corrective actions in a reasonable time frame.

F. During construction conduct operations to prevent damage to any water body from pollution by debris, sediment, chemical or other foreign material, or from the manipulation of equipment and/or materials in or near a stream or ditch flowing directly to a stream. Any water which has been used for wash purposes or other similar operations that becomes polluted with sewage, silt, cement, concentrated chlorine, oil, fuels, lubricants, bitumens, or other impurities shall not be discharged into any water body.

G. In the event of conflict between these specifications and the regulation of other Federal, State, or local jurisdictions, the more restrictive regulations shall apply.

1.9 DESCRIPTION

A. The Work shall consist of furnishing, installing, inspecting, maintaining, and removing erosion and sediment control measures as shown on the contract documents or as ordered by the Director's Representative during the life of the contract to provide erosion and sediment control.

B. Temporary structural measures provide erosion control protection to a critical area for an interim period. A critical area is any disturbed, bare slope subject to erosion. These are used during construction to prevent off-site sedimentation. Temporary structural measures shall include:

1. Check dams
2. Construction road stabilization
3. Stabilized construction entrance
4. Dust control
5. Sediment trap
6. Silt fence
7. Storm drain inlet protection
8. Straw/hay bale dike
9. Temporary swale
10. Temporary soil stockpile
11. Concrete truck washout
12. Geotextile filter bag

C. Permanent structural measures also control protection to a critical area. They are used to convey runoff to a safe outlet. They remain in place and continue to function after completion of construction. Permanent structural measures shall include:

1. Land grading.
2. Hydrodynamic Separators

D. Vegetative measures shall include:

1. Mulching
2. Protecting vegetation
3. Seeding
4. Straw/hay bale dike
5. Temporary swale
6. Topsoil

E. Biotechnical measures shall include:

1. Fiber rolls/compost filter socks

PART 2 - PRODUCTS

2.1 ROCK AND GEOTEXTILE MATERIALS

A. Rock: As specified in Section 310001 Earthwork Materials.

B. Geotextile Fabric: As specified in Section 310001 Earthwork Materials.

2.2 BLOCK, STONE, AGGREGATE, AND SOIL MATERIALS

A. Stone: As specified in Section 310001 Earthwork Materials.

B. Coarse Aggregate: As specified in Section 310001 Earthwork Materials.

C. Soil Backfill: As specified in Section 310001 Earthwork Materials. Subsurface soil with no rocks over 6 inches in diameter, frozen earth or foreign matter.

2.3 PLANTING MATERIALS

A. Soil Supplements: As specified in Section 329200 Turf and Grasses.

B. Seeding: Temporary or permanent, as specified in Section 329200 Turf and Grasses.

C. Mulch: As specified in Section 329200 and Section 329300.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Verify compacted subgrade, granular base, and/or stabilized soil is acceptable and ready to support devices and imposed loads.

B. Verify gradients and elevations of base or foundation for other Work are correct.

3.2 ROCK ENERGY DISSIPATOR

A. Excavate to indicated depth of rock lining. Remove loose, unsuitable material below bottom of rock lining, then replace with suitable material. Thoroughly compact and finish entire foundation area to firm, even surface.

B. Lay and overlay geotextile fabric over substrate. Lay fabric parallel to flow from upstream to downstream. Overlap edges upstream over downstream and upslope over downslope. Provide a minimum overlap of 3 feet. Offset adjacent roll ends a minimum of 5 feet when lapped. Cover fabric as soon as possible and in no case leave fabric exposed more than 4 weeks.

C. Carefully place rock on geotextile fabric to produce an even distribution of pieces, with minimum of voids and without tearing geotextile.

D. Unless indicated otherwise, place full course thickness in one operation to prevent segregation and to avoid displacement of underlying material. Arrange individual rocks for uniform distribution.

1. Saturate rock with water. Fill voids between pieces with grout, for at least top 6 inches. Sweep surface with stiff broom to remove excess grout.
2. Moist cure grouted rock for at least 3 days after grouting, using water saturated burlap in accordance with Section 033000

3.3 SEDIMENT TRAP

A. Clear site as specified in Section 310000 Earthwork.

B. Construct trap by excavating and forming embankments as specified in Section 310000 Earthwork.

C. When required, obtain borrow excavation for formation of embankment.

D. On entire sediment trap area, apply soil supplements and sow seed, as specified in Section 329200 Turf and Grasses and Section 329300 Plants.

E. Mulch seeded areas with hay as specified in Section 329200 Turf and Grasses and Section 329300 Plants.

3.4 SITE STABILIZATION

A. Incorporate erosion control devices indicated on the Drawings, and in the SWPPP, into the Project at the earliest practicable time.

B. Construct, stabilize and activate erosion controls before site disturbance within tributary areas of those controls.

C. Stockpile and waste pile heights shall not exceed 35 feet. Slope stockpile sides at 2:1 or flatter.

D. Stabilize any disturbed area of affected erosion control devices on which activity has ceased and which will remain exposed for more than 20 days.

1. During non-germinating periods, apply mulch at recommended rates.
2. Stabilize disturbed areas which are not at finished grade, and which will be disturbed within one year in accordance with Section 329200 Turf and Grasses and Section 329300 Plants at 100 percent of permanent application rate with no topsoil.
3. Stabilize disturbed areas which are either at finished grade or will not be disturbed within one year in accordance with Section 329200 Turf and Grasses and Section 329300 Plants permanent seeding specifications.

E. Stabilize sediment traps, and stockpiles immediately.

3.5 FIELD QUALITY CONTROL

A. Field inspecting, testing, adjusting, and balancing.

B. Inspect erosion control devices on a weekly basis and after each runoff event. Make necessary repairs to ensure erosion and sediment controls are in good working order.

C. Field test concrete in accordance with Section 033000.

D. Compaction Testing: As specified in Section 310000.

E. Compaction Testing: In accordance with ASTM D1557.

F. When tests indicate Work does not meet specified requirements, remove Work, replace and retest.

3.6 CLEANING

A. When sediment accumulation in sedimentation structures has reached a point one-third depth of sediment structure or device, remove and dispose of sediment.

B. Do not damage structure or device during cleaning operations.

C. Do not permit sediment to erode into construction or site areas or natural waterways.

D. Clean channels when depth of sediment reaches approximately one-half channel depth.

3.7 PROTECTION

A. Immediately after placement, protect paving from premature drying, excessive hot or cold temperatures, and mechanical injury.

B. Do not permit construction traffic over paving for 7 days minimum after finishing.

C. Protect paving from elements, flowing water, or other disturbance until curing is completed.

3.8 WORK AREAS

A. The Director's Representative has the authority to limit the surface area of erodible earth exposed by earthwork operations and to direct the Construction Contractor to provide immediate temporary or permanent erosion measures to minimize damage to property and contamination of watercourses and water impoundments. Under no circumstances will the area of erodible earth material exposed at one time exceed 50,000 sq. ft. The Director's Representative may increase or decrease this area of erodible earth material exposed at one time as determined by their analysis of project, weather and other conditions. The Director's Representative may limit the area of clearing and grubbing and earthwork operations in progress commensurate with the Construction Contractor's demonstrated capability in protecting erodible earth surfaces with temporary, permanent, vegetative or biotechnical erosion control measures.

B. Schedule the work so as to minimize the time that earth areas will be exposed to erosive conditions. Provide temporary structural measures immediately to prevent any soil erosion.

C. Provide temporary seeding on disturbed earth or soil stockpiles exposed for more than 7 days or for any temporary shutdown of construction. In spring, summer or early fall apply rye grass at a rate of 1 lb/ 1000 sq.ft. In late fall or early spring, apply certified Aroostook Rye at a rate of 2.5 lbs./ 1000 sq. ft. Apply hay or straw at a rate of 2 bales/ 1000 sq. ft. or wood fiber hydromulch at the manufacturer's recommended rate. Hay or straw shall be anchored.

D. Coordinate the use of permanent controls or finish materials shown with the temporary erosion measures.

E. All erosion and sediment control devices must be maintained in working order until the site is stabilized. All preventative and remedial maintenance work, including clean out, repair, replacement, re-grading, re-seeding, or re-mulching, must be performed immediately.

F. After final stabilization has been achieved temporary sediment and erosion controls must be removed. Areas disturbed during removal must be stabilized immediately.

G. When work is complete, the Contractor shall prepare final as-built meeting requirements of NYCDEP Stormwater permit for review and acceptance by the Director's Representative.

H. Upon final stabilization, removal of erosion and sediment controls, and acceptance of the as-built, the Director's Representative will instruct the qualified inspector to perform a final close-out inspection. If any deficiencies are observed, contractor shall reinstall necessary erosion and sediment controls, correct deficiencies as required, and apply final stabilization measures prior to project completion.

END OF SECTION 312500

BEGIN ATTACHMENT TO SECTION 31 25 00

SWPPP

SECTION 334200 - STORMWATER CONVEYANCE

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:
1. PE pipe and fittings.
2. PVC pipe and fittings.
3. Non-pressure transition couplings.
4. Cleanouts.
5. Drains.
6. Encasement for piping.
7. Catch basins.
8. Stormwater inlets.
9. Stormwater detention systems.
10. Pipe outlets.

1.3 SUBMITTALS

A. Submittals for this section are subject to the re-evaluation fee identified in Article 4 of the General Conditions.

B. Manufacturer's installation instructions shall be provided along with product data.

C. Submittals shall be provided in the order in which they are specified and tabbed (for combined submittals).

D. Product Data: For each type of product.

E. Submit an Environmental Product Declaration (EPD) from the manufacturer for steel pipe, concrete pipe, and each type of precast structure within this specification section, if available. A statement of the contractor's good faith effort to obtain the EPD shall be provided if not available.

1. Manufacturer-provided EPDs must be Product Specific Type III (Third-Party Reviewed), in adherence with ISO 14025 *Environmental labels and declarations*, ISO 14044 *Environmental management – Life cycle assessment*, and ISO 21930 *Core rules for environmental product declarations of construction products and services.*

F. Shop Drawings:

1. Catch basins and stormwater inlets. Include plans, elevations, sections, details, frames, covers, and grates.
2. Stormwater Detention Systems: Include plans, elevations, sections, details, frames, covers, design calculations, and concrete design-mix reports.

G. Field quality-control reports.

1.4 QUALITY ASSURANCE

A. Piping materials shall bear label, stamp, or other markings of specified testing agency.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Do not store plastic pipe, and fittings in direct sunlight.

B. Protect pipe, pipe fittings, and seals from dirt and damage.

C. Handle catch basins and stormwater inlets in accordance with manufacturer's written rigging instructions.

1.6 FIELD CONDITIONS

A. Interruption of Existing Storm Drainage Service: Do not interrupt service to facilities occupied by State or others unless permitted under the following conditions and then only after arranging to provide temporary service in accordance with requirements indicated:

1. Notify Director’s Representative no fewer than two days in advance of proposed interruption of service.
2. Do not proceed with interruption of service without Director’s Representative written permission.

PART 2 - PRODUCTS

2.1 CORRUGATED-PE PIPE AND FITTINGS

A. Source Limitations: Obtain corrugated-PE pipe and fittings from single manufacturer.

B. Corrugated-PE Drainage Pipe and Fittings NPS 3 to NPS 10: AASHTO M 252, Type S, with smooth waterway for coupling joints.

C. Corrugated-PE Pipe and Fittings NPS 12 to NPS 60: AASHTO M 294, Type S, with smooth waterway for coupling joints.

D. Corrugated-PE Soiltight Couplings: AASHTO M 294, corrugated, matching pipe and fittings.

E. Corrugated-PE Watertight Couplings: AASHTO M 294, corrugated, matching pipe and fittings.

2.2 PVC PIPE AND FITTINGS

A. Source Limitations: Obtain PVC pipe and fittings from single manufacturer.

B. NSF Marking: Comply with NSF 14, "Plastics Piping Systems Components and Related Materials," for plastic piping components. Include marking with "NSF-drain" for plastic storm drain and "NSF-sewer" for plastic storm sewer piping.

C. PVC Type PSM Sewer Piping:

1. Pipe: ASTM D3034, SDR 35, PVC Type PSM sewer pipe with bell-and-spigot ends for gasketed joints.
2. Fittings: ASTM D3034, PVC with bell ends.
3. Gaskets: ASTM F477, elastomeric seals.

2.3 HYDRODYNAMIC SEPARATOR (HDS)

A. This item shall govern the furnishing and installation of the HDS, complete and operable as shown and as specified herein, in accordance with the requirements of the plans and contract documents.

B. The manufacturer of the HDS shall be one that is regularly engaged in the engineering design and production of systems deployed for the treatment of storm water runoff for at least five (5) years and which have a history of successful production.

C. The manufacturer shall guarantee the HDS components against all manufacturer originated defects in materials or workmanship for a period of twelve (12) months from the date the components are delivered to the Director’s Representative for installation. The manufacturer shall upon its determination repair, correct or replace any manufacturer originated defects advised in writing to the manufacturer within the referenced warranty period at the cost to the manufacturer. The use of HDS components shall be limited to the application for which it was specifically designed.

D. The HDS manufacturer shall submit to the Engineer of Record a “Manufacturer’s Performance Certification” certifying that the HDS is capable of achieving the specified removal efficiencies listed in these specifications. The certification shall be supported by independent third-party research.

E. Frame and Cover:

1. Material:

a. Cast iron.
b. Comply with ASTM A48, Class 30B

2. Lid:

a. Bearing Surface: Machined flat.
b. Configuration: Removable.
c. Security: Lockable.

3. Cover Design: Closed
4. Furnish sealing gasket.
5. Nominal Lid Size: Compatible with manufacturer specifications.

F. Performance

1. The following minimum capacities shall be provided for each HDS as labeled on the Drainage Plans:

   a. HDS-1A shall have a minimum treatment capacity of 0.38 cubic feet second and a bypass capacity of at least 2.85 cubic feet per second.
   b. HDS-1B shall have a minimum treatment capacity of 1.90 cubic feet second and a bypass capacity of at least 8.00 cubic feet per second.

2. The HDS shall be sized to either achieve an 80 percent average annual reduction in the total suspended solid load or treat a flow rate designated by the jurisdiction in which the project is located. Both methods should be sized using the OK-110 particle distribution having particles ranging from 53 microns to 212 microns with a d50 of around 110 microns.
3. The HDS shall be designed with a sump chamber for the storage of captured sediments and other negatively buoyant pollutants in between maintenance cycles. The minimum storage capacity provided by the sump chamber shall be in accordance with the following requirements: Minimum Sump Storage Capacity of 0.70 cubic yards and Minimum Oil Storage Capacity of 141.0 gallons. The boundaries of the sump chamber shall be limited to that which do not degrade the SWTD's treatment efficiency as captured pollutants accumulate. In order to not restrict the Director's ability to maintain the SWTD, the minimum dimension providing access from the ground surface to the sump chamber shall be 16 inches in diameter.

4. The HDS shall be designed to capture and retain Total Petroleum Hydrocarbons generated by wet-weather flow and dry-weather gross spills and have a capacity as discussed in Section 2 of the Performance Specifications for the unit.

5. The HDS shall convey the flow from the peak storm event of the drainage network, in accordance with required hydraulic upstream conditions as defined by the Engineer. If a substitute HDS is proposed, supporting documentation shall be submitted that demonstrates equal or better upstream hydraulic conditions compared to that specified herein. This documentation shall be signed and sealed by a Professional Engineer registered in the State of New York. All costs associated with preparing and certifying this documentation shall be born solely by the Construction Contractor.

2.4 NONPRESSURE TRANSITION COUPLINGS

A. Comply with ASTM C1173, elastomeric, sleeve-type, reducing or transition coupling, for joining underground nonpressure piping. Include ends of same sizes as piping to be joined, and corrosion-resistant-metal tension band and tightening mechanism on each end.

B. Sleeve Materials:

1. For Concrete Pipes: ASTM C443, rubber.

2. For Plastic Pipes: ASTM F477, elastomeric seal or ASTM D5926, PVC.
3. For Dissimilar Pipes: ASTM D5926, PVC or other material compatible with pipe materials being joined.

C. Unshielded, Flexible Couplings:

1. Source Limitations: Obtain unshielded, flexible couplings from single manufacturer.
2. Description: Elastomeric sleeve with[stainless-steel shear ring and] corrosion-resistant-metal tension band and tightening mechanism on each end.

D. Shielded, Flexible Couplings:

1. Source Limitations: Obtain shielded, flexible couplings from single manufacturer.
2. Description: ASTM C1460, elastomeric or rubber sleeve with full-length, corrosion-resistant outer shield and corrosion-resistant-metal tension band and tightening mechanism on each end.

E. Ring-Type, Flexible Couplings:

1. Source Limitations: Obtain ring-type, flexible couplings from single manufacturer.
2. Description: Elastomeric compression seal with dimensions to fit inside bell of larger pipe and for spigot of smaller pipe to fit inside ring.

2.5 CLEANOUTS

A. PVC Cleanouts:

1. Source Limitations: Obtain PVC cleanouts from single manufacturer.
2. Description: PVC body with PVC threaded plug. Include PVC sewer pipe fitting and riser to clean out of same material as sewer piping.

B. Cleanout Lids and Frames:

1. Manufacturers:

a. Neenah Foundry Company, P. O. Box 729, Neenah, WI 54957, (414) 729-3661
b. East Jordan Iron Works, P.O. Box 190, South Bay Rd., Cicero, NY 13039, (315) 699-2601
c. Josam Company, 525 West Highway 20, Michigan City, IN 46360, (800) 365-6726.
d. Approved equivalent.

2. Materials: Cast iron.
3. Nominal Lid and Frame Size: 18 inches diameter.

C. Concrete Collar

1. Material: Cast-in-place concrete, as specified in Section 033000 - Cast-in-Place Concrete.

2.6 DRAINS

A. Plastic Drain Basins:

1. Source Limitations: Obtain drain basins from single manufacturer.
2. Description: Plastic drainage structures used to change size, elevation, direction or pipe type in a pipe run. These structures also serve as a collection point where one or more drain lines converge.
3. Basin Size: 24”
4. Grate/Cover:

    a. Material: Ductile iron per ASTM A536 Grade 70-50-05
    b. Type: Solid Lid and Dome Grate
    c. Size: 24”

5. Manufacturers:

    a. Advanced Drainage Systems, (607) 565-3033, 1 William Donnelly Pkwy, Waverly, NY 14892.
    b. Approved equivalent.

2.7 ENCASEMENT FOR PIPING

A. Standard: ASTM A674 or AWWA C105/A21.5.

B. Material: Linear low-density polyethylene film of 0.008-inch or cross-laminated HDPE film of 0.004-inch minimum thickness.

C. Form: Sheet or tube.

D. Color: Black or natural.

2.8 CONCRETE

A. General: Cast-in-place concrete in accordance with ACI 318, ACI 350, and the following:

1. Cement: ASTM C150, Type II.
2. Fine Aggregate: ASTM C33, sand.
3. Coarse Aggregate: ASTM C33, crushed gravel.
4. Water: Potable.

B. Portland Cement Design Mix: 4000 psi minimum, with 0.45 maximum water/cementitious materials ratio.

1. Reinforcing Fabric: ASTM A1064, steel, welded wire fabric, plain.
2. Reinforcing Bars: ASTM A615, Grade 60 deformed steel.

C. Ballast and Pipe Supports: Portland cement design mix, 3000 psi minimum, with 0.58 maximum water/cementitious materials ratio.

1. Reinforcing Fabric: ASTM A1064, steel, welded wire fabric, plain.
2. Reinforcing Bars: ASTM A615, Grade 60 deformed steel.

2.9 CATCH BASINS

A. Standard Precast Concrete Catch Basins:

1. Manufacturers:

   a. Fort Miller Co., Inc., (518) 695-5000, PO Box 98, Schuylerville, NY 12871
   b. Monarch Products, (717) 938-8303, 385 Sipe Road, York Haven, PA 17370.
   c. Oldcastle Infrastructure, (888) 965-3227, 8392 Riverview Parkway, Littleton, CO 80125.
   d. Approved equivalent.

2. Description: ASTM C478, precast, reinforced concrete, of depth indicated, with provision for sealant joints.
3. Base Section: 6-inch minimum thickness for floor slab and 4-inch minimum thickness for walls and base riser section, and separate base slab or base section with integral floor.
4. Riser Sections: 4-inch minimum thickness, 48-inch diameter, and lengths to provide depth indicated.
5. Top Section: Eccentric-cone type unless concentric-cone or flat-slab-top type is indicated. Top of cone of size that matches grade rings.
6. Joint Sealant: ASTM C990, bitumen or butyl rubber.
7. Adjusting Rings: Interlocking rings with level or sloped edge in thickness and shape matching catch basin frame and grate. Include sealant recommended by ring manufacturer.
8. Grade Rings: Include two or three reinforced-concrete rings, of 6- to 9-inch total thickness, that match 24-inch- diameter frame and grate.
9. Steps: ASTM A615, deformed, 1/2-inch steel reinforcing rods encased in ASTM D4101, PP, wide enough to allow worker to place both feet on one step and designed to prevent lateral slippage off step. Cast or anchor steps into sidewalls at 12- to 16-inch intervals. Omit steps if total depth from floor of catch basin to finished grade is less than 60 inches.
10. Pipe Connectors: ASTM C923, resilient, of size required, for each pipe connecting to base section.

B. Designed Precast Concrete Catch Basins: ASTM C913, precast, reinforced concrete; designed in accordance with ASTM C890 for A-16 (ASSHTO HS20-44), heavy-traffic, structural loading; of depth, shape, and dimensions indicated, with provision for joint sealants.

1. Manufacturers:

   a. Fort Miller Co., Inc., (518) 695-5000, PO Box 98, Schuylerville, NY 12871
   b. Monarch Products, (717) 938-8303, 385 Sipe Road, York Haven, PA 17370.
   c. Oldcastle Infrastructure, (888) 965-3227, 8392 Riverview Parkway, Littleton, CO 80125.
   d. Approved equivalent.

2. Joint Sealants: ASTM C990, bitumen or butyl rubber.
3. Adjusting Rings: Interlocking rings with level or sloped edge in thickness and shape matching catch basin frame and grate. Include sealant recommended by ring manufacturer.

4. Grade Rings: Include two or three reinforced-concrete rings, of 6- to 9-inch total thickness, that match 24-inch- diameter frame and grate.
5. Steps: ASTM A615, deformed, 1/2-inch steel reinforcing rods encased in ASTM D4101, PP, wide enough to allow worker to place both feet on one step and designed to prevent lateral slippage off step. Cast or anchor steps into sidewalls at 12- to 16-inch intervals. Omit steps if total depth from floor of catch basin to finished grade is less than 60 inches.
6. Pipe Connectors: ASTM C923, resilient, of size required, for each pipe connecting to base section.

C. Frames and Grates:

1. Manufacturers:

   a. Neenah Foundry Company, P. O. Box 729, Neenah, WI 54957, (414) 729-3661
   b. East Jordan Iron Works, P.O. Box 190, South Bay Rd., Cicero, NY 13039, (315) 699-2601
   c. US Foundry, 8351 NW 93rd St, Medley, Florida 33166-2096, (800) 348-8357.
   d. Approved equivalent.

2. Design of each shall be the same throughout the project unless otherwise specified or indicated on the drawings.
3. Units shall meet AASHTO H20 wheel loading requirements. Manufacture, workmanship and certified proof-load tests shall conform to AASHTO M306-89-Standard Specification for Drainage Structure Castings.
4. Provide frames and grates of the locking type when indicated on the drawings.
5. Material:

   a. Cast iron: ASTM A48, Class 30B or 35B.
   b. Delivered to Site free of any coatings, unless otherwise specified.

6. Frame and Grates:

   a. Bicycle safe.
   b. ADA compliant where applicable.
   c. Size:

      1) Rectangular

         a) Size: 30 by 49-¼ inches

2.10 STORMWATER INLETS

A. Curb Inlets: Made with vertical curb opening, of materials and dimensions in accordance with utility standards.

B. Gutter Inlets: Made with horizontal gutter opening, of materials and dimensions in accordance with utility standards. Include heavy-duty frames and grates.

C. Frames and Grates: Heavy duty, in accordance with utility standards.

2.11 UNDERGROUND STORMWATER VAULT

A. Injection molded plastic tank plates assembled to form a 95% void modular structure of predesigned height and envelope shown on plans.

B. Units shall meet the following Physical Characteristics:

1. Void Area: 95%
2. Comprehensive Strength: 320 psi
3. HS-20 Minimum Cover: 6” (Stone Backfill)

C. Base: 3” minimum select granular material.

D. Side Backfill: Backfill materials shall be Item B-12 or soil (GW, GP, SW, or SP as classified by the Unified Soil Classification System). Material must be free from lumps, debris and any sharp objects that could cut the geotextile. Material shall be within 3 percent of the optimum moisture content as determined by ASTM D698 at the time of installation.

E. Top Backfill: Backfill layer (6” minimum) may consist of a uniform mixture of 70% sand (100% passing the 1-inch sieve and 5% passing the no. 200 sieve) and 30% topsoil with an average of 5% organic material, such as compost or peat, free of stones, roots, and woody debris and animal waste to aid in establishing vegetation.

2.12 OVERFLOW RISER

A. Description:

1. Material:

a. Schedule 40 PVC

2. Cover:

a. Type: Dome
b. Size: 12”
c. Manufacturers:

1) Neenah Foundry Company, P. O. Box 729, Neenah, WI 54957, (414) 729-3661
2) East Jordan Iron Works, P.O. Box 190, South Bay Rd., Cicero, NY 13039, (315) 699-2601
3) US Foundry, 8351 NW 93rd St, Medley, Florida 33166-2096, (800) 348-8357.
4) Approved equivalent

2.13 FRAMES AND COVERS

A. Manufacturers:

1. Neenah Foundry Company, P. O. Box 729, Neenah, WI 54957, (414) 729-3661

2. East Jordan Iron Works, P.O. Box 190, South Bay Rd., Cicero, NY 13039, (315) 699-2601
3. US Foundry, 8351 NW 93rd St, Medley, Florida 33166-2096, (800) 348-8357.
4. Approved equivalent.

B. Description:

1. Material:

a. Cast iron.
b. Comply with [ASTM A48, Class 30B] [AASHTO M306].

2. Lid:

a. Bearing Surface: Machined flat.
b. Configuration: Removable.
c. Security: Lockable and Boltable.

3. Cover Design: Round Beehive
4. Live-Load: AASHTO HS-20 with 30% impact.
5. Furnish sealing gasket.

PART 3 - EXECUTION

3.1 EARTHWORK

A. Excavation, trenching, and backfilling are specified in Section 310000 - Earthwork.

3.2 PIPING INSTALLATION

A. General Locations and Arrangements: Drawing plans and details indicate general location and arrangement of underground storm drainage piping. Location and arrangement of piping layout take into account design considerations. Install piping as indicated, to extent practical. Where specific installation is not indicated, follow piping manufacturer's written instructions.

B. Install piping beginning at low point, true to grades and alignment indicated with unbroken continuity of invert. Place bell ends of piping facing upstream. Install gaskets, seals, sleeves, and couplings in accordance with manufacturer's written instructions for use of lubricants, cements, and other installation requirements.

C. Install manholes for changes in direction unless fittings are indicated. Use fittings for branch connections unless direct tap into existing sewer is indicated.

D. Install proper size increasers, reducers, and couplings where different sizes or materials of pipes and fittings are connected. Reducing size of piping in direction of flow is prohibited.

E. When installing pipe under streets or other obstructions that cannot be disturbed, use pipe-jacking process of microtunneling.

F. Install gravity-flow, nonpressure drainage piping in accordance with the following:

1. Install piping pitched down in direction of flow.
2. Install piping NPS 6 and larger with restrained joints at tee fittings and at changes in direction. Use corrosion-resistant rods, pipe or fitting manufacturer's proprietary restraint system, or cast-in-place concrete supports or anchors.
3. Install piping with 48-inch- minimum cover.
4. Install PE corrugated sewer piping in accordance with ASTM D2321.
5. Install PVC sewer piping in accordance with ASTM D2321 and ASTM F1668.
6. Install PVC profile gravity sewer piping in accordance with ASTM D2321 and ASTM F1668.
7. Install PVC water-service piping in accordance with ASTM D2321 and ASTM F1668.

3.3 PIPE JOINT CONSTRUCTION

A. Join gravity-flow, nonpressure drainage piping in accordance with the following:

1. Join corrugated-steel sewer piping in accordance with ASTM A798.
2. Join corrugated-PE piping in accordance with ASTM D3212 for push-on joints.
3. Join PVC sewer piping in accordance with ASTM D2321 and ASTM D3034 for elastomeric-seal joints or ASTM D3034 for elastomeric-gasketed joints.
4. Join PVC profile gravity sewer piping in accordance with ASTM D2321 for elastomeric-seal joints or ASTM F794 for gasketed joints.
5. Join dissimilar pipe materials with nonpressure-type flexible couplings.

3.4 CLEANOUT INSTALLATION

A. Install cleanouts and riser extensions from sewer pipes to cleanouts at grade. Use cast-iron soil pipe fittings in sewer pipes at branches for cleanouts and cast-iron soil pipe for riser extensions to cleanouts. Install piping so cleanouts open in direction of flow in sewer pipe.

1. Use Light-Duty, top-loading classification cleanouts in earth or unpaved foot-traffic areas.

B. Set cleanout frames and covers in earth in cast-in-place concrete block, 18 by 18 by 12 inches deep. Set with tops 1 inch(es) above surrounding earth grade.

C. Set cleanout frames and covers in concrete pavement and roads with tops flush with pavement surface.

3.5 DRAIN INSTALLATION

A. Install type of drains in locations indicated.

1. Use Light-Duty, top-loading classification drains in earth or unpaved foot-traffic areas.

B. Embed drains in 4-inch- minimum concrete around bottom and sides.

C. Fasten grates to drains if indicated.

D. Set drain frames and covers with tops flush with pavement surface.

3.6 CATCH BASIN INSTALLATION

A. Construct catch basins to sizes and shapes indicated.

B. Set frames and grates to elevations indicated.

3.7 UNDERGROUND STORMWATER VAULT

A. Install in accordance with manufacturer specifications and requirements.

3.8 HYDRODYNAMIC SEPARATOR

A. Construction Contractor to provide equipment with sufficient lifting and reach capacity to lift and set the cascade separator manhole structure.

B. Construction Contractor to install joint sealant between all structure sections and assemble structure.

C. Construction Contractor to provide, install and grout inlet and outlet pipe(s). Match pipe inverts with elevations shown. All pipe centerlines to match pipe opening centerlines.

D. Contractor to take appropriate measures to assure unit is water tight, holding water to flowline invert minimum. It is suggested that all joints below pipe inverts are grouted.

3.9 CONCRETE PLACEMENT

A. Place cast-in-place concrete in accordance with ACI 318.

3.10 CONNECTIONS

A. Make connections to existing piping and underground manholes.

1. Use commercially manufactured wye fittings for piping branch connections. Remove section of existing pipe; install wye fitting into existing piping; and encase entire wye fitting, plus 6-inch overlap, with not less than 6 inches of concrete with 28-day compressive strength of 3000 psi.
2. Make branch connections from side into existing piping, NPS 4 to NPS 20. Remove section of existing pipe, install wye fitting into existing piping, and encase entire wye with not less than 6 inches of concrete with 28-day compressive strength of 3000 psi.
3. Make branch connections from side into existing piping, NPS 21 or larger, or to underground manholes and structures by cutting into existing unit and creating an opening large enough to allow 3 inches of concrete to be packed around entering connection. Cut end of connection pipe passing through pipe or structure wall to conform to shape of and be flush with inside wall unless otherwise indicated. On outside of pipe, manhole, or

structure wall, encase entering connection in 6 inches of concrete for minimum length of 12 inches to provide additional support of collar from connection to undisturbed ground.

a. Use concrete that will attain a minimum 28-day compressive strength of 3000 psi unless otherwise indicated.
b. Use epoxy-bonding compound as interface between new and existing concrete and piping materials.

4. Protect existing piping, manholes, and structures to prevent concrete or debris from entering while making tap connections. Remove debris or other extraneous material that may accumulate.

B. Pipe couplings may be used in applications below unless otherwise indicated.

1. Use nonpressure-type flexible couplings where required to join gravity-flow, nonpressure sewer piping unless otherwise indicated.

a. [Unshielded] [Shielded] flexible couplings for same or minor difference OD pipes.
b. Unshielded, increaser/reducer-pattern, flexible couplings for pipes with different OD.
c. Ring-type flexible couplings for piping of different sizes where annular space between smaller piping's OD and larger piping's ID permits installation.

3.11 CLOSING ABANDONED STORM DRAINAGE SYSTEMS

A. Abandoned Piping: Close open ends of abandoned underground piping indicated to remain in place. Include closures strong enough to withstand hydrostatic and earth pressures that may result after ends of abandoned piping have been closed. Use either procedure below:

1. Close open ends of piping with at least 8- inch- thick, brick masonry bulkheads.
2. Close open ends of piping with threaded metal caps, plastic plugs, or other acceptable methods suitable for size and type of material being closed. Do not use wood plugs.

B. Abandoned Manholes and Structures: Excavate around manholes and structures as required and use one procedure below:

1. Remove manhole or structure and close open ends of remaining piping.
2. Remove top of manhole or structure down to at least 36 inches below final grade. Fill to within 12 inches of top with stone, rubble, gravel, or compacted dirt. Fill to top with concrete.

C. Backfill to grade in accordance with Section 310000 - Earthwork.

3.12 IDENTIFICATION

A. Materials and their installation are specified in Section 310000 - Earthwork. Arrange for installation of green warning tape directly over piping and at outside edge of underground structures.

1. Use warning tape or detectable warning tape over ferrous piping.
2. Use detectable warning tape over nonferrous piping and over edges of underground structures.

3.13 FIELD QUALITY CONTROL

A. Inspect interior of piping to determine whether line displacement or other damage has occurred. Inspect after approximately 24 inches of backfill is in place, and again at completion of Project.

1. Submit separate reports for each system inspection.
2. Defects requiring correction include the following:

    a. Alignment: Less than full diameter of inside of pipe is visible between structures.
    b. Damage: Crushed, broken, cracked, or otherwise damaged piping.

3. Replace defective piping using new materials, and repeat inspections until defects are within allowances specified.
4. Reinspect and repeat procedure until results are satisfactory.

B. Test new piping systems, and parts of existing systems that have been altered, extended, or repaired, for defects.

1. Do not enclose, cover, or put into service before inspection and approval.
2. Test completed piping systems in accordance with requirements of authorities having jurisdiction.
3. Schedule tests and inspections by authorities having jurisdiction with at least 24 hours' advance notice.
4. Submit separate report for each test.

3.14 CLEANING

A. Clean interior of piping of dirt and superfluous materials. Flush with water.

END OF SECTION 334200

Tectonic

PRACTICAL SOLUTIONS. EXCEPTIONAL SERVICE.

SWPPP

Stormwater Pollution Prevention Plan
OHM Creedmoor Psychiatric Center

Submitted By:

Tectonic Engineering Consultants, Geologists, & Land Surveyors, D.P.C.

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STORMWATER POLLUTION PREVENTION PLAN (SWPPP)

NEW TRANSITIONAL LIVING RESIDENCE CREEDMOOR PSYCHIATRIC

R0: OCTOBER 2024

PREPARED BY:

TECTONIC ENGINEERING CONSULTANTS, GEOLOGISTS & LAND SURVEYORS D.P.C.
70 PLEASANT HILL ROAD
MOUNTAINVILLE, NY 10953

Casey Catherine O'Mara
New York State Professional Engineer #091164

SITE CONTACT INFORMATION

SITE OWNER	PHONE/MOBILE	RESPONSIBILITIES
NYSOMH	P:( ) - M:( ) -	See GP 0-20-001 (All Parts) in Appendix A
PROJECT CONTRACTOR		
	P:( ) - M:( ) -	See GP 0-20-001 (Part IV.B) in Appendix A
TRAINED CONTRACTOR		
	P:( ) - M:( ) -	See GP 0-20-001 (Part IV.B) in Appendix A
QUALIFIED SWPPP INSPECTOR		
	P( ) - M( ) -	See GP 0-20-001 (Part IV.C) in Appendix A
QUALIFIED SWPPP PROFESSIONAL		
	P( ) - M( ) -	See GP 0-20-001 (Part III, A and Part IV.C) in Appendix A
DESIGN ENGINEERS		
1. Tectonic Lou J. Greco, PE	P:(845) 534 - 5959 M:( ) -	Project Manager
2. Tectonic Casey C. O'Mara, PE	P:(845) 534 - 5959 M:( ) -	SWPPP Engineer
3. Tectonic James Moyik	P:(845) 534 - 5959 M:( ) -	SWPPP Author

PREFACE

Important Note: This SWPPP shall be treated as part of the contract documents. 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. The New York's State Pollutant Discharge Elimination System (SPDES) is an approved NPDES program with permits issued in accordance with the Environmental Conservation Law (ECL).

This SWPPP has been developed in compliance with all requirements of the SPDES General Permit for Stormwater Discharges from Construction Activity (GP-0-20-001) and conforms to all New York State Department of Environmental Conservation (NYSDEC) technical standards. A copy of GP-0-20-001 (the Permit) has been included in Appendix A and is considered part of the SWPPP. Prior to the commencement of construction activity, the owner(s) or operator(s) must identify the contractor(s) and subcontractor(s) that will be responsible for installing, constructing, repairing, 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 the construction of all post-construction stormwater management practices included in the SWPPP. The owner(s) or operator(s) shall have each of these contractors or subcontractors identify at least one trained individual from their company that will be responsible for implementation of the SWPPP. The owner(s) or operator(s) shall ensure that at least one trained individual is on site on a daily basis when soil disturbance activities are being performed.

All contractors and subcontractors identified in the SWPPP, in accordance with the Permit must agree to implement applicable provisions of the SWPPP and satisfy the certification requirement of the Permit. The owner(s) or operator(s) shall have each of these contractors and subcontractors identified sign a copy of the certification statement included in Appendix H, extracted from Part III.A.5 of the Permit, before they commence any construction activity and shall be retained at the project site for the duration of construction. Contractors and subcontractors; however, who are not operator(s), as defined in the Permit, are not required to submit a Notice of Intent (NOI) in addition to the NOI submitted by the operator(s). The owner(s) or operator(s) 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.

REVISION SCHEDULE

This Stormwater Pollution Prevention Plan (SWPPP) should be revised and updated to address changes in site conditions, new or revised government regulations, and additional on-site stormwater pollution controls.

All revisions to the SWPPP must be documented on the SWPPP Revision Documentation Form, which should include the information shown below. The authorized facility representative who approves the SWPPP should be an individual at or near the top of the facility's management organization, such as the president, vice president, construction manager, site supervisor, or environmental manager. The signature of this representative attests that the SWPPP revision information is true and accurate. Previous authors and facility representatives are not responsible for the revisions.

SWPPP REVISION DOCUMENTATION FORM

Rev.	Date	Author	Company Representative Signature	Notes
0	November 2024	C OMARA	Casey O'Mara	100% submission
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1.0 INTRODUCTION

This SWPPP has been developed in compliance with all NYSDEC technical standards for the construction of the proposed site. The primary purposes for this plan are to:

- Identify the SWPPP coordinator and their duties;
- Identify any SWPPP team members that will assist in the implementation of the SWPPP during construction;
- Define the site characteristics and type of construction;
- Identify the receiving bodies of water for the site's stormwater;
- Introduce the site plan for the proposed site;
- Identify potential pollutants and sources within the site's drainage area;
- Describe practices that will be implemented for erosion and sediment control;
- Describe any temporary or permanent, structural or non-structural, BMPs (Best Management Practices) that will be utilized to manage stormwater quality and quantity.
- Create an implementation schedule for the practices within this SWPPP;
- Outline a monitoring plan to ensure this plans effectiveness and provide provisions for necessary revisions; and
- Describe and provide support for the final stabilization design to ensure water quality and quantity management after the construction of the site.

This SWPPP evaluates the proposed (post-construction) conditions and recommends measures to mitigate stormwater quantity and quality impacts that will result from the proposed site during construction and upon final stabilization. Review of this plan should be in conjunction with the engineering drawings for this project prepared by Tectonic Engineering Consultants, Geologists & Land Surveyors, D.P.C.

2.0 PROJECT AND SITE DESCRIPTION

2.1 PROJECT OVERVIEW

The New Transitional Living Residence Creedmoor Psychiatric project consists of construction of a new building, redesign of the existing landscaped areas, and the associated utilities including stormwater infrastructure to mitigate impacts. The project is considered a new development project according to the NYS Stormwater Management Design

Manual, dated January 2015. The total project area is 1.22 acres, and the associated disturbed area is 1.22 acres. The disturbed area results in a net increase of 0.43 acres of impervious area across the project site. This project disturbs more than (1) acre and is therefore required to have a stormwater pollution prevention plan associated with it. The maximum soil exposure limit is 14 days. This plan includes a detention design that can adequately contain stormwater runoff tributary to the site area using underground R-Tanks as a means of storage and infiltration as a method of irrigation. Additionally, hydrodynamic separators will be used as an alternative practice to act as pre-treatment.

2.2 SITE LOCATION AND EXISTING CONDITIONS

The proposed project site is located in New York City at 80-45 Winchester Boulevard, Queens New York. Located in the field immediately to the south at the entrance to the campus along Winchester Blvd. The project area is portion of a larger campus. The project area is 1.36% of the overall parcel area.

2.3 SOILS AND SURFACE COVER

The soils of the site consist entirely of Urban land-Flatbush complex, 0 to 3 percent slopes, low impervious surface according to the United States Department of Agriculture (USDA), Soil Conservation Service's Soil Survey of Rockland County, New York. The site does not have data for the hydrological group of these soils and will conservatively be considered primarily group D. The groundwater level was estimated to be at 42 feet below grade based on US Geological Survey's data and was too deep to be observed during the advancement of the borings in the field. Excerpts from the Geotechnical Report depicting the groundwater table, boring locations, and infiltrations tests can be found in Appendix N.

2.4 POST DEVELOPMENT SITE CONDITIONS

The proposed development at the project site will include a new building and driveway as well as the reconstruction of existing sidewalk and curb. The driveway is connecting the east site of the building to an existing access road. The residence will be using the existing parking lot for parking. An accessible ramp will be constructed, along with an accompanying accessible parking space in the existing sidewalk. Overall impervious land area will increase. A subsurface storage system will be used to detain runoff before infiltration. The water quantity storage is provided by Ferguson XD-Single

storage units stacked on top of each other. The existing and proposed impervious land cover is shown in Table 1 below.

Table 1 : Existing And Proposed Impervious Cover

Site (Disturbance) Area (acre)	Contributing Area (acre)	Existing Impervious (acre)	Proposed Impervious (acre)
1.22	2.23	1.13	1.54

2.5 VEGETATION CLEARING AND PLANTING

Existing vegetation onsite that is to be removed is grass and some existing shrubbery. There are 33 trees throughout the property are being removed within the building footprint and where the proposed pavement is being constructed. Shrubs and herbaceous plants will be planted as indicated on the stormwater landscaping plan.

3.0 POST-CONSTRUCTION STORMWATER MANAGEMENT

The approach to the stormwater management design requires compliance with the New York State Standards for Erosion and Sediment Control and the quantity control requirements included in the New York State Stormwater Management Design Manual (SWDM).

3.1 RAINFALL DATA

The rainfall intensity of the project site was determined by comparing values from the National Weather Service NOAA Atlas, The extreme precipitation values downloaded from Cornell University's Precipitation tool, and the values provided by interpreting figures 4.2 through 4.4 in the Stormwater Management Design Manual. A copy of the precipitation data is included in Appendix D. Table 1 below shows the values from each source and the most conservative value of each storm was chosen for the analysis. The NOAA Atlas value was chosen for the 10-year storm, while the Stormwater Management Design Manual was chosen for the 1 and 100 year storms.

Table 2 : Rainfall Parameters

Storm Recurrence Interval	Cornell University Rainfall Depth (Inch)	NOAA Atlas Rainfall Depth (Inch)	Stormwater Management Desing Manual Rainfall Depth (Inch)
1-Year	2.84	2.77	**2.90**
10-Year	5.07	**5.27**	5.25

Storm Recurrence Interval	Cornell University Rainfall Depth (Inch)	NOAA Atlas Rainfall Depth (Inch)	Stormwater Management Desing Manual Rainfall Depth (Inch)
100-Year	8.97	8.25	**9.00**

3.2 PROPOSED HYDROLOGY

The peak runoff flows were calculated for the proposed conditions of the site at the discharge points for each drainage area. The methodology utilized for this analysis is based upon the USDA, Soil Conservation Service's Technical Release No. 20 and Technical Release No. 55, as utilized by the software entitled HydroCAD version 10.20-5b. HydroCAD, developed by Autodesk is a CAD based program for analyzing the hydrology and hydraulics of stormwater runoff. It utilizes the latest techniques to predict the consequences of a given storm event. Hydro CAD has the capability of computing hydrographs (representing discharge rates characteristic of specific watershed conditions, precipitation, and geologic factors), combining hydrographs, and routing flows through pipes and detention. For this analysis, the property was analyzed for proposed conditions to ensure that the volume of stormwater runoff could be retained on-site through infiltration.

The site, under proposed conditions, will include a new one-story building, expansion of the nearby driveway, and sidewalk reconstruction. The flow from the new building's roof top, the existing parking area, and the lawn adjacent to the new building will all be directed into a newly proposed underground storage tank. The existing infiltration in the project area will be replaced by this new storage tank. The one drainage area has been divided into sub-catchments based on runoff directed to each of the appropriate existing or proposed drainage structures nearby. Hydrologic calculations have been performed for each sub-catchment area. A summary of the areas is tabulated below in Table 2. A drainage map depicting the areas can be found in Appendix B.

Table 3: Proposed Hydrology Parameters

Sub-catchment ID	Area (acres)	Description of Cover	CN	Tc (min)
A	0.395	Existing Lawn Area Existing Pavement/Parking Existing Sidewalk	91	11

Sub-catchment ID	Area (acres)	Description of Cover	CN	Tc (min)
B	0.184	Existing Lawn Area Existing Pavement/Parking Existing Sidewalk	87	20
C	0.092	Existing Lawn Area Existing Pavement/Parking	98	6
D	0.037	Existing Lawn Area Existing Pavement/Parking	98	6
E	0.086	Existing Lawn Area Existing Pavement/Parking Existing Sidewalk	96	11
F	0.485	Existing Lawn Area Existing Pavement/Parking Existing Sidewalk	97	7
G	0.279	Existing Lawn Area Existing Pavement/Parking	89	20
Building Area	0.670	Rooftop Proposed Paved Driveway Proposed Sidewalk Surrounding Lawn	91	6

3.3 RUNOFF REDUCTION VOLUME AND WATER QUALITY

The required water quality volume was calculated for the increased impervious of the site. The increased impervious is comprised of the new building, new driveway, equipment pads, and the reconstructed sidewalk. (see WQv calculations in Appendix D for details).

The increased impervious was mitigating using infiltration from an underground storage and above ground stormwater planter area, sized to fully capture and infiltrate the 100-year storm event (see WQv calculations in Appendix D for details). A summary of the Water Quality Requirements for the project is shown in Table 4 below.

Table 4: Water Quality Summary

Parameter	Value (ft^3)
Water Quality Required	8,154
Water Quality Provided	8,154

3.4 WATER QUANTITY CONTROL

Water quantity control, as outlined in the SWDM, was designed to mitigate the impacts of the increased runoff from the site resulting from the increase in impervious cover. An underground detention system is proposed to capture and exfiltrate the runoff from the existing parking area as well as newly proposed building area. Rooflines irrigate the stormwater into the main conveyance pipes leading to the storage. Two hydrodynamic separator units on each side of the storage will pre-treat the incoming flow into the storage. The underground detention system is comprised of 1,364 Ferguson XD-Single storage units with a cumulative capacity of 42,379 cf. In addition, there will be two overflow risers at the top of the system that leads to a stormwater planter area on the surface directly above. This area will provide the additional storage needed to accommodate the 100-year storm that would otherwise exceed the volume capacity of the R-tank storage due to its reliance on exfiltration as the only means of irrigation. The peak volumes and elevations within the underground storage for each storm are summarized in Table 5 below.

Table 5: Peak Volumes and Elevations within Subsurface Storage and Overflow Basin

Storm Recurrence	Peak Volume (cf)	Peak Elevation (ft)
1-Year	12,059 ft^3	94.86’
10-Year	25,204 ft^3	97.98’
100-Year	42,379 ft^3 (Storage) and 4,543 ft^3 (Overflow Basins)	103.71’
Top of the Storage	42,379 ft^3	102.00’
Top of Stormwater Planter	8,160 ft^3	105.00’

The capacities of the proposed stormwater pipes were analyzed using Autodesk Storm and Sanitary Analysis 2024 under the 100-year intensities. A copy of the output is included in Appendix D.

4.0 IDENTIFICATION OF POTENTIAL STORMWATER CONTAMINANTS

The purpose of this section is to identify pollutants that could impact stormwater during construction of the site.

4.1 SIGNIFICANT MATERIAL INVENTORY

Pollutants resulting from clearing, grading, excavation, storage areas, and building materials, which have the potential to be present in stormwater runoff, are listed in Table 6 on the following page. This table includes information regarding material type, chemical and physical description, potential sources, and the specific regulated storm water pollutants associated with each material.

Table 6: Potential Construction Site Stormwater Pollutants

Trade Name Material	Chemical / Physical Description	Potential Source	Stormwater Pollutants
Pesticides	Various colored to colorless liquid, powder, pellets, or grains	Landscaped areas	Chlorinated hydrocarbons, organophosphates, carbonates, arsenic
Fertilizer	Liquid or solid grains	Landscaped areas	Nitrogen, phosphorous
Plaster	White granules or powder	Building construction	Calcium sulphate, calcium carbonate, sulfuric acid
Cleaning solvents	Colorless, blue, or yellow-green liquid	Building construction	Percholoroethylene, methylene chloride, trichloroethylene, petroleum distillates
Asphalt	Black solid	Parking lot construction	Oil, petroleum distillates, solids
Concrete	White solid	Building/parking lot const.	Limestone, sand
Glue, adhesives	White or yellow liquid	Building construction	Polymers, epoxies
Paint	Various colored liquid	Building construction and parking lot markings	Metal oxides, Stoddard solvent, talc, calcium carbonate, arsenic
Curing compounds	Creamy white liquid	Building construction, curbing and structures	Naphtha
Wastewater from equipment	Water	On-site equipment	Soil, oil and grease, solids
Wood preservatives	Clear amber or dark brown liquid	Building construction	Stoddard solvent, petroleum distillates, arsenic, copper, chromium
Hydraulic oil/fluids	Brown oily petroleum hydrocarbon	On-site equipment	Mineral oil
Gasoline	Colorless, pale brown or pink petroleum hydrocarbon	On-site equipment	Benzene, ethyl benzene, toluene, xylene, MTBE
Diesel Fuel	Clear, blue-green to yellow liquid	On-site equipment	Petroleum distillate, oil and grease, naphthalene, xylenes
Kerosene	Pale yellow liquid petroleum hydrocarbon	On-site equipment	Coal oil, petroleum distillates
Antifreeze / coolant	Clear green/yellow liquid	On-site equipment	Ethylene glycol, propylene glycol, heavy metals
Erosion	Solid particles	Cleared and graded areas and tree removal areas	Soil, sediment

[1]**Bold** indicates specific instruction for material listed.

4.2 POTENTIAL AREAS FOR STORMWATER CONTAMINATION

There are four main potential sources for stormwater contamination: the construction debris from existing sidewalk, on site and new building construction, the driveway construction, and landscaped areas. During construction, all of the four areas mentioned will also contain the potential containment sources of cleared and graded areas, and on-site equipment. These main sources are located within the limits of disturbance and are shown on the Erosion Control Plan.

5.0 SOIL EROSION AND SEDIMENT CONTROLS

The soil erosion and sediment control measures outlined herein are incorporated into the project site plans. Additionally, a construction schedule and phasing plan to aid in the proper implementation of erosion and sediment controls has been included with the Erosion Control Plan. General measures that will be implemented are as follows:

5.1 GENERAL MEASURES

a. There shall be no increase in turbidity that will cause a substantial visible contrast to natural conditions. There shall be no increase in suspended, colloidal and settleable solids that will cause deposition or impair the waters for their best usage. There shall be no residue from oil and floating substances, or visible oil film, or globules of grease.

b. Site preparation activities shall be planned to minimize the area and duration of soil disruption.

c. All facilities and systems of treatment and control shall be operated and maintained at all times to achieve compliance with the SWPPP.

d. In no case shall erodible materials be stockpiled within 25 feet of any wetland, stream or other surface water body.

e. All unnecessary removal of healthy trees shall be avoided. Materials shall not be stored nor machinery operated within the drip-line of the trees to remain.

f. To facilitate final stabilization, intermediate silt fences/dikes/diversions may be removed upon initial catch of upslope final seeding/mulching. Perimeter and base of slope silt fences/dikes shall remain in place until final stabilization is achieved to protect offsite discharge potential.

g. The site shall be inspected daily by the Contractor and every seven (7) days by the Owner's Representative as a minimum. They shall inspect

and maintain the integrity and function of all temporary erosion control measures throughout the duration of the development process.

h. To assure proper function, siltation barriers shall be maintained in good condition and reinforced, extended, repaired or replaced as necessary. All accumulated sediment shall be removed and contained in appropriate spoil areas.

i. Onsite soils removed from the site should follow all applicable local, state, and federal regulations as outlined in Specification Section 31-31-00.

j. The maximum time limit for any soil exposure shall be 14 days.

5.2 TEMPORARY STRUCTURAL MEASURES

Temporary structural practices are used during construction to prevent offsite sedimentation. The length of time that temporary practices are functional varies from project to project, since the sediment control strategy may change as construction activity progresses. Runoff control measures should be the first items constructed when grading begins, and be completely functional before downslope land disturbance takes place. Only after the runoff control structures are operational and sediment control measures are in place, should clearing and grading on the rest of the construction site begin.

a. Silt Fence- Prior to the initiation of and during construction activities, a geotextile filter fabric (silt fence) will be established along the down slope perimeter of areas to be disturbed. To facilitate effectiveness of the silt fence, daily inspections, and inspections immediately after significant storm events will be performed by site personnel. Maintenance of the fence will be performed as needed.

b. Straw Bale Dike- A temporary barrier of straw, or similar material, used to intercept sediment laden runoff from small drainage areas of disturbed soil. The purpose of a bale dike is to reduce runoff velocity and effect deposition of the transported sediment load. Straw bale dikes have an estimated design life of three (3) months.

c. Stabilization Construction Entrance- Prior to construction, stabilized construction entrances will be installed at points of entry and egress from the site to reduce the tracking of sediment onto public roadways. Construction traffic must enter and exit the site at the stabilized construction entrance. When necessary, the placement of additional aggregate atop the filter fabric will be done to assure the minimum thickness is maintained. All sediments and soils spilled, dropped, or

washed onto the adjacent streets must be removed immediately. Periodic inspection and needed maintenance shall be provided after each substantial rainfall event.

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

e. Concrete Truck Washout- A temporary excavated or above ground lined constructed pit where concrete truck mixers and equipment can be washed after their loads have been discharged, to prevent highly alkaline runoff from entering storm drainage systems or leaching into soil. The washout is required to have a minimum depth of 2-feet and 8-feet by 8-feet dimensions. The location of the washout should be sufficiently (minimum of 100 feet) from drainage structures and close to the gravel access drive and should have proper signage designating the "Concrete Washout Area". Material collected in concrete washout must be disposed of off-site. No burial of washout material is permitted on- site. Maintenance of the wash area is to include removal of hardened concrete.

f. Sediment Trap- A temporary sediment device formed by excavation and/or embankment to intercept sediment-laden runoff and trap the sediment in order to protect drainageways, properties, and rights-of-way below the sediment trap from sedimentation. A stone weir sediment trap is being implemented. See Appendix E for calculations, storage requirements, and maintenance and cleanout procedures. Remove built up sediment when it reaches 50% of the design capacity.

g. Dust Control- The control of dust resulting from land-disturbing activities. The purpose of dust control is to prevent surface and air movement of dust from disturbed soil surfaces that may cause off-site damage, health hazards, and traffic safety problems.

h. Storm Drain Inlet Protection- A temporary barrier with low permeability, installed around inlets in the form of a fence, berm, or excavation around an opening, detaining water and thereby reducing the sediment content of sediment laden water by settling thus preventing heavily sediment laden water from entering a storm drain system.

i. Compost Filter Sock- A temporary sediment control practice composed of a degradable geotextile mesh tube filled with compost filter media to filter sediment and other pollutants associated with construction activity to prevent their migration offsite.

j. Geotextile Filter Bag- A temporary portable device through which sediment laden water is pumped to trap and retain sediment prior to its discharge to drainageways or off-site.

5.3 VEGETATIVE MEASURES

a. As much as practical, existing vegetation shall be preserved. Following the completion of construction activities in any portion of the site, permanent vegetation shall be established on all exposed soils.

b. Permanent vegetative cover: Immediately following the completion of construction activity in any portion of the site, permanent vegetation shall be established on all exposed soils.

c. Washouts shall be immediately repaired, re-seeded and protected from further erosion.

d. Permanent seeding shall occur in the spring or fall. The spring seeding window is from March 1st to May 15th and the fall seeding window is from August 15th to October 1st.

e. Permanent seeding shall be applied at a rate of a minimum of 4.0 pounds total seed per 1000 square feet or approximately 175 pounds per acre. If hydroseeding will be the method of application, the seed rate should be increased by 25% and hydro seed areas must still receive straw and tackifier.

f. An adequate seedbed shall be prepared by scarifying soil and removing surface debris and obstacles within the disturbed area to a depth of 4 inches.

g. All landscaped/grassed areas will be seeded and mulched in a two-step hydraulic process to promote growth as soon as possible.

h. All seeding shall be performed using hydroseeding. Hydroseeding slurry shall be comprised of a homogeneous mix of seed and fertilizer in water. Various specified seed mixes shall be independently mixed and applied.

i. All disturbed areas shall be stabilized subsequent to seeding by applying 2 tons of straw mulch per acre. Straw mulch shall be anchored by applying 750 lbs of wood fiber mulch per acre with a hydroseeder. Hydromulching slurry shall be comprised of a homogeneous mix of non-asphaltic tackifier and fiber mulch in water.

j. Deep ripping and Decompaction are key factors which help in restoring soil pore space and permeability for water infiltration. Conversely, the physical actions of cut-and-fill work, land grading, the ongoing

movement of construction equipment and the transport of building materials throughout a site alter the architecture and structure of the soil, resulting in: the mixing of layers (horizons) of soil materials, compression of those materials and diminished soil porosity which, if left unchecked, severely impairs the soil's water holding capacity and vertical drainage (rainfall infiltration), from the surface downward. The two-phase practice of 1) "Deep Ripping;" and 2) "Decompaction" (deep subsoiling), of the soil material as a step in the cleanup and restoration/landscaping of a construction site, helps mitigate the physically induced impacts of soil compression; i.e.: soil compaction or the substantial increase in the bulk density of the soil material.

5.4 SWPPP MEASURES

a. Any modifications to the on-site SWPPP when there is a significant change in design, construction, operation, or maintenance should be submitted to the MS4 for review and approval. See Section 8.0, item d.
b. If the SWPPP proves to be ineffective in eliminating or significantly minimizing pollutants identified in the SWPPP, or achieving the general objectives of controlling pollutants in stormwater discharged from construction activities.
c. To identify any contractor or sub-contractor that will implement any measure of the SWPPP.
d. All contractors and sub-contractors identified in the SWPPP as outlined above shall sign a copy of the Certification Statement before undertaking any construction activity at the site identified in the SWPPP.
e. The developer/contractor or his builder shall have the site inspected and a log kept on site. The documents must be maintained in a secure location, such as a job trailer, on-site construction office, or a mailbox with lock; that is accessible during normal working hours to an individual performing a compliance inspection.
f. Owner's qualified inspector shall conduct site inspections for all construction activities every 7 days and within 24 hours of any storm event producing 0.5 inch of precipitation or more. See section 7.11 and Appendix A- SPDES General Permit for Construction Activity, Part IV, Section C.
g. To effectively control wind erosion, water shall be applied to all exposed soils as necessary of the project site as designed.

6.0 CONSTRUCTION SEQUENCE

Sequence of Construction Activities: The Contractor's work schedule and methods shall be consistent with the SWPPP or amended SWPPP. Once approved, the progress schedule shall become a part of the SWPPP. Throughout the entirety of construction, areas for contractor use shall be provided as described in the sequencing plan to allow for equipment parking (when not in use), storage, construction materials, stockpiles, debris, waste and borrow areas, and general staging areas.

The following list is a suggested sequence of major construction activities for the project to meet the NYSDEC erosion control requirements:

1. All approvals and permits shall be secured by the contractor.
2. A pre-construction meeting with the owner, owner's representative, municipal representative, and contractor present will be held.
3. Certifications obtained from contractors, subcontractors, and any others performing site disturbances, including underground utility contractors, be signed and maintained on site.
4. Construction entrance, silt fence storm drain inlets protection, construction fence, tree protection, and other temporary erosion control measures will be installed prior to construction, including clearing, grubbing, and demolition of the site, in accordance with the NYS Standards and Specifications for Erosion and Sediment Control, latest edition.
5. Install provisions for protection of existing facilities, where indicated on the plans.
6. Changes to the erosion and sediment control sequencing shall be approved by the owner's representative.
7. Active disturbance shall be limited to less than 5 acres maximum at any time without temporary stabilization. All non-active disturbance areas shall receive temporary or permanent stabilization. Non-active disturbed soil areas shall not remain exposed for longer than 14 days without being stabilized.
8. Any borrow or waste pit located on or off-site must immediately receive temporary stabilization, shall not be left unstabilized, and be maintained per the requirements of the General Construction Permit.
9. Drainage structures and pipes shall be installed along with energy dissipaters.
10. Roadways shall be graded and immediately stabilized with proposed stone surface.
    Install temporary construction fence around perimeter of the site as shown on the plans.
11. Install stabilized construction entrance, silt fence, inlet protection, fiber rolls, tree protection, object protects, as shown on the plans, and as directed by the director's representative, prior to ground disturbance activities.

12. Install sediment trap and temporary diversion swale within limits shown on the plans. Temporary diversion swale shall discharge to sediment trap. Install check dams along swale in accordance with the detail and as directed by the owner's representative.
13. Install drainage structure and pipes within parking lotas shown on the plans. Reinstall inlet protection as necessary an as directed by the director's representative.
14. Clear and grub site, stockpile topsoil for reuse, and remove objects as indicated on the plans.
15. Install water bypass as shown on plans. Installation shall be performed in a manor to minimize downtime of water service to the facility to the greatest extent practical.
16. Footings, concrete pads, and utilities shall be constructed as shown on plans.
17. Construct catch basins, curb and subbase within site limits.
18. Remove sediment trap, decompact soils in practice footprint, and install subsurface storage system as shown on plan. Work upstream installing drainage lines and removing temporary diversion swale and check dams.
19. Install new curb and pavement within exiting parking lot area as shown on plans. Install new sidewalks ash shown on the plans.
20. Begin final grading and establish turf. All Landscape/grassed areas will be seeded and mulched in a two-step hydraulic process to promote growth as soon as possible and in accordance with note 5 of the erosion and sediment control notes on this sheet. To facilitate final stabilization intermediate erosion control measures may be removed.
21. Upon permanent stabilization all temporary erosion control measures shall be removed. All catch basins and drainage lines are to be flushed clean of all silt and sediment after construction is complete. Remove all silt and sediment from site.
22. Mill and overlay existing pavement as shown on the plans.
23. Director's representative to review site and direct any corrective actions deemed necessary to approve final stabilization and facilitate SPDES permit closeout.
24. Construction contractor to provide as-built of drainage network and post construction stormwater controls to director's representative prior to SPDES permit closeout and in accordance with the project specifications.

7.0 NONSTRUCTURAL BMPS

There are nonstructural BMPs that are included as parts of this plan to prevent the introduction of pollutants into stormwater.

7.1 GOOD HOUSEKEEPING

All exposed areas of the site with the potential for stormwater pollutants (See Table 4) must be kept clean and orderly. Specific areas of concern for this site include, but are not limited to: storage areas, fueling areas, and equipment storage and cleaning areas. An inventory of all equipment and containers with hazardous or toxic materials should be kept on site and up to date. A schedule for Good Housekeeping practices should be created prior to construction and followed and altered as necessary throughout the project.

7.2 MINIMIZING EXPOSURE

The exposure of pollutants to rain, ice, snow, and snowmelt should be minimized by utilizing practices to limit such exposure. For example, when possible, water resistant coverings should be used to minimize exposure.

7.3 DUST CONTROL

Dust Control measures help to prevent surface and air movement of dust from disturbed soil surfaces that may cause off-site damage, health hazards, and traffic safety problems. Dust Control measures should be installed on construction roads, access points, and other disturbed, areas subject to surface dust movement and dust blowing where off-site damage may occur if dust is not controlled.

Water quality must be considered when materials are selected for dust control. Where there is a potential for the material to wash off to a stream, ingredient information must be provided to the local permitting authority.

7.4 NON-DRIVING AREAS

These areas use products and materials applied or placed on soil surfaces to prevent airborne migration of soil particles.

a. Vegetative Cover- For disturbed areas not subject to traffic, vegetation provides the most practical method of dust control
b. Mulch (including gravel mulch) – Mulch offers a fast effective means of controlling dust. This can also include rolled erosion control blankets.

7.5 DRIVING AREAS

These areas utilize water, polymer emulsions, and barriers to prevent dust movement from the traffic surface into the air.

Provision shall be made to control the amount of airborne dust released off site from construction operations, by wetting the construction material as necessary, provided wetting will not damage utility infrastructure or create any safety hazards. All construction material shall be sufficiently wetted to prevent dust from becoming airborne before loading into trucks, vehicles, or other containers. During transport, such material shall be enclosed or covered to prevent dust dispersion.

Trucks and other vehicles used to transport particulate matter shall be covered and any particulate matter kept on site shall be sufficiently wetted or stored to prevent particulate matter from becoming airborne.

7.6 SPILL PREVENTION AND RESPONSE PROCEDURES

All potential pollutants (See Table 4) other than sediment will be handled and disposed of in a manner that does not cause contamination of stormwater. Non-sediment pollutants that may be present during construction activities have been identified in Section 4.0 of this report and refer to Appendix "E" NYSDEC Standards and Specifications for Site Pollution Prevention for Storage, Containment, and Disposal. These materials, and other materials used during construction with the potential to impact stormwater, will be stored, managed, used, and disposed of in a manner that minimizes the potential for release into the environment. Emergency contacts for the project will be posted at the project office and are included at the end of this section.

7.7 GENERAL MATERIAL AND HANDLING PRACTICES

The following general practices will be used throughout construction to reduce the potential for spills.

a. Material Safety Data Sheets (MSDS) for potential pollutants (See Table 4 and refer to Appendix "E" NYSDEC Standards and Specifications for Site Pollution Prevention for Storage, Containment, and Disposal) should be kept on site. Potential pollutants will be stored and used in a manner consistent with the manufacturer's instructions in a secure location. To the extent practicable, material storage areas should not be located near storm drain inlets and should be equipped with covers, roofs, or secondary containment as needed to prevent stormwater from contacting stored materials. Chemicals that are not compatible shall be stored in segregated areas so that spilled materials cannot combine and react.
b. Materials disposal will be in accordance with the manufacturer's instructions and applicable local, state, and federal regulations.

c. Materials no longer required for construction will be removed from the site as soon as practicable.
d. Adequate garbage, construction waste, and sanitary waste handling and disposal facilities will be provided to the extent necessary to keep the site clear of obstruction and BMPs clear and functional.

7.8 SPECIFIC MATERIAL AND HANDLING PRACTICES

All pollutants, including waste materials and demolition debris, that occur on-site during construction will be handled in a way that does not contaminate stormwater (See Table 4 and refer to Appendix "E" NYSDEC Standards and Specifications for Site Pollution Prevention for Storage, Containment, and Disposal).

a. All chemicals including liquid products, petroleum products, water treatment chemicals, and wastes stored on site will be covered and contained and protected from vandalism. Items should be stored in their original containers or approved containers in accordance with their respective MSDS and per all local state, and federal regulations. The container should be inspected regularly.
b. Maintenance and repair of all equipment and vehicles involving oil changes, hydraulic system drain down, de-greasing operations, fuel tank drain down and removal, and other activities which may result in the accidental release of contaminants, will be conducted under cover during wet weather and on an impervious surface to prevent the release of contaminants onto the ground. Secondary containment (drain pan) to catch spills when removing or changing fluids. Materials spilled during maintenance operations will be cleaned up immediately and properly disposed of.
c. All equipment and vehicles on-site shall be inspected for leaks regularly to ensure that gasoline, diesel fuel, antifreeze, oils and grease do not come in contact with soil or stormwater.
d. Equipment wash wastewater will be settled and discharged on site by infiltration in a designated area setback from the wetlands and controlled by erosion measures.
e. Application of agricultural chemicals, including fertilizers and pesticides, will be conducted in a manner and at application rates that will not result in loss of chemical to stormwater runoff. Manufacturers' recommendations will be followed for application rates and procedures.
f. pH-modifying sources will be managed to prevent contamination of runoff and stormwater collected on site. The most common sources of pH-modifying materials are bulk cement, cement kiln dust (CKD), fly

ash, new concrete washing and curing waters, waste streams generated from concrete grinding and sawing, exposed aggregate processes, and concrete pumping and mixer washout waters.

g. Portable equipment must be stored in safe and secure locations under cover at the end of each work day.
h. Solvents shall be disposed of in approved containers and removed from site at scheduled intervals.
i. Fuel for construction equipment shall either be obtained from a licensed distributor of petroleum products or from an approved above ground storage tank on site (above ground storage tanks with a combined capacity of 1,100 gallons shall be installed pursuant to 6 NYCRR Part 614 Standards for New and Substantially Modified Petroleum Storage Facilities). A distributor may be contracted to arrive on site periodically and fill all equipment as necessary. All distributors of petroleum products must have appropriate permits and licenses from the NYSDEC and have adequate liability insurance to mitigate and clean up any spills that occur on site.
j. Used oil and petroleum products shall be stored in approved containers in accordance with their respective MSDS and per all local state, and federal regulations until recycled or disposed of at an approved disposal facility.
k. The proper equipment (pumps, funnels) should be used to transfer fluids in designated fueling areas. The fuel should not be “topped- off” in the tanks.
l. Temporary sanitary facilities shall be leak and tip proof. A waste management company contracted to provide the routine maintenance of facilities shall have appropriate permits and licenses from the NYSDEC and adequate liability insurance to mitigate and clean up any spills that occur on site.

7.9 SPILL RESPONSE

The primary objective in responding to a spill is to quickly contain the material(s) and prevent or minimize their migration into stormwater runoff and conveyance systems. If the release has impacted on-site stormwater, it is critical to contain the released materials on site and prevent their release into receiving waters.

a. If a spill of pollutants (See Table 4) threatens stormwater at the site, the spill response procedures outlined below must be implemented in a timely manner to prevent the release of pollutants.

b. The site superintendent will be notified immediately when a spill, or the threat of a spill, is observed. The superintendent will assess the situation and determine the appropriate response.
c. If spills represent an imminent threat of escaping facilities and entering the receiving waters, facility personnel will respond immediately to contain the release and notify the superintendent after the situation has been stabilized.
d. Spill kits containing materials and equipment for spill response and cleanup will be maintained at the site. Each spill kit may contain:
e. Oil absorbent pads (one bale)
f. Oil absorbent booms (40 feet)
g. 55-gallon drums (2)
h. 9-mil plastic bags (10)
i. Personal protective equipment including gloves and goggles
j. If an oily sheen is observed on surface water (e.g., settling ponds, detention pond, and swales), absorbent pads and/or booms will be applied to contain and remove the oil. The source of the oil sheen will also be identified and removed or repaired as necessary to prevent further releases.
k. The site superintendent, or his designee, will be responsible for completing the spill reporting form and for reporting the spill to the appropriate state or local agency.
l. Facility personnel with primary responsibility for spill response and cleanup will receive training from the site superintendent. This training will include identifying the location of spill kits and other spill response equipment and the use of spill response materials.
m. Spill response equipment will be inspected and maintained as necessary to replace any materials used in spill response activities.

7.10 NOTIFICATION

In the event of a spill, make the appropriate notification(s) consistent with the following procedures:

a. Any spill of oil which a) violates water quality standards, b) produces a "sheen" on a surface water, or c) causes a sludge or emulsion must be reported immediately by telephone to the **National Response Center Hotline at (800) 424-8802**.

b. Any oil, hazardous substance, or hazardous waste release which exceeds the reportable quantity must be reported immediately by telephone to the **National Response Center Hotline at (800) 424-8802**.

c. Any spill of oil or hazardous substance to waters of the state must be reported immediately by telephone to the **NYSDEC spill hotline at (800) 457-7362**.

d. Any release of a hazardous substance that may be a threat to human health or the environment must be reported to the **NYSDEC spill hotline at (800) 457-7362** immediately upon discovery.

7.11 SITE INSPECTIONS

Site inspections should be performed every seven (7) calendar days and within 24 hours of any storm event producing 0.5 inch of precipitation or more. Within one (1) business day of inspection, the qualified inspector must notify the owner or operator and the appropriate contractor or subcontractor of any corrective actions that need to be taken and that contractor or subcontractor must begin implementing the corrective actions within one (1) business day of the notification and complete within a reasonable amount of time. Inspection should be photo documented along with any corrective actions taken in response to deficiencies or opportunities for improvement.

Inspections for specific elements of the SWPPP in addition to the weekly site inspection are in accordance with New York State Standards and Specifications for Erosion and Sediment control. Copies of the applicable standards and specifications for erosion control are included in Appendix E and sample logs and checklist in Appendix J.

7.12 EMPLOYEE TRAINING

Employee training must be provided for all employees prior to their first day on site. Training must inform employees of components and goals of the SWPPP, such as: spill response, good housekeeping, material management practices, disposal and control of waste, equipment fueling, and proper storage, washing, maintenance, and inspection procedures.

8.0 GENERAL REQUIREMENTS FOR OWNERS OR OPERATORS

a. 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 NYSDEC.

b. 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.

The owner or operator shall maintain a copy of the General Permit (GP-0-20-001), NOI, NOI Acknowledgment Letter, SWPPP, inspection reports, responsible contractor's, or subcontractor's certification statement, 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.

c. The owner or operator is required to perform inspections as outlined in Section 7.11.

d. The owner or operator is required to ensure the contractor and subcontractor are adhering to the SWPPP.

9.0 GENERAL REQUIREMENTS FOR CONTRACTORS AND SUBCONTRACTORS

a. All contractors and subcontractors associated with the project must comply with the terms of the SWPPP.

b. The contractors and subcontractors shall 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. At least one trained contractor shall be on site on a daily when soil disturbance activities are being performed.

c. The trained contractor must complete the four (4) hours of NYSDEC endorsed training in proper erosion and sediment control principles from a Soil and Water Conservation District, or other Department endorsed entity. A copy of the certification should be submitted to the owner or operator.

d. The trained contractor (and any trained subcontractors) shall sign a copy of the certification statement included in Appendix H and provide to the owner or operator.

e. Any new or additional contractors hired to implement measures identified in the SWPPP after construction has commenced, must also sign the certification statement in Appendix H and provide to the owner or operator.

f. Trained contractor must 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.

g. Contractor/Trained Contractor also must review the Qualified Inspector's Report and the contractor or subcontractor shall begin implementing the corrective actions required within one business day of this notification and shall complete the corrective actions in a reasonable time frame.

h. 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.

10.0 NYSOPRHP AND T&E DOCUMENTATION

In accordance with GP-0-20-001, documentation has been provided to the Office of Parks, Recreation and Historic Preservation (OPRHP) to determine if the project would affect a historic property. OPRHP determined that no properties, including archaeological and/or historic resources, listed in or eligible for the New York State and National Registers of Historic Places will be impacted by this project. A copy of the letter response indicating this is included in Appendix I.

A Rare, Threatened, and Endangered Species Report has been prepared by Tectonic and is included in Appendix K. The conclusion of the report is that the proposed project will have no effect on federal or state regulated Rare, Threatened or Endangered species.

11.0 MONITORING, REPORTING AND RETENTION OF RECORDS

The owner and contractor are required to read, understand and comply with all monitoring, reporting and retention of records required by the SWPPP. Certification Signatures from the Owner, SWPPP preparer, Qualified Inspector and Contractor are to be kept in the SWPPP on site. Also, contractor's proof of completion for the required NYS DEC Endorsed 4-Hour Erosion and Sediment Control Course must also be supplied in the SWPPP on site.

12.0 OWNERSHIP AND MAINTENANCE OF PERMANENT STRUCTURES

The permanent stormwater structures will be owned and maintained by the Office of Mental Health Service with the approved plans and this SWPPP. Procedures, checklists and sample logs for maintenance are included in Appendix M.

ACRONYMS

BMP: Best Management Practice

CWA: Clean Water Act

DPW: Department of Public Works

EPA: Environmental Protection Agency

ECL: Environmental Conservation Law

HDS: Hydrodynamic Separator

MSDS: Material Safety Data Sheet

NOI: Notice of Intent

NOT: Notice of Termination

NPDES: National Pollution Discharge Elimination System

NYSDEC: New York State Department of Environmental Conservation

RRv: Runoff Reduction Volume

SWDM: Stormwater Management Design Manual

SPDES: State Pollution Discharge Elimination System

SWPPP: Storm Water Pollution Prevention Plan

WQv: Water Quality Volume

GLOSSARY

Commencement of Construction – the initial disturbance of soils associated with clearing, grading, or excavating activities, or other construction activities.

Existing – for purposes of site conditions "existing" refers to the site prior to renovation.

Facility – the proposed addition.

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

Owner or Operator - means the person, persons or legal entity which owns or leases the property on which the construction activity is occurring; and/or an entity that has operational control over the construction plans and specifications, including the ability to make modifications to the plans and specifications.

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Proposed – for the purposes of site conditions "proposed" refers to the site post renovation.

Qualified professional – means a person that is knowledgeable in the principles and practices of stormwater management and treatment, such as a licensed Professional Engineer, licensed 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 in order to prepare a SWPPP that conforms to the Department's technical standard. 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.).

Stabilization – covering or maintaining an existing cover over soil. Cover can be vegetative (e.g. grass, trees, seed and mulch, shrubs, or turf) or non-vegetative (e.g. geotextiles, riprap, or gabions).

Trained Individual – means an employee from a contracting (construction) firm that has received four (4) hours of training, which has been endorsed by the Department, from a Soil and Water Conservation District, CPESC, Inc. or other Department endorsed entity, in proper erosion and sediment control principles no later than two (2) years from the date of project approval. After receiving the initial training, the trained individual shall receive four (4) hours of training every three (3) years. This individual will be responsible for implementation of the SWPPP.

APPENDIX A

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SPDES GENERAL PERMIT
FOR STORMWATER DISCHARGES

From

CONSTRUCTION ACTIVITY

Permit No. GP- 0-20-001

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

of the Environmental Conservation Law

Effective Date: January 29, 2020 Expiration Date: January 28, 2025

John J. Ferguson

Chief Permit Administrator

1-23-20

Authorized Signature Date

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

PREFACE

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

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

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

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

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Part 1. PERMIT COVERAGE AND LIMITATIONS

A. Permit Application

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

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

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

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

B. Effluent Limitations Applicable to Discharges from Construction Activities

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

(i) Wastewater from washout of concrete;

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

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

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

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

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

C. Post-construction Stormwater Management Practice Requirements

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

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

a. Sizing Criteria for New Development

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

c. Sizing Criteria for Redevelopment Activity

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

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

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

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

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

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

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

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

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

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

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

D. Maintaining Water Quality

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

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

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

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

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

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

E. Eligibility Under This General Permit

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

d. Documentation that:

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

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

Part II. PERMIT COVERAGE

A. How to Obtain Coverage

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

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

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

B. Notice of Intent (NOI) Submittal

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

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

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

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

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

C. Permit Authorization

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

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

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

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

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

c. the final SWPPP has been prepared, and

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

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

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

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

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

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

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

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

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

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

D. General Requirements For Owners or Operators With Permit Coverage

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

F. Change of Owner or Operator

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

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

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

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

Part III. STORMWATER POLLUTION PREVENTION PLAN (SWPPP)

A. General SWPPP Requirements

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

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

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

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

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

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

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

d. to document the final construction conditions.

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

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

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

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

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

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

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

B. Required SWPPP Contents

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

e. Infiltration test results, when required; and

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

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

C. Required SWPPP Components by Project Type

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

Part IV. INSPECTION AND MAINTENANCE REQUIREMENTS

A. General Construction Site Inspection and Maintenance Requirements

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

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

B. Contractor Maintenance Inspection Requirements

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

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

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

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

C. Qualified Inspector Inspection Requirements

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

a. Date and time of inspection;

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

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

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

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

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

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

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

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

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

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

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

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

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

Part V. TERMINATION OF PERMIT COVERAGE

A. Termination of Permit Coverage

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

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

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

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

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

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

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

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

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

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

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

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

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

Part VI. REPORTING AND RETENTION RECORDS

A. Record Retention

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

B. Addresses

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

Part VII. STANDARD PERMIT CONDITIONS

A. Duty to Comply

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

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

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

B. Continuation of the Expired General Permit

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

C. Enforcement

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

D. Need to Halt or Reduce Activity Not a Defense

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

E. Duty to Mitigate

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

F. Duty to Provide Information

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

G. Other Information

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

H. Signatory Requirements

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

I. Property Rights

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

J. Severability

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

K. Requirement to Obtain Coverage Under an Alternative Permit

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

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

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

L. Proper Operation and Maintenance

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

M. Inspection and Entry

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

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

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

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

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

N. Permit Actions

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

O. Definitions

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

P. Re-Opener Clause

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

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

Q. Penalties for Falsification of Forms and Reports

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

R. Other Permits

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

APPENDIX A – Acronyms and Definitions

Acronyms

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

Definitions

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

APPENDIX B – Required SWPPP Components by Project Type

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

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

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

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

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

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

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

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

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

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

Table 2

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

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

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

Table 2 (Continued)

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

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

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

APPENDIX C – Watersheds Requiring Enhanced Phosphorus Removal

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

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

Figure 1 - New York City Watershed East of the Hudson

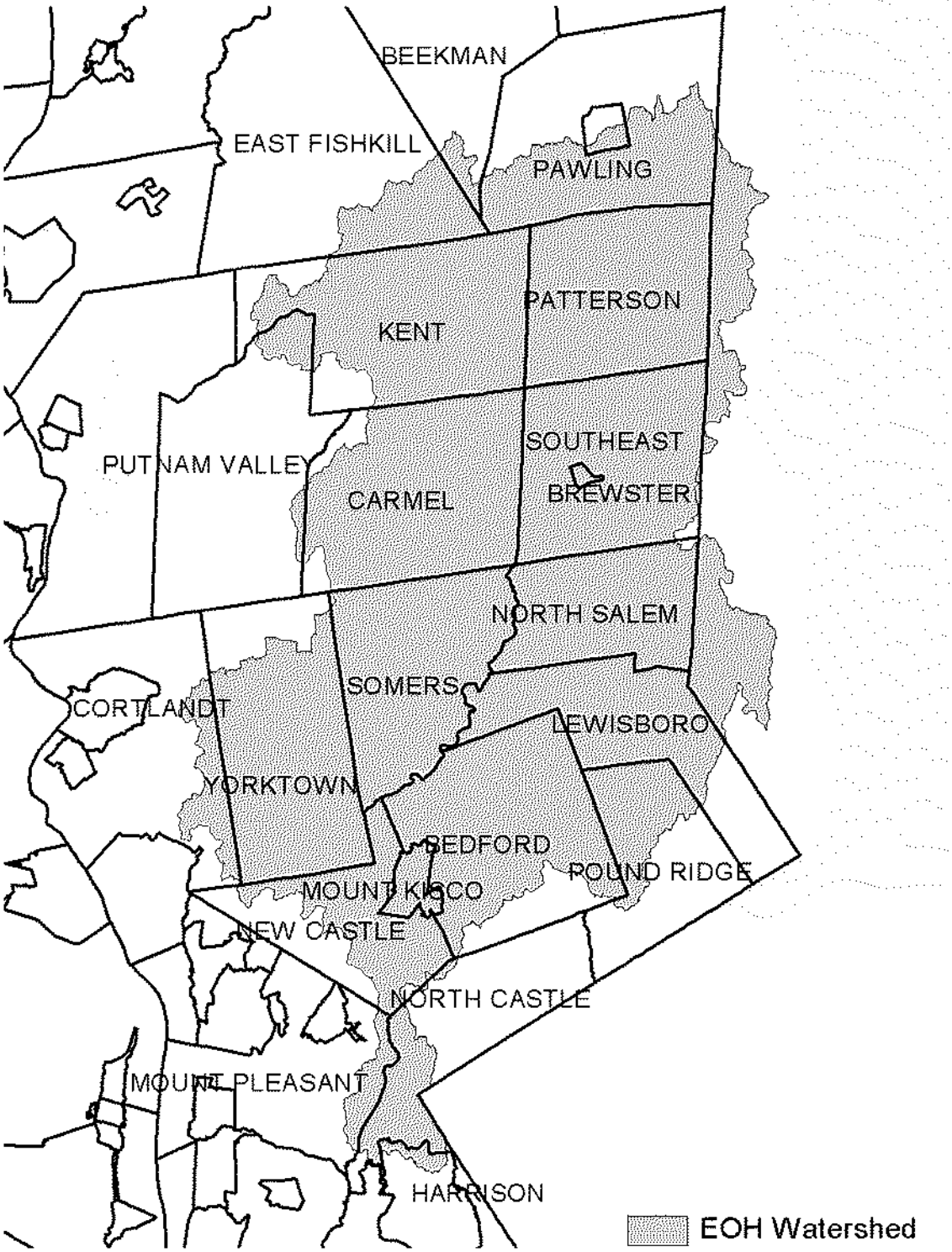


Figure 2 - Onondaga Lake Watershed

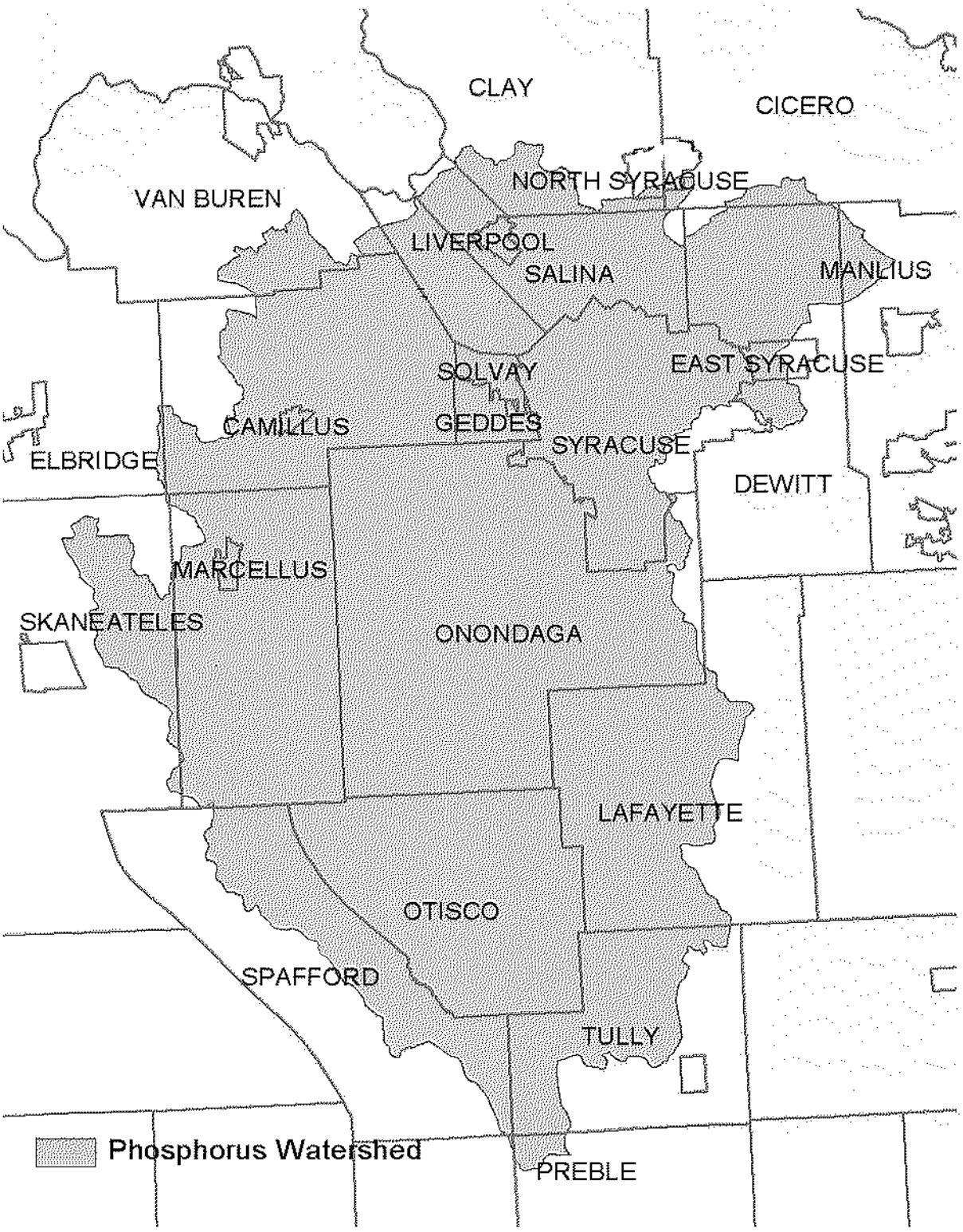


Figure 3 - Greenwood Lake Watershed

Figure 4 - Oscawana Lake Watershed

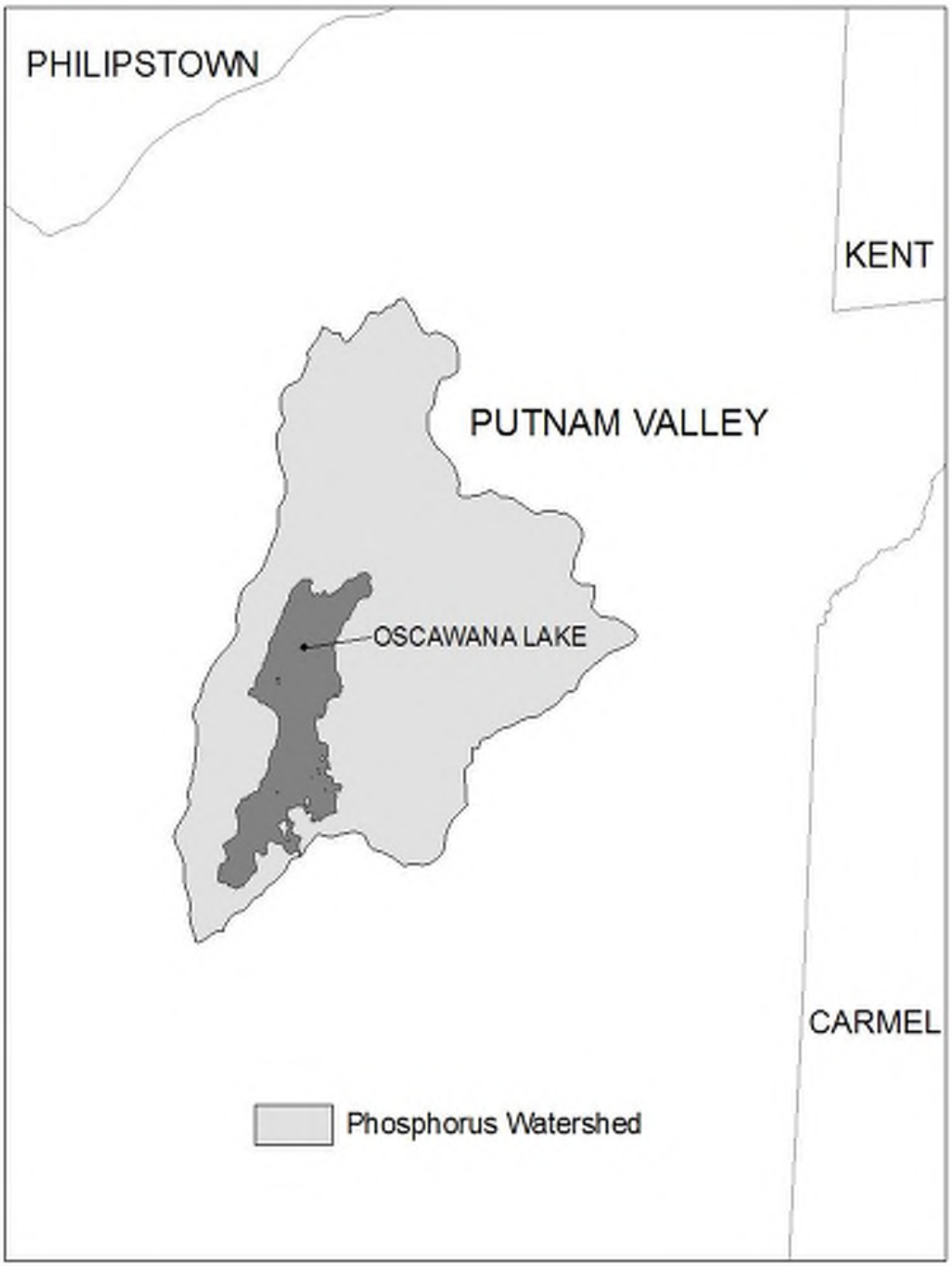
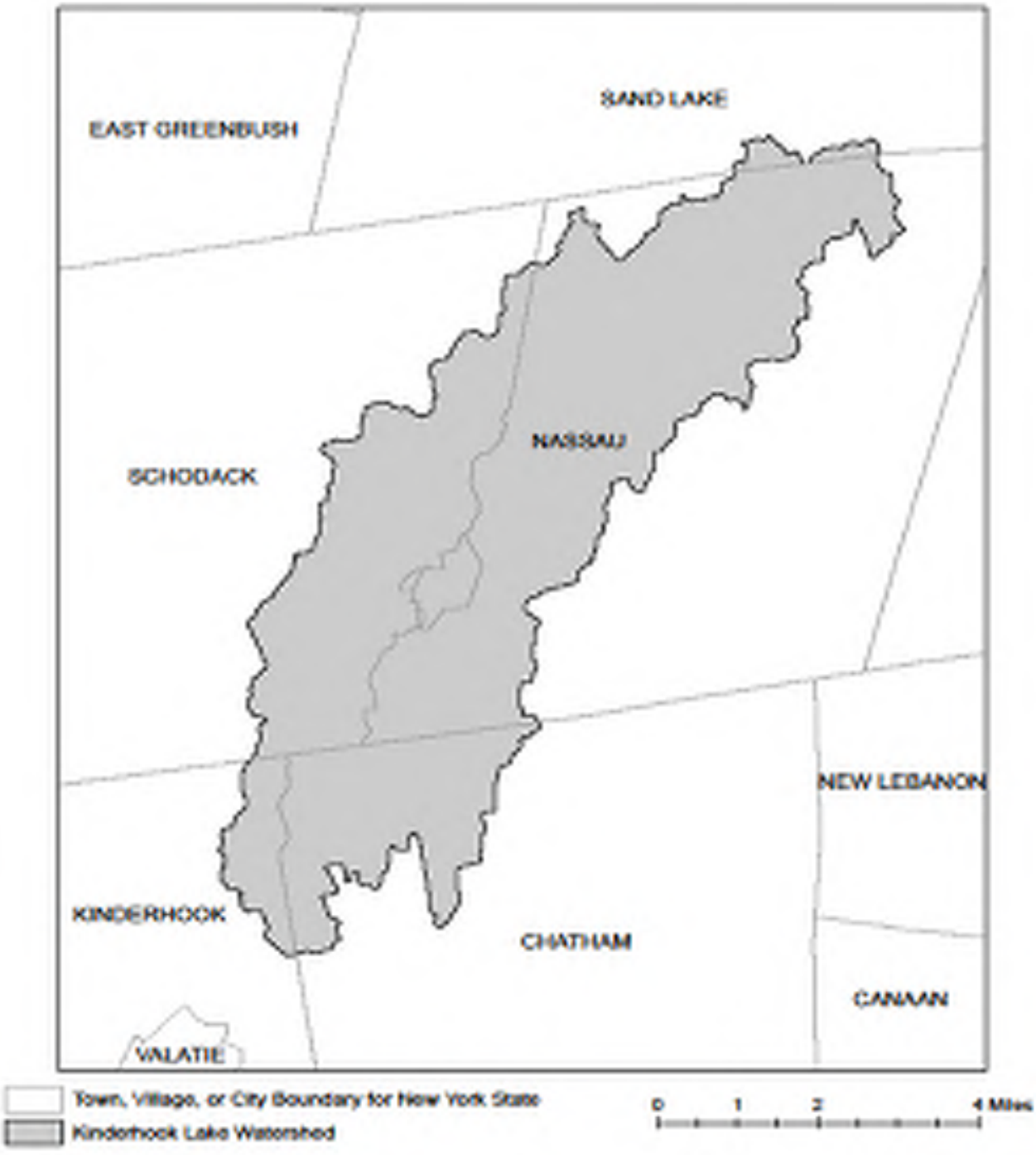


Figure 5 - Kinderhook Lake Watershed



APPENDIX D – Watersheds with Lower Disturbance Threshold

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

APPENDIX F – List of NYS DEC Regional Offices

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

APPENDIX B

APPROXIMATE SITE LOCATION INDICATED ON THE STREET MAP

SW-101: LOCATION MAP

NORTH

OMH CREEDMOOR
79-25 WINCHESTER BLVD
BOROUGH OF QUEENS
QUEENS COUNTY
NEW YORK

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Mountainville, NY 10953

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F:(845) 534-5999
www.tectonicengineering.com

SCALE	DATE	DRAWN BY	WORK ORDER
N.T.S.	9/6/24	ZNK	12546.01

APPROXIMATE SITE LOCATION INDICATED ON THE AERIAL MAP

SW-102: AERIAL SITE MAP

NORTH

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BOROUGH OF QUEENS
QUEENS COUNTY
NEW YORK

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SCALE			WORK ORDER
N.T.S.	[redacted]	[redacted]	12546.01

APPROXIMATE SITE LOCATION INDICATED ON THE USGS MAP

SW-103: USGS MAP

NORTH

OMH CREEDMOOR
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QUEENS COUNTY
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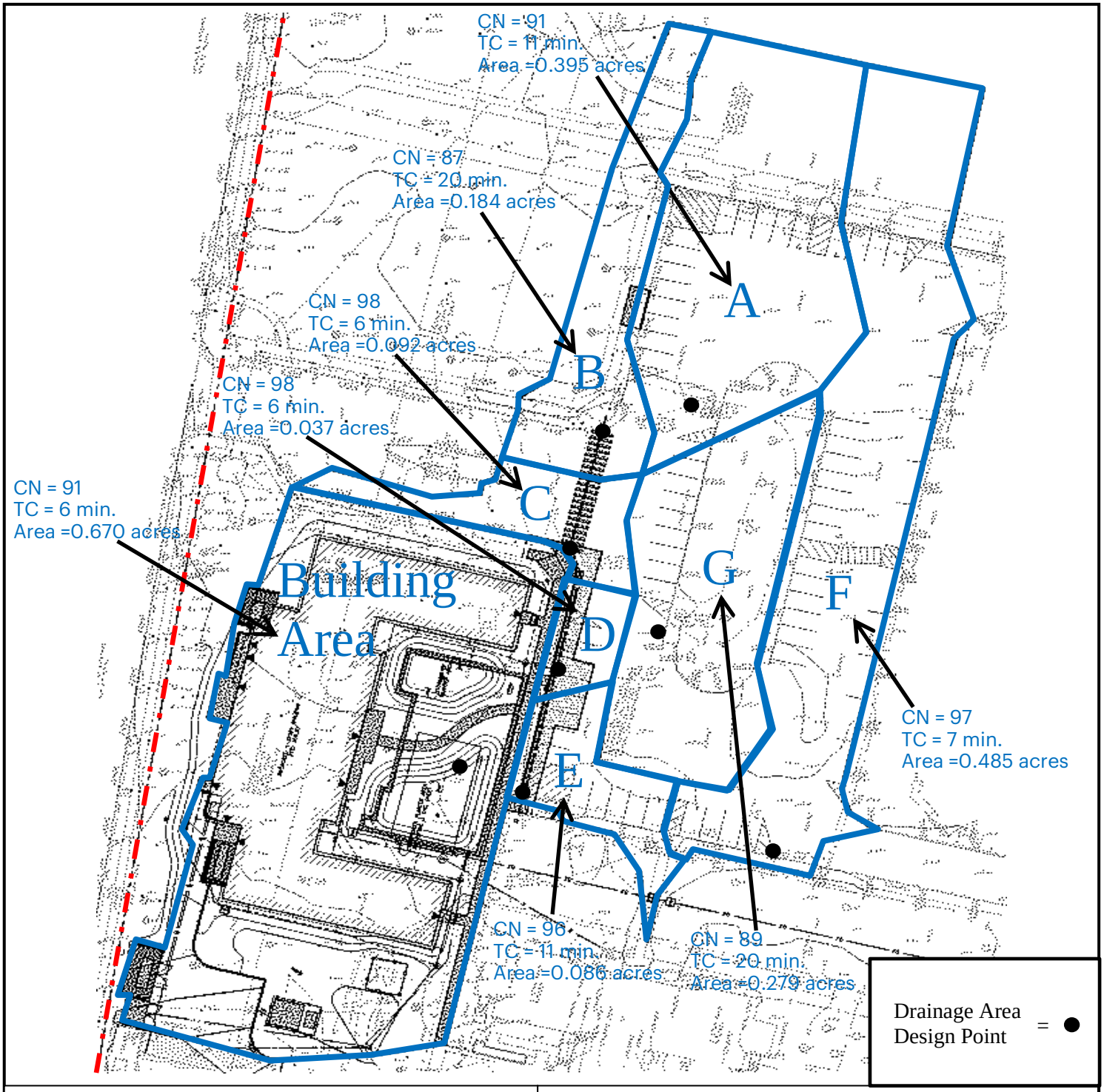

DRAINAGE MAP INDICATING THE SUBCATCHMENTS FOR THE PROJECT SITE.

DRAINAGE MAP

NORTH

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QUEENS COUNTY
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N.T.S.

WORK ORDER
12546.01

APPENDIX C

The soil map shown was taken from the USDA Web Soil Survey.

SOILS MAP

NORTH

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QUEENS COUNTY
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MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

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

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:12,000.

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

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

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

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

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

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

Soil Survey Area: Queens County, New York
Survey Area Data: Version 14, Sep 4, 2023

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

Date(s) aerial images were photographed: Mar 1, 2023—Sep 1, 2023

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

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
UFAl	Urban land-Flatbush complex, 0 to 3 percent slopes, low impervious surface	2.3	100.0%
Totals for Area of Interest		**2.3**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however,

Queens County, New York

UFAl—Urban land-Flatbush complex, 0 to 3 percent slopes, low impervious surface

Map Unit Setting

National map unit symbol: 2pbm6
Elevation: 0 to 140 feet
Mean annual precipitation: 40 to 52 inches
Mean annual air temperature: 47 to 62 degrees F
Frost-free period: 216 to 234 days
Farmland classification: Not prime farmland

Map Unit Composition

Urban land, outwash substratum: 60 percent
Flatbush and similar soils: 20 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Urban Land, Outwash Substratum

Setting

Landform position (two-dimensional): Summit
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Asphalt over human-transported material

Typical profile

M1 - 0 to 6 inches: cemented material
M2 - 6 to 20 inches: cemented material
2^C - 20 to 72 inches: gravelly sand

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: 0 inches to manufactured layer
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low (0.00 to 0.00 in/hr)
Calcium carbonate, maximum content: 10 percent
Available water supply, 0 to 60 inches: Very low (about 0.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8s
Hydric soil rating: Unranked

Description of Flatbush

Setting

Landform position (two-dimensional): Summit, backslope, footslope, toeslope
Landform position (three-dimensional): Side slope, base slope, crest, talf, rise
Down-slope shape: Convex, linear
Across-slope shape: Convex, linear
Parent material: Loamy human-transported material over outwash

Typical profile

^A - 0 to 9 inches: loam
^Bwu - 9 to 25 inches: very fine sandy loam
2Bwb - 25 to 33 inches: fine sandy loam
2BCb - 33 to 42 inches: sandy loam
2C - 42 to 72 inches: very gravelly loamy sand

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.43 to 1.42 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 10 percent
Available water supply, 0 to 60 inches: Moderate (about 7.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 1
Hydrologic Soil Group: B
Ecological site: F149BY100NY - Urban Site Complex
Hydric soil rating: No

Minor Components

Riverhead

Percent of map unit: 10 percent
Landform: Outwash plains, moraines
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Tread
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

Greenbelt

Percent of map unit: 5 percent
Landform position (two-dimensional): Summit, backslope, footslope
Landform position (three-dimensional): Crest, side slope, base slope, talf
Down-slope shape: Convex, linear
Across-slope shape: Convex, linear
Hydric soil rating: No

Bigapple, non-dredge material

Percent of map unit: 2 percent
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

North meadow, outwash substratum

Percent of map unit: 1 percent
Landform position (two-dimensional): Toeslope, footslope, backslope

Landform position (three-dimensional): Base slope, side slope, talf
Down-slope shape: Concave, linear
Across-slope shape: Concave, linear
Hydric soil rating: No

Centralpark

Percent of map unit: 1 percent
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Talf
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

Laguardia

Percent of map unit: 1 percent
Landform position (two-dimensional): Summit, shoulder, backslope, footslope, toeslope
Landform position (three-dimensional): Base slope, side slope, crest, rise, dip, talf
Down-slope shape: Concave, convex, linear
Across-slope shape: Concave, linear, convex
Hydric soil rating: No

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onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

APPENDIX D

NOAA Atlas 14, Volume 10, Version 3
Location name: Bellerose, New York, USA*
Latitude: 40.7372°, Longitude: -73.7337°
Elevation: 107 ft**
* source: ESRI Maps
** source: USGS

POINT PRECIPITATION FREQUENCY ESTIMATES

Sanja Perica, Sandra Pavlovic, Michael St. Laurent, Carl Trypaluk, Dale Unruh, Orlan Wilhite

NOAA, National Weather Service, Silver Spring, Maryland

PF_tabular | PF_graphical | Maps_&_aerials

PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches)[1]

Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	0.363 (0.280-0.471)	0.436 (0.335-0.565)	0.555 (0.426-0.722)	0.653 (0.499-0.853)	0.788 (0.583-1.06)	0.889 (0.647-1.22)	0.996 (0.705-1.41)	1.12 (0.749-1.60)	1.29 (0.836-1.90)	1.43 (0.908-2.15)
10-min	0.514 (0.396-0.667)	0.617 (0.475-0.801)	0.785 (0.602-1.02)	0.924 (0.705-1.21)	1.12 (0.826-1.51)	1.26 (0.916-1.73)	1.41 (0.998-2.00)	1.58 (1.06-2.27)	1.83 (1.18-2.70)	2.03 (1.29-3.04)
15-min	0.605 (0.466-0.785)	0.726 (0.559-0.942)	0.924 (0.709-1.20)	1.09 (0.829-1.42)	1.31 (0.972-1.78)	1.48 (1.08-2.04)	1.66 (1.17-2.35)	1.86 (1.25-2.67)	2.15 (1.39-3.17)	2.39 (1.51-3.58)
30-min	0.844 (0.651-1.10)	1.01 (0.779-1.31)	1.29 (0.987-1.68)	1.51 (1.16-1.98)	1.83 (1.35-2.47)	2.06 (1.50-2.84)	2.31 (1.64-3.28)	2.59 (1.74-3.72)	3.00 (1.94-4.42)	3.33 (2.11-4.99)
60-min	1.08 (0.835-1.40)	1.30 (0.999-1.69)	1.65 (1.27-2.15)	1.94 (1.48-2.54)	2.34 (1.74-3.17)	2.64 (1.92-3.64)	2.96 (2.10-4.20)	3.32 (2.23-4.77)	3.85 (2.49-5.67)	4.28 (2.71-6.41)
2-hr	1.45 (1.12-1.86)	1.71 (1.32-2.21)	2.15 (1.66-2.78)	2.52 (1.93-3.27)	3.01 (2.24-4.04)	3.39 (2.47-4.62)	3.78 (2.68-5.30)	4.21 (2.84-6.01)	4.82 (3.13-7.06)	5.31 (3.37-7.90)
3-hr	1.67 (1.30-2.15)	1.98 (1.54-2.55)	2.48 (1.92-3.20)	2.89 (2.22-3.75)	3.46 (2.58-4.63)	3.90 (2.84-5.29)	4.34 (3.08-6.06)	4.83 (3.26-6.86)	5.51 (3.59-8.04)	6.06 (3.85-8.98)
6-hr	2.06 (1.61-2.64)	2.45 (1.91-3.14)	3.09 (2.40-3.96)	3.62 (2.80-4.66)	4.34 (3.25-5.78)	4.89 (3.59-6.61)	5.46 (3.90-7.60)	6.10 (4.14-8.61)	7.00 (4.57-10.1)	7.74 (4.94-11.4)
12-hr	2.43 (1.90-3.08)	2.93 (2.29-3.72)	3.75 (2.93-4.77)	4.43 (3.44-5.66)	5.36 (4.04-7.11)	6.06 (4.48-8.17)	6.80 (4.90-9.46)	7.67 (5.21-10.8)	8.94 (5.85-12.9)	10.0 (6.40-14.6)
24-hr	2.77 (2.18-3.49)	3.40 (2.67-4.29)	4.42 (3.47-5.60)	5.27 (4.12-6.70)	6.45 (4.89-8.52)	7.32 (5.45-9.84)	8.25 (6.00-11.5)	9.38 (6.40-13.1)	11.1 (7.28-15.9)	12.6 (8.06-18.2)
2-day	3.12 (2.48-3.92)	3.87 (3.06-4.86)	5.10 (4.02-6.41)	6.11 (4.79-7.72)	7.50 (5.72-9.87)	8.54 (6.39-11.4)	9.66 (7.06-13.4)	11.0 (7.54-15.3)	13.1 (8.65-18.7)	14.9 (9.62-21.6)
3-day	3.40 (2.71-4.26)	4.20 (3.34-5.26)	5.51 (4.36-6.91)	6.59 (5.19-8.30)	8.08 (6.18-10.6)	9.19 (6.90-12.3)	10.4 (7.61-14.3)	11.8 (8.12-16.4)	14.1 (9.29-20.0)	16.0 (10.3-23.0)
4-day	3.66 (2.91-4.56)	4.48 (3.57-5.59)	5.84 (4.63-7.30)	6.96 (5.48-8.74)	8.50 (6.51-11.1)	9.64 (7.25-12.8)	10.9 (7.98-15.0)	12.4 (8.50-17.1)	14.7 (9.70-20.7)	16.7 (10.8-23.9)
7-day	4.35 (3.48-5.40)	5.22 (4.17-6.48)	6.65 (5.29-8.27)	7.83 (6.20-9.78)	9.46 (7.26-12.3)	10.7 (8.03-14.1)	12.0 (8.78-16.3)	13.5 (9.31-18.5)	15.8 (10.5-22.2)	17.8 (11.5-25.4)
10-day	5.02 (4.03-6.21)	5.93 (4.75-7.34)	7.40 (5.91-9.18)	8.63 (6.85-10.8)	10.3 (7.93-13.3)	11.6 (8.72-15.2)	12.9 (9.46-17.4)	14.5 (9.99-19.7)	16.7 (11.1-23.4)	18.7 (12.1-26.5)
20-day	7.08 (5.71-8.71)	8.08 (6.50-9.94)	9.70 (7.78-12.0)	11.0 (8.81-13.7)	12.9 (9.94-16.4)	14.3 (10.8-18.5)	15.8 (11.5-20.9)	17.3 (12.0-23.4)	19.4 (13.0-27.0)	21.1 (13.7-29.8)
30-day	8.81 (7.12-10.8)	9.88 (7.98-12.1)	11.6 (9.35-14.3)	13.1 (10.4-16.1)	15.1 (11.6-19.1)	16.6 (12.5-21.3)	18.1 (13.2-23.8)	19.7 (13.7-26.5)	21.7 (14.5-30.0)	23.2 (15.1-32.6)
45-day	11.0 (8.88-13.4)	12.1 (9.81-14.8)	14.0 (11.3-17.1)	15.6 (12.5-19.1)	17.7 (13.7-22.3)	19.4 (14.7-24.7)	21.0 (15.3-27.4)	22.6 (15.8-30.3)	24.6 (16.5-33.8)	26.0 (17.0-36.4)
60-day	12.7 (10.4-15.5)	14.0 (11.3-17.0)	16.0 (12.9-19.5)	17.7 (14.2-21.6)	20.0 (15.5-25.0)	21.8 (16.5-27.6)	23.5 (17.1-30.4)	25.1 (17.6-33.5)	27.1 (18.2-37.1)	28.4 (18.6-39.6)

[1] Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).

Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values.

Please refer to NOAA Atlas 14 document for more information.

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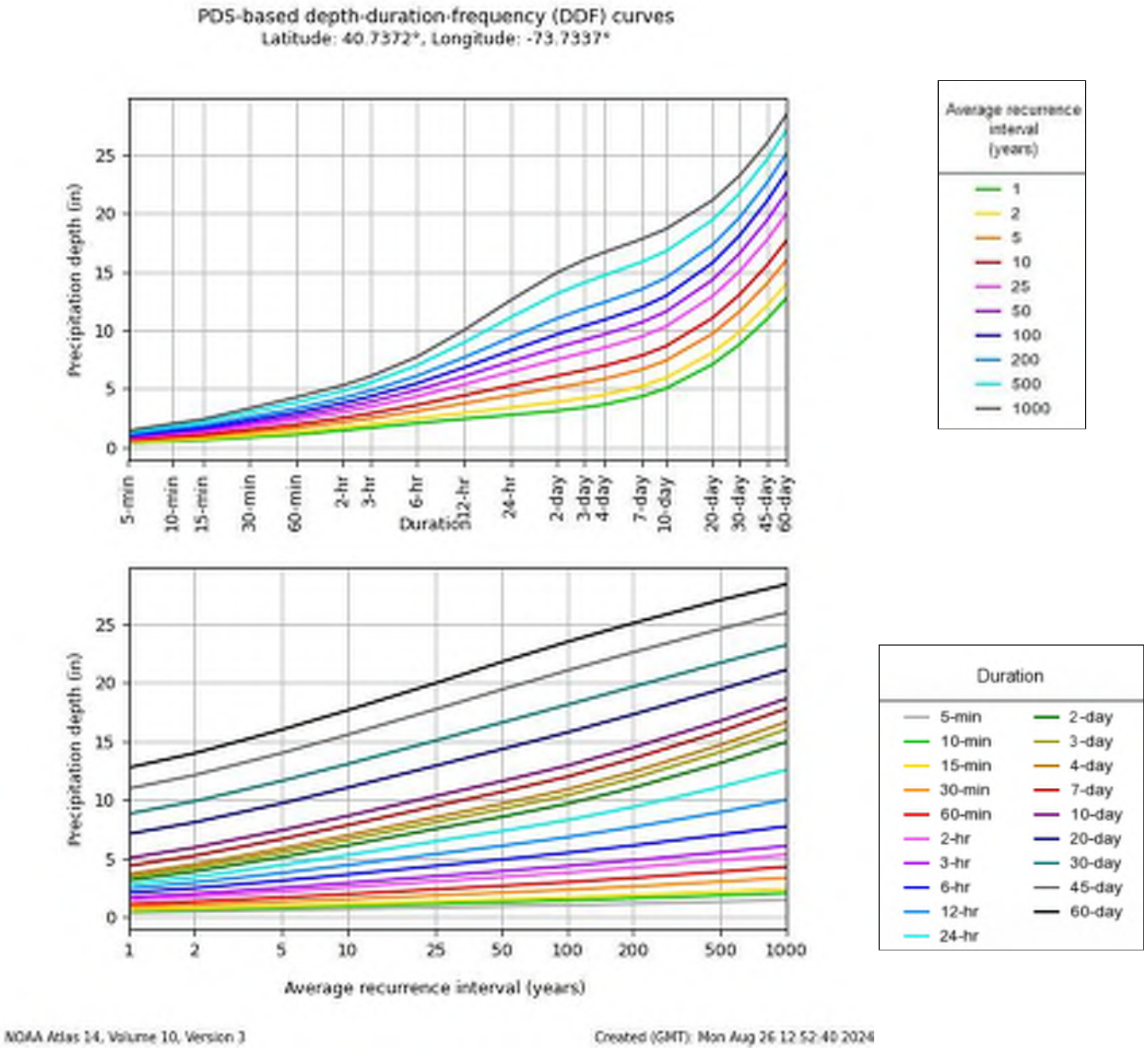
PF graphical



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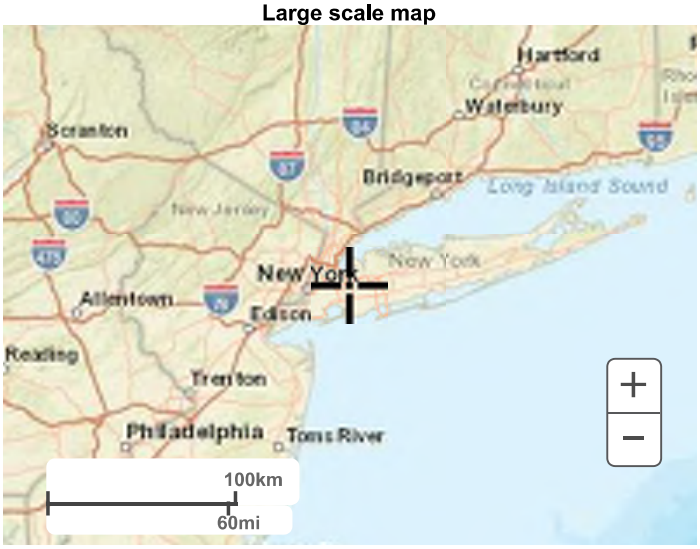
Maps & aerials

Small scale terrain

Large scale terrain

Large scale map



Large scale aerial

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US Department of Commerce
National Oceanic and Atmospheric Administration
National Weather Service
National Water Center
1325 East West Highway
Silver Spring, MD 20910
Questions?: HDSC.Questions@noaa.gov

Disclaimer

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

Metadata for Point

Smoothing	Yes
State	New York
Location	New York, United States
Latitude	40.737 degrees North
Longitude	73.734 degrees West
Elevation	30 feet
Date/Time	Fri Aug 30 2024 11:38:34 GMT-0400 (Eastern Daylight Time)

Extreme Precipitation Estimates

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day
1yr	0.35	0.53	0.66	0.86	1.08	1.34	**1yr**	0.93	1.24	1.54	1.89	2.32	2.84	3.17	**1yr**	2.51	3.05
2yr	0.41	0.63	0.78	1.03	1.30	1.62	**2yr**	1.12	1.53	1.86	2.29	2.80	3.41	3.78	**2yr**	3.02	3.64
5yr	0.48	0.74	0.93	1.25	1.60	2.01	**5yr**	1.38	1.89	2.32	2.87	3.51	4.27	4.79	**5yr**	3.78	4.60
10yr	0.53	0.84	1.06	1.44	1.87	2.38	**10yr**	1.61	2.22	2.75	3.40	4.16	5.07	5.72	**10yr**	4.48	5.50
25yr	0.62	0.98	1.25	1.73	2.30	2.96	**25yr**	1.98	2.75	3.43	4.27	5.24	6.36	7.26	**25yr**	5.63	6.98
50yr	0.69	1.12	1.43	2.00	2.69	3.49	**50yr**	2.32	3.23	4.07	5.07	6.22	7.55	8.69	**50yr**	6.68	8.36
100yr	0.78	1.27	1.63	2.31	3.16	4.12	**100yr**	2.72	3.81	4.82	6.02	7.39	8.97	10.41	**100yr**	7.94	10.0
200yr	0.88	1.44	1.87	2.68	3.70	4.87	**200yr**	3.19	4.49	5.71	7.15	8.78	10.66	12.47	**200yr**	9.43	11.9
500yr	1.05	1.72	2.25	3.26	4.58	6.07	**500yr**	3.95	5.59	7.14	8.97	11.04	13.40	15.84	**500yr**	11.86	15.2

Lower Confidence Limits

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day
1yr	0.30	0.47	0.57	0.77	0.95	1.12	**1yr**	0.82	1.10	1.28	1.56	1.97	2.44	2.72	**1yr**	2.16	2.61
2yr	0.39	0.61	0.75	1.02	1.25	1.51	**2yr**	1.08	1.48	1.73	2.20	2.73	3.28	3.68	**2yr**	2.91	3.54
5yr	0.45	0.69	0.86	1.18	1.50	1.80	**5yr**	1.29	1.76	2.05	2.65	3.29	3.93	4.46	**5yr**	3.48	4.29
10yr	0.50	0.76	0.95	1.32	1.71	2.05	**10yr**	1.47	2.00	2.33	3.01	3.74	4.49	5.14	**10yr**	3.97	4.95

Tectonic

WATER QUALITY WORKSHEET

WO. NO.	DATE:	
12546.01	10/30/2024	SHEET 1 OF 1

PROJECT TITLE:		LOCATION:
OHM Creedmoor		79-20 Winchester Blvd
ESTIMATED BY: JM	APPROVED BY: COM	REF DRAWING(S)

Worksheet for detention basing sizing based upon *NYSDEC Design Manual, January 2015*

Water Quality Volume (WQv)

90% Rainfall Event Number (Fig 4.1)	P =	1.50	in
0.05+0.009(I) (minimum Rv = 0.2)	R_v =	0.6715	
Total Drainage Area	A_T =	2.23	Ac
Impervious Area	A_I =	1.54	Ac
Impervious Area Percentage	I =	69	%
90% Rule	W_{qv} =	0.187	Ac-ft
Water Quality Volume	Wqv =	8,154	ft^3

$$W_{qv} = \frac{(p)(R_v)(A_T)}{12}$$

Minimum Runoff Reduction Volume (RRv)

90% Rainfall Event Number (Fig 4.1)	P =	1.50	in
05+0.009(I) Where "I" is 100% Impervious	R_v =	0.9500	
Total Area of New Impervious Cover	A_{ic} =	0.41	Ac
Impervious Area Percentage	I =	100	%
Hydrualic Soil Group Specific Reduction	S =	0.2	
Minimum	RR_v =	0.010	Ac-ft
Minimum	RR_v =	420.027	ft^3

$$RRv_{min} = \frac{P * \bar{R}_v * Aic * S}{12}$$

Tectonic	Water Quality Peak Flow Calculation (Eastern)		
	WO. NO. 12546.01	DATE 10/31/2024	SHEET 1 OF 2
PROJECT TITLE OHM Creedmoor		LOCATION 79-20 Winchester Blvd	

Drainage to Northern Hydrodynamic Separator

Worksheet based upon NYSDEC Design Manual, August 2015 Appendix B

90% Rainfall Event Number (Fig 4.1)	P =	1.50	in
area	A =	1.83	Ac
Water Quality Volume	WQv =	6,805	ft^3
runnoff volume	Q =	1.02	in
Curve Number	CN =	95	
Ia = (200/CN) - 2	I_a =	0.10	
Ia/P	I_a/P =	0.07	
qu (From Exhibits 4-I to 4-III)*	q_u =	650	
$Q_p = q_u * A * WQ_v$	**Qp =**	**1.90**	**cfs**

90% Rainfall Event Number (Fig 4.1)	P =	1.50	in
0.05+0.009(I) (minimum Rv = 0.2)	R_v =	0.683	
Total Drainage Area	A_T =	1.83	Ac
Impervious Area	A_I =	1.29	Ac
Impervious Area Percentage	I =	70	%
90% Rule	W_{qv} =	0.156	Ac-ft
Water Quality Volume	Wqv =	6,805	ft^3

$$W_{qv} = \frac{(p)(R_v)(A_T)}{12}$$

Tectonic	Water Quality Peak Flow Calculation (Eastern)		
	WO. NO. 12546.01	DATE 10/31/2024	SHEET 2 OF 2
PROJECT TITLE OHM Creedmoor		LOCATION 79-20 Winchester Blvd	

Drainage to Southern Hydrodynamic Separator

Worksheet based upon NYSDEC Design Manual, August 2015 Appendix B

90% Rainfall Event Number (Fig 4.1)	P =	1.50	in
area	A =	0.40	Ac
Water Quality Volume	WQv =	1,349	ft^3
runnoff volume	Q =	0.93	in
Curve Number	CN =	94	
Ia = (200/CN) - 2	I_a =	0.13	
Ia/P	I_a/P =	0.09	
qu (From Exhibits 4-I to 4-III)*	q_u =	650	
$Q_p = q_u * A * WQ_v$	**Qp =**	**0.38**	**cfs**

90% Rainfall Event Number (Fig 4.1)	P =	1.50	in
0.05+0.009(I) (minimum Rv = 0.2)	R_v =	0.619	
Total Drainage Area	A_T =	0.40	Ac
Impervious Area	A_I =	0.25	Ac
Impervious Area Percentage	I =	63	%
90% Rule	W_{qv} =	0.031	Ac-ft
Water Quality Volume	Wqv =	1,349	ft^3

$$W_{qv} = \frac{(p)(R_v)(A_T)}{12}$$

Project Description

File Name	Creedmoor Storm Sewers.SPF

Project Options

Flow Units	CFS
Elevation Type	Elevation
Hydrology Method	Rational
Time of Concentration (TOC) Method	User-Defined
Link Routing Method	Kinematic Wave
Enable Overflow Ponding at Nodes	YES
Skip Steady State Analysis Time Periods	YES

Analysis Options

Start Analysis On	00:00:00	0:00:00
End Analysis On	00:00:00	0:00:00
Start Reporting On	00:00:00	0:00:00
Antecedent Dry Days	0	days
Runoff (Dry Weather) Time Step	0 01:00:00	days hh:mm:ss
Runoff (Wet Weather) Time Step	0 00:05:00	days hh:mm:ss
Reporting Time Step	0 00:05:00	days hh:mm:ss
Routing Time Step	30	seconds

Number of Elements

	Qty
Rain Gages	0
Subbasins	13
Nodes	18
Junctions	3
Outfalls	0
Flow Diversions	0
Inlets	14
Storage Nodes	1
Links	17
Channels	0
Pipes	17
Pumps	0
Orifices	0
Weirs	0
Outlets	0
Pollutants	0
Land Uses	0

Rainfall Details

Rainfall Intensity	9 in/hr

Subbasin Summary

SN	Subbasin ID	Area (ac)	Weighted Runoff Coefficient	Total Rainfall (in)	Total Runoff (in)	Total Runoff Volume (ac-in)	Peak Runoff (cfs)	Time of Concentration (days hh:mm:ss)
1	Sub-01	0.40	0.6800	1.65	1.12	0.44	2.42	0 00:11:00
2	Sub-02	0.18	0.5000	3.00	1.50	0.28	0.83	0 00:20:00
3	Sub-03	0.28	0.5900	3.00	1.77	0.49	1.48	0 00:20:00
4	Sub-04	0.49	0.9200	1.05	0.97	0.47	4.02	0 00:07:00
5	Sub-05	0.09	0.8800	1.65	1.45	0.12	0.68	0 00:11:00
6	Sub-06	0.04	0.9500	0.90	0.86	0.03	0.32	0 00:06:00
7	Sub-07	0.09	0.9500	0.90	0.86	0.08	0.79	0 00:06:00
8	Sub-08	0.08	0.9500	0.90	0.86	0.07	0.65	0 00:06:00
9	Sub-09	0.08	0.9500	0.90	0.86	0.07	0.66	0 00:06:00
10	Sub-10	0.08	0.9500	0.90	0.86	0.07	0.65	0 00:06:00
11	Sub-11	0.08	0.9500	0.90	0.86	0.07	0.65	0 00:06:00
12	Sub-12	0.67	0.2200	1.65	0.36	0.24	1.33	0 00:11:00
13	Sub-13	0.10	0.9500	0.90	0.86	0.09	0.86	0 00:06:00

Node Summary

SN	Element ID	Element Type	Invert Elevation (ft)	Ground/Rim (Max) Elevation (ft)	Initial Water Elevation (ft)	Surcharge Elevation (ft)	Ponded Area (ft^2)	Peak Inflow (cfs)	Max HGL Elevation Attained (ft)	Max Surcharge Depth Attained (ft)	Min Freeboard Attained (ft)
1	1-Jun	Junction	99.99	107.70	99.99	107.70	10.00	8.00	104.31	0.00	3.39
2	2-Jun	Junction	98.64	108.00	98.64	108.00	10.00	2.85	104.77	0.00	3.23
3	3-Jun	Junction	99.44	108.00	99.44	108.00	10.00	2.22	102.16	0.00	5.84
4	Stor-01	Storage Node	92.00	102.00	92.00		0.00	10.74	92.00		

Link Summary

SN	Element ID	Element Type	From (Inlet) Node	To (Outlet) Node	Length	Inlet Invert Elevation	Outlet Invert Elevation	Average Slope	Diameter or Height	Manning's Roughness	Peak Flow	Design Flow Capacity	Peak Flow/ Design Flow Ratio	Peak Flow Velocity	Peak Flow Depth	Pea Tota
					(ft)	(ft)	(ft)	(%)	(in)		(cfs)	(cfs)		(ft/sec)	(ft)	
1	Link-01	Pipe	Inlet-03	Inlet-04	42.00	106.10	104.70	3.3300			0.96	0.89	1.08	5.52	0.50	
2	Link-02	Pipe	Inlet-04	Inlet-05	55.00	103.95	102.85	2.0000			1.68	10.80	0.16	6.43	0.33	
3	Link-04	Pipe	Inlet-06	Inlet-07	114.00	104.28	102.00	2.0000			3.96	3.66	1.08	8.65	0.78	
4	Link-06	Pipe	Inlet-10	Inlet-11	42.00	104.00	103.18	1.9500			1.48	6.15	0.24	9.28	0.28	
5	Link-07	Pipe	Inlet-07	Inlet-11	61.00	101.70	100.48	2.0000			4.35	10.80	0.40	8.49	0.55	
6	Link-10	Pipe	1-Jun	Stor-01	6.00	99.99	99.87	2.0000			8.00	17.56	0.46	9.70	0.71	
7	Link-11	Pipe	Inlet-11	1-Jun	12.00	100.23	99.99	2.0000			6.92	17.56	0.39	9.34	0.65	
8	Link-12	Pipe	Inlet-05	Inlet-12	7.00	102.85	102.71	2.0000			1.91	10.80	0.18	6.63	0.36	
9	Link-13	Pipe	Inlet-12	Inlet-11	50.00	102.48	101.48	2.0000			1.91	17.56	0.11	6.52	0.33	
10	Link-14	Pipe	Outer_Right_Side_Roof	1-Jun	241.00	106.00	101.18	2.0000			0.63	0.94	0.67	8.46	0.30	
11	Link-15	Pipe	Inner_Right_Roof	1-Jun	100.00	106.00	104.00	2.0000			0.65	0.94	0.69	6.91	0.30	
12	Link-17	Pipe	Inner_Left_Roof	2-Jun	76.00	106.00	104.48	2.0000			0.65	0.99	0.65	6.60	0.29	
13	Link-18	Pipe	2-Jun	Stor-01	14.00	98.64	98.36	2.0000			2.85	17.56	0.16	7.30	0.41	
14	Link-19	Pipe	Outer_Left_Side_Roof	3-Jun	207.00	106.00	101.86	2.0000			0.63	0.94	0.67	8.20	0.30	
15	Link-20	Pipe	Inlet-19	Inlet-18	50.00	101.65	100.65	2.0000			0.85	10.80	0.08	5.53	0.24	
16	Link-21	Pipe	Inlet-18	3-Jun	48.00	100.40	99.44	2.0000			1.59	17.56	0.09	6.19	0.30	
17	Link-22	Pipe	3-Jun	2-Jun	40.00	99.44	98.64	2.0000			2.22	17.56	0.13	6.81	0.36	

Inlet Summary

SN	Element ID	Inlet Manufacturer	Manufacturer Part Number	Inlet Location	Number of Inlets	Catchbasin Invert Elevation (ft)	Max (Rim) Elevation (ft)	Initial Water Elevation (ft)	Ponded Area (ft²)	Peak Flow (cfs)	Peak Flow Intercepted by Inlet (cfs)	Peak Flow Bypassing Inlet (cfs)	Inlet Efficiency during Peak Flow (%)	Allowa Spr
1	Inlet-03	FHWA HEC-22 GENERIC	N/A	On Sag	1	106.10	107.76	106.10	10.00	2.42	N/A	N/A	N/A	7
2	Inlet-04	FHWA HEC-22 GENERIC	N/A	On Sag	1	103.95	107.34	103.95	10.00	0.83	N/A	N/A	N/A	7
3	Inlet-05	FHWA HEC-22 GENERIC	N/A	On Sag	1	102.85	107.11	102.85	10.00	0.79	N/A	N/A	N/A	7
4	Inlet-06	FHWA HEC-22 GENERIC	N/A	On Sag	1	104.28	107.56	104.28	10.00	4.02	N/A	N/A	N/A	7
5	Inlet-07	FHWA HEC-22 GENERIC	N/A	On Sag	1	101.70	107.20	101.70	10.00	0.68	N/A	N/A	N/A	7
6	Inlet-10	FHWA HEC-22 GENERIC	N/A	On Sag	1	106.00	107.32	106.00	10.00	1.48	N/A	N/A	N/A	7
7	Inlet-11	FHWA HEC-22 GENERIC	N/A	On Sag	1	100.23	107.44	100.23	10.00	0.32	N/A	N/A	N/A	7
8	Inlet-12	FHWA HEC-22 GENERIC	N/A	On Sag	1	102.48	107.26	102.48	10.00	0.00	N/A	N/A	N/A	7
9	Inlet-18	FHWA HEC-22 GENERIC	N/A	On Sag	1	100.40	104.50	100.40	10.00	1.33	N/A	N/A	N/A	7
10	Inlet-19	FHWA HEC-22 GENERIC	N/A	On Sag	1	101.65	103.90	101.65	10.00	0.85	N/A	N/A	N/A	7
11	Inner_Left_Roof	FHWA HEC-22 GENERIC	N/A	On Sag	1	106.18	108.50	106.18	0.00	0.65	N/A	N/A	N/A	7
12	Inner_Right_Roof	FHWA HEC-22 GENERIC	N/A	On Sag	1	106.00	108.50	106.00	0.00	0.66	N/A	N/A	N/A	7
13	Outer_Left_Side_Roof	FHWA HEC-22 GENERIC	N/A	On Sag	1	106.00	108.50	106.00	0.00	0.65	N/A	N/A	N/A	7
14	Outer_Right_Side_Roof	FHWA HEC-22 GENERIC	N/A	On Sag	1	106.00	108.50	106.00	0.00	0.65	N/A	N/A	N/A	7

Subbasin Hydrology

Subbasin : Sub-01

Input Data

Area (ac)	0.4
Weighted Runoff Coefficient	0.68

Runoff Coefficient

Soil/Surface Description	Area (acres)	Soil Group	Runoff Coeff.
Open Space, 25 years or greater	0.15	D (0-2%)	0.22
Parking, 25 years or greater	0.25	D (0-2%)	0.95
Composite Area & Weighted Runoff Coeff.	0.4		0.68

Subbasin Runoff Results

Total Rainfall (in)	1.65
Total Runoff (in)	1.12
Peak Runoff (cfs)	2.42
Rainfall Intensity	9
Weighted Runoff Coefficient	0.68
Time of Concentration (days hh:mm:ss)	0 00:11:00

Subbasin : Sub-02

Input Data

Area (ac)	0.18
Weighted Runoff Coefficient	0.5

Runoff Coefficient

Soil/Surface Description	Area (acres)	Soil Group	Runoff Coeff.
Open Space, 25 years or greater	0.11	D (0-2%)	0.22
Parking, 25 years or greater	0.07	D (0-2%)	0.95
Composite Area & Weighted Runoff Coeff.	0.18		0.5

Subbasin Runoff Results

Total Rainfall (in)	3
Total Runoff (in)	1.5
Peak Runoff (cfs)	0.83
Rainfall Intensity	9
Weighted Runoff Coefficient	0.5
Time of Concentration (days hh:mm:ss)	0 00:20:00

Subbasin : Sub-03

Input Data

Area (ac)	0.28
Weighted Runoff Coefficient	0.59

Runoff Coefficient

Soil/Surface Description	Area (acres)	Soil Group	Runoff Coeff.
Open Space, 25 years or greater	0.14	D (0-2%)	0.22
Parking, 25 years or greater	0.14	D (0-2%)	0.95
Composite Area & Weighted Runoff Coeff.	0.28		0.59

Subbasin Runoff Results

Total Rainfall (in)	3
Total Runoff (in)	1.77
Peak Runoff (cfs)	1.48
Rainfall Intensity	9
Weighted Runoff Coefficient	0.59
Time of Concentration (days hh:mm:ss)	0 00:20:00

Subbasin : Sub-04

Input Data

Area (ac)	0.49
Weighted Runoff Coefficient	0.92

Runoff Coefficient

Soil/Surface Description	Area (acres)	Soil Group	Runoff Coeff.
Open Space, 25 years or greater	0.02	D (0-2%)	0.22
Parking, 25 years or greater	0.47	D (0-2%)	0.95
Composite Area & Weighted Runoff Coeff.	0.49		0.92

Subbasin Runoff Results

Total Rainfall (in)	1.05
Total Runoff (in)	0.97
Peak Runoff (cfs)	4.02
Rainfall Intensity	9
Weighted Runoff Coefficient	0.92
Time of Concentration (days hh:mm:ss)	0 00:07:00

Subbasin : Sub-05

Input Data

Area (ac)	0.09
Weighted Runoff Coefficient	0.88

Runoff Coefficient

Soil/Surface Description	Area (acres)	Soil Group	Runoff Coeff.
Open Space, 25 years or greater	0.01	D (0-2%)	0.22
Parking, 25 years or greater	0.08	D (0-2%)	0.95
Composite Area & Weighted Runoff Coeff.	0.09		0.88

Subbasin Runoff Results

Total Rainfall (in)	1.65
Total Runoff (in)	1.45
Peak Runoff (cfs)	0.68
Rainfall Intensity	9
Weighted Runoff Coefficient	0.88
Time of Concentration (days hh:mm:ss)	0 00:11:00

Subbasin : Sub-06

Input Data

Area (ac)	0.04
Weighted Runoff Coefficient	0.95

Runoff Coefficient

Soil/Surface Description	Area (acres)	Soil Group	Runoff Coeff.
Parking, 25 years or greater	0.04	D (0-2%)	0.95
Composite Area & Weighted Runoff Coeff.	0.04		0.95

Subbasin Runoff Results

Total Rainfall (in)	0.9
Total Runoff (in)	0.86
Peak Runoff (cfs)	0.32
Rainfall Intensity	9
Weighted Runoff Coefficient	0.95
Time of Concentration (days hh:mm:ss)	0 00:06:00

Subbasin : Sub-07

Input Data

Area (ac)	0.09
Weighted Runoff Coefficient	0.95

Runoff Coefficient

Soil/Surface Description	Area (acres)	Soil Group	Runoff Coeff.
Parking, 25 years or greater	0.09	D (0-2%)	0.95
Composite Area & Weighted Runoff Coeff.	0.09		0.95

Subbasin Runoff Results

Total Rainfall (in)	0.9
Total Runoff (in)	0.86
Peak Runoff (cfs)	0.79
Rainfall Intensity	9
Weighted Runoff Coefficient	0.95
Time of Concentration (days hh:mm:ss)	0 00:06:00

Subbasin : Sub-08

Input Data

Area (ac)	0.08
Weighted Runoff Coefficient	0.95

Runoff Coefficient

Soil/Surface Description	Area (acres)	Soil Group	Runoff Coeff.
Parking, 25 years or greater	0.08	D (0-2%)	0.95
Composite Area & Weighted Runoff Coeff.	0.08		0.95

Subbasin Runoff Results

Total Rainfall (in)	0.9
Total Runoff (in)	0.86
Peak Runoff (cfs)	0.65
Rainfall Intensity	9
Weighted Runoff Coefficient	0.95
Time of Concentration (days hh:mm:ss)	0 00:06:00

Subbasin : Sub-09

Input Data

Area (ac)	0.08
Weighted Runoff Coefficient	0.95

Runoff Coefficient

Soil/Surface Description	Area (acres)	Soil Group	Runoff Coeff.
Parking, 25 years or greater	0.08	D (0-2%)	0.95
Composite Area & Weighted Runoff Coeff.	0.08		0.95

Subbasin Runoff Results

Total Rainfall (in)	0.9
Total Runoff (in)	0.86
Peak Runoff (cfs)	0.66
Rainfall Intensity	9
Weighted Runoff Coefficient	0.95
Time of Concentration (days hh:mm:ss)	0 00:06:00

Subbasin : Sub-10

Input Data

Area (ac)	0.08
Weighted Runoff Coefficient	0.95

Runoff Coefficient

Soil/Surface Description	Area (acres)	Soil Group	Runoff Coeff.
Parking, 25 years or greater	0.08	D (0-2%)	0.95
Composite Area & Weighted Runoff Coeff.	0.08		0.95

Subbasin Runoff Results

Total Rainfall (in)	0.9
Total Runoff (in)	0.86
Peak Runoff (cfs)	0.65
Rainfall Intensity	9
Weighted Runoff Coefficient	0.95
Time of Concentration (days hh:mm:ss)	0 00:06:00

Subbasin : Sub-11

Input Data

Area (ac)	0.08
Weighted Runoff Coefficient	0.95

Runoff Coefficient

Soil/Surface Description	Area (acres)	Soil Group	Runoff Coeff.
Parking, 25 years or greater	0.08	D (0-2%)	0.95
Composite Area & Weighted Runoff Coeff.	0.08		0.95

Subbasin Runoff Results

Total Rainfall (in)	0.9
Total Runoff (in)	0.86
Peak Runoff (cfs)	0.65
Rainfall Intensity	9
Weighted Runoff Coefficient	0.95
Time of Concentration (days hh:mm:ss)	0 00:06:00

Subbasin : Sub-12

Input Data

Area (ac)	0.67
Weighted Runoff Coefficient	0.22

Runoff Coefficient

Soil/Surface Description	Area (acres)	Soil Group	Runoff Coeff.
Open Space, 25 years or greater	0.26	D (0-2%)	0.22
Composite Area & Weighted Runoff Coeff.	0.26		0.22

Subbasin Runoff Results

Total Rainfall (in)	1.65
Total Runoff (in)	0.36
Peak Runoff (cfs)	1.33
Rainfall Intensity	9
Weighted Runoff Coefficient	0.22
Time of Concentration (days hh:mm:ss)	0 00:11:00

Subbasin : Sub-13

Input Data

Area (ac)	0.1
Weighted Runoff Coefficient	0.95

Runoff Coefficient

Soil/Surface Description	Area (acres)	Soil Group	Runoff Coeff.
Parking, 25 years or greater	0.1	D (0-2%)	0.95
Composite Area & Weighted Runoff Coeff.	0.1		0.95

Subbasin Runoff Results

Total Rainfall (in)	0.9
Total Runoff (in)	0.86
Peak Runoff (cfs)	0.86
Rainfall Intensity	9
Weighted Runoff Coefficient	0.95
Time of Concentration (days hh:mm:ss)	0 00:06:00

Junction Input

SN	Element ID	Invert Elevation (ft)	Ground/Rim (Max) Elevation (ft)	Ground/Rim (Max) Offset (ft)	Initial Water Elevation (ft)	Initial Water Depth (ft)	Surcharge Elevation (ft)	Surcharge Depth (ft)	Ponded Area (ft^2)	Minimum Pipe Cover (in)
1	1-Jun	99.99	107.70	7.71	99.99	0.00	107.70	0.00	10.00	
2	2-Jun	98.64	108.00	9.36	98.64	0.00	108.00	0.00	10.00	
3	3-Jun	99.44	108.00	8.56	99.44	0.00	108.00	0.00	10.00	

Junction Results

SN	Element ID	Peak Inflow (cfs)	Peak Lateral Inflow (cfs)	Max HGL Elevation Attained (ft)	Max HGL Depth Attained (ft)	Max Surcharge Depth Attained (ft)	Min Freeboard Attained (ft)	Average HGL Elevation Attained (ft)	Average HGL Depth Attained (ft)	Time of Max HGL Occurrence (days hh:mm)	Tim F Floo Occurre (days hh:r
1	1-Jun	8.00	0.00	104.31	4.32	0.00	3.39	104.00	4.01	0 00:06	0 0(
2	2-Jun	2.85	0.00	104.77	6.13	0.00	3.23	104.48	5.84	0 00:06	0 0(
3	3-Jun	2.22	0.00	102.16	2.72	0.00	5.84	101.86	2.42	0 00:06	0 0(

Pipe Input

SN	Element ID	Length (ft)	Inlet Invert Elevation (ft)	Inlet Invert Offset (ft)	Outlet Invert Elevation (ft)	Outlet Invert Offset (ft)	Total Drop (ft)	Average Slope (%)	Pipe Shape	Pipe Diameter or Height (in)	Pipe Width (in)	Manning's Roughness	Entrar Loss
1	Link-01	42.00	106.10	0.00	104.70	0.75	1.40	3.3300	CIRCULAR				
2	Link-02	55.00	103.95	0.00	102.85	0.00	1.10	2.0000	CIRCULAR				
3	Link-04	114.00	104.28	0.00	102.00	0.30	2.28	2.0000	CIRCULAR				
4	Link-06	42.00	104.00	-2.00	103.18	2.95	0.82	1.9500	CIRCULAR				
5	Link-07	61.00	101.70	0.00	100.48	0.25	1.22	2.0000	CIRCULAR				
6	Link-10	6.00	99.99	0.00	99.87	7.87	0.12	2.0000	CIRCULAR				
7	Link-11	12.00	100.23	0.00	99.99	0.00	0.24	2.0000	CIRCULAR				
8	Link-12	7.00	102.85	0.00	102.71	0.23	0.14	2.0000	CIRCULAR				
9	Link-13	50.00	102.48	0.00	101.48	1.25	1.00	2.0000	CIRCULAR				
10	Link-14	241.00	106.00	0.00	101.18	1.19	4.82	2.0000	CIRCULAR				
11	Link-15	100.00	106.00	0.00	104.00	4.01	2.00	2.0000	CIRCULAR				
12	Link-17	76.00	106.00	-0.18	104.48	5.84	1.52	2.0000	CIRCULAR				
13	Link-18	14.00	98.64	0.00	98.36	6.36	0.28	2.0000	CIRCULAR				
14	Link-19	207.00	106.00	0.00	101.86	2.42	4.14	2.0000	CIRCULAR				
15	Link-20	50.00	101.65	0.00	100.65	0.25	1.00	2.0000	CIRCULAR				
16	Link-21	48.00	100.40	0.00	99.44	0.00	0.96	2.0000	CIRCULAR				
17	Link-22	40.00	99.44	0.00	98.64	0.00	0.80	2.0000	CIRCULAR				

Pipe Results

SN	Element ID	Peak Flow	Time of Peak Flow Occurrence	Design Flow Capacity	Peak Flow/ Design Flow Ratio	Peak Flow Velocity	Travel Time	Peak Flow Depth	Peak Flow Depth/ Total Depth Ratio	Total Time Surcharged	Froude Number
		(cfs)	(days hh:mm)	(cfs)		(ft/sec)	(min)	(ft)		(min)	
1	Link-01	0.96	0 00:04	0.89	1.08	5.52	0.13	0.50	1.00	13.00	
2	Link-02	1.68	0 00:18	10.80	0.16	6.43	0.14	0.33	0.27	0.00	
3	Link-04	3.96	0 00:07	3.66	1.08	8.65	0.22	0.78	0.93	0.00	
4	Link-06	1.48	0 00:20	6.15	0.24	9.28	0.08	0.28	0.33	0.00	
5	Link-07	4.35	0 00:07	10.80	0.40	8.49	0.12	0.55	0.44	0.00	
6	Link-10	8.00	0 00:07	17.56	0.46	9.70	0.01	0.71	0.47	0.00	
7	Link-11	6.92	0 00:07	17.56	0.39	9.34	0.02	0.65	0.44	0.00	
8	Link-12	1.91	0 00:06	10.80	0.18	6.63	0.02	0.36	0.29	0.00	
9	Link-13	1.91	0 00:06	17.56	0.11	6.52	0.13	0.33	0.22	0.00	
10	Link-14	0.63	0 00:06	0.94	0.67	8.46	0.47	0.30	0.60	0.00	
11	Link-15	0.65	0 00:06	0.94	0.69	6.91	0.24	0.30	0.61	0.00	
12	Link-17	0.65	0 00:06	0.99	0.65	6.60	0.19	0.29	0.59	0.00	
13	Link-18	2.85	0 00:06	17.56	0.16	7.30	0.03	0.41	0.27	0.00	
14	Link-19	0.63	0 00:06	0.94	0.67	8.20	0.42	0.30	0.60	0.00	
15	Link-20	0.85	0 00:06	10.80	0.08	5.53	0.15	0.24	0.19	0.00	
16	Link-21	1.59	0 00:06	17.56	0.09	6.19	0.13	0.30	0.20	0.00	
17	Link-22	2.22	0 00:06	17.56	0.13	6.81	0.10	0.36	0.24	0.00	

Inlet Input

SN	Element ID	Inlet Manufacturer	Manufacturer Part Number	Inlet Location	Number of Inlets	Catchbasin Invert Elevation (ft)	Max (Rim) Elevation (ft)	Inlet Depth (ft)	El
1	Inlet-03	FHWA HEC-22 GENERIC	N/A	On Sag	1	106.10	107.76	1.66	
2	Inlet-04	FHWA HEC-22 GENERIC	N/A	On Sag	1	103.95	107.34	3.39	
3	Inlet-05	FHWA HEC-22 GENERIC	N/A	On Sag	1	102.85	107.11	4.26	
4	Inlet-06	FHWA HEC-22 GENERIC	N/A	On Sag	1	104.28	107.56	3.28	
5	Inlet-07	FHWA HEC-22 GENERIC	N/A	On Sag	1	101.70	107.20	5.50	
6	Inlet-10	FHWA HEC-22 GENERIC	N/A	On Sag	1	106.00	107.32	1.32	
7	Inlet-11	FHWA HEC-22 GENERIC	N/A	On Sag	1	100.23	107.44	7.21	
8	Inlet-12	FHWA HEC-22 GENERIC	N/A	On Sag	1	102.48	107.26	4.78	
9	Inlet-18	FHWA HEC-22 GENERIC	N/A	On Sag	1	100.40	104.50	4.10	
10	Inlet-19	FHWA HEC-22 GENERIC	N/A	On Sag	1	101.65	103.90	2.25	
11	Inner_Left_Roof	FHWA HEC-22 GENERIC	N/A	On Sag	1	106.18	108.50	2.32	
12	Inner_Right_Roof	FHWA HEC-22 GENERIC	N/A	On Sag	1	106.00	108.50	2.50	
13	Outer_Left_Side_Roof	FHWA HEC-22 GENERIC	N/A	On Sag	1	106.00	108.50	2.50	
14	Outer_Right_Side_Roof	FHWA HEC-22 GENERIC	N/A	On Sag	1	106.00	108.50	2.50	

Roadway & Gutter Input

SN	Element ID	Roadway Longitudinal Slope (ft/ft)	Roadway Cross Slope (ft/ft)	Roadway Manning's Roughness	Gutter Cross Slope (ft/ft)	Gutter Width (ft)	Gutter Depression (in)	Allowable Spread (ft)
1	Inlet-03	N/A	0.0200	0.0110	0.0620	2.00		

Inlet Results

SN	Element ID	Peak Flow (cfs)	Peak Lateral Inflow (cfs)	Peak Flow Intercepted by Inlet (cfs)	Peak Flow Bypassing Inlet (cfs)	Inlet Efficiency during Peak Flow (%)	Max Gutter Spread during Peak Flow (ft)	Max Gutter Water Elev. during Peak Flow (ft)	Max Gutter Water Depth during Peak Flow (ft)	M Oc (day
1	Inlet-03	2.42	2.42	N/A	N/A	N/A	10.72	108.08	0.32	
2	Inlet-04	0.83	0.83	N/A	N/A	N/A	2.87	107.50	0.16	
3	Inlet-05	0.79	0.79	N/A	N/A	N/A	2.80	107.27	0.16	
4	Inlet-06	4.02	4.02	N/A	N/A	N/A	15.49	107.98	0.42	
5	Inlet-07	0.68	0.68	N/A	N/A	N/A	2.64	107.36	0.16	
6	Inlet-10	1.48	1.48	N/A	N/A	N/A	7.43	107.57	0.25	
7	Inlet-11	0.32	0.32	N/A	N/A	N/A	1.98	107.58	0.14	
8	Inlet-12	0.00	0.00	N/A	N/A	N/A	2.02	107.41	0.15	
9	Inlet-18	1.33	1.33	N/A	N/A	N/A	7.15	104.75	0.25	
10	Inlet-19	0.85	0.85	N/A	N/A	N/A	2.91	104.06	0.16	
11	Inner_Left_Roof	0.65	0.65	N/A	N/A	N/A	2.85	108.66	0.16	
12	Inner_Right_Roof	0.66	0.66	N/A	N/A	N/A	2.85	108.66	0.16	
13	Outer_Left_Side_Roof	0.65	0.65	N/A	N/A	N/A	2.85	108.66	0.16	
14	Outer_Right_Side_Roof	0.65	0.65	N/A	N/A	N/A	2.85	108.66	0.16	

Storage Nodes

Storage Node : Stor-01

Input Data

Invert Elevation (ft)	92.00
Max (Rim) Elevation (ft)	102.00
Max (Rim) Offset (ft)	10.00
Initial Water Elevation (ft)	92.00
Initial Water Depth (ft)	0.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

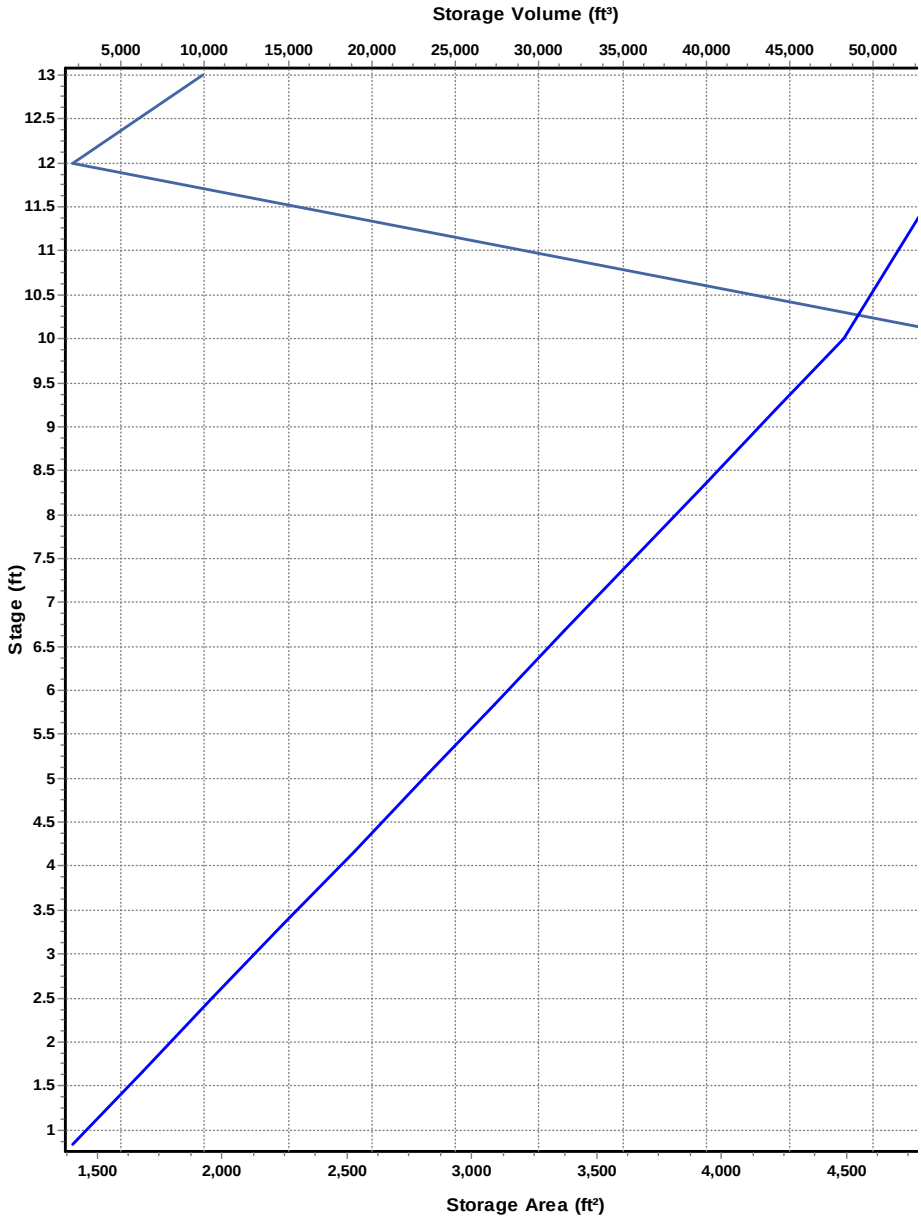
Exfiltration Rate (in/hr)	10

Storage Area Volume Curves

Storage Curve : Storage-02

Stage (ft)	Storage Area (ft²)	Storage Volume (ft³)
0.835	5035	2102.113
1.67	5035	6306.34
2.505	5035	10510.56
3.34	5035	14714.79
4.175	5035	18919.02
5.01	5035	23123.25
5.845	5035	27327.48
6.68	5035	31531.71
7.515	5035	35735.94
8.35	5035	39940.17
9.185	5035	44144.39
10	5035	48247.92
12	1401.92	54684.84
13	1921.93	56346.77

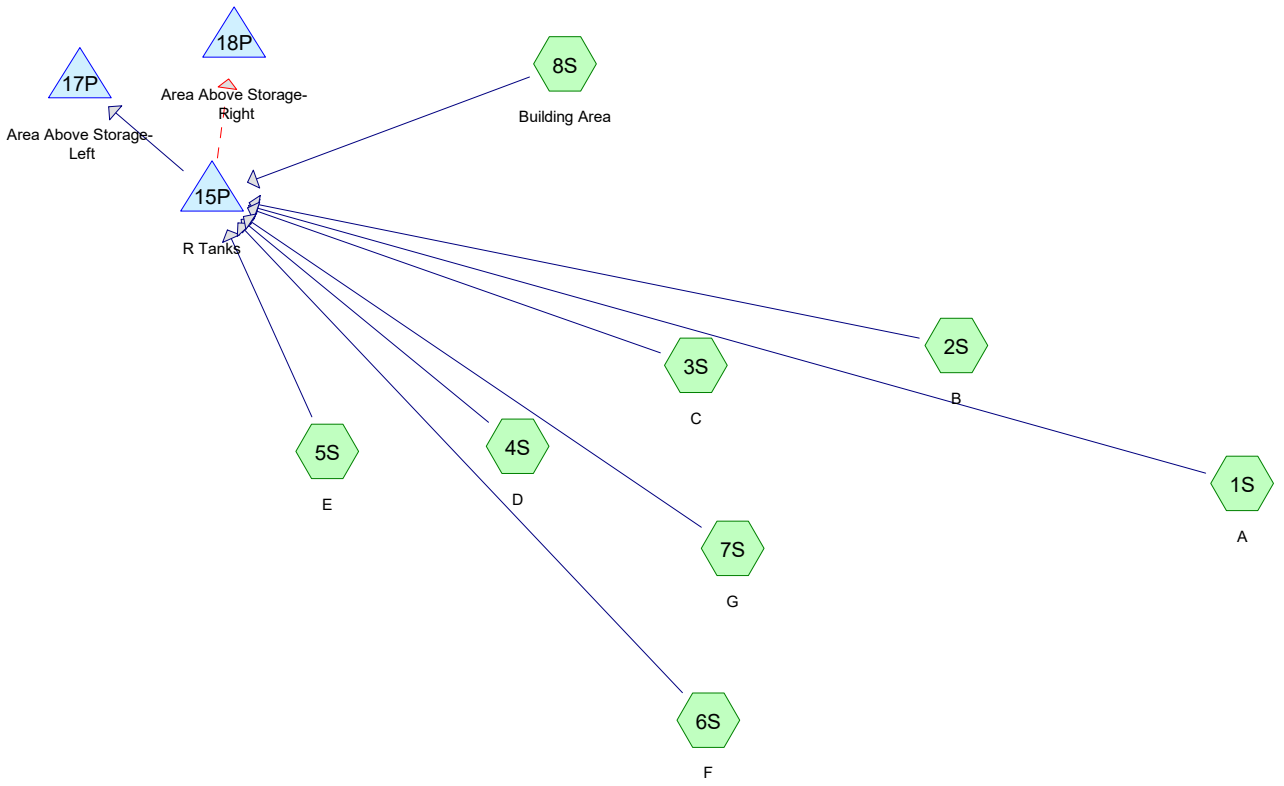
Storage Area Volume Curves



Storage Node : Stor-01 (continued)

Output Summary Results

Peak Inflow (cfs)	10.74
Peak Lateral Inflow (cfs)	0
Peak Outflow (cfs)	0
Peak Exfiltration Flow Rate (cfm)	0
Max HGL Elevation Attained (ft)	92
Max HGL Depth Attained (ft)	0
Average HGL Elevation Attained (ft)	92
Average HGL Depth Attained (ft)	0
Time of Max HGL Occurrence (days hh:mm)	0 00:00
Total Exfiltration Volume (1000-ft³)	0
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0



Subcat Reach Pond Link

Routing Diagram for Creedmoor

Prepared by Tectonic Engineering Consultants, Printed 10/17/2024

HydroCAD® 10.20-5b s/n 00785 © 2023 HydroCAD Software Solutions LLC

Rainfall Events Listing (selected events)

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	1 year	Type III 24-hr		Default	24.00	1	2.90	2
2	10 year	Type III 24-hr		Default	24.00	1	5.27	2
3	100 year	Type III 24-hr		Default	24.00	1	9.00	2

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.689	80	>75% Grass cover, Good, HSG D (1S, 2S, 5S, 6S, 7S, 8S)
0.100	98	Paved parking, HSG D (8S)
1.133	98	Paved roads w/curbs & sewers, HSG D (1S, 2S, 3S, 4S, 5S, 6S, 7S)
0.306	98	Unconnected roofs, HSG D (8S)
2.228	**92**	**TOTAL AREA**

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
0.000	HSG B	
0.000	HSG C	
2.228	HSG D	1S, 2S, 3S, 4S, 5S, 6S, 7S, 8S
0.000	Other	
2.228		**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	0.689	0.000	0.689	>75% Grass cover, Good	1S, 2S, 5S, 6S, 7S, 8S
0.000	0.000	0.000	0.100	0.000	0.100	Paved parking	8S
0.000	0.000	0.000	1.133	0.000	1.133	Paved roads w/curbs & sewers	1S, 2S, 3S, 4S, 5S, 6S, 7S
0.000	0.000	0.000	0.306	0.000	0.306	Unconnected roofs	8S
0.000	**0.000**	**0.000**	**2.228**	**0.000**	**2.228**	**TOTAL AREA**	

Time span=0.00-30.00 hrs, dt=0.05 hrs, 601 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: A Runoff Area=17,206 sf 62.53% Impervious Runoff Depth=1.98"
Tc=11.0 min CN=91 Runoff=0.76 cfs 0.065 af

Subcatchment 2S: B Runoff Area=8,014 sf 38.68% Impervious Runoff Depth=1.65"
Tc=20.0 min CN=87 Runoff=0.24 cfs 0.025 af

Subcatchment 3S: C Runoff Area=4,022 sf 100.00% Impervious Runoff Depth=2.67"
Tc=6.0 min CN=98 Runoff=0.25 cfs 0.021 af

Subcatchment 4S: D Runoff Area=1,610 sf 100.00% Impervious Runoff Depth=2.67"
Tc=6.0 min CN=98 Runoff=0.10 cfs 0.008 af

Subcatchment 5S: E Runoff Area=3,743 sf 90.76% Impervious Runoff Depth=2.45"
Tc=11.0 min CN=96 Runoff=0.20 cfs 0.018 af

Subcatchment 6S: F Runoff Area=21,108 sf 96.27% Impervious Runoff Depth=2.56"
Tc=7.0 min CN=97 Runoff=1.27 cfs 0.103 af

Subcatchment 7S: G Runoff Area=12,165 sf 50.53% Impervious Runoff Depth=1.81"
Tc=20.0 min CN=89 Runoff=0.40 cfs 0.042 af

Subcatchment 8S: Building Area Runoff Area=29,182 sf 60.61% Impervious Runoff Depth=1.98"
Tc=6.0 min CN=91 Runoff=1.50 cfs 0.110 af

Pond 15P: R Tanks Peak Elev=94.86' Storage=12,059 cf Inflow=4.38 cfs 0.393 af
Discarded=0.17 cfs 0.220 af Primary=0.00 cfs 0.000 af Secondary=0.00 cfs 0.000 af Outflow=0.17 cfs 0.220 af

Pond 17P: Area Above Storage- Left Peak Elev=102.00' Storage=0 cf Inflow=0.00 cfs 0.000 af
Outflow=0.00 cfs 0.000 af

Pond 18P: Area Above Storage- Right Peak Elev=102.00' Storage=0 cf Inflow=0.00 cfs 0.000 af
Outflow=0.00 cfs 0.000 af

Total Runoff Area = 2.228 ac Runoff Volume = 0.393 af Average Runoff Depth = 2.11"
30.92% Pervious = 0.689 ac 69.08% Impervious = 1.539 ac

Summary for Subcatchment 1S: A

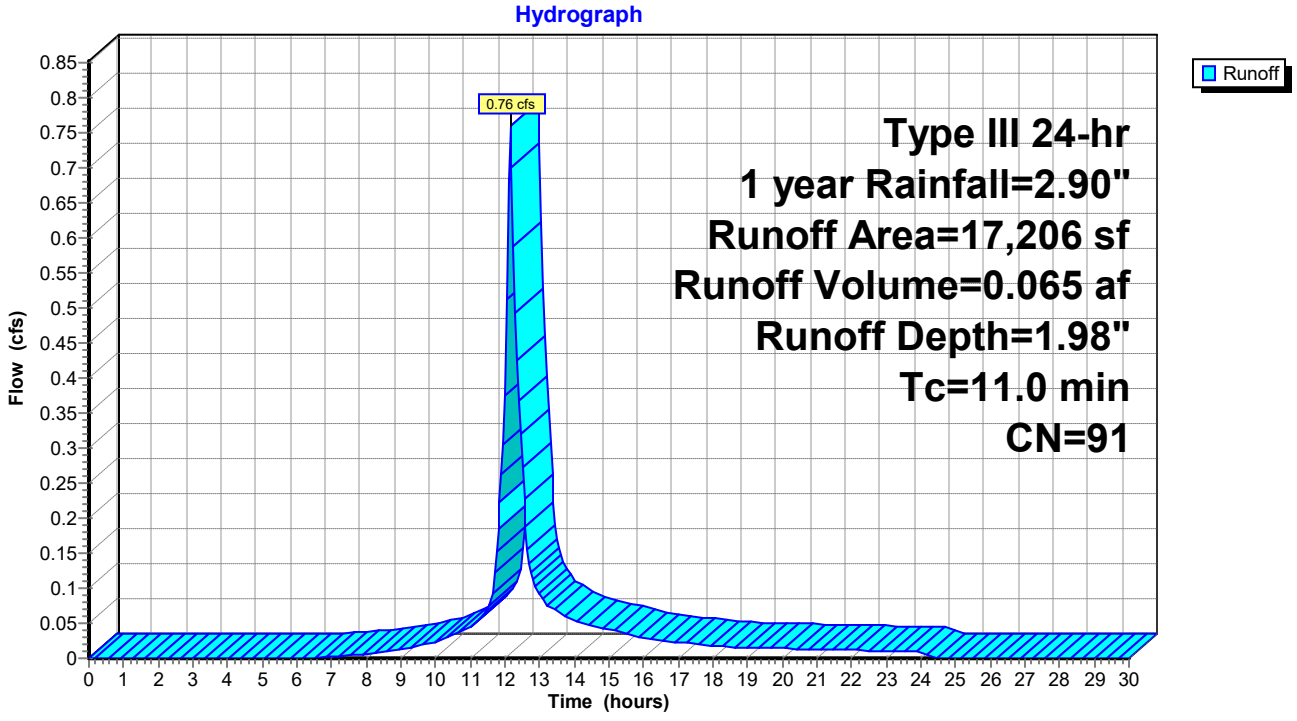
Runoff = 0.76 cfs @ 12.15 hrs, Volume= 0.065 af, Depth= 1.98"
Routed to Pond 15P : R Tanks

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 1 year Rainfall=2.90"

Area (sf)	CN	Description
6,447	80	>75% Grass cover, Good, HSG D
10,759	98	Paved roads w/curbs & sewers, HSG D
17,206	91	Weighted Average
6,447		37.47% Pervious Area
10,759		62.53% Impervious Area

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

Subcatchment 1S: A



Summary for Subcatchment 2S: B

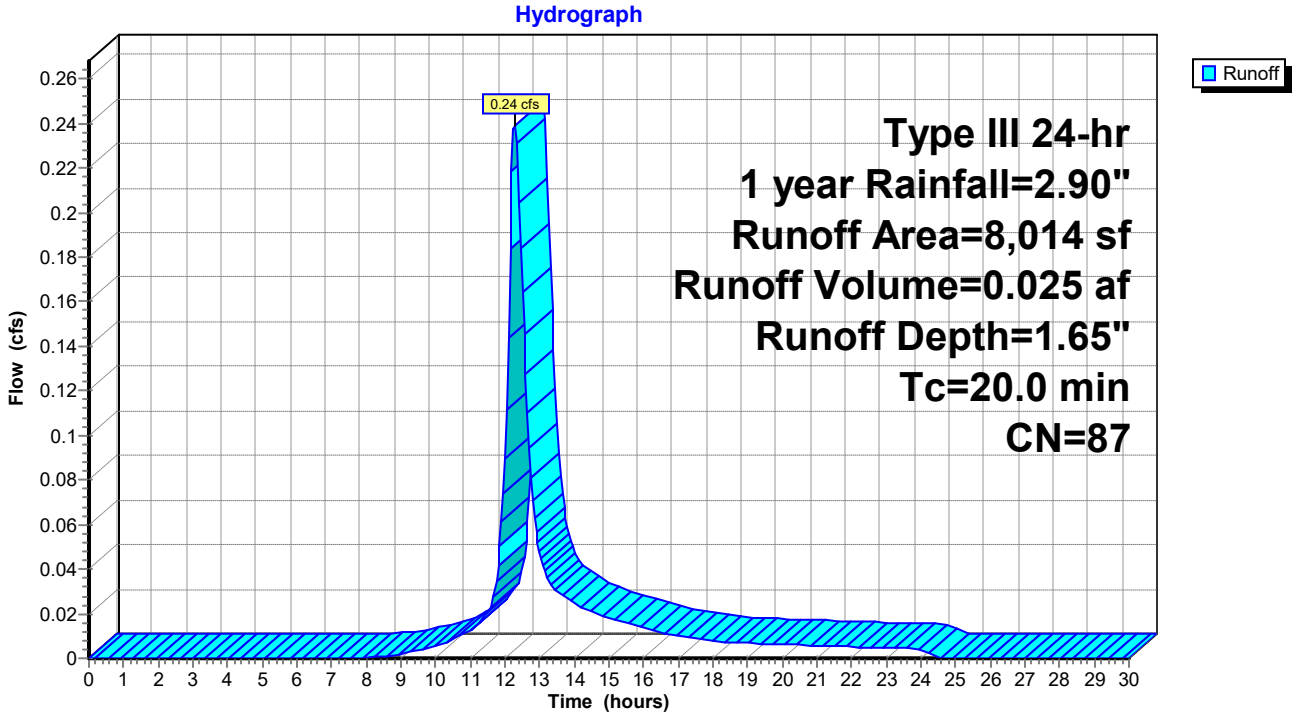
Runoff = 0.24 cfs @ 12.28 hrs, Volume= 0.025 af, Depth= 1.65"
Routed to Pond 15P : R Tanks

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 1 year Rainfall=2.90"

Area (sf)	CN	Description
4,914	80	>75% Grass cover, Good, HSG D
3,100	98	Paved roads w/curbs & sewers, HSG D
8,014	87	Weighted Average
4,914		61.32% Pervious Area
3,100		38.68% Impervious Area

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

Subcatchment 2S: B



Summary for Subcatchment 3S: C

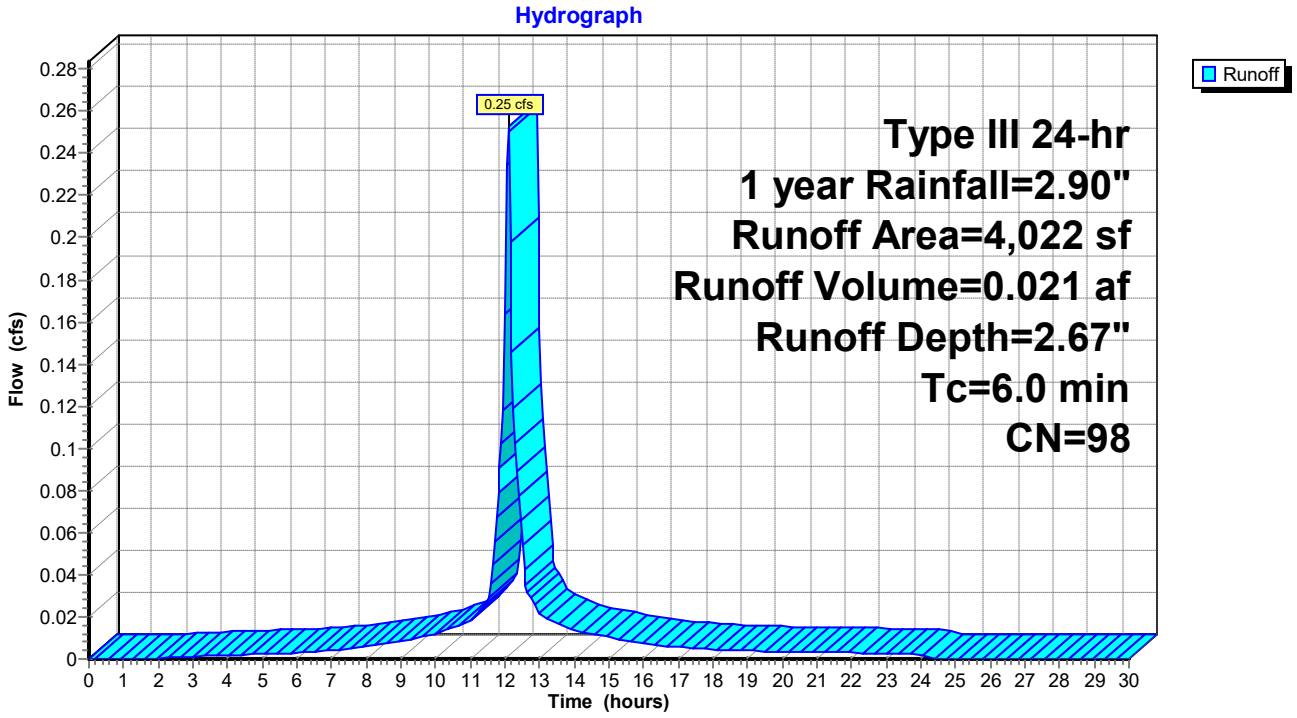
Runoff = 0.25 cfs @ 12.09 hrs, Volume= 0.021 af, Depth= 2.67"
Routed to Pond 15P : R Tanks

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 1 year Rainfall=2.90"

Area (sf)	CN	Description
4,022	98	Paved roads w/curbs & sewers, HSG D
4,022		100.00% Impervious Area

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

Subcatchment 3S: C



Summary for Subcatchment 4S: D

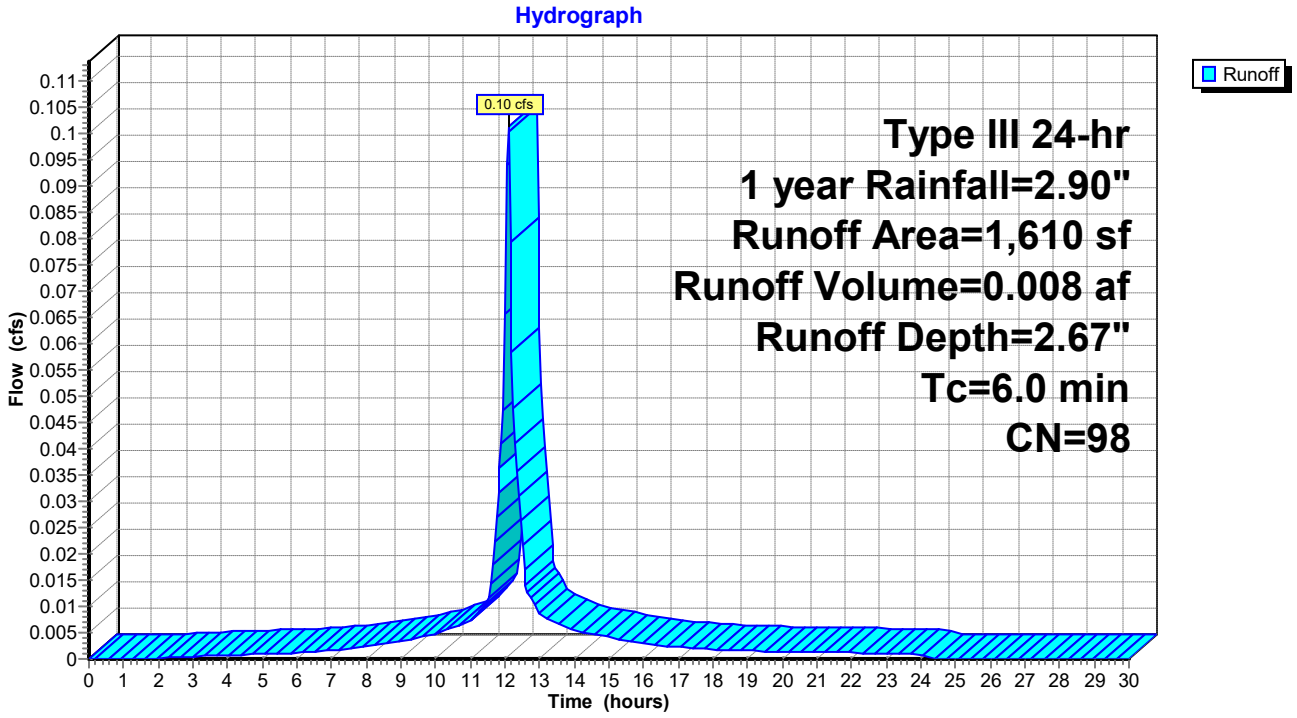
Runoff = 0.10 cfs @ 12.09 hrs, Volume= 0.008 af, Depth= 2.67"
Routed to Pond 15P : R Tanks

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 1 year Rainfall=2.90"

Area (sf)	CN	Description
1,610	98	Paved roads w/curbs & sewers, HSG D
1,610		100.00% Impervious Area

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

Subcatchment 4S: D



Summary for Subcatchment 5S: E

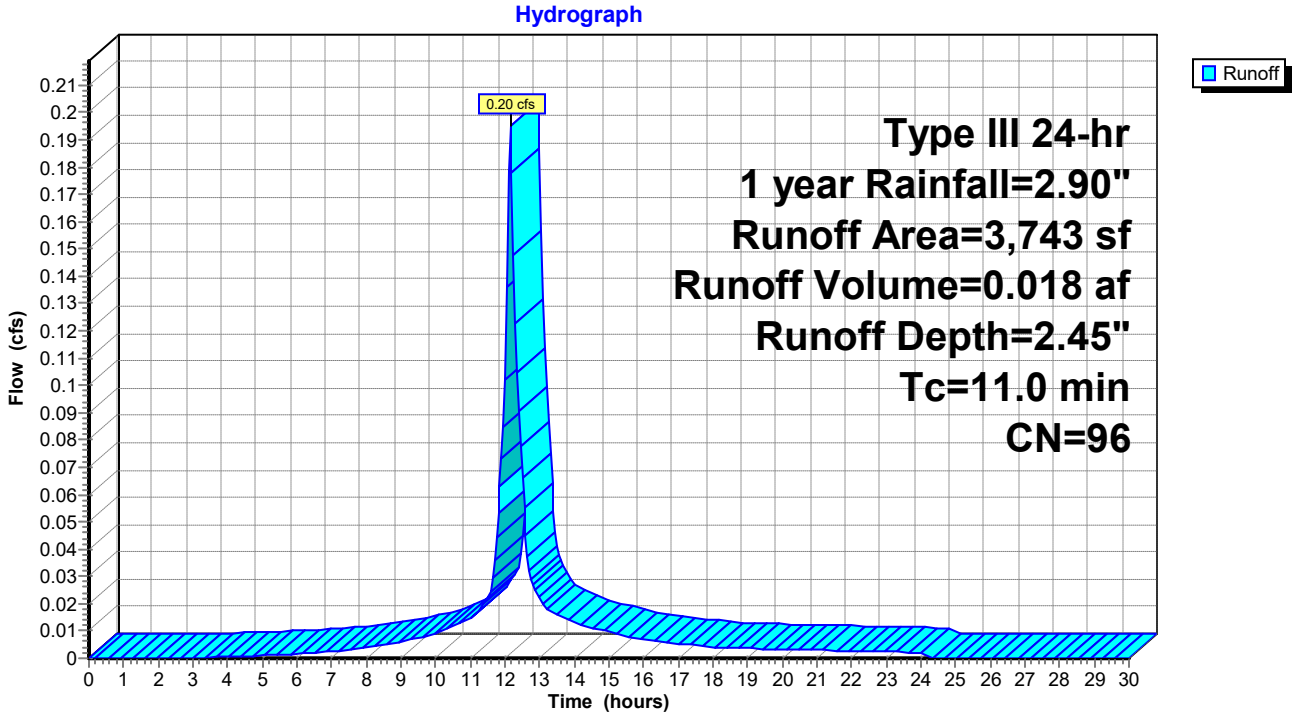
Runoff = 0.20 cfs @ 12.15 hrs, Volume= 0.018 af, Depth= 2.45"
Routed to Pond 15P : R Tanks

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 1 year Rainfall=2.90"

Area (sf)	CN	Description
346	80	>75% Grass cover, Good, HSG D
3,397	98	Paved roads w/curbs & sewers, HSG D
3,743	96	Weighted Average
346		9.24% Pervious Area
3,397		90.76% Impervious Area

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

Subcatchment 5S: E



Summary for Subcatchment 6S: F

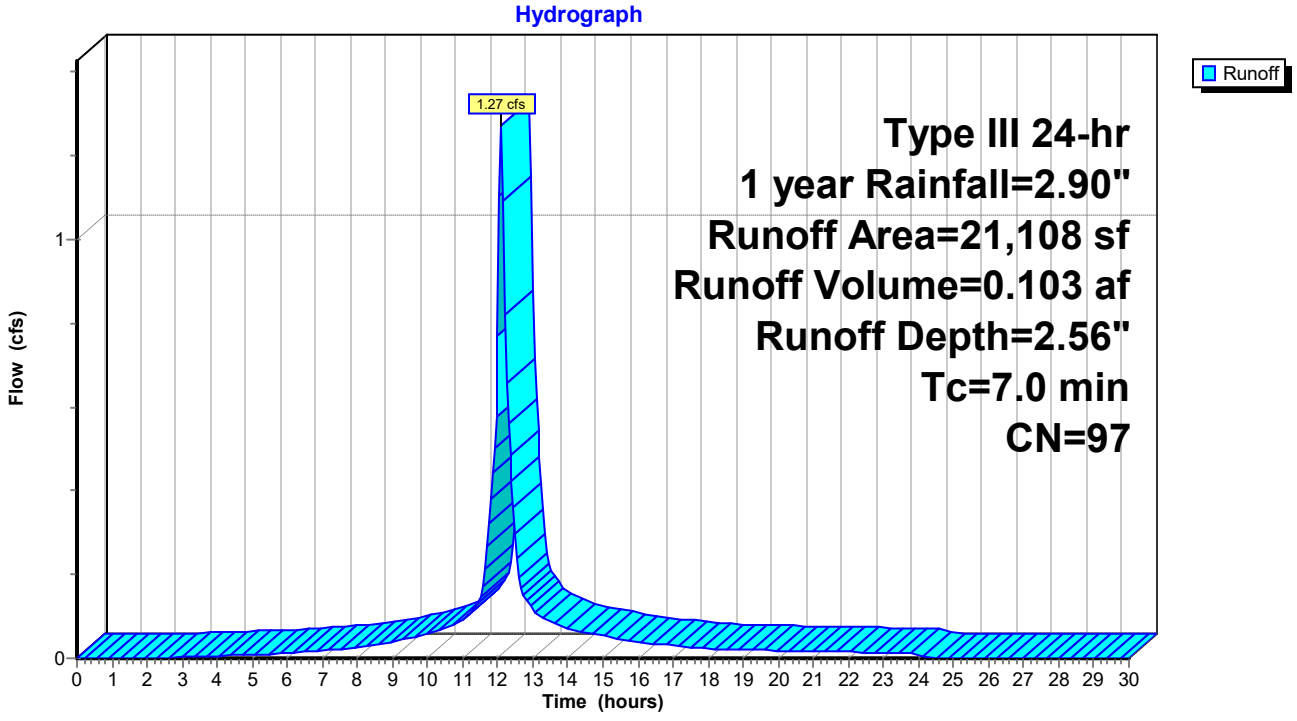
Runoff = 1.27 cfs @ 12.10 hrs, Volume= 0.103 af, Depth= 2.56"
Routed to Pond 15P : R Tanks

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 1 year Rainfall=2.90"

Area (sf)	CN	Description
787	80	>75% Grass cover, Good, HSG D
20,321	98	Paved roads w/curbs & sewers, HSG D
21,108	97	Weighted Average
787		3.73% Pervious Area
20,321		96.27% Impervious Area

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

Subcatchment 6S: F



Summary for Subcatchment 7S: G

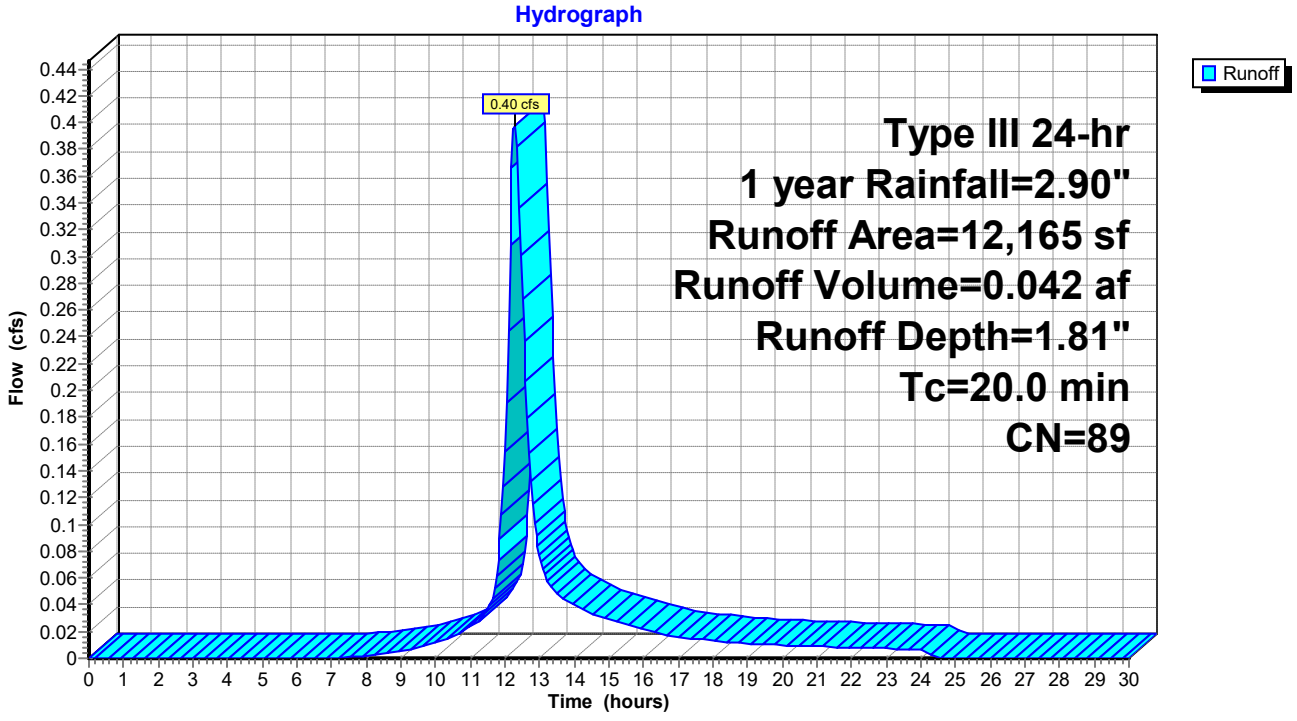
Runoff = 0.40 cfs @ 12.27 hrs, Volume= 0.042 af, Depth= 1.81"
Routed to Pond 15P : R Tanks

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 1 year Rainfall=2.90"

Area (sf)	CN	Description
6,018	80	>75% Grass cover, Good, HSG D
6,147	98	Paved roads w/curbs & sewers, HSG D
12,165	89	Weighted Average
6,018		49.47% Pervious Area
6,147		50.53% Impervious Area

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

Subcatchment 7S: G



Summary for Subcatchment 8S: Building Area

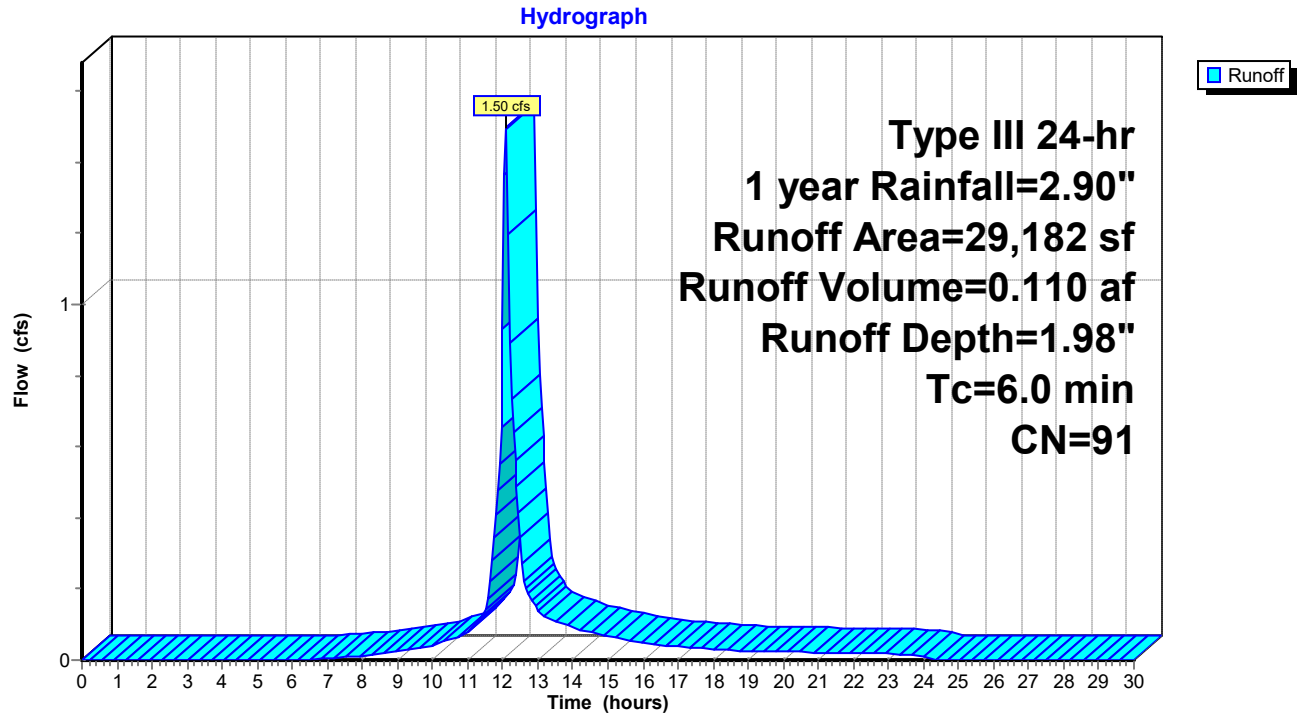
Runoff = 1.50 cfs @ 12.09 hrs, Volume= 0.110 af, Depth= 1.98"
Routed to Pond 15P : R Tanks

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 1 year Rainfall=2.90"

Area (sf)	CN	Description
13,320	98	Unconnected roofs, HSG D
11,496	80	>75% Grass cover, Good, HSG D
4,366	98	Paved parking, HSG D
29,182	91	Weighted Average
11,496		39.39% Pervious Area
17,686		60.61% Impervious Area
13,320		75.31% Unconnected

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

Subcatchment 8S: Building Area



Summary for Pond 15P: R Tanks

Inflow Area = 2.228 ac, 69.08% Impervious, Inflow Depth = 2.11" for 1 year event
Inflow = 4.38 cfs @ 12.11 hrs, Volume= 0.393 af
Outflow = 0.17 cfs @ 16.02 hrs, Volume= 0.220 af, Atten= 96%, Lag= 234.6 min
Discarded = 0.17 cfs @ 16.02 hrs, Volume= 0.220 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Routed to Pond 17P : Area Above Storage- Left
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Routed to Pond 18P : Area Above Storage- Right

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 94.86' @ 16.02 hrs Surf.Area= 5,035 sf Storage= 12,059 cf

Plug-Flow detention time= 525.6 min calculated for 0.220 af (56% of inflow)
Center-of-Mass det. time= 415.6 min (1,212.6 - 797.0)

Volume	Invert	Avail.Storage	Storage Description
#1	92.00'	2,711 cf	**Stone Encasement (Conic)** Listed below 50,853 cf Overall - 44,075 cf Embedded = 6,779 cf x 40.0% Voids
#2	92.00'	1,803 cf	**Ferguson R-Tank XD 61** x 62 Inside #1 Inside= 19.7"W x 120.1"H => 14.77 sf x 1.97'L = 29.1 cf Outside= 19.7"W x 120.1"H => 16.41 sf x 1.97'L = 32.3 cf 62 Chambers in 31 Rows
#3	92.00'	6,514 cf	**Ferguson R-Tank XD 61** x 224 Inside #1 Inside= 19.7"W x 120.1"H => 14.77 sf x 1.97'L = 29.1 cf Outside= 19.7"W x 120.1"H => 16.41 sf x 1.97'L = 32.3 cf 224 Chambers in 28 Rows
#4	92.00'	19,659 cf	**Ferguson R-Tank XD 61** x 676 Inside #1 Inside= 19.7"W x 120.1"H => 14.77 sf x 1.97'L = 29.1 cf Outside= 19.7"W x 120.1"H => 16.41 sf x 1.97'L = 32.3 cf 676 Chambers in 26 Rows
#5	92.00'	9,015 cf	**Ferguson R-Tank XD 61** x 310 Inside #1 Inside= 19.7"W x 120.1"H => 14.77 sf x 1.97'L = 29.1 cf Outside= 19.7"W x 120.1"H => 16.41 sf x 1.97'L = 32.3 cf 310 Chambers in 31 Rows
#6	92.00'	2,676 cf	**Ferguson R-Tank XD 61** x 92 Inside #1 Inside= 19.7"W x 120.1"H => 14.77 sf x 1.97'L = 29.1 cf Outside= 19.7"W x 120.1"H => 16.41 sf x 1.97'L = 32.3 cf 92 Chambers in 2 Rows
		42,379 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
92.00	5,035	0	0	5,035
102.10	5,035	50,853	50,853	7,576

Device	Routing	Invert	Outlet Devices
#1	Discarded	92.00'	**10.000 in/hr Exfiltration over Wetted area above 92.00'** Excluded Wetted area = 5,035 sf
#2	Primary	102.00'	**12.0" Horiz. Orifice/Grate** C= 0.600

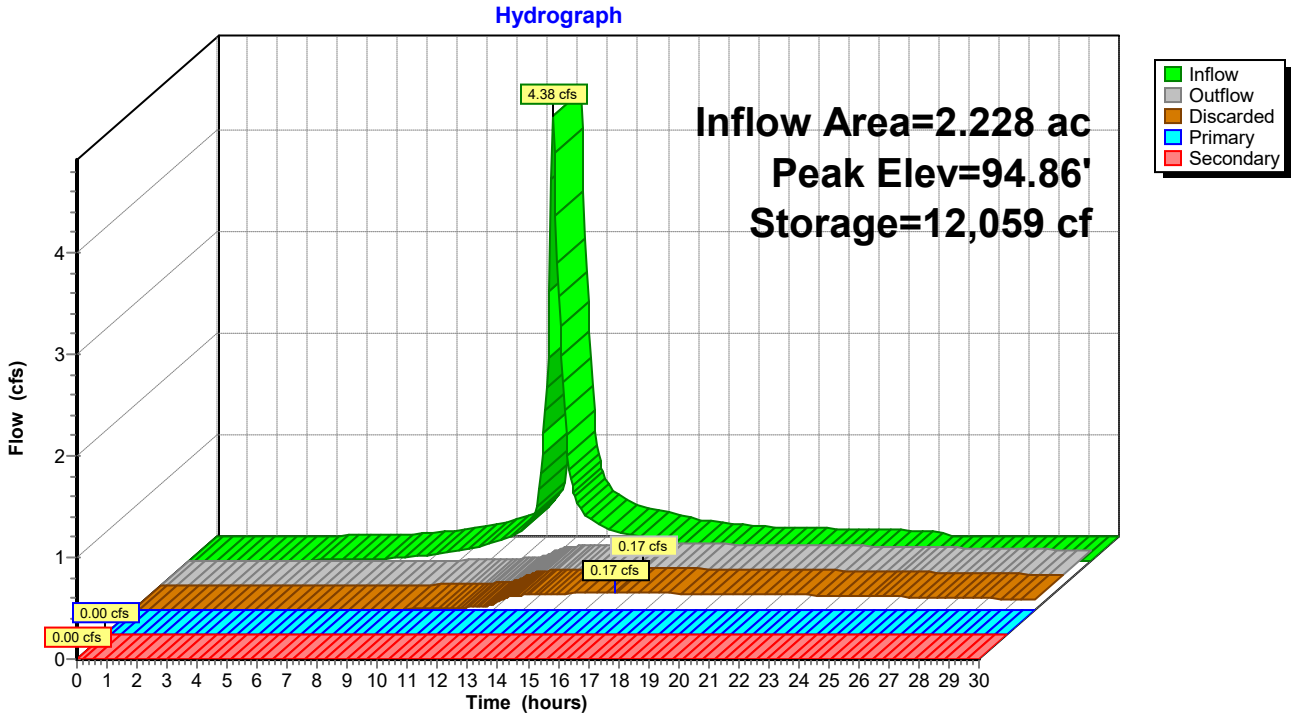
Limited to weir flow at low heads
#3 Secondary 102.00' **12.0" Horiz. Orifice/Grate** C= 0.600
Limited to weir flow at low heads

Discarded OutFlow Max=0.17 cfs @ 16.02 hrs HW=94.86' (Free Discharge)
└**1=Exfiltration** (Exfiltration Controls 0.17 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=92.00' (Free Discharge)
└**2=Orifice/Grate** (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=92.00' (Free Discharge)
└**3=Orifice/Grate** (Controls 0.00 cfs)

Pond 15P: R Tanks



Summary for Pond 17P: Area Above Storage- Left

Inflow Area = 2.228 ac, 69.08% Impervious, Inflow Depth = 0.00" for 1 year event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

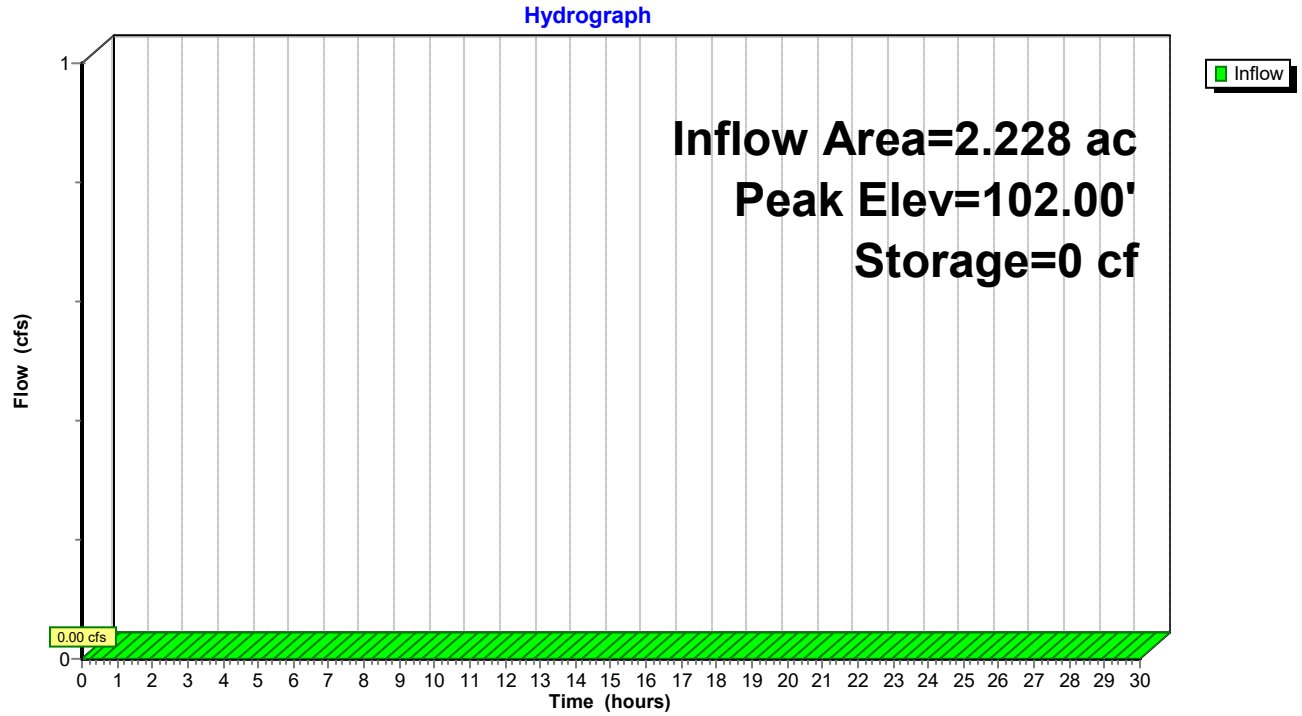
Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 102.00' @ 0.00 hrs Surf.Area= 1,401 sf Storage= 0 cf

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
Center-of-Mass det. time= (not calculated: no inflow)

Volume	Invert	Avail.Storage	Storage Description
#1	102.00'	3,873 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
102.00	1,401	0	0
103.00	1,922	1,662	1,662
104.00	2,500	2,211	3,873

Pond 17P: Area Above Storage- Left



Summary for Pond 18P: Area Above Storage- Right

Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

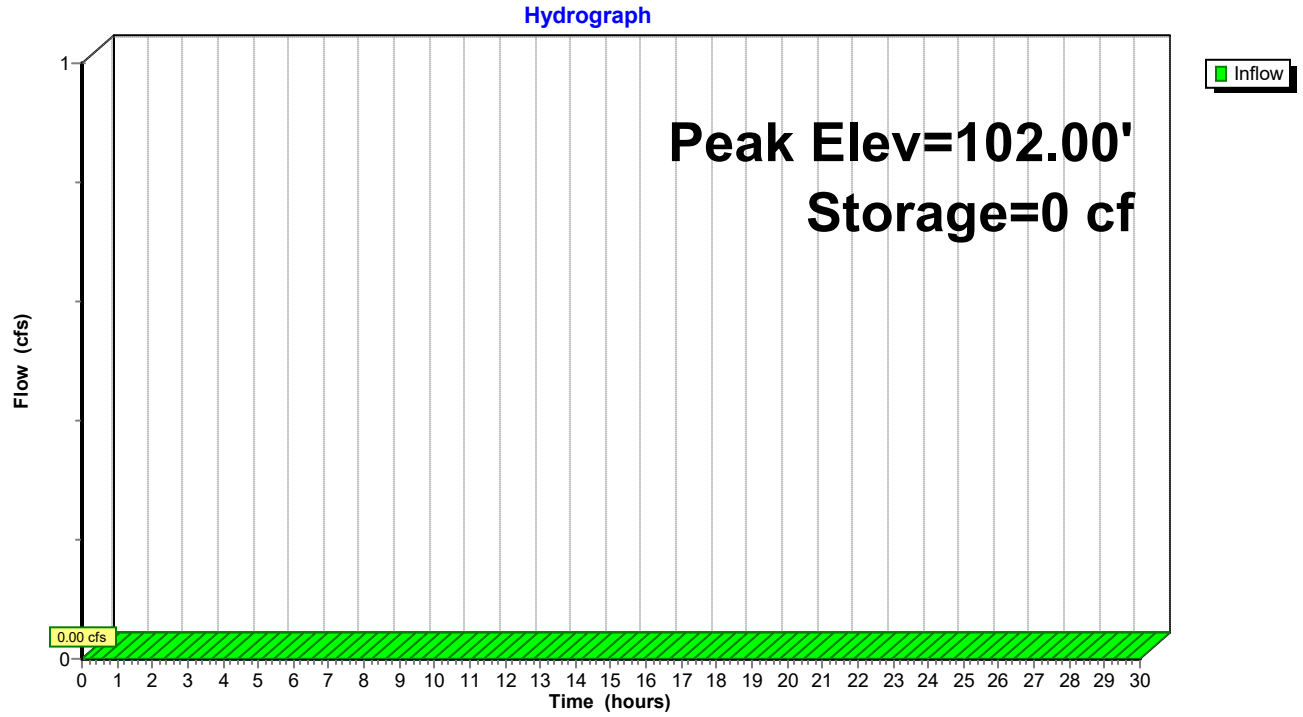
Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 102.00' @ 0.00 hrs Surf.Area= 518 sf Storage= 0 cf

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
Center-of-Mass det. time= (not calculated: no inflow)

Volume	Invert	Avail.Storage	Storage Description
#1	102.00'	3,037 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
102.00	518	0	0
103.00	830	674	674
104.00	1,198	1,014	1,688
105.00	1,500	1,349	3,037

Pond 18P: Area Above Storage- Right



Time span=0.00-30.00 hrs, dt=0.05 hrs, 601 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: A Runoff Area=17,206 sf 62.53% Impervious Runoff Depth=4.24"
Tc=11.0 min CN=91 Runoff=1.58 cfs 0.140 af

Subcatchment 2S: B Runoff Area=8,014 sf 38.68% Impervious Runoff Depth=3.82"
Tc=20.0 min CN=87 Runoff=0.55 cfs 0.059 af

Subcatchment 3S: C Runoff Area=4,022 sf 100.00% Impervious Runoff Depth=5.03"
Tc=6.0 min CN=98 Runoff=0.47 cfs 0.039 af

Subcatchment 4S: D Runoff Area=1,610 sf 100.00% Impervious Runoff Depth=5.03"
Tc=6.0 min CN=98 Runoff=0.19 cfs 0.016 af

Subcatchment 5S: E Runoff Area=3,743 sf 90.76% Impervious Runoff Depth=4.80"
Tc=11.0 min CN=96 Runoff=0.37 cfs 0.034 af

Subcatchment 6S: F Runoff Area=21,108 sf 96.27% Impervious Runoff Depth=4.92"
Tc=7.0 min CN=97 Runoff=2.37 cfs 0.199 af

Subcatchment 7S: G Runoff Area=12,165 sf 50.53% Impervious Runoff Depth=4.03"
Tc=20.0 min CN=89 Runoff=0.87 cfs 0.094 af

Subcatchment 8S: Building Area Runoff Area=29,182 sf 60.61% Impervious Runoff Depth=4.24"
Tc=6.0 min CN=91 Runoff=3.11 cfs 0.237 af

Pond 15P: R Tanks Peak Elev=97.98' Storage=25,204 cf Inflow=8.79 cfs 0.816 af
Discarded=0.35 cfs 0.461 af Primary=0.00 cfs 0.000 af Secondary=0.00 cfs 0.000 af Outflow=0.35 cfs 0.461 af

Pond 17P: Area Above Storage- Left Peak Elev=102.00' Storage=0 cf Inflow=0.00 cfs 0.000 af
Outflow=0.00 cfs 0.000 af

Pond 18P: Area Above Storage- Right Peak Elev=102.00' Storage=0 cf Inflow=0.00 cfs 0.000 af
Outflow=0.00 cfs 0.000 af

Total Runoff Area = 2.228 ac Runoff Volume = 0.816 af Average Runoff Depth = 4.40"
30.92% Pervious = 0.689 ac 69.08% Impervious = 1.539 ac

Summary for Subcatchment 1S: A

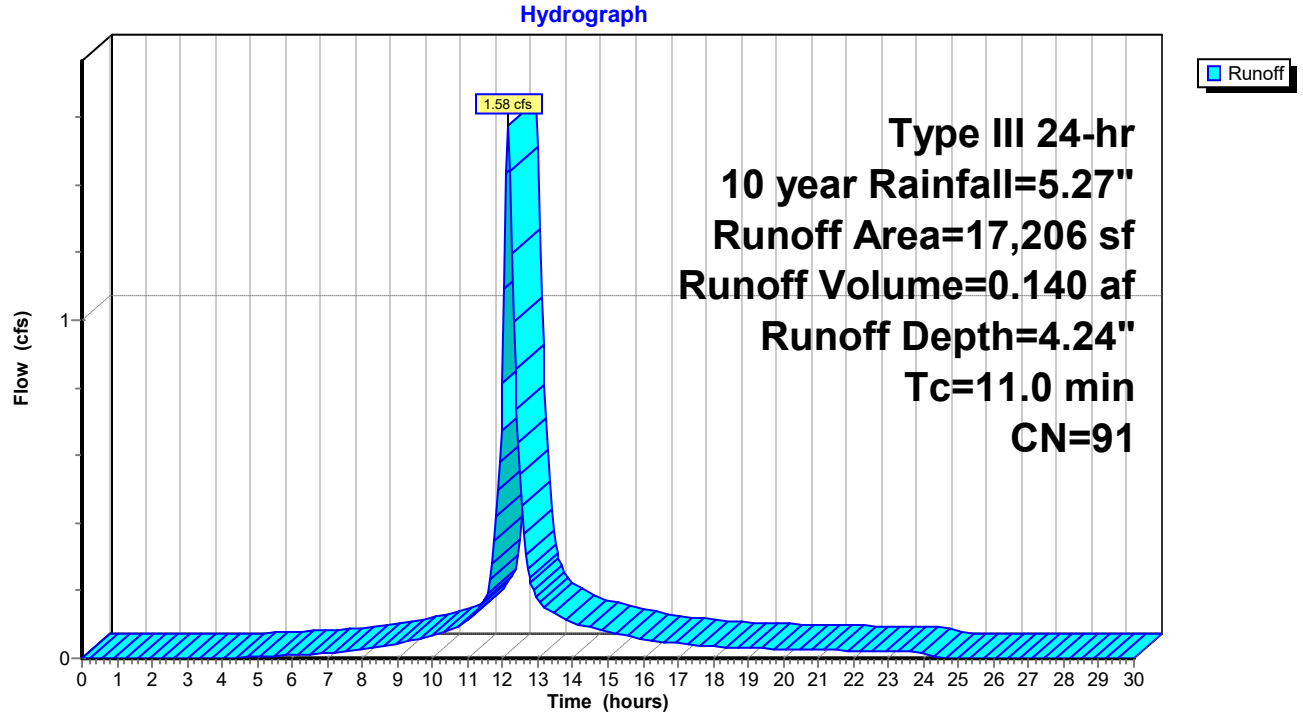
Runoff = 1.58 cfs @ 12.15 hrs, Volume= 0.140 af, Depth= 4.24"
Routed to Pond 15P : R Tanks

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 year Rainfall=5.27"

Area (sf)	CN	Description
6,447	80	>75% Grass cover, Good, HSG D
10,759	98	Paved roads w/curbs & sewers, HSG D
17,206	91	Weighted Average
6,447		37.47% Pervious Area
10,759		62.53% Impervious Area

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

Subcatchment 1S: A



Summary for Subcatchment 2S: B

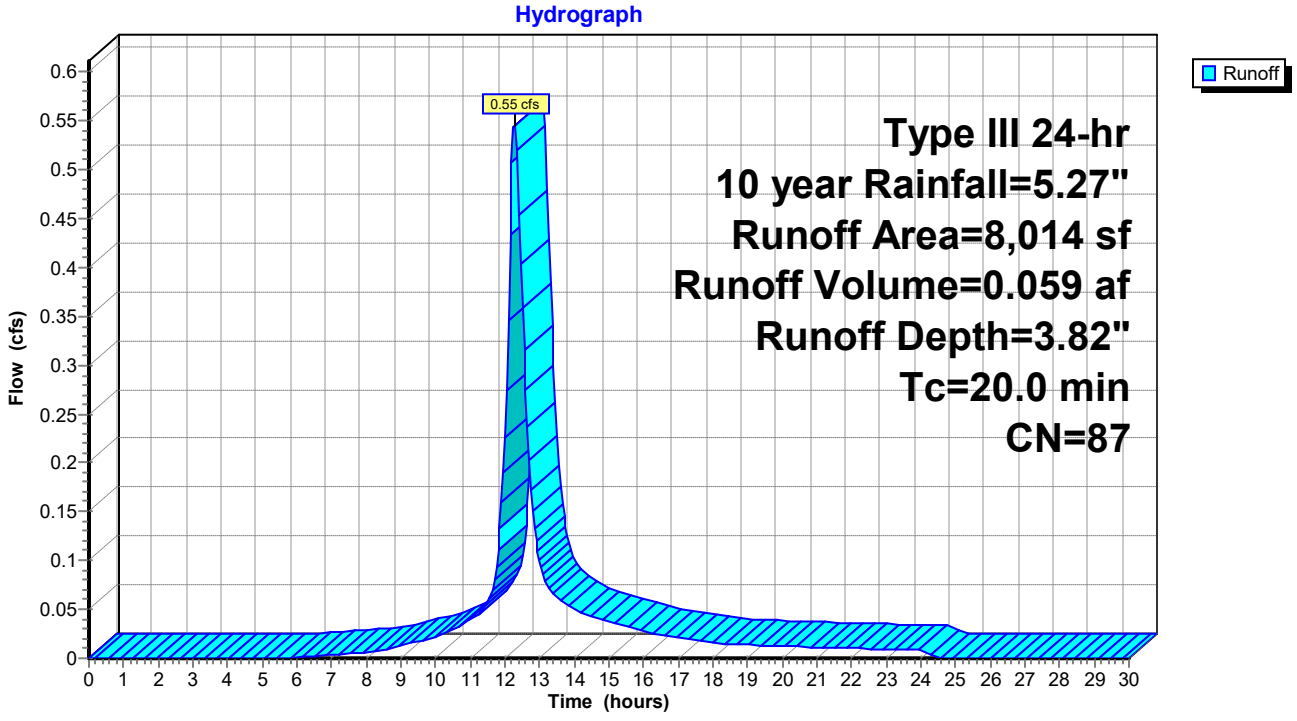
Runoff = 0.55 cfs @ 12.27 hrs, Volume= 0.059 af, Depth= 3.82"
Routed to Pond 15P : R Tanks

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 year Rainfall=5.27"

Area (sf)	CN	Description
4,914	80	>75% Grass cover, Good, HSG D
3,100	98	Paved roads w/curbs & sewers, HSG D
8,014	87	Weighted Average
4,914		61.32% Pervious Area
3,100		38.68% Impervious Area

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

Subcatchment 2S: B



Summary for Subcatchment 3S: C

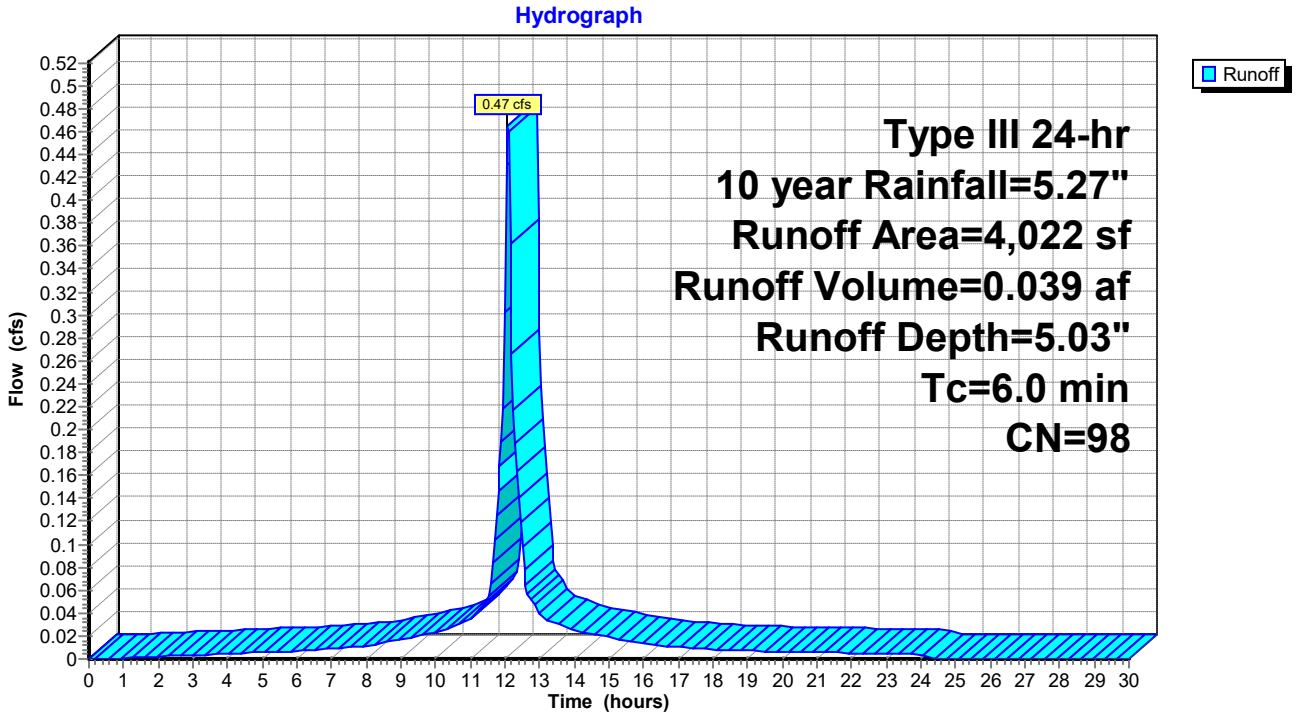
Runoff = 0.47 cfs @ 12.09 hrs, Volume= 0.039 af, Depth= 5.03"
Routed to Pond 15P : R Tanks

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 year Rainfall=5.27"

Area (sf)	CN	Description
4,022	98	Paved roads w/curbs & sewers, HSG D
4,022		100.00% Impervious Area

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

Subcatchment 3S: C



Summary for Subcatchment 4S: D

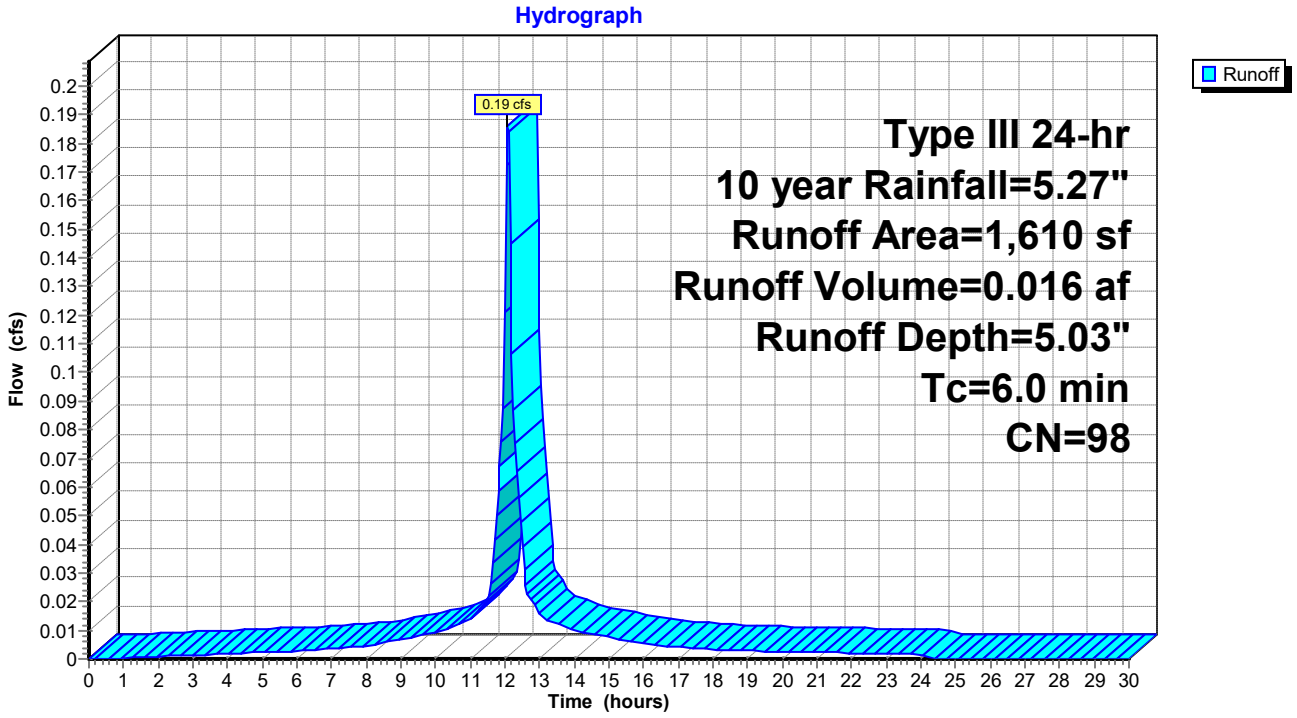
Runoff = 0.19 cfs @ 12.09 hrs, Volume= 0.016 af, Depth= 5.03"
Routed to Pond 15P : R Tanks

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 year Rainfall=5.27"

Area (sf)	CN	Description
1,610	98	Paved roads w/curbs & sewers, HSG D
1,610		100.00% Impervious Area

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

Subcatchment 4S: D



Summary for Subcatchment 5S: E

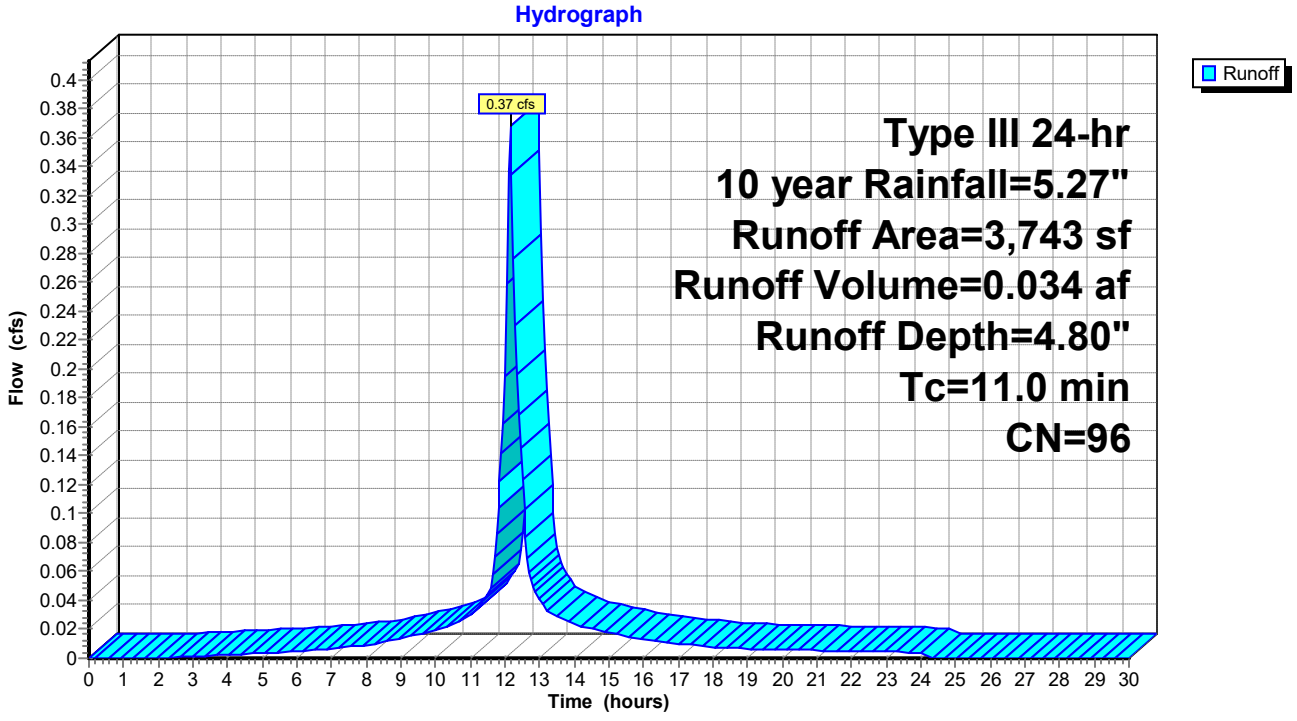
Runoff = 0.37 cfs @ 12.15 hrs, Volume= 0.034 af, Depth= 4.80"
Routed to Pond 15P : R Tanks

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 year Rainfall=5.27"

Area (sf)	CN	Description
346	80	>75% Grass cover, Good, HSG D
3,397	98	Paved roads w/curbs & sewers, HSG D
3,743	96	Weighted Average
346		9.24% Pervious Area
3,397		90.76% Impervious Area

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

Subcatchment 5S: E



Summary for Subcatchment 6S: F

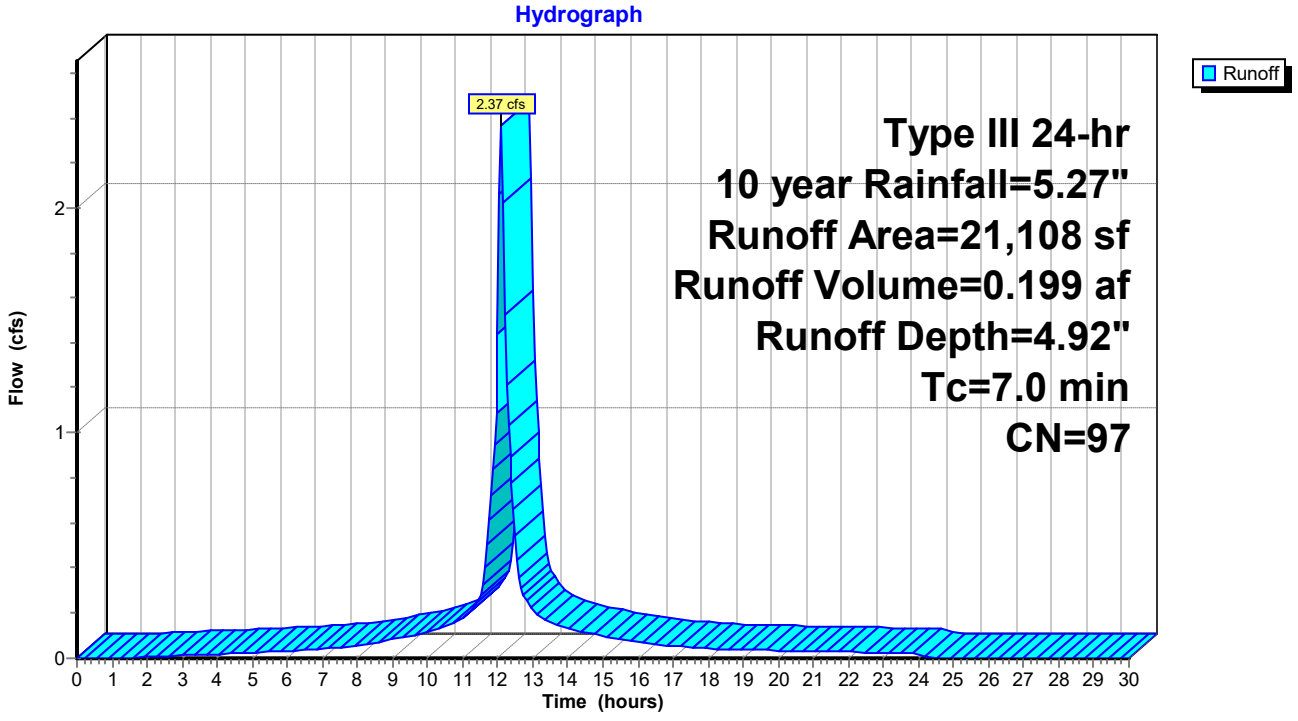
Runoff = 2.37 cfs @ 12.10 hrs, Volume= 0.199 af, Depth= 4.92"
Routed to Pond 15P : R Tanks

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 year Rainfall=5.27"

Area (sf)	CN	Description
787	80	>75% Grass cover, Good, HSG D
20,321	98	Paved roads w/curbs & sewers, HSG D
21,108	97	Weighted Average
787		3.73% Pervious Area
20,321		96.27% Impervious Area

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

Subcatchment 6S: F



Summary for Subcatchment 7S: G

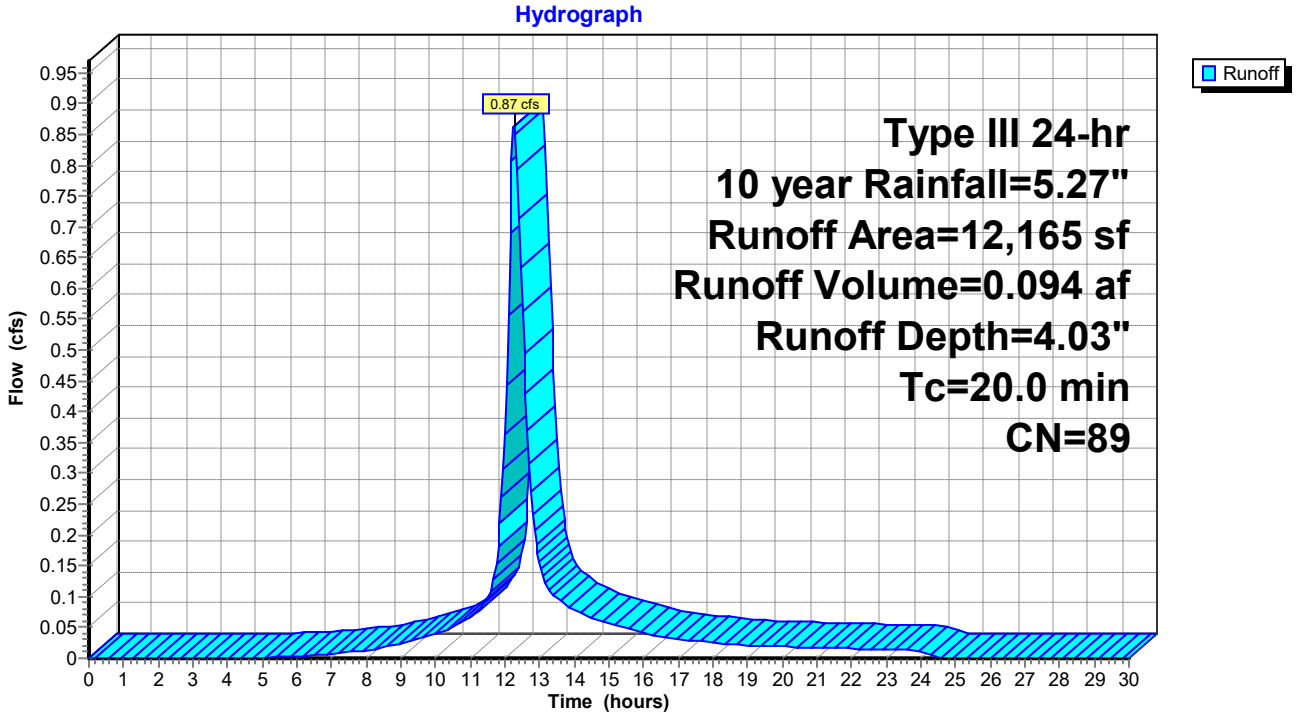
Runoff = 0.87 cfs @ 12.27 hrs, Volume= 0.094 af, Depth= 4.03"
Routed to Pond 15P : R Tanks

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 year Rainfall=5.27"

Area (sf)	CN	Description
6,018	80	>75% Grass cover, Good, HSG D
6,147	98	Paved roads w/curbs & sewers, HSG D
12,165	89	Weighted Average
6,018		49.47% Pervious Area
6,147		50.53% Impervious Area

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

Subcatchment 7S: G



Summary for Subcatchment 8S: Building Area

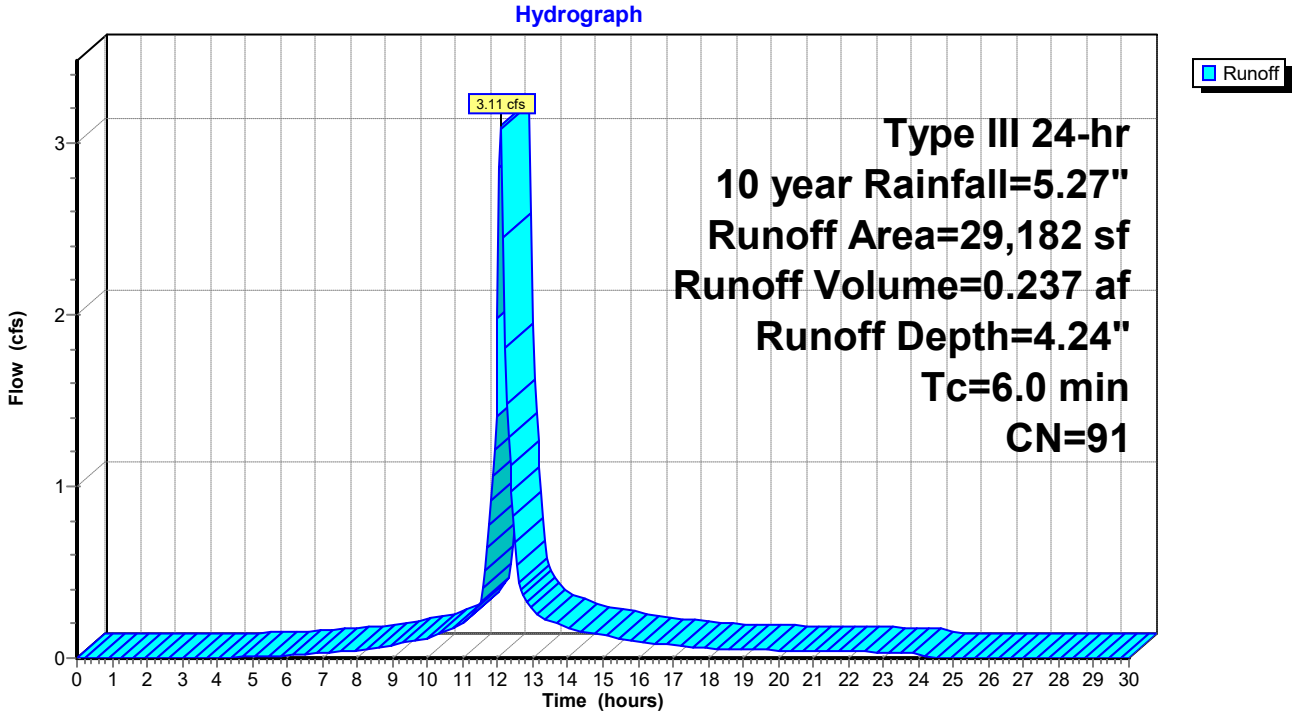
Runoff = 3.11 cfs @ 12.09 hrs, Volume= 0.237 af, Depth= 4.24"
Routed to Pond 15P : R Tanks

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 year Rainfall=5.27"

Area (sf)	CN	Description
13,320	98	Unconnected roofs, HSG D
11,496	80	>75% Grass cover, Good, HSG D
4,366	98	Paved parking, HSG D
29,182	91	Weighted Average
11,496		39.39% Pervious Area
17,686		60.61% Impervious Area
13,320		75.31% Unconnected

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

Subcatchment 8S: Building Area



Summary for Pond 15P: R Tanks

Inflow Area = 2.228 ac, 69.08% Impervious, Inflow Depth = 4.40" for 10 year event
Inflow = 8.79 cfs @ 12.11 hrs, Volume= 0.816 af
Outflow = 0.35 cfs @ 15.78 hrs, Volume= 0.461 af, Atten= 96%, Lag= 220.7 min
Discarded = 0.35 cfs @ 15.78 hrs, Volume= 0.461 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Routed to Pond 17P : Area Above Storage- Left
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Routed to Pond 18P : Area Above Storage- Right

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 97.98' @ 15.78 hrs Surf.Area= 5,035 sf Storage= 25,204 cf

Plug-Flow detention time= 530.4 min calculated for 0.461 af (56% of inflow)
Center-of-Mass det. time= 421.3 min (1,201.0 - 779.7)

Volume	Invert	Avail.Storage	Storage Description
#1	92.00'	2,711 cf	**Stone Encasement (Conic)** Listed below 50,853 cf Overall - 44,075 cf Embedded = 6,779 cf x 40.0% Voids
#2	92.00'	1,803 cf	**Ferguson R-Tank XD 61** x 62 Inside #1 Inside= 19.7"W x 120.1"H => 14.77 sf x 1.97'L = 29.1 cf Outside= 19.7"W x 120.1"H => 16.41 sf x 1.97'L = 32.3 cf 62 Chambers in 31 Rows
#3	92.00'	6,514 cf	**Ferguson R-Tank XD 61** x 224 Inside #1 Inside= 19.7"W x 120.1"H => 14.77 sf x 1.97'L = 29.1 cf Outside= 19.7"W x 120.1"H => 16.41 sf x 1.97'L = 32.3 cf 224 Chambers in 28 Rows
#4	92.00'	19,659 cf	**Ferguson R-Tank XD 61** x 676 Inside #1 Inside= 19.7"W x 120.1"H => 14.77 sf x 1.97'L = 29.1 cf Outside= 19.7"W x 120.1"H => 16.41 sf x 1.97'L = 32.3 cf 676 Chambers in 26 Rows
#5	92.00'	9,015 cf	**Ferguson R-Tank XD 61** x 310 Inside #1 Inside= 19.7"W x 120.1"H => 14.77 sf x 1.97'L = 29.1 cf Outside= 19.7"W x 120.1"H => 16.41 sf x 1.97'L = 32.3 cf 310 Chambers in 31 Rows
#6	92.00'	2,676 cf	**Ferguson R-Tank XD 61** x 92 Inside #1 Inside= 19.7"W x 120.1"H => 14.77 sf x 1.97'L = 29.1 cf Outside= 19.7"W x 120.1"H => 16.41 sf x 1.97'L = 32.3 cf 92 Chambers in 2 Rows
		42,379 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
92.00	5,035	0	0	5,035
102.10	5,035	50,853	50,853	7,576

Device	Routing	Invert	Outlet Devices
#1	Discarded	92.00'	**10.000 in/hr Exfiltration over Wetted area above 92.00'** Excluded Wetted area = 5,035 sf
#2	Primary	102.00'	**12.0" Horiz. Orifice/Grate** C= 0.600

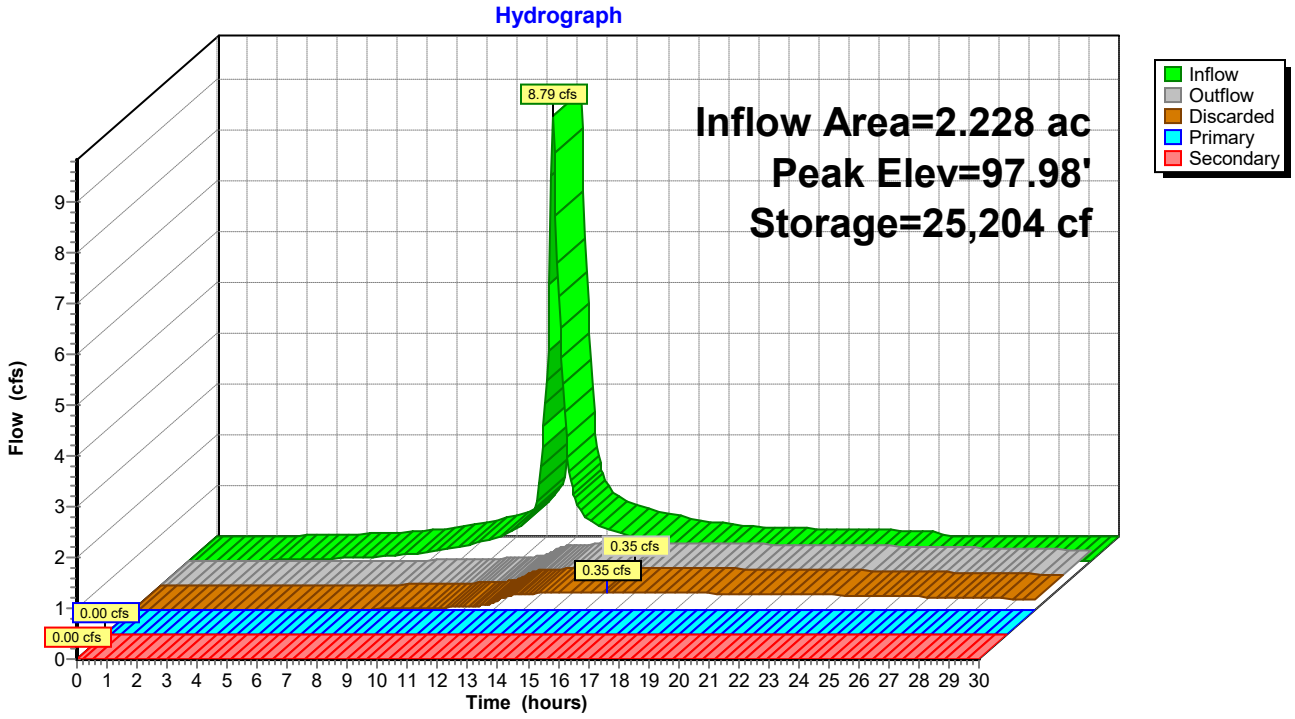
			Limited to weir flow at low heads
#3	Secondary	102.00'	**12.0" Horiz. Orifice/Grate** C= 0.600
			Limited to weir flow at low heads

Discarded OutFlow Max=0.35 cfs @ 15.78 hrs HW=97.98' (Free Discharge)
└**1=Exfiltration** (Exfiltration Controls 0.35 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=92.00' (Free Discharge)
└**2=Orifice/Grate** (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=92.00' (Free Discharge)
└**3=Orifice/Grate** (Controls 0.00 cfs)

Pond 15P: R Tanks



Summary for Pond 17P: Area Above Storage- Left

Inflow Area = 2.228 ac, 69.08% Impervious, Inflow Depth = 0.00" for 10 year event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

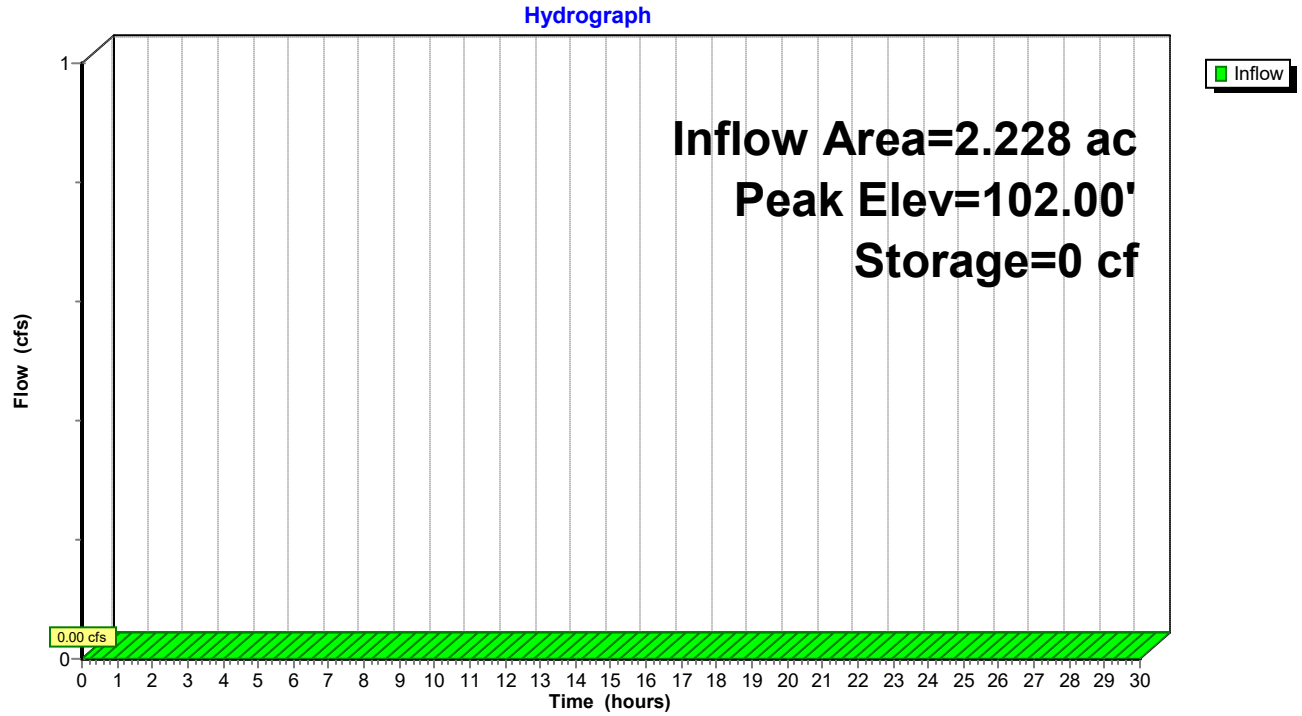
Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 102.00' @ 0.00 hrs Surf.Area= 1,401 sf Storage= 0 cf

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
Center-of-Mass det. time= (not calculated: no inflow)

Volume	Invert	Avail.Storage	Storage Description
#1	102.00'	3,873 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
102.00	1,401	0	0
103.00	1,922	1,662	1,662
104.00	2,500	2,211	3,873

Pond 17P: Area Above Storage- Left



Summary for Pond 18P: Area Above Storage- Right

Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

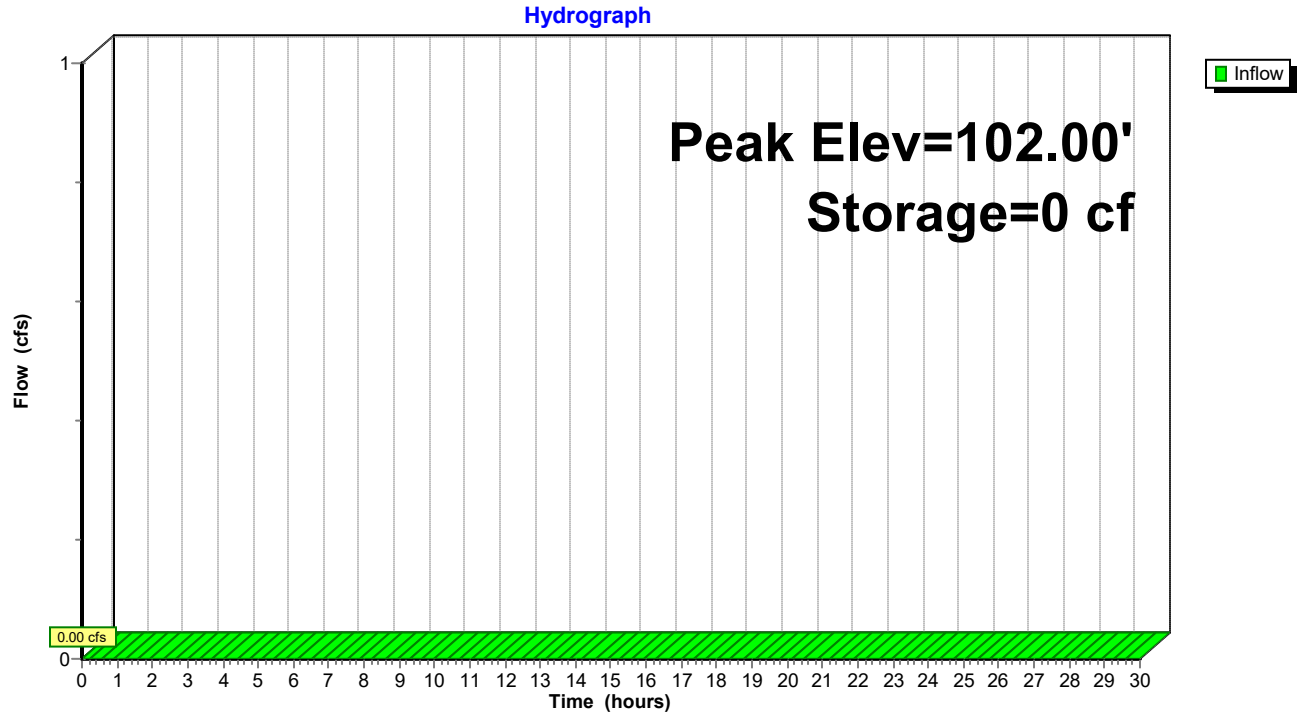
Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 102.00' @ 0.00 hrs Surf.Area= 518 sf Storage= 0 cf

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
Center-of-Mass det. time= (not calculated: no inflow)

Volume	Invert	Avail.Storage	Storage Description
#1	102.00'	3,037 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
102.00	518	0	0
103.00	830	674	674
104.00	1,198	1,014	1,688
105.00	1,500	1,349	3,037

Pond 18P: Area Above Storage- Right



Time span=0.00-30.00 hrs, dt=0.05 hrs, 601 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: A Runoff Area=17,206 sf 62.53% Impervious Runoff Depth=7.91"
Tc=11.0 min CN=91 Runoff=2.85 cfs 0.260 af

Subcatchment 2S: B Runoff Area=8,014 sf 38.68% Impervious Runoff Depth=7.43"
Tc=20.0 min CN=87 Runoff=1.03 cfs 0.114 af

Subcatchment 3S: C Runoff Area=4,022 sf 100.00% Impervious Runoff Depth=8.76"
Tc=6.0 min CN=98 Runoff=0.80 cfs 0.067 af

Subcatchment 4S: D Runoff Area=1,610 sf 100.00% Impervious Runoff Depth=8.76"
Tc=6.0 min CN=98 Runoff=0.32 cfs 0.027 af

Subcatchment 5S: E Runoff Area=3,743 sf 90.76% Impervious Runoff Depth=8.52"
Tc=11.0 min CN=96 Runoff=0.64 cfs 0.061 af

Subcatchment 6S: F Runoff Area=21,108 sf 96.27% Impervious Runoff Depth=8.64"
Tc=7.0 min CN=97 Runoff=4.07 cfs 0.349 af

Subcatchment 7S: G Runoff Area=12,165 sf 50.53% Impervious Runoff Depth=7.67"
Tc=20.0 min CN=89 Runoff=1.59 cfs 0.178 af

Subcatchment 8S: Building Area Runoff Area=29,182 sf 60.61% Impervious Runoff Depth=7.91"
Tc=6.0 min CN=91 Runoff=5.59 cfs 0.442 af

Pond 15P: R Tanks Peak Elev=102.18' Storage=42,379 cf Inflow=15.64 cfs 1.499 af
Discarded=0.59 cfs 0.796 af Primary=0.79 cfs 0.052 af Secondary=0.79 cfs 0.052 af Outflow=2.17 cfs 0.901 af

Pond 17P: Area Above Storage- Left Peak Elev=103.30' Storage=2,271 cf Inflow=0.79 cfs 0.052 af
Outflow=0.00 cfs 0.000 af

Pond 18P: Area Above Storage- Right Peak Elev=104.46' Storage=2,271 cf Inflow=0.79 cfs 0.052 af
Outflow=0.00 cfs 0.000 af

Total Runoff Area = 2.228 ac Runoff Volume = 1.499 af Average Runoff Depth = 8.07"
30.92% Pervious = 0.689 ac 69.08% Impervious = 1.539 ac

Summary for Subcatchment 1S: A

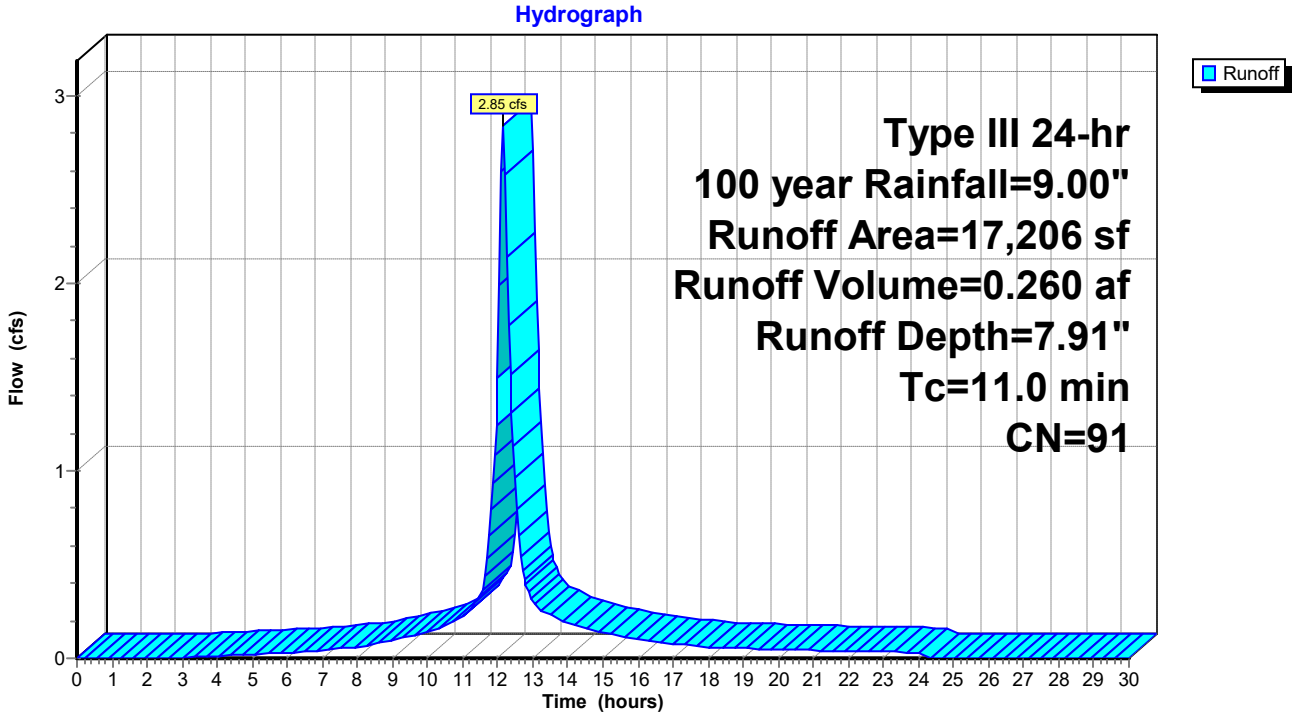
Runoff = 2.85 cfs @ 12.15 hrs, Volume= 0.260 af, Depth= 7.91"
Routed to Pond 15P : R Tanks

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 year Rainfall=9.00"

Area (sf)	CN	Description
6,447	80	>75% Grass cover, Good, HSG D
10,759	98	Paved roads w/curbs & sewers, HSG D
17,206	91	Weighted Average
6,447		37.47% Pervious Area
10,759		62.53% Impervious Area

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

Subcatchment 1S: A



Summary for Subcatchment 2S: B

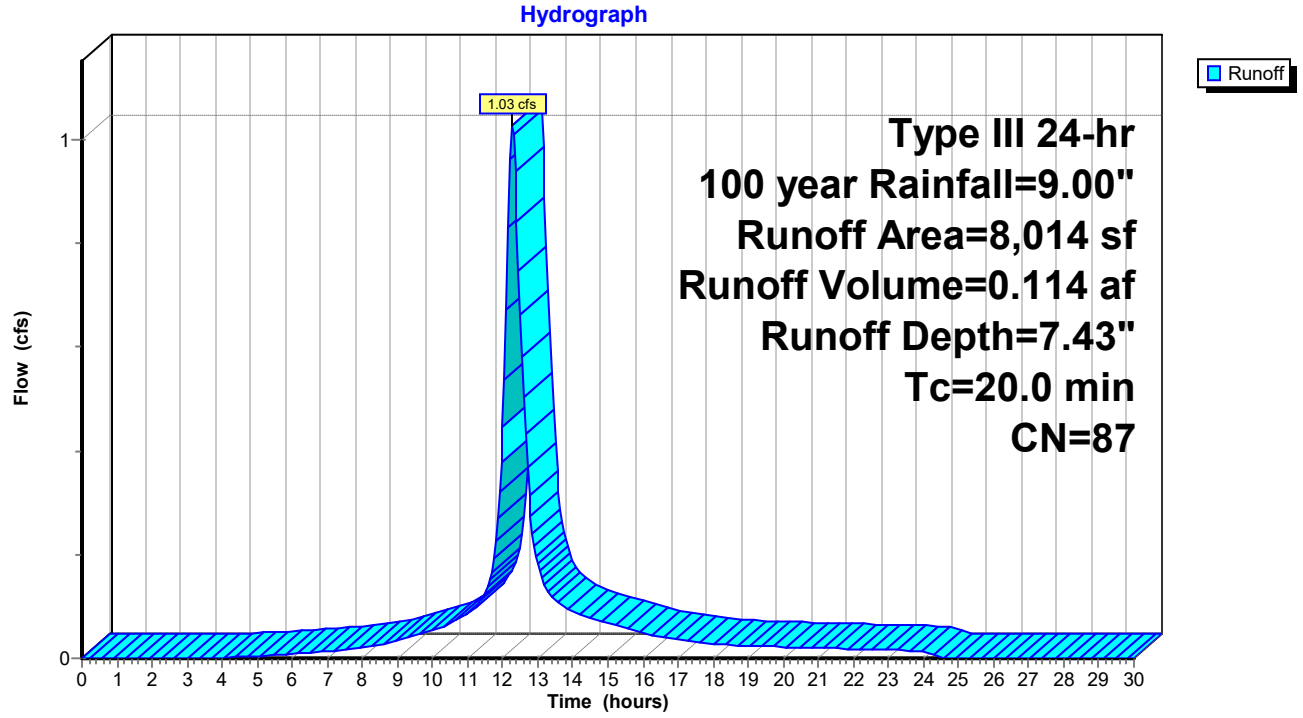
Runoff = 1.03 cfs @ 12.26 hrs, Volume= 0.114 af, Depth= 7.43"
Routed to Pond 15P : R Tanks

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 year Rainfall=9.00"

Area (sf)	CN	Description
4,914	80	>75% Grass cover, Good, HSG D
3,100	98	Paved roads w/curbs & sewers, HSG D
8,014	87	Weighted Average
4,914		61.32% Pervious Area
3,100		38.68% Impervious Area

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

Subcatchment 2S: B



Summary for Subcatchment 3S: C

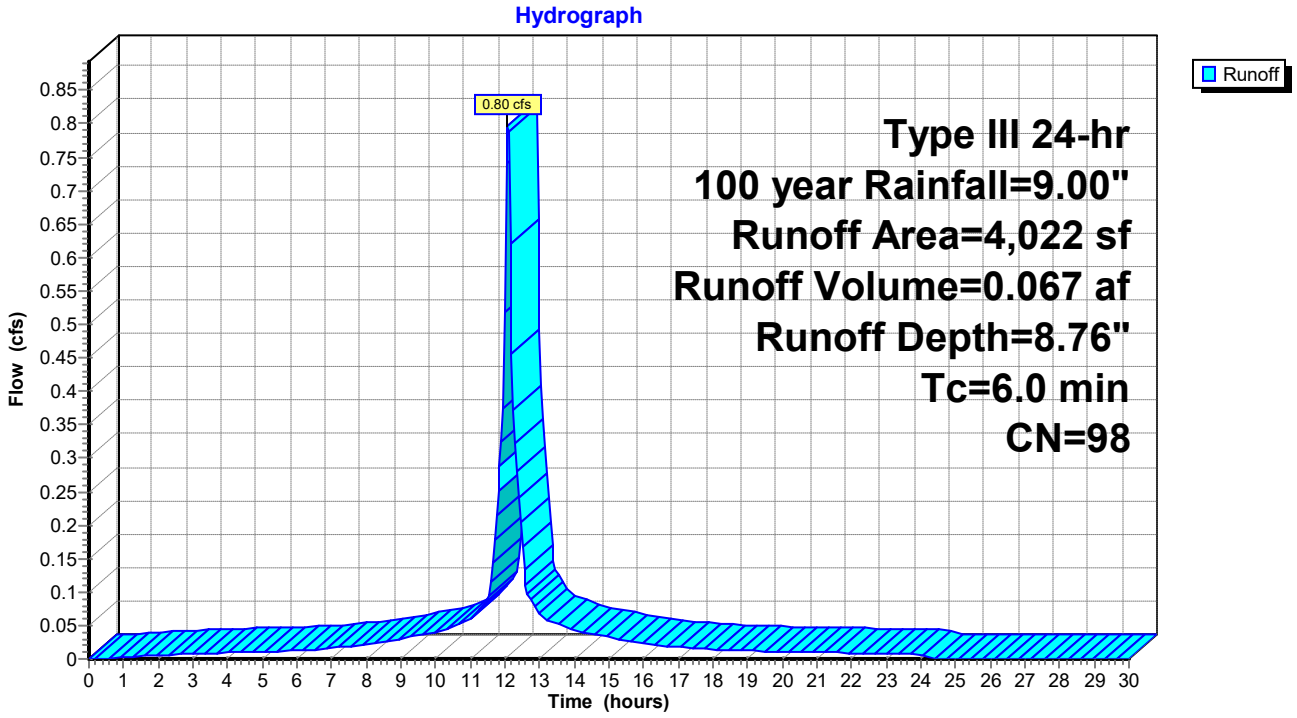
Runoff = 0.80 cfs @ 12.09 hrs, Volume= 0.067 af, Depth= 8.76"
Routed to Pond 15P : R Tanks

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 year Rainfall=9.00"

Area (sf)	CN	Description
4,022	98	Paved roads w/curbs & sewers, HSG D
4,022		100.00% Impervious Area

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

Subcatchment 3S: C



Summary for Subcatchment 4S: D

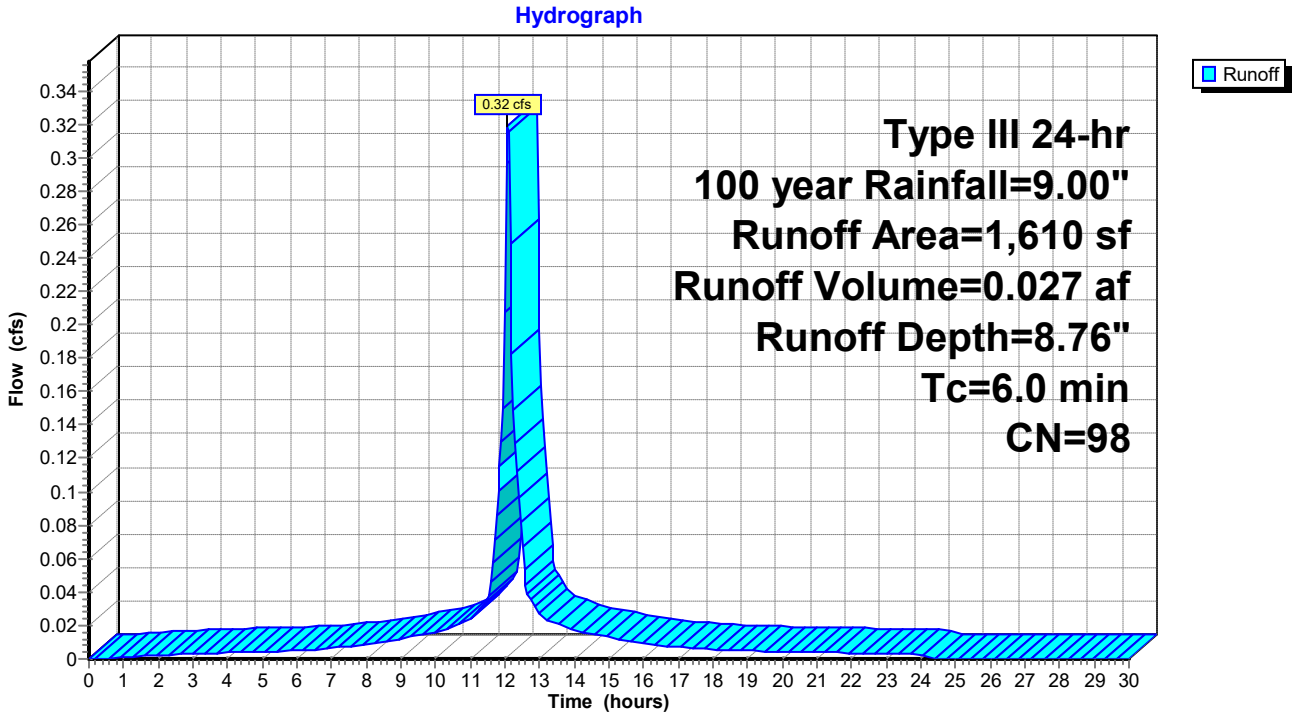
Runoff = 0.32 cfs @ 12.09 hrs, Volume= 0.027 af, Depth= 8.76"
Routed to Pond 15P : R Tanks

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 year Rainfall=9.00"

Area (sf)	CN	Description
1,610	98	Paved roads w/curbs & sewers, HSG D
1,610		100.00% Impervious Area

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

Subcatchment 4S: D



Summary for Subcatchment 5S: E

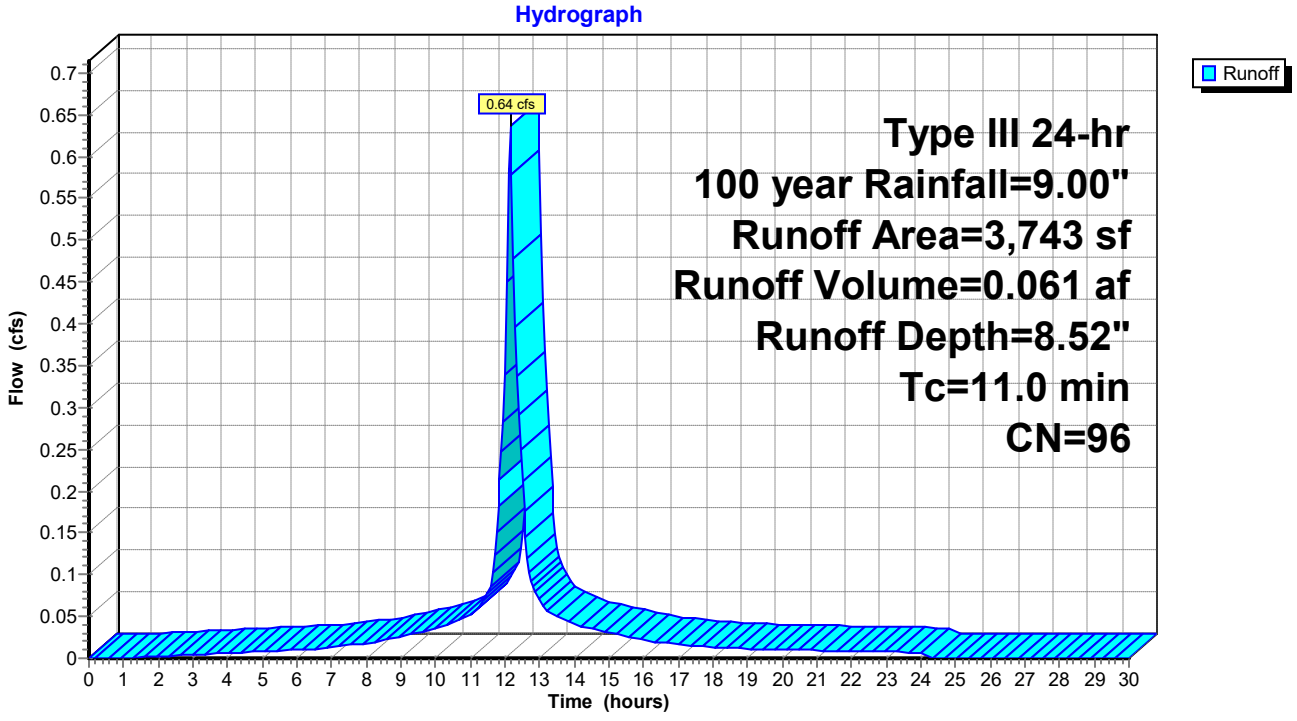
Runoff = 0.64 cfs @ 12.15 hrs, Volume= 0.061 af, Depth= 8.52"
Routed to Pond 15P : R Tanks

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 year Rainfall=9.00"

Area (sf)	CN	Description
346	80	>75% Grass cover, Good, HSG D
3,397	98	Paved roads w/curbs & sewers, HSG D
3,743	96	Weighted Average
346		9.24% Pervious Area
3,397		90.76% Impervious Area

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

Subcatchment 5S: E



Summary for Subcatchment 6S: F

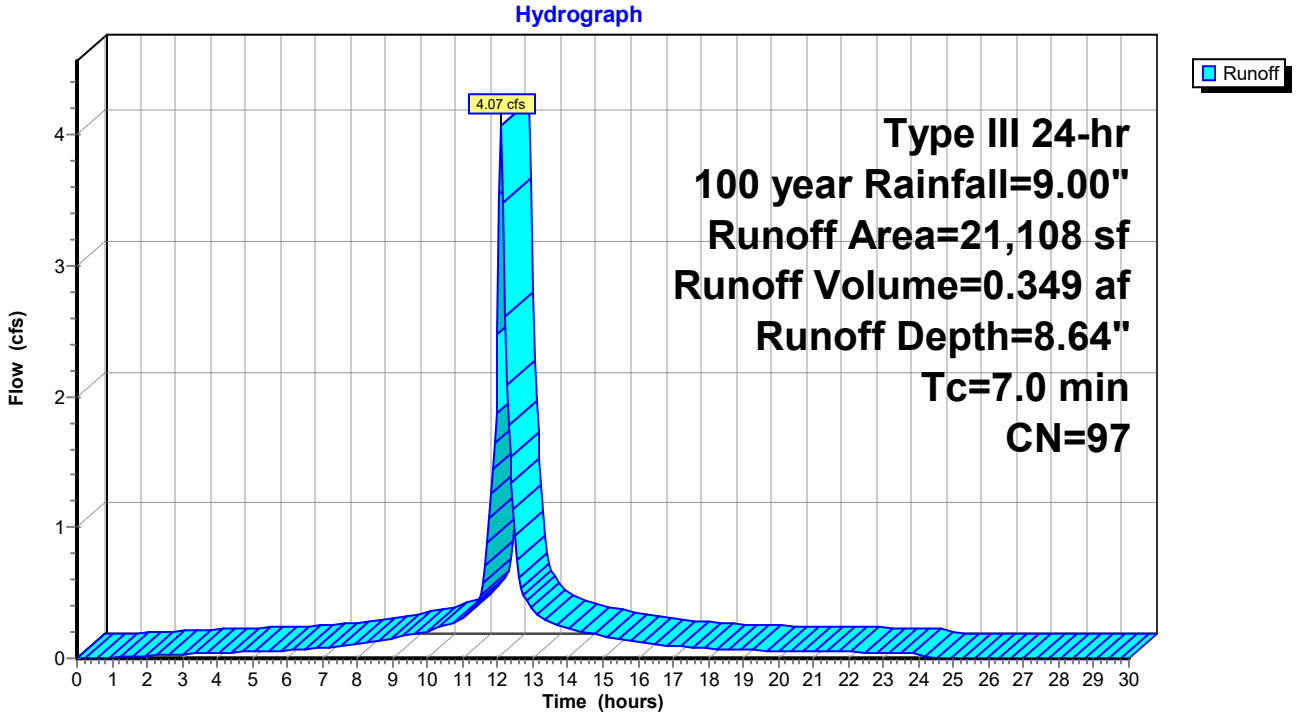
Runoff = 4.07 cfs @ 12.10 hrs, Volume= 0.349 af, Depth= 8.64"
Routed to Pond 15P : R Tanks

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 year Rainfall=9.00"

Area (sf)	CN	Description
787	80	>75% Grass cover, Good, HSG D
20,321	98	Paved roads w/curbs & sewers, HSG D
21,108	97	Weighted Average
787		3.73% Pervious Area
20,321		96.27% Impervious Area

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

Subcatchment 6S: F



Summary for Subcatchment 7S: G

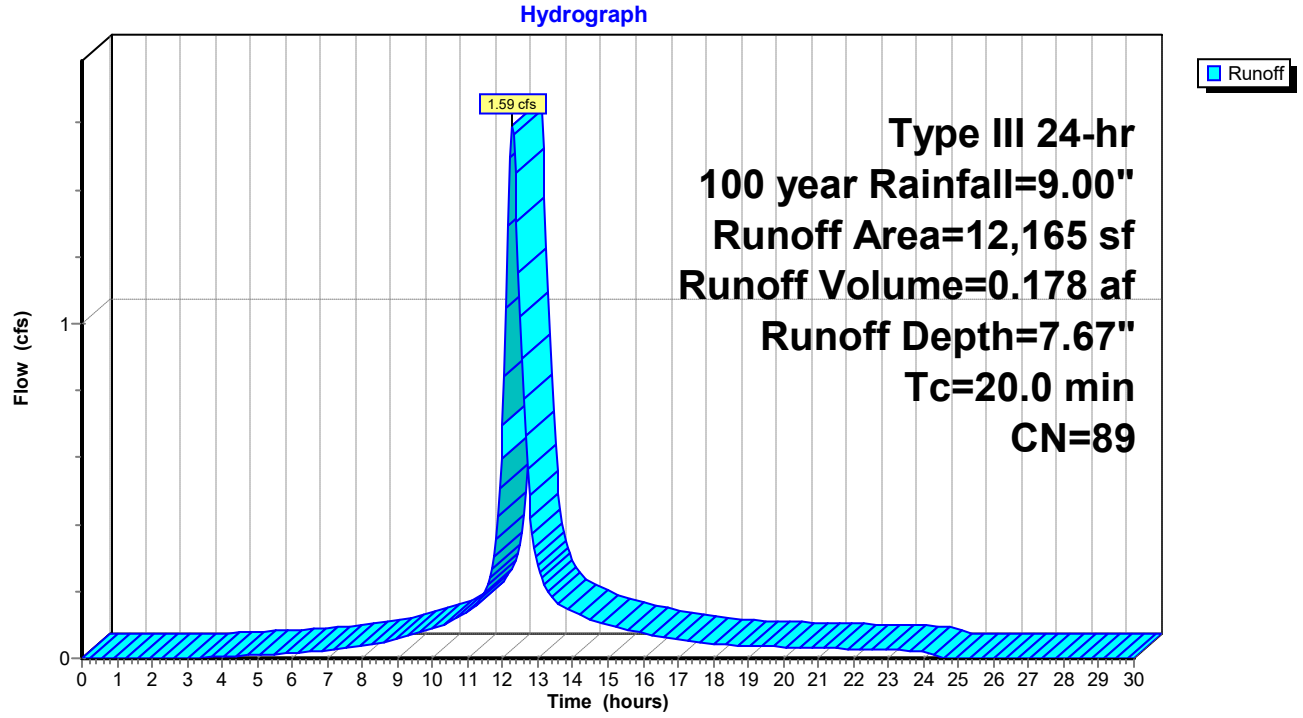
Runoff = 1.59 cfs @ 12.26 hrs, Volume= 0.178 af, Depth= 7.67"
Routed to Pond 15P : R Tanks

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 year Rainfall=9.00"

Area (sf)	CN	Description
6,018	80	>75% Grass cover, Good, HSG D
6,147	98	Paved roads w/curbs & sewers, HSG D
12,165	89	Weighted Average
6,018		49.47% Pervious Area
6,147		50.53% Impervious Area

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

Subcatchment 7S: G



Summary for Subcatchment 8S: Building Area

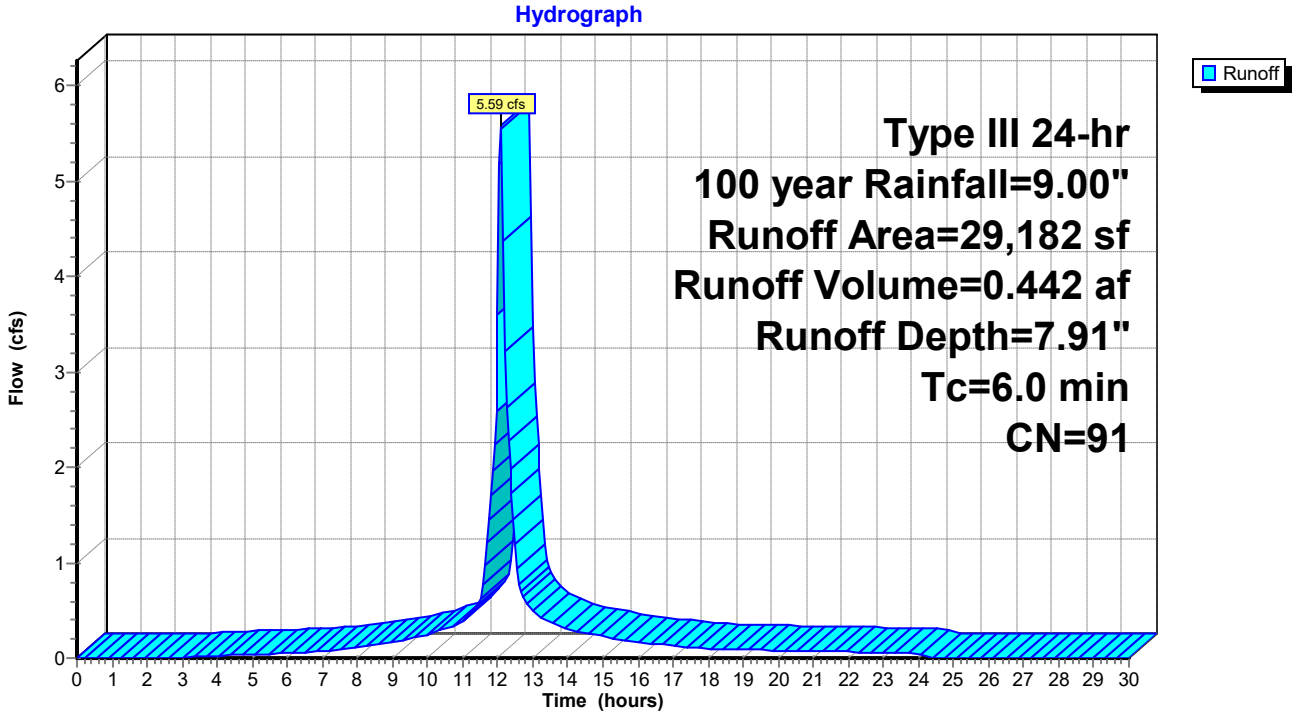
Runoff = 5.59 cfs @ 12.09 hrs, Volume= 0.442 af, Depth= 7.91"
Routed to Pond 15P : R Tanks

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 year Rainfall=9.00"

Area (sf)	CN	Description
13,320	98	Unconnected roofs, HSG D
11,496	80	>75% Grass cover, Good, HSG D
4,366	98	Paved parking, HSG D
29,182	91	Weighted Average
11,496		39.39% Pervious Area
17,686		60.61% Impervious Area
13,320		75.31% Unconnected

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

Subcatchment 8S: Building Area



Summary for Pond 15P: R Tanks

[93] Warning: Storage range exceeded by 0.08'
[85] Warning: Oscillations may require smaller dt or Finer Routing (severity=4)

Inflow Area = 2.228 ac, 69.08% Impervious, Inflow Depth = 8.07" for 100 year event
Inflow = 15.64 cfs @ 12.11 hrs, Volume= 1.499 af
Outflow = 2.17 cfs @ 13.00 hrs, Volume= 0.901 af, Atten= 86%, Lag= 53.8 min
Discarded = 0.59 cfs @ 13.00 hrs, Volume= 0.796 af
Primary = 0.79 cfs @ 13.00 hrs, Volume= 0.052 af
Routed to Pond 17P : Area Above Storage- Left
Secondary = 0.79 cfs @ 13.00 hrs, Volume= 0.052 af
Routed to Pond 18P : Area Above Storage- Right

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 102.18' @ 13.00 hrs Surf.Area= 5,035 sf Storage= 42,379 cf

Plug-Flow detention time= 485.9 min calculated for 0.899 af (60% of inflow)
Center-of-Mass det. time= 379.4 min (1,146.0 - 766.5)

Volume	Invert	Avail.Storage	Storage Description
#1	92.00'	2,711 cf	**Stone Encasement (Conic)** Listed below 50,853 cf Overall - 44,075 cf Embedded = 6,779 cf x 40.0% Voids
#2	92.00'	1,803 cf	**Ferguson R-Tank XD 61** x 62 Inside #1 Inside= 19.7"W x 120.1"H => 14.77 sf x 1.97'L = 29.1 cf Outside= 19.7"W x 120.1"H => 16.41 sf x 1.97'L = 32.3 cf 62 Chambers in 31 Rows
#3	92.00'	6,514 cf	**Ferguson R-Tank XD 61** x 224 Inside #1 Inside= 19.7"W x 120.1"H => 14.77 sf x 1.97'L = 29.1 cf Outside= 19.7"W x 120.1"H => 16.41 sf x 1.97'L = 32.3 cf 224 Chambers in 28 Rows
#4	92.00'	19,659 cf	**Ferguson R-Tank XD 61** x 676 Inside #1 Inside= 19.7"W x 120.1"H => 14.77 sf x 1.97'L = 29.1 cf Outside= 19.7"W x 120.1"H => 16.41 sf x 1.97'L = 32.3 cf 676 Chambers in 26 Rows
#5	92.00'	9,015 cf	**Ferguson R-Tank XD 61** x 310 Inside #1 Inside= 19.7"W x 120.1"H => 14.77 sf x 1.97'L = 29.1 cf Outside= 19.7"W x 120.1"H => 16.41 sf x 1.97'L = 32.3 cf 310 Chambers in 31 Rows
#6	92.00'	2,676 cf	**Ferguson R-Tank XD 61** x 92 Inside #1 Inside= 19.7"W x 120.1"H => 14.77 sf x 1.97'L = 29.1 cf Outside= 19.7"W x 120.1"H => 16.41 sf x 1.97'L = 32.3 cf 92 Chambers in 2 Rows
		42,379 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
92.00	5,035	0	0	5,035
102.10	5,035	50,853	50,853	7,576

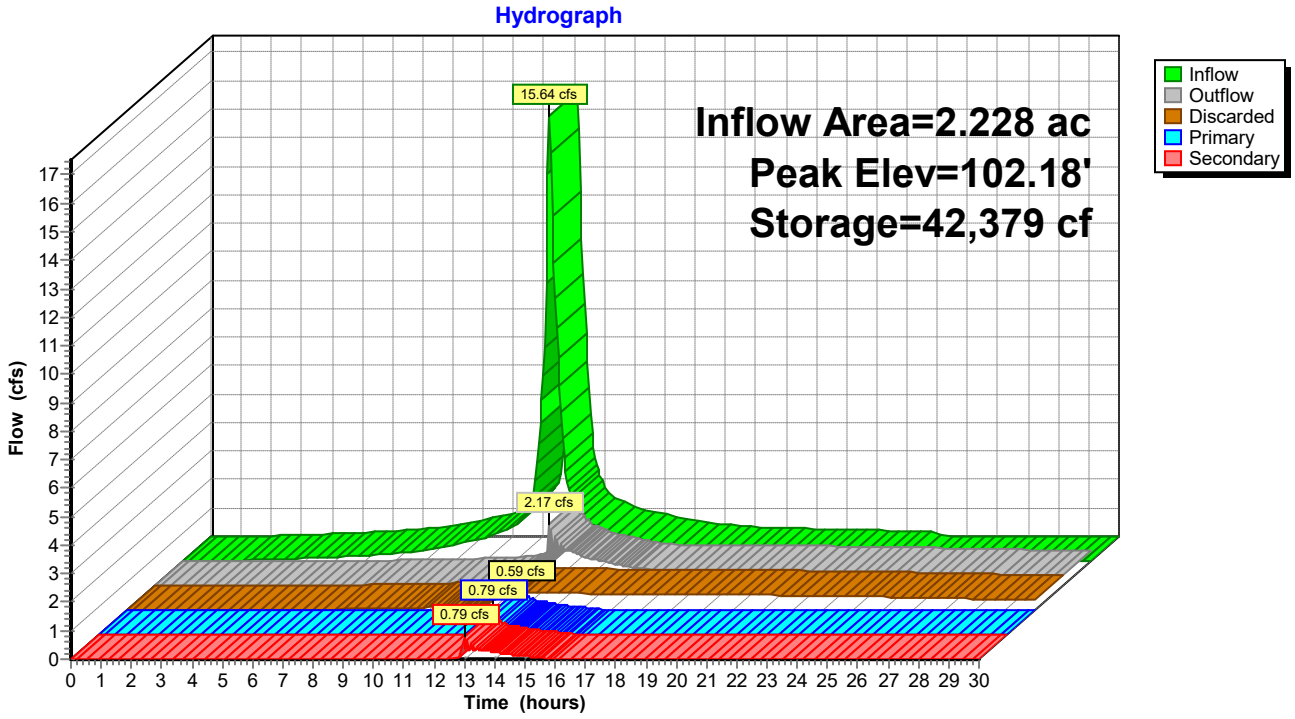
Device	Routing	Invert	Outlet Devices
#1	Discarded	92.00'	**10.000 in/hr Exfiltration over Wetted area above 92.00'**
			Excluded Wetted area = 5,035 sf
#2	Primary	102.00'	**12.0" Horiz. Orifice/Grate** C= 0.600
			Limited to weir flow at low heads
#3	Secondary	102.00'	**12.0" Horiz. Orifice/Grate** C= 0.600
			Limited to weir flow at low heads

Discarded OutFlow Max=0.59 cfs @ 13.00 hrs HW=102.18' (Free Discharge)
└**1=Exfiltration** (Exfiltration Controls 0.59 cfs)

Primary OutFlow Max=0.75 cfs @ 13.00 hrs HW=102.17' (Free Discharge)
└**2=Orifice/Grate** (Weir Controls 0.75 cfs @ 1.37 fps)

Secondary OutFlow Max=0.75 cfs @ 13.00 hrs HW=102.17' (Free Discharge)
└**3=Orifice/Grate** (Weir Controls 0.75 cfs @ 1.37 fps)

Pond 15P: R Tanks



Summary for Pond 17P: Area Above Storage- Left

[81] Warning: Exceeded Pond 15P by 5.10' @ 29.95 hrs

Inflow Area = 2.228 ac, 69.08% Impervious, Inflow Depth = 0.28" for 100 year event
Inflow = 0.79 cfs @ 13.00 hrs, Volume= 0.052 af
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min

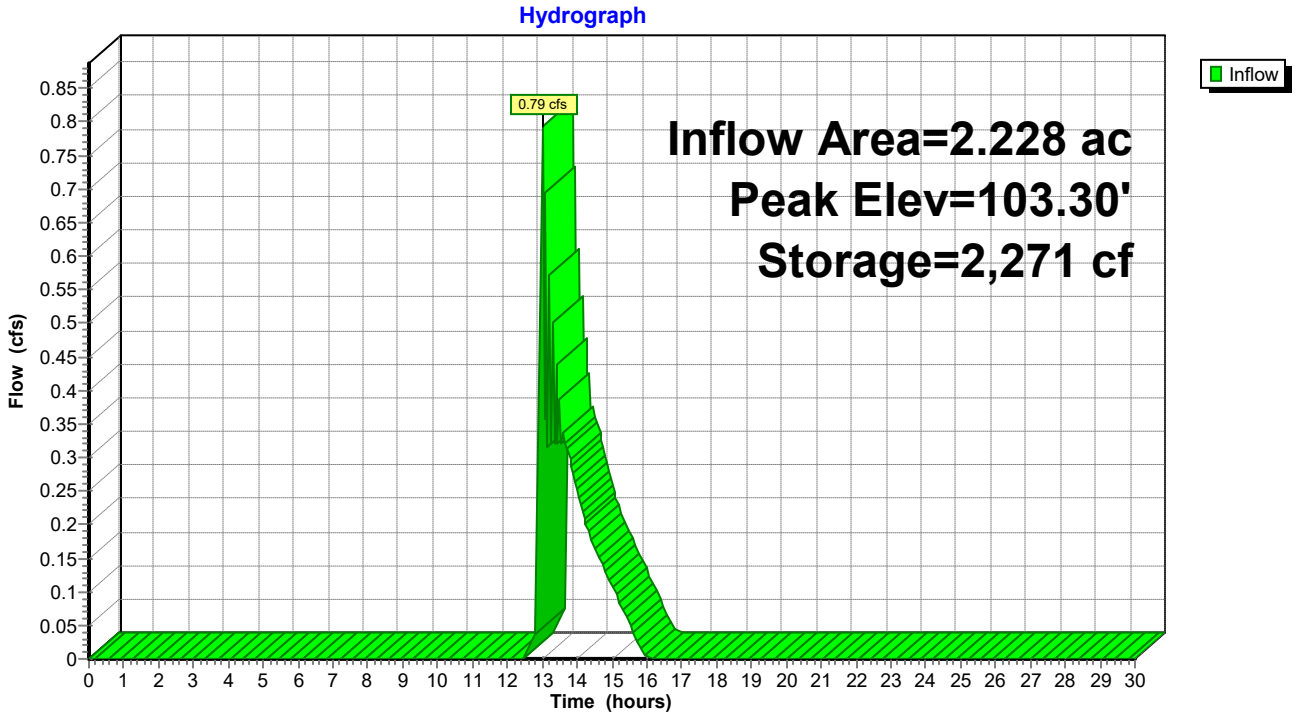
Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 103.30' @ 16.15 hrs Surf.Area= 2,097 sf Storage= 2,271 cf

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
Center-of-Mass det. time= (not calculated: no outflow)

Volume	Invert	Avail.Storage	Storage Description
#1	102.00'	3,873 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
102.00	1,401	0	0
103.00	1,922	1,662	1,662
104.00	2,500	2,211	3,873

Pond 17P: Area Above Storage- Left



Summary for Pond 18P: Area Above Storage- Right

[81] Warning: Exceeded Pond 15P by 6.26' @ 29.95 hrs

Inflow = 0.79 cfs @ 13.00 hrs, Volume= 0.052 af
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min

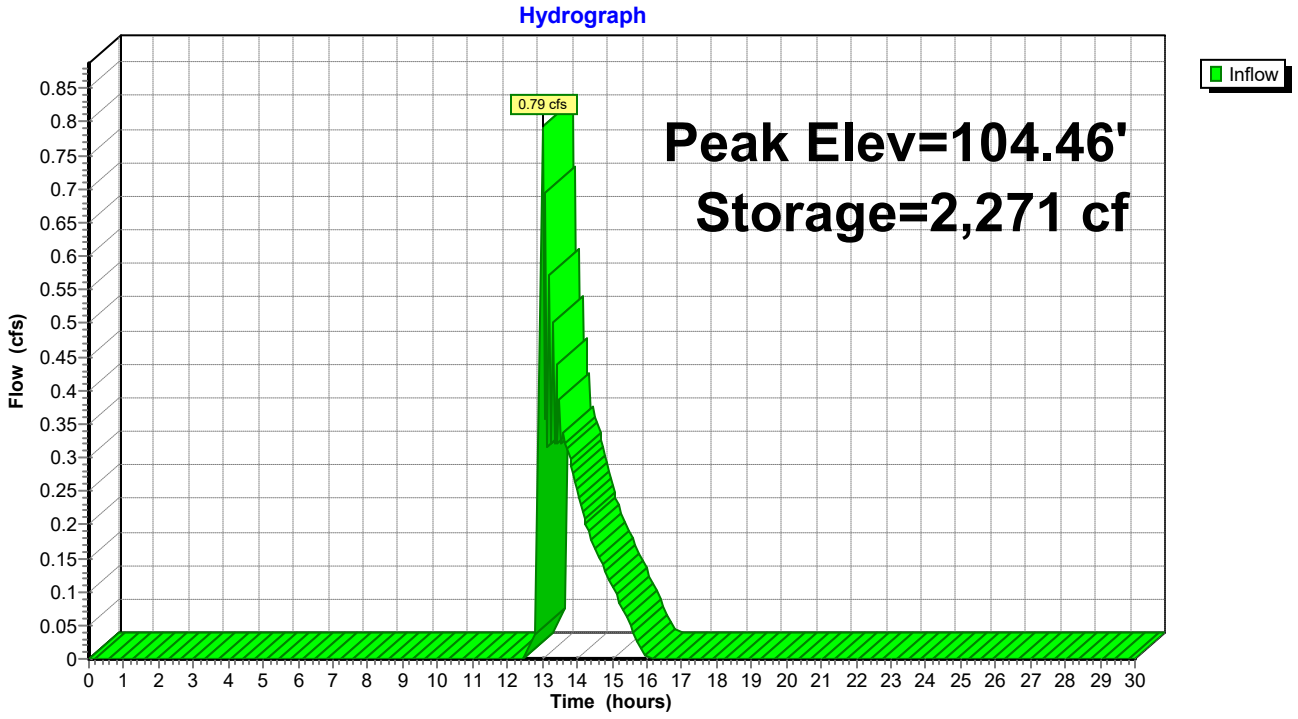
Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 104.46' @ 16.15 hrs Surf.Area= 1,337 sf Storage= 2,271 cf

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
Center-of-Mass det. time= (not calculated: no outflow)

Volume	Invert	Avail.Storage	Storage Description
#1	102.00'	3,037 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
102.00	518	0	0
103.00	830	674	674
104.00	1,198	1,014	1,688
105.00	1,500	1,349	3,037

Pond 18P: Area Above Storage- Right



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CURVE NUMBER WORKSHEET

WO. NO.	DATE	SHEET			
12546.01	10/1/2024	1	OF	8	

PROJECT TITLE	LOCATION
OHM Creedmoor	79-20 Winchester Blvd

ESTIMATED BY	APPROVED BY	REF DRAWING(S)
JM	CO	

1. Runoff curve number (CN) Present Developed Area: **A**

Soil Name & Hydrologic Group	Cover Description (cover type, treatment & conditions)	CN	Area (acres)	Product of CN x Area
Group D	Grass - Good	80	0.15	11.84
Group D	Impervious	98	0.25	24.21
	TOTAL =		0.40	36.05

$$\text{CN (weighted)} = \frac{\text{total product}}{\text{total area}} = \frac{36.05}{0.40}$$

CN (weighted) = 91.26 Use **CN = 91**

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CURVE NUMBER WORKSHEET

WO. NO.	DATE	SHEET		OF	
12546.01	10/1/2024		2		8

PROJECT TITLE	LOCATION
OHM Creedmoor	79-20 Winchester Blvd

ESTIMATED BY	APPROVED BY	REF DRAWING(S)
JM	CO	

1. Runoff curve number (CN) Present Developed Area: **B**

Soil Name & Hydrologic Group	Cover Description (cover type, treatment & conditions)	CN	Area (acres)	Product of CN x Area
Group D	Grass - Good	80	0.11	9.04
Group D	Impervious	98	0.07	6.96
	TOTAL =		0.18	16.00

$$\text{CN (weighted)} = \frac{\text{total product}}{\text{total area}} = \frac{16.00}{0.18}$$

CN (weighted) = 86.95 Use **CN = 87**

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CURVE NUMBER WORKSHEET

WO. NO.	DATE	SHEET		OF	
12546.01	10/1/2024		3		8

PROJECT TITLE	LOCATION
OHM Creedmoor	79-20 Winchester Blvd

ESTIMATED BY	APPROVED BY	REF DRAWING(S)
JM	CO	

1. Runoff curve number (CN) Present Developed Area: **C**

Soil Name & Hydrologic Group	Cover Description (cover type, treatment & conditions)	CN	Area (acres)	Product of CN x Area
Group D	Impervious	98	0.09	9.02
	TOTAL =		0.09	9.02

$$\text{CN (weighted)} = \frac{\text{total product}}{\text{total area}} = \frac{9.02}{0.09}$$

CN (weighted) = 98.00 Use **CN = 98**

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CURVE NUMBER WORKSHEET

WO. NO.	DATE	SHEET		OF	
12546.01	10/1/2024	SHEET	4	OF	8

PROJECT TITLE	LOCATION
OHM Creedmoor	79-20 Winchester Blvd

ESTIMATED BY	APPROVED BY	REF DRAWING(S)
JM	CO	

1. Runoff curve number (CN) Present Developed Area: **D**

Soil Name & Hydrologic Group	Cover Description (cover type, treatment & conditions)	CN	Area (acres)	Product of CN x Area
Group D	Impervious	98	0.04	3.63
	TOTAL =		0.04	3.63

$$\text{CN (weighted)} = \frac{\text{total product}}{\text{total area}} = \frac{3.63}{0.04}$$

CN (weighted) = 98.00 Use **CN = 98**

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CURVE NUMBER WORKSHEET

WO. NO.	DATE	SHEET			
12546.01	10/1/2024	5	OF	8	

PROJECT TITLE	LOCATION
OHM Creedmoor	79-20 Winchester Blvd

ESTIMATED BY	APPROVED BY	REF DRAWING(S)
JM	CO	

1. Runoff curve number (CN) Present Developed Area: **E**

Soil Name & Hydrologic Group	Cover Description (cover type, treatment & conditions)	CN	Area (acres)	Product of CN x Area
Group D	Grass - Good	80	0.01	0.64
Group D	Impervious	98	0.08	7.64
	TOTAL =		0.09	8.28

$$\text{CN (weighted)} = \frac{\text{total product}}{\text{total area}} = \frac{8.28}{0.09}$$

CN (weighted) = 96.33 Use **CN = 96**

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CURVE NUMBER WORKSHEET

WO. NO.	DATE	SHEET		OF	
12546.01	10/1/2024	SHEET	6	OF	8

PROJECT TITLE	LOCATION
OHM Creedmoor	79-20 Winchester Blvd

ESTIMATED BY	APPROVED BY	REF DRAWING(S)
JM	CO	

1. Runoff curve number (CN) Present Developed Area: **F**

Soil Name & Hydrologic Group	Cover Description (cover type, treatment & conditions)	CN	Area (acres)	Product of CN x Area
Group D	Grass - Good	80	0.02	1.44
Group D	Impervious	98	0.47	45.77
	TOTAL =		0.49	47.21

$$\text{CN (weighted)} = \frac{\text{total product}}{\text{total area}} = \frac{47.21}{0.49}$$

CN (weighted) = 97.33 Use **CN = 97**

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CURVE NUMBER WORKSHEET

WO. NO.	DATE	SHEET		OF	
12546.01	10/1/2024		7		8

PROJECT TITLE	LOCATION
OHM Creedmoor	79-20 Winchester Blvd

ESTIMATED BY	APPROVED BY	REF DRAWING(S)
JM	CO	

1. Runoff curve number (CN) Present Developed Area: **G**

Soil Name & Hydrologic Group	Cover Description (cover type, treatment & conditions)	CN	Area (acres)	Product of CN x Area
Group D	Grass - Good	80	0.14	11.04
Group D	Impervious	98	0.14	13.82
	TOTAL =		0.28	24.86

$$\text{CN (weighted)} = \frac{\text{total product}}{\text{total area}} = \frac{24.86}{0.28}$$

CN (weighted) = 89.10 Use **CN = 89**

CURVE NUMBER WORKSHEET

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WO. NO.	DATE	SHEET		OF	
12546.01	10/1/2024		8		8

PROJECT TITLE	LOCATION
OHM Creedmoor	79-20 Winchester Blvd

ESTIMATED BY	APPROVED BY	REF DRAWING(S)
JM	CO	

1. Runoff curve number (CN) Present [Developed] Area: **Building Area**

Soil Name & Hydrologic Group	Cover Description (cover type, treatment & conditions)	CN	Area (acres)	Product of CN x Area
Group D	Grass - Good	80	0.26	21.12
Group D	Impervious	98	0.41	39.79
	TOTAL =		0.67	60.91

$$\text{CN (weighted)} = \frac{\text{total product}}{\text{total area}} = \frac{60.91}{0.67}$$

CN (weighted) = 90.91 Use **CN = 91**

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TIME OF CONCENTRATION WORKSHEET

WO. NO.	DATE	SHEET
12546.01	9/5/2024	1 OF 8

PROJECT TITLE	LOCATION
OHM Creedmoor	79-20 Winchester Blvd

ESTIMATED BY	APPROVED BY	REF DRAWING(S)
JM	CO	

Present | Developed Area: **A**

1. Sheet Flow

		Segment ID	A-B	B-C		
1.	Surface Description (table 3-1)		Dense Grass	Impervious		
2.	Manning's roughness coeff., 'n' (table 3-1)		0.24	0.01		
3.	Flow length, L (total L ≤ 150ft)	ft	74.85	75.15		
4.	Two-year 24-hour rainfall, P_2	in	3.50	3.50		
5.	Land Slope, s	ft/ft	0.027	0.015		
6.	$T_t = \frac{0.007\,(nL)^{0.8}}{P_2^{0.5}\, s^{0.4}}$	hr	0.16	0.02		0.18

2. Shallow Concentrated Flow

		Segment ID	C-D			
7.	Surface description (paved or unpaved)		Paved			
8.	Flow length, L	ft	36.87			
9.	Watercourse slope, s	ft/ft	0.015			
10.	Average velocity, V (figure 3-1)	ft/s	2.49			
11.	$T_t = \frac{L}{3600\, V}$	hr	0.00			0.00

3. Channel Flow

		Segment ID				
12.	Cross sectional flow area, a	ft^2				
13.	Wetted perimeter, p_w	ft				
14.	Hydraulic radius, $r = a/p_w$	ft				
15.	Channel slope, s	ft/ft				
16.	Manning's roughness coefficient, n					
17.	$V = \frac{1.49\, r^{2/3}\, s^{1/2}}{n}$	ft/s				
18.	Flow Length, L	ft				
19.	$T_t = \frac{L}{3600\, V}$	hr				0.00

20. Total Tc For Watershed or Subarea (Add Steps 6, 11, and 19)

hr = 0.18

min = 11.00

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TIME OF CONCENTRATION WORKSHEET

WO. NO.	DATE	SHEET
12546.01	9/5/2024	2 OF 8

PROJECT TITLE	LOCATION
OHM Creedmoor	79-20 Winchester Blvd

ESTIMATED BY	APPROVED BY	REF DRAWING(S)
JM	CO	

Present | Developed Area: **B**

1. Sheet Flow

		Segment ID	A-B	B-C		
1.	Surface Description (table 3-1)		Dense Grass	Impervious		
2.	Manning's roughness coeff., 'n' (table 3-1)		0.24	0.01		
3.	Flow length, L (total L $\leq$ 150ft)	ft	126.36	23.64		
4.	Two-year 24-hour rainfall, P_2	in	3.50	3.50		
5.	Land Slope, s	ft/ft	0.013	0.020		
6.	$T_t = \frac{0.007\,(nL)^{0.8}}{P_2^{0.5}\, s^{0.4}}$	hr	0.33	0.01		0.33

2. Shallow Concentrated Flow

		Segment ID	C-D			
7.	Surface description (paved or unpaved)		Paved			
8.	Flow length, L	ft	36.13			
9.	Watercourse slope, s	ft/ft	0.020			
10.	Average velocity, V (figure 3-1)	ft/s	2.87			
11.	$T_t = \frac{L}{3600\, V}$	hr	0.00			0.00

3. Channel Flow

		Segment ID				
12.	Cross sectional flow area, a	ft^2				
13.	Wetted perimeter, p_w	ft				
14.	Hydraulic radius, $r = a/p_w$	ft				
15.	Channel slope, s	ft/ft				
16.	Manning's roughness coefficient, n					
17.	$V = \frac{1.49\, r^{2/3}\, s^{1/2}}{n}$	ft/s				
18.	Flow Length, L	ft				
19.	$T_t = \frac{L}{3600\, V}$	hr				0.00

20. Total Tc For Watershed or Subarea (Add Steps 6, 11, and 19)

hr = 0.34

min = 20.00

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TIME OF CONCENTRATION WORKSHEET

WO. NO.	DATE	SHEET
12546.01	9/5/2024	3 OF 8

PROJECT TITLE	LOCATION
OHM Creedmoor	79-20 Winchester Blvd

ESTIMATED BY	APPROVED BY	REF DRAWING(S)
JM	CO	

Present | Developed Area: **C**

1. Sheet Flow

		Segment ID	A-B			
1.	Surface Description (table 3-1)		Impervious			
2.	Manning's roughness coeff., 'n' (table 3-1)		0.01			
3.	Flow length, L (total L $\leq$ 150ft)	ft	132.15			
4.	Two-year 24-hour rainfall, P_2	in	3.50			
5.	Land Slope, s	ft/ft	0.010			
6.	$T_t = \frac{0.007\,(nL)^{0.8}}{P_2^{0.5}\, s^{0.4}}$	hr	0.03			0.03

2. Shallow Concentrated Flow

		Segment ID				
7.	Surface description (paved or unpaved)					
8.	Flow length, L	ft				
9.	Watercourse slope, s	ft/ft				
10.	Average velocity, V (figure 3-1)	ft/s				
11.	$T_t = \frac{L}{3600\, V}$	hr				0.00

3. Channel Flow

		Segment ID				
12.	Cross sectional flow area, a	ft^2				
13.	Wetted perimeter, p_w	ft				
14.	Hydraulic radius, $r = a/p_w$	ft				
15.	Channel slope, s	ft/ft				
16.	Manning's roughness coefficient, n					
17.	$V = \frac{1.49\, r^{2/3}\, s^{1/2}}{n}$	ft/s				
18.	Flow Length, L	ft				
19.	$T_t = \frac{L}{3600\, V}$	hr				0.00

20. Total Tc For Watershed or Subarea (Add Steps 6, 11, and 19)

hr = 0.03

min = 6.00

Tectonic
PRACTICAL SOLUTIONS. EXCEPTIONAL SERVICE.

TIME OF CONCENTRATION WORKSHEET

WO. NO.	DATE	SHEET
12546.01	9/5/2024	4 OF 8

PROJECT TITLE	LOCATION
OHM Creedmoor	79-20 Winchester Blvd

ESTIMATED BY	APPROVED BY	REF DRAWING(S)
JM	CO	

Present | Developed Area: **D**

1. Sheet Flow

		Segment ID	A-B			
1.	Surface Description (table 3-1)		Impervious			
2.	Manning's roughness coeff., 'n' (table 3-1)		0.01			
3.	Flow length, L (total L $\leq$ 150ft)	ft	50.81			
4.	Two-year 24-hour rainfall, P_2	in	3.50			
5.	Land Slope, s	ft/ft	0.010			
6.	$T_t = \frac{0.007\,(nL)^{0.8}}{P_2^{0.5}\, s^{0.4}}$	hr	0.01			0.01

2. Shallow Concentrated Flow

		Segment ID				
7.	Surface description (paved or unpaved)					
8.	Flow length, L	ft				
9.	Watercourse slope, s	ft/ft				
10.	Average velocity, V (figure 3-1)	ft/s				
11.	$T_t = \frac{L}{3600\, V}$	hr				0.00

3. Channel Flow

		Segment ID				
12.	Cross sectional flow area, a	ft^2				
13.	Wetted perimeter, p_w	ft				
14.	Hydraulic radius, $r = a/p_w$	ft				
15.	Channel slope, s	ft/ft				
16.	Manning's roughness coefficient, n					
17.	$V = \frac{1.49\, r^{2/3}\, s^{1/2}}{n}$	ft/s				
18.	Flow Length, L	ft				
19.	$T_t = \frac{L}{3600\, V}$	hr				0.00

20. Total Tc For Watershed or Subarea (Add Steps 6, 11, and 19)

hr = 0.01

min = 6.00

Tectonic
PRACTICAL SOLUTIONS. EXCEPTIONAL SERVICE.

TIME OF CONCENTRATION WORKSHEET

WO. NO.	DATE	SHEET
12546.01	9/5/2024	5 OF 8

PROJECT TITLE	LOCATION
OHM Creedmoor	79-20 Winchester Blvd

ESTIMATED BY	APPROVED BY	REF DRAWING(S)
JM	CO	

Present | Developed Area: **E**

1. Sheet Flow

		Segment ID	A-B	B-C		
1.	Surface Description (table 3-1)		Dense Grass	Impervious		
2.	Manning's roughness coeff., 'n' (table 3-1)		0.24	0.01		
3.	Flow length, L (total L ≤ 150ft)	ft	38.20	65.54		
4.	Two-year 24-hour rainfall, P_2	in	3.50	3.50		
5.	Land Slope, s	ft/ft	0.006	0.011		
6.	$T_t = \frac{0.007\,(nL)^{0.8}}{P_2^{0.5}\, s^{0.4}}$	hr	0.17	0.02		0.19

2. Shallow Concentrated Flow

		Segment ID				
7.	Surface description (paved or unpaved)					
8.	Flow length, L	ft				
9.	Watercourse slope, s	ft/ft				
10.	Average velocity, V (figure 3-1)	ft/s				
11.	$T_t = \frac{L}{3600\, V}$	hr				0.00

3. Channel Flow

		Segment ID				
12.	Cross sectional flow area, a	ft^2				
13.	Wetted perimeter, p_w	ft				
14.	Hydraulic radius, $r = a/p_w$	ft				
15.	Channel slope, s	ft/ft				
16.	Manning's roughness coefficient, n					
17.	$V = \frac{1.49\, r^{2/3}\, s^{1/2}}{n}$	ft/s				
18.	Flow Length, L	ft				
19.	$T_t = \frac{L}{3600\, V}$	hr				0.00

20. Total Tc For Watershed or Subarea (Add Steps 6, 11, and 19)

hr = 0.19

min = 11.00

Tectonic
PRACTICAL SOLUTIONS. EXCEPTIONAL SERVICE.

TIME OF CONCENTRATION WORKSHEET

WO. NO.	DATE	SHEET
12546.01	9/5/2024	6 OF 8

PROJECT TITLE	LOCATION
OHM Creedmoor	79-20 Winchester Blvd

ESTIMATED BY	APPROVED BY	REF DRAWING(S)
JM	CO	

Present | Developed Area: **F**

1. Sheet Flow

		Segment ID	A-B	B-C		
1.	Surface Description (table 3-1)		Dense Grass	Impervious		
2.	Manning's roughness coeff., 'n' (table 3-1)		0.24	0.01		
3.	Flow length, L (total L ≤ 150ft)	ft	6.46	143.54		
4.	Two-year 24-hour rainfall, P_2	in	3.50	3.50		
5.	Land Slope, s	ft/ft	0.003	0.004		
6.	$T_t = \frac{0.007\,(nL)^{0.8}}{P_2^{0.5}\, s^{0.4}}$	hr	0.05	0.05		0.10

2. Shallow Concentrated Flow

		Segment ID	C-D			
7.	Surface description (paved or unpaved)		Paved			
8.	Flow length, L	ft	72.25			
9.	Watercourse slope, s	ft/ft	0.004			
10.	Average velocity, V (figure 3-1)	ft/s	1.29			
11.	$T_t = \frac{L}{3600\, V}$	hr	0.02			0.02

3. Channel Flow

		Segment ID				
12.	Cross sectional flow area, a	ft^2				
13.	Wetted perimeter, p_w	ft				
14.	Hydraulic radius, $r = a/p_w$	ft				
15.	Channel slope, s	ft/ft				
16.	Manning's roughness coefficient, n					
17.	$V = \frac{1.49\, r^{2/3}\, s^{1/2}}{n}$	ft/s				
18.	Flow Length, L	ft				
19.	$T_t = \frac{L}{3600\, V}$	hr				0.00

20. Total Tc For Watershed or Subarea (Add Steps 6, 11, and 19)

hr =	**0.12**
min =	**7.00**

Tectonic
PRACTICAL SOLUTIONS. EXCEPTIONAL SERVICE.

TIME OF CONCENTRATION WORKSHEET

WO. NO.	DATE	SHEET
12546.01	9/5/2024	7 OF 8

PROJECT TITLE	LOCATION
OHM Creedmoor	79-20 Winchester Blvd

ESTIMATED BY	APPROVED BY	REF DRAWING(S)
JM	CO	

Present | Developed Area: **G**

1. Sheet Flow

		Segment ID	A-B	B-C		
1.	Surface Description (table 3-1)		Dense Grass	Impervious		
2.	Manning's roughness coeff., 'n' (table 3-1)		0.24	0.01		
3.	Flow length, L (total L ≤ 150ft)	ft	73.10	76.59		
4.	Two-year 24-hour rainfall, P_2	in	3.50	3.50		
5.	Land Slope, s	ft/ft	0.005	0.007		
6.	$T_t = \frac{0.007\,(nL)^{0.8}}{P_2^{0.5}\, s^{0.4}}$	hr	0.31	0.02		0.33

2. Shallow Concentrated Flow

		Segment ID				
7.	Surface description (paved or unpaved)					
8.	Flow length, L	ft				
9.	Watercourse slope, s	ft/ft				
10.	Average velocity, V (figure 3-1)	ft/s				
11.	$T_t = \frac{L}{3600\, V}$	hr				0.00

3. Channel Flow

		Segment ID				
12.	Cross sectional flow area, a	ft^2				
13.	Wetted perimeter, p_w	ft				
14.	Hydraulic radius, $r = a/p_w$	ft				
15.	Channel slope, s	ft/ft				
16.	Manning's roughness coefficient, n					
17.	$V = \frac{1.49\, r^{2/3}\, s^{1/2}}{n}$	ft/s				
18.	Flow Length, L	ft				
19.	$T_t = \frac{L}{3600\, V}$	hr				0.00

20. Total Tc For Watershed or Subarea (Add Steps 6, 11, and 19)

hr = 0.33

min = 20.00

Tectonic
PRACTICAL SOLUTIONS. EXCEPTIONAL SERVICE.

TIME OF CONCENTRATION WORKSHEET

WO. NO.	DATE	SHEET
12546.01	9/5/2024	8 OF 8

PROJECT TITLE	LOCATION
OHM Creedmoor	79-20 Winchester Blvd

ESTIMATED BY	APPROVED BY	REF DRAWING(S)
JM	CO	

Present: Developed Area: **Building Area**

1. Sheet Flow

		Segment ID	A-B	B-C		
1.	Surface Description (table 3-1)		Dense Grass	Impervious		
2.	Manning's roughness coeff., 'n' (table 3-1)		0.24	0.01		
3.	Flow length, L (total L ≤ 150ft)	ft	16.61	93.13		
4.	Two-year 24-hour rainfall, P_2	in	3.50	3.50		
5.	Land Slope, s	ft/ft	0.010	0.006		
6.	$T_t = \frac{0.007\,(nL)^{0.8}}{P_2^{0.5}\, s^{0.4}}$	hr	0.07	0.03		0.10

2. Shallow Concentrated Flow

		Segment ID				
7.	Surface description (paved or unpaved)					
8.	Flow length, L	ft				
9.	Watercourse slope, s	ft/ft				
10.	Average velocity, V (figure 3-1)	ft/s				
11.	$T_t = \frac{L}{3600\,V}$	hr				0.00

3. Channel Flow

		Segment ID				
12.	Cross sectional flow area, a	ft^2				
13.	Wetted perimeter, p_w	ft				
14.	Hydraulic radius, $r = a/p_w$	ft				
15.	Channel slope, s	ft/ft				
16.	Manning's roughness coefficient, n					
17.	$V = \frac{1.49\, r^{2/3}\, s^{1/2}}{n}$	ft/s				
18.	Flow Length, L	ft				
19.	$T_t = \frac{L}{3600\,V}$	hr				0.00

20. Total Tc For Watershed or Subarea (Add Steps 6, 11, and 19)

hr = 0.10

min = 6.00

APPENDIX E

STANDARD AND SPECIFICATIONS FOR CONSTRUCTION ROAD STABILIZATION

Definition & Scope

The stabilization of temporary construction access routes, on-site vehicle transportation routes, and construction parking areas to control erosion on temporary construction routes and parking areas.

Conditions Where Practice Applies

All traffic routes and parking areas for temporary use by construction traffic.

Design Criteria

Construction roads should be located to reduce erosion potential, minimize impact on existing site resources, and maintain operations in a safe manner. Highly erosive soils, wet or rocky areas, and steep slopes should be avoided. Roads should be routed where seasonal water tables are deeper than 18 inches. Surface runoff and control should be in accordance with other standards.

Road Grade – A maximum grade of 12% is recommended, although grades up to 15% are possible for short distances.

Road Width – 12 foot minimum for one-way traffic or 24 foot minimum for two-way traffic.

Side Slope of Road Embankment – 2:1 or flatter.

Ditch Capacity – On-site roadside ditch and culvert capacities shall be the 10 yr. peak runoff.

Composition – Use a 6-inch layer of NYS DOT sub-base Types 1,2,3, 4 or equivalent as specified in NYSDOT Standard Specifications.

Construction Specifications

1. Clear and strip roadbed and parking areas of all vegetation, roots, and other objectionable material.

2. Locate parking areas on naturally flat areas as available. Keep grades sufficient for drainage, but not more than 2 to 3 percent.

3. Provide surface drainage and divert excess runoff to stabilized areas.

4. Maintain cut and fill slopes to 2:1 or flatter and stabilized with vegetation as soon as grading is accomplished.

5. Spread 6-inch layer of sub-base material evenly over the full width of the road and smooth to avoid depressions.

6. Provide appropriate sediment control measures to prevent offsite sedimentation.

Maintenance

Inspect construction roads and parking areas periodically for condition of surface. Top dress with new gravel as needed. Check ditches for erosion and sedimentation after rainfall events. Maintain vegetation in a healthy, vigorous condition. Areas producing sediment should be treated immediately.

STANDARD AND SPECIFICATIONS FOR SILT FENCE

Definition & Scope

A **temporary** barrier of geotextile fabric installed on the contours across a slope used to intercept sediment laden runoff from small drainage areas of disturbed soil by temporarily ponding the sediment laden runoff allowing settling to occur. The maximum period of use is limited by the ultraviolet stability of the fabric (approximately one year).

Conditions Where Practice Applies

A silt fence may be used subject to the following conditions:

1. Maximum allowable slope length and fence length will not exceed the limits shown in the Design Criteria for the specific type of silt fence used ; and
2. Maximum ponding depth of 1.5 feet behind the fence; and
3. Erosion would occur in the form of sheet erosion; and
4. There is no concentration of water flowing to the barrier; and
5. Soil conditions allow for proper keying of fabric, or other anchorage, to prevent blowouts.

Design Criteria

1. Design computations are not required for installations of 1 month or less. Longer installation periods should be designed for expected runoff.
2. All silt fences shall be placed as close to the disturbed area as possible, but at least 10 feet from the toe of a slope steeper than 3H:1V, to allow for maintenance and roll down. The area beyond the fence must be undisturbed or stabilized.
3. The type of silt fence specified for each location on the plan shall not exceed the maximum slope length and maximum fence length requirements shown in the following table:

		Slope Length/Fence Length (ft.)		
Slope	Steepness	Standard	Reinforced	Super
<2%	< 50:1	300/1500	N/A	N/A
2-10%	50:1 to 10:1	125/1000	250/2000	300/2500
10-20%	10:1 to 5:1	100/750	150/1000	200/1000
20-33%	5:1 to 3:1	60/500	80/750	100/1000
33-50%	3:1 to 2:1	40/250	70/350	100/500
>50%	> 2:1	20/125	30/175	50/250

Standard Silt Fence (SF) is fabric rolls stapled to wooden stakes driven 16 inches in the ground.
Reinforced Silt Fence (RSF) is fabric placed against welded wire fabric with anchored steel posts driven 16 inches in the ground.
Super Silt Fence (SSF) is fabric placed against chain link fence as support backing with posts driven 3 feet in the ground.

4. Silt fence shall be removed as soon as the disturbed area has achieved final stabilization.

The silt fence shall be installed in accordance with the appropriate details. Where ends of filter cloth come together, they shall be overlapped, folded and stapled to prevent sediment bypass. Butt joints are not acceptable. A detail of the silt fence shall be shown on the plan. See Figure 5.30 on page 5.56 for Reinforced Silt Fence as an example of details to be provided.

Criteria for Silt Fence Materials

1. Silt Fence Fabric: The fabric shall meet the following specifications unless otherwise approved by the appropriate erosion and sediment control plan approval authority. Such approval shall not constitute statewide acceptance.

Fabric Properties	Minimum Acceptable Value	Test Method
Grab Tensile Strength (lbs)	110	ASTM D 4632
Elongation at Failure (%)	20	ASTM D 4632
Mullen Burst Strength (PSI)	300	ASTM D 3786
Puncture Strength (lbs)	60	ASTM D 4833
Minimum Trapezoidal Tear Strength (lbs)	50	ASTM D 4533
Flow Through Rate (gal/ min/sf)	25	ASTM D 4491
Equivalent Opening Size	40-80	US Std Sieve ASTM D 4751
Minimum UV Residual (%)	70	ASTM D 4355

2. Fence Posts (for fabricated units): The length shall be a minimum of 36 inches long. Wood posts will be of sound quality hardwood with a minimum cross sectional area of 3.5 square inches. Steel posts will be standard T and U section weighing not less than 1.00 pound per linear foot. Posts for super silt fence shall be standard chain link fence posts.

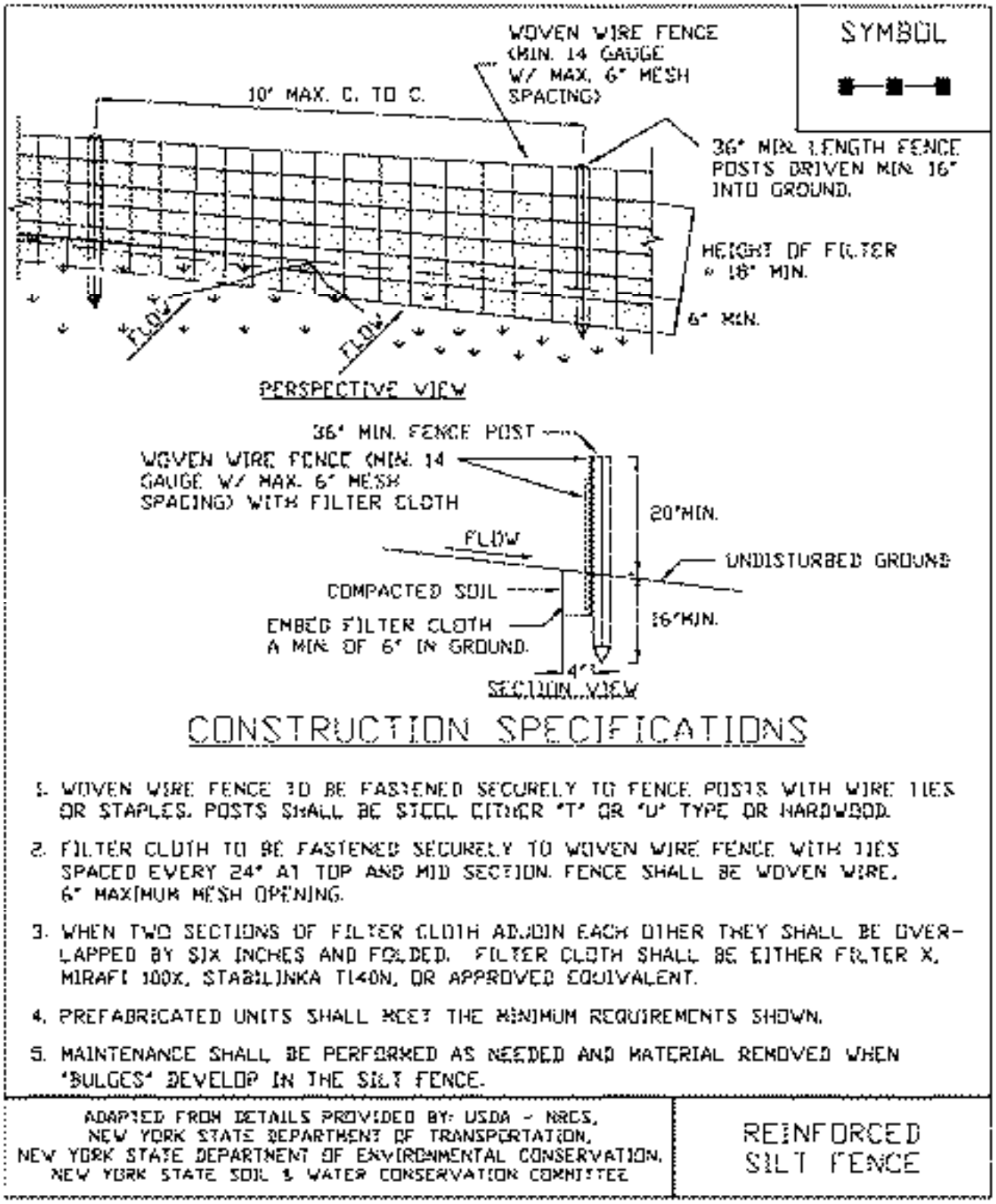
3. Wire Fence for reinforced silt fence: Wire fencing shall be a minimum 14 gage with a maximum 6 in. mesh opening, or as approved.

4. Prefabricated silt fence is acceptable as long as all material specifications are met.

Super Silt Fence

Reinforced Silt Fence

Figure 5.30
Reinforced Silt Fence



STANDARD AND SPECIFICATIONS FOR PROTECTING VEGETATION DURING CONSTRUCTION

Definition & Scope

The protection of trees, shrubs, ground cover and other vegetation from damage by construction equipment. In order to preserve existing vegetation determined to be important for soil erosion control, water quality protection, shade, screening, buffers, wildlife habitat, wetland protection, and other values.

Conditions Where Practices Applies

On planned construction sites where valued vegetation exists and needs to be preserved.

Design Criteria

1. Planning Considerations

   A. Inventory:

      1) Property boundaries, topography, vegetation and soils information should be gathered. Identify potentially high erosion areas, areas with tree windthrow potential, etc. A vegetative cover type map should be made on a copy of a topographic map which shows other natural and manmade features. Vegetation that is desirable to preserve because of its value for screening, shade, critical erosion control, endangered species, aesthetics, etc., should be identified and marked on the map.

      2) Based upon this data, general statements should be prepared about the present condition, potential problem areas, and unique features of the property.

   B. Planning:

      1) After engineering plans (plot maps) are prepared, another field review should take place and recommendations made for the vegetation to be saved. Minor adjustments in location of roads, dwellings, and utilities may be needed. Construction on steep slopes, erodible soils, wetlands, and streams should be avoided. Clearing limits should be delineated (See "Determine Limits of Clearing and Grading" on page 2.2).

      2) Areas to be seeded and planted should be identified. Remaining vegetation should blend with their surroundings and/or provide special function such as a filter strip, buffer zone, or screen.

      3) Trees and shrubs of special seasonal interest, such as flowering dogwood, red maple, striped maple, serviceberry, or shadbush, and valuable potential shade trees should be identified and marked for special protective treatment as appropriate.

      4) Trees to be cut should be marked on the plans. If timber can be removed for salable products, a forester should be consulted for marketing advice.

      5) Trees that may become a hazard to people, personal property, or utilities should be removed. These include trees that are weak-wooded, disease-prone, subject to windthrow, or those that have severely damaged root systems.

      6) The vigor of remaining trees may be improved by a selective thinning. A forester should be consulted for implementing this practice.

2. Measures to Protect Vegetation

   A. Limit soil placement over existing tree and shrub roots to a maximum of 3 inches. Soils with loamy texture and good structure should be used.

   B. Use retaining walls and terraces to protect roots of trees and shrubs when grades are lowered. Lowered grades should start no closer than the dripline of the tree. For narrow-canopied trees and shrubs, the stem diameter in inches is converted to feet and doubled, such that a 10 inch tree should be protected to 20 feet.

   C. Trenching across tree root systems should be the same minimum distance from the trunk, as in "B". Tunnels under root systems for underground utilities should start 18 inches or deeper below the normal ground surface. Tree roots which must be severed should be cut clean. Backfill material that will be in contact with the roots should be topsoil or a prepared planting soil mixture.

   D. Construct sturdy fences, or barriers, of wood, steel, or other protective material around valuable

vegetation for protection from construction equipment. Place barriers far enough away from trees, but not less than the specifications in "B", so that tall equipment such as backhoes and dump trucks do not contact tree branches.

E. Construction limits should be identified and clearly marked to exclude equipment.

F. Avoid spills of oil/gas and other contaminants.

G. Obstructive and broken branches should be pruned properly. The branch collar on all branches whether living or dead should not be damaged. The 3 or 4 cut method should be used on all branches larger than two inches at the cut. First cut about one-third the way through the underside of the limb (about 6-12 inches from the tree trunk). Then (approximately an inch further out) make a second cut through the limb from the upper side. When the branch is removed, there is no splintering of the main tree trunk. Remove the stub. If the branch is larger than 5-6 inches in diameter, use the four cut system. Cuts 1 and 2 remain the same and cut 3 should be from the underside of the limb, on the outside of the branch collar. Cut 4 should be from the top and in alignment with the 3rd cut. Cut 3 should be 1/4 to 1/3 the way through the limb. This will prevent the bark from peeling down the trunk. Do not paint the cut surface.

H. Penalties for damage to valuable trees, shrubs, and herbaceous plants should be clearly spelled out in the contract.

PROTECTING TREES IN HEAVY USE AREAS

The compaction of soil over the roots of trees and shrubs by the trampling of recreationists, vehicular traffic, etc., reduces oxygen, water, and nutrient uptake by feeder roots. This weakens and may eventually kill the plants. Table 2.6 rates the “Susceptibility of Tree Species to Compaction.”

Where heavy compaction is anticipated, apply and maintain a 3 to 4 inch layer of undecayed wood chips or 2 inches of No. 2 washed, crushed gravel. In addition, use of a wooden or plastic mat may be used to lessen compaction, if applicable.

Table 2.6
Susceptibility of Tree Species to Compaction[1]

Resistant:

Box elder……	*Acer negundo*	Willows……	*Salix spp.*
Green ash……..	*Fraxinus pennsylvanica*	Honey locust……	*Gleditsia triacanthos*
Red elm……..	*Ulmus rubra*	Eastern cottonwood…….	*Populus deltoides*
Hawthornes……	*Crataegus spp.*	Swamp white oak…….	*Quercus bicolor*
Bur oak……..	*Quercus macrocarpa*	Hophornbeam……	*Ostrya virginiana*
Northern white cedar….	*Thuja occidentalis*		

Intermediate:

Red maple…….	*Acer rubrum*	Sweetgum…….	*Liquidambar styraciflua*
Silver maple……..	*Acer saccharinum*	Norway maple…….	*Acer platanoides*
Hackberry…….	*Celtis occidentalis*	Shagbark hickory…….	*Carya ovata*
Black gum……	*Nyssa sylvatica*	London plane……..	*Platanus x hybrida*
Red oak……	*Quercus rubra*	Pin oak…….	*Quercus palustris*
Basswood…….	*Tilia americana*		

Susceptible:

Sugar maple…….	*Acer saccharum*	Austrian Pine……	*Pinus nigra*
White pine……	*Pinus strobus*	White ash…….	*Fraxinus americana*
Blue spruce……..	*Picea pungens*	Paper birch……..	*Betula papyrifera*
White oak……	*Quercus alba*	Moutain ash…….	*Sorbus aucuparia*
Red pine……..	*Pinus resinosa*	Japanese maple……	*Acer palmatum*

[1] If a tree species does not appear on the list, insufficient information is available to rate it for this purpose.

STANDARD AND SPECIFICATIONS FOR STORM DRAIN INLET PROTECTION

Definition & Scope

A **temporary** barrier with low permeability, installed around inlets in the form of a fence, berm or excavation around an opening, detaining water and thereby reducing the sediment content of sediment laden water by settling thus preventing heavily sediment laden water from entering a storm drain system.

Conditions Where Practice Applies

This practice shall be used where the drainage area to an inlet is disturbed, it is not possible to temporarily divert the storm drain outfall into a trapping device, and watertight blocking of inlets is not advisable. **It is not to be used in place of sediment trapping devices.** This practice shall be used with an upstream buffer strip if placed at a storm drain inlet on a paved surface. It may be used in conjunction with storm drain diversion to help prevent siltation of pipes installed with low slope angle.

Types of Storm Drain Inlet Practices

There are five (5) specific types of storm drain inlet protection practices that vary according to their function, location, drainage area, and availability of materials:

I. Excavated Drop Inlet Protection
II. Fabric Drop Inlet Protection
III. Stone & Block Drop Inlet Protection
IV. Paved Surface Inlet Protection
V. Manufactured Insert Inlet Protection

Design Criteria

Drainage Area – The drainage area for storm drain inlets shall not exceed one acre. Erosion control/temporary stabilization measures must be implemented on the disturbed drainage area tributary to the inlet. The crest elevations of these practices shall provide storage and minimize bypass flow.

Type I – Excavated Drop Inlet Protection

This practice is generally used during initial overlot grading after the storm drain trunk line is installed.

Limit the drainage area to the inlet device to 1 acre. Excavated side slopes shall be no steeper than 2:1. The minimum depth shall be 1 foot and the maximum depth 2 feet as measured from the crest of the inlet structure. Shape the excavated basin to fit conditions with the longest dimension oriented toward the longest inflow area to provide maximum trap efficiency. The capacity of the excavated basin should be established to contain 900 cubic feet per acre of disturbed area. Weep holes, protected by fabric and stone, should be provided for draining the temporary pool.

Inspect and clean the excavated basin after every storm. Sediment should be removed when 50 percent of the storage volume is achieved This material should be incorporated into the site in a stabilized manner.

Type II – Fabric Drop Inlet Protection

This practice is generally used during final elevation grading phases after the storm drain system is completed.

Limit the drainage area to 1 acre per inlet device. Land area slope immediately surrounding this device should not exceed 1 percent. The maximum height of the fabric above the inlet crest shall not exceed 1.5 feet unless reinforced.

The top of the barrier should be maintained to allow overflow to drop into the drop inlet and not bypass the inlet to

unprotected lower areas. Support stakes for fabric shall be a minimum of 3 feet long, spaced a maximum 3 feet apart. They should be driven close to the inlet so any overflow drops into the inlet and not on the unprotected soil. Improved performance and sediment storage volume can be obtained by excavating the area.

Inspect the fabric barrier after each rain event and make repairs as needed. Remove sediment from the pool area as necessary with care not to undercut or damage the filter fabric. Upon stabilization of the drainage area, remove all materials and unstable sediment and dispose of properly. Bring the adjacent area of the drop inlet to grade, smooth and compact and stabilize in the appropriate manner to the site.

Type III – Stone and Block Drop Inlet Protection

This practice is generally used during the initial and intermediate overlot grading of a construction site.

Limit the drainage area to 1 acre at the drop inlet. The stone barrier should have a minimum height of 1 foot and a maximum height of 2 feet. Do not use mortar. The height should be limited to prevent excess ponding and bypass flow.

Recess the first course of blocks at least 2 inches below the crest opening of the storm drain for lateral support. Subsequent courses can be supported laterally if needed by placing a 2x4 inch wood stud through the block openings perpendicular to the course. The bottom row should have a few blocks oriented so flow can drain through the block to dewater the basin area.

The stone should be placed just below the top of the blocks on slopes of 2:1 or flatter. Place hardware cloth of wire mesh with ½ inch openings over all block openings to hold stone in place.

As an optional design, the concrete blocks may be omitted and the entire structure constructed of stone, ringing the outlet ("doughnut"). The stone should be kept at a 3:1 slope toward the inlet to keep it from being washed into the inlet. A level area 1 foot wide and four inches below the crest will further prevent wash. Stone on the slope toward the inlet should be at least 3 inches in size for stability and 1 inch or smaller away from the inlet to control flow rate. The elevation of the top of the stone crest must be maintained 6 inches lower than the ground elevation down slope from the inlet to ensure that all storm flows pass over the stone into the storm drain and not past the structure. Temporary diking should be used as necessary to prevent bypass flow.

The barrier should be inspected after each rain event and repairs made where needed. Remove sediment as necessary to provide for accurate storage volume for subsequent rains. Upon stabilization of contributing drainage area, remove all materials and any unstable soil and dispose of properly.

Bring the disturbed area to proper grade, smooth, compact and stabilize in a manner appropriate to the site.

Type IV – Paved Surface Inlet Protection

This practice is generally used after pavement construction has been done while final grading and soil stabilization is occurring. These practices should be used with upstream buffer strips in linear construction applications, and with temporary surface stabilization for overlot areas, to reduce the sediment load at the practice. This practice includes sand bags, compost filter socks, geo-tubes filled with ballast, and manufactured surface barriers. Pea gravel can also be used in conjunction with these practices to improve performance. When the inlet is not at a low point, and is offset from the pavement or gutter line, protection should be selected and installed so that flows are not diverted around the inlet.

The drainage area should be limited to 1 acre at the drain inlet. All practices will be placed at the inlet perimeter or beyond to maximize the flow capacity of the inlet. Practices shall be weighted, braced, tied, or otherwise anchored to prevent movement or shifting of location on paved surfaces. Traffic safety shall be integrated with the use of this practice. All practices should be marked with traffic safety cones as appropriate. Structure height shall not cause flooding or by-pass flow that would cause additional erosion.

The structure should be inspected after every storm event. Any sediment should be removed and disposed of on the site. Any broken or damaged components should be replaced. Check all materials for proper anchorage and secure as necessary.

Type V - Manufactured Insert Inlet Protection

The drainage area shall be limited to 1 acre at the drain inlet. All inserts will be installed and anchored in accordance with the manufacturers recommendations and design details. The fabric portion of the structure will equal or exceed the performance standard for the silt fence fabric. The inserts will be installed to preserve a minimum of 50 percent of the open, unobstructed design flow area of the storm drain inlet opening to maintain capacity for storm events.

Figure 5.31
Excavated Drop Inlet Protection

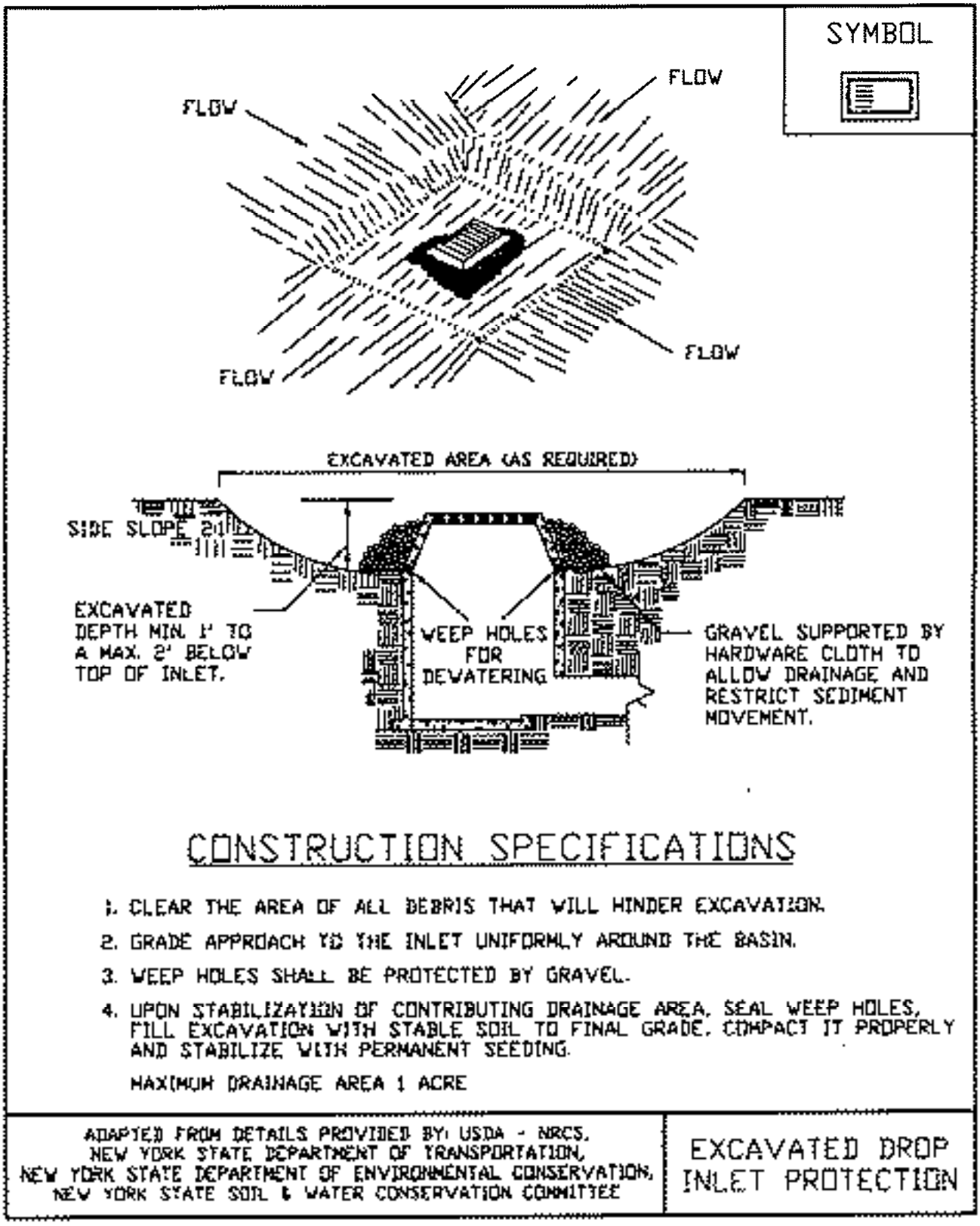


Figure 5.32
Fabric Drop Inlet Protection

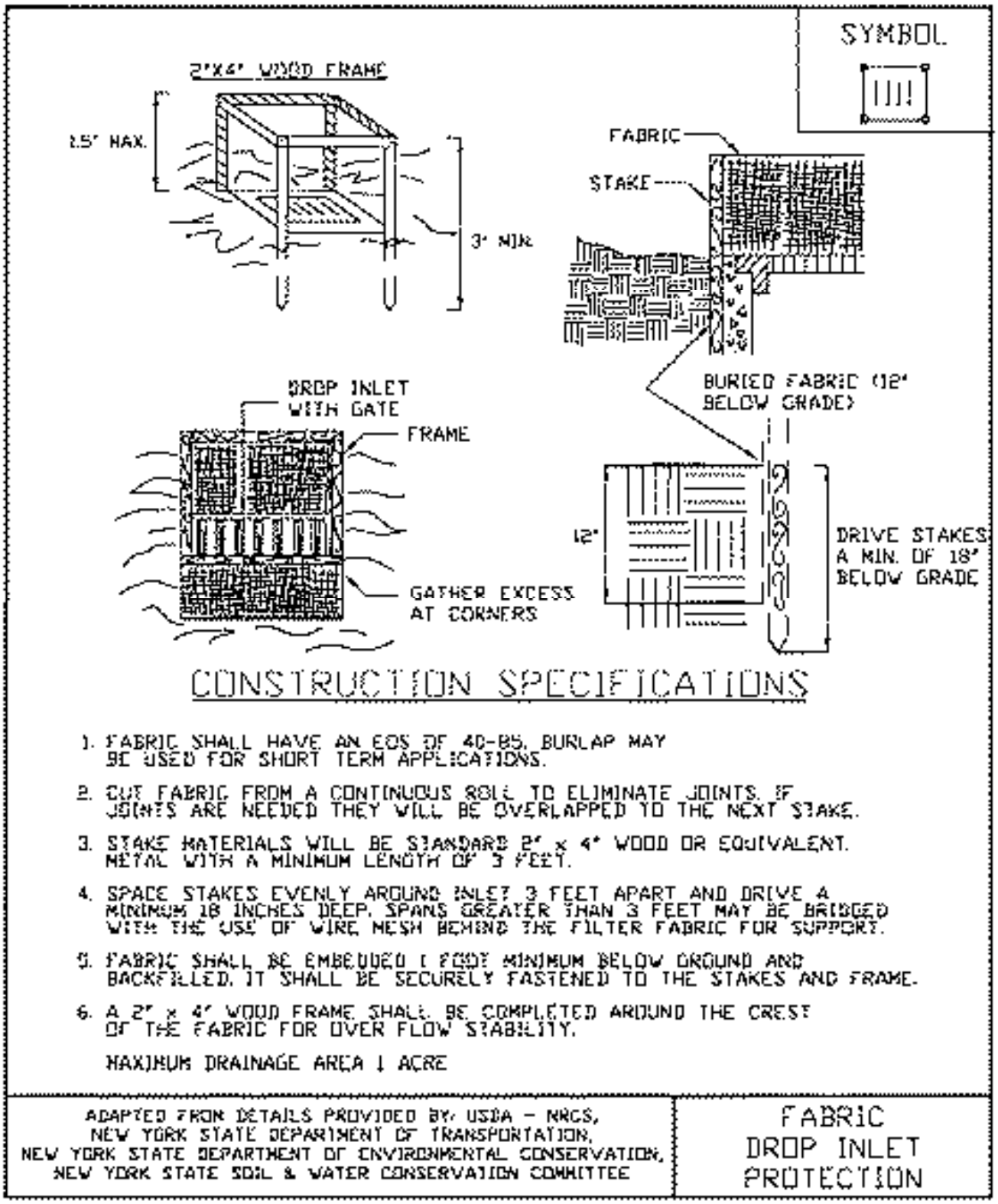
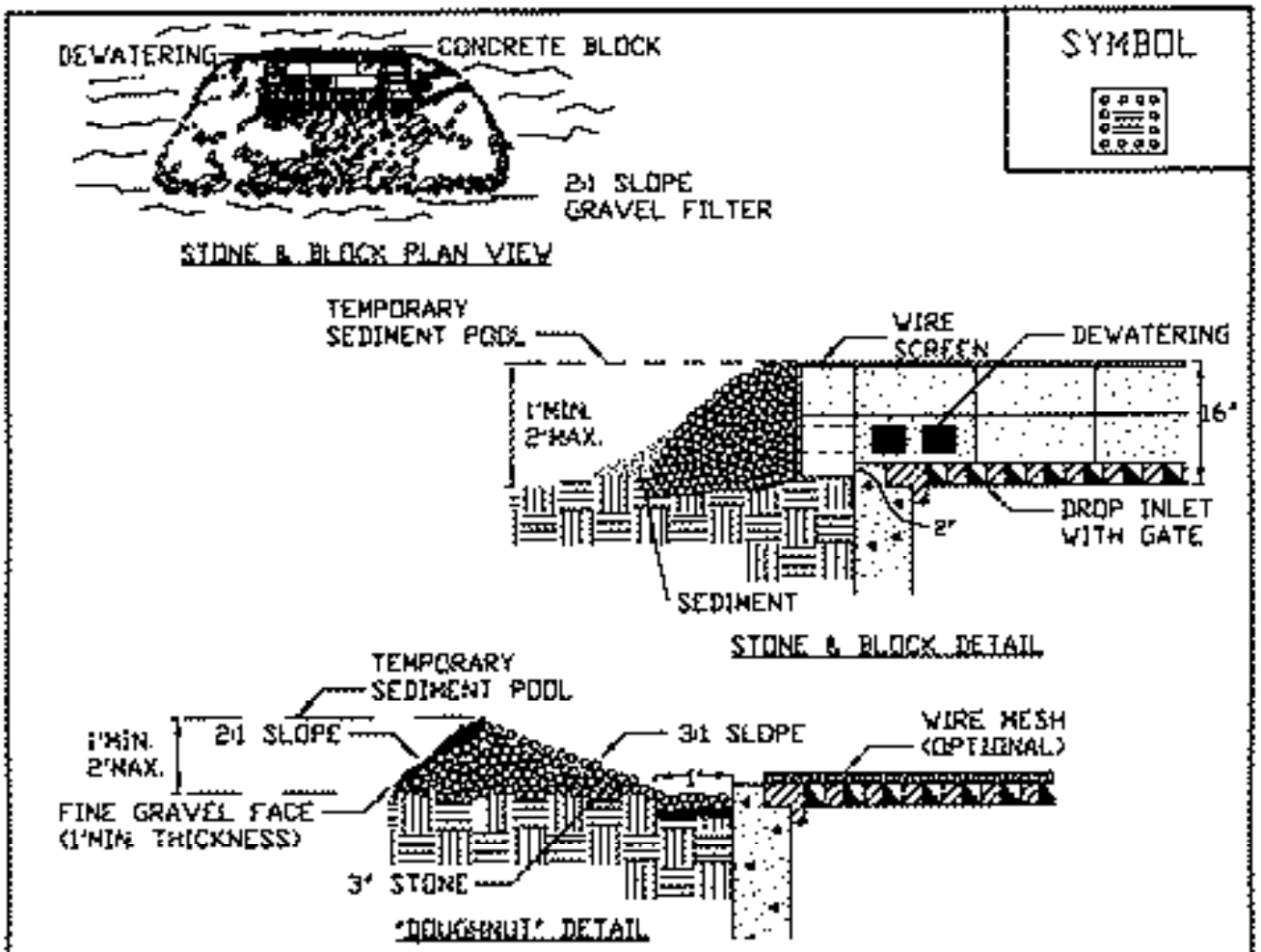


Figure 5.33
Stone & Block Drop Inlet Protection



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 : ACRE

ADAPTED FROM DETAILS PROVIDED BY: USDA - NRCS,
NEW YORK STATE DEPARTMENT OF TRANSPORTATION,
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION,
NEW YORK STATE SOIL & WATER CONSERVATION COMMITTEE

STONE & BLOCK
DROP INLET
PROTECTION

STANDARD AND SPECIFICATIONS FOR CONCRETE TRUCK WASHOUT

Definition & Scope

A temporary excavated or above ground lined constructed pit where concrete truck mixers and equipment can be washed after their loads have been discharged, to prevent highly alkaline runoff from entering storm drainage systems or leaching into soil.

Conditions Where Practice Applies

Washout facilities shall be provided for every project where concrete will be poured or otherwise formed on the site. This facility will receive highly alkaline wash water from the cleaning of chutes, mixers, hoppers, vibrators, placing equipment, trowels, and screeds. Under no circumstances will wash water from these operations be allowed to infiltrate into the soil or enter surface waters.

Design Criteria

Capacity: The washout facility should be sized to contain solids, wash water, and rainfall and sized to allow for the evaporation of the wash water and rainfall. Wash water shall be estimated at 7 gallons per chute and 50 gallons per hopper of the concrete pump truck and/or discharging drum. The minimum size shall be 8 feet by 8 feet at the bottom and 2 feet deep. If excavated, the side slopes shall be 2 horizontal to 1 vertical.

Location: Locate the facility a minimum of 100 feet from drainage swales, storm drain inlets, wetlands, streams and other surface waters. Prevent surface water from entering the structure except for the access road. Provide appropriate access with a gravel access road sloped down to the structure. Signs shall be placed to direct drivers to the facility after their load is discharged.

Liner: All washout facilities will be lined to prevent leaching of liquids into the ground. The liner shall be plastic sheeting with a minimum thickness of 10 mils with no holes or tears, and anchored beyond the top of the pit with an earthen berm, sand bags, stone, or other structural appurtenance except at the access point.

If pre-fabricated washouts are used they must ensure the capture and containment of the concrete wash and be sized based on the expected frequency of concrete pours. They shall be sited as noted in the location criteria.

Maintenance

- All concrete washout facilities shall be inspected daily. Damaged or leaking facilities shall be deactivated and repaired or replaced immediately. Excess rainwater that has accumulated over hardened concrete should be pumped to a stabilized area, such as a grass filter strip.
- Accumulated hardened material shall be removed when 75% of the storage capacity of the structure is filled. Any excess wash water shall be pumped into a containment vessel and properly disposed of off site.
- Dispose of the hardened material off-site in a construction/demolition landfill. On-site disposal may be allowed if this has been approved and accepted as part of the projects SWPPP. In that case, the material should be recycled as specified, or buried and covered with a minimum of 2 feet of clean compacted earthfill that is permanently stabilized to prevent erosion.
- The plastic liner shall be replaced with each cleaning of the washout facility.
- Inspect the project site frequently to ensure that no concrete discharges are taking place in non-designated areas.

STANDARD AND SPECIFICATIONS FOR DUST CONTROL

Definition & Scope

The control of dust resulting from land-disturbing activities, to prevent surface and air movement of dust from disturbed soil surfaces that may cause off-site damage, health hazards, and traffic safety problems.

Conditions Where Practice Applies

On construction roads, access points, and other disturbed areas subject to surface dust movement and dust blowing where off-site damage may occur if dust is not controlled.

Design Criteria

Construction operations should be scheduled to minimize the amount of area disturbed at one time. Buffer areas of vegetation should be left where practical. Temporary or permanent stabilization measures shall be installed. No specific design criteria is given; see construction specifications below for common methods of dust control.

Water quality must be considered when materials are selected for dust control. Where there is a potential for the material to wash off to a stream, ingredient information must be provided to the NYSDEC.

No polymer application shall take place without written approval from the NYSDEC.

Construction Specifications

A. **Non-driving Areas** – These areas use products and materials applied or placed on soil surfaces to prevent airborne migration of soil particles.

Vegetative Cover – For disturbed areas not subject to traffic, vegetation provides the most practical method of dust control (see Section 3).

Mulch (including gravel mulch) – Mulch offers a fast effective means of controlling dust. This can also include rolled erosion control blankets.

Spray adhesives – These are products generally composed of polymers in a liquid or solid form that are mixed with water to form an emulsion that is sprayed on the soil surface with typical hydroseeding equipment. The mixing ratios and application rates will be in accordance with the manufacturer's recommendations for the specific soils on the site. In no case should the application of these adhesives be made on wet soils or if there is a probability of precipitation within 48 hours of its proposed use. Material Safety Data Sheets will be provided to all applicators and others working with the material.

B. **Driving Areas** – These areas utilize water, polymer emulsions, and barriers to prevent dust movement from the traffic surface into the air.

Sprinkling – The site may be sprayed with water until the surface is wet. This is especially effective on haul roads and access route to provide short term limited dust control.

Polymer Additives – These polymers are mixed with water and applied to the driving surface by a water truck with a gravity feed drip bar, spray bar or automated distributor truck. The mixing ratios and application rates will be in accordance with the manufacturer's recommendations. Incorporation of the emulsion into the soil will be done to the appropriate depth based on expected traffic. Compaction after incorporation will be by vibratory roller to a minimum of 95%. The prepared surface shall be moist and no application of the polymer will be made if there is a probability of precipitation within 48 hours of its proposed use. Material Safety Data Sheets will be provided to all applicators working with the material.

Barriers – Woven geo-textiles can be placed on the driving surface to effectively reduce dust throw and particle migration on haul roads. Stone can also be used for construction roads for effective dust control.

Windbreak – A silt fence or similar barrier can control air currents at intervals equal to ten times the barrier height. Preserve existing wind barrier vegetation as much as practical.

Maintenance

Maintain dust control measures through dry weather periods until all disturbed areas are stabilized.

STANDARD AND SPECIFICATIONS FOR COMPOST FILTER SOCK

Definition & Scope

A **temporary** sediment control practice composed of a degradable geotextile mesh tube filled with compost filter media to filter sediment and other pollutants associated with construction activity to prevent their migration offsite.

Condition Where Practice Applies

Compost filter socks can be used in many construction site applications where erosion will occur in the form of sheet erosion and there is no concentration of water flowing to the sock. In areas with steep slopes and/or rocky terrain, soil conditions must be such that good continuous contact between the sock and the soil is maintained throughout its length. For use on impervious surfaces such as road pavement or parking areas, proper anchorage must be provided to prevent shifting of the sock or separation of the contact between the sock and the pavement. Compost filter socks are utilized both at the site perimeter as well as within the construction areas. These socks may be filled after placement by blowing compost into the tube pneumatically, or filled at a staging location and moved into its designed location.

Design Criteria

1. Compost filter socks will be placed on the contour with both terminal ends of the sock extended 8 feet upslope at a 45 degree angle to prevent bypass flow.

2. Diameters designed for use shall be 12" – 32" except that 8" diameter socks may be used for residential lots to control areas less than 0.25 acres.

3. The flat dimension of the sock shall be at least 1.5 times the nominal diameter.

4. The **Maximum Slope Length** (in feet) above a compost filter sock shall not exceed the following limits:

Dia. (in.)	Slope %						
	2	**5**	**10**	**20**	**25**	**33**	**50**
8	225*	200	100	50	20	—	—
12	250	225	125	65	50	40	25
18	275	250	150	70	55	45	30
24	350	275	200	130	100	60	35
32	450	325	275	150	120	75	50
* Length in feet							

5. The compost infill shall be well decomposed (matured at least 3 months), weed-free, organic matter. It shall be aerobically composted, possess no objectionable odors, and contain less than 1%, by dry weight, of man-made foreign matter. The physical parameters of the compost shall meet the standards listed in Table 5.2 - Compost Standards Table. **Note: All biosolids compost produced in New York State (or approved for importation) must meet NYS DEC's 6 NYCRR Part 360 (Solid Waste Management Facilities) requirements. The Part 360 requirements are equal to or more stringent than 40 CFR Part 503 which ensure safe standards for pathogen reduction and heavy metals content. When using compost filter socks adjacent to surface water, the compost should have a low nutrient value.**

6. The compost filter sock fabric material shall meet the

7. Compost filter socks shall be anchored in earth with 2" x 2" wooden stakes driven 12" into the soil on 10 foot centers on the centerline of the sock. On uneven terrain, effective ground contact can be enhanced by the placement of a fillet of filter media on the disturbed area side of the compost sock.

8. All specific construction details and material specifications shall appear on the erosion and sediment control constructions drawings when compost filter socks are included in the plan.

Maintenance

1. Traffic shall not be permitted to cross filter socks.

2. Accumulated sediment shall be removed when it reaches half the above ground height of the sock and disposed of in accordance with the plan.

3. Socks shall be inspected weekly and after each runoff event. Damaged socks shall be repaired in the manner required by the manufacturer or replaced within 24 hours of inspection notification.

4. Biodegradable filter socks shall be replaced after 6 months; photodegradable filter socks after 1 year. Polypropylene socks shall be replaced according to the manufacturer's recommendations.

5. Upon stabilization of the area contributory to the sock, stakes shall be removed. The sock may be left in place and vegetated or removed in accordance with the stabilization plan. For removal the mesh can be cut and the compost spread as an additional mulch to act as a soil supplement.

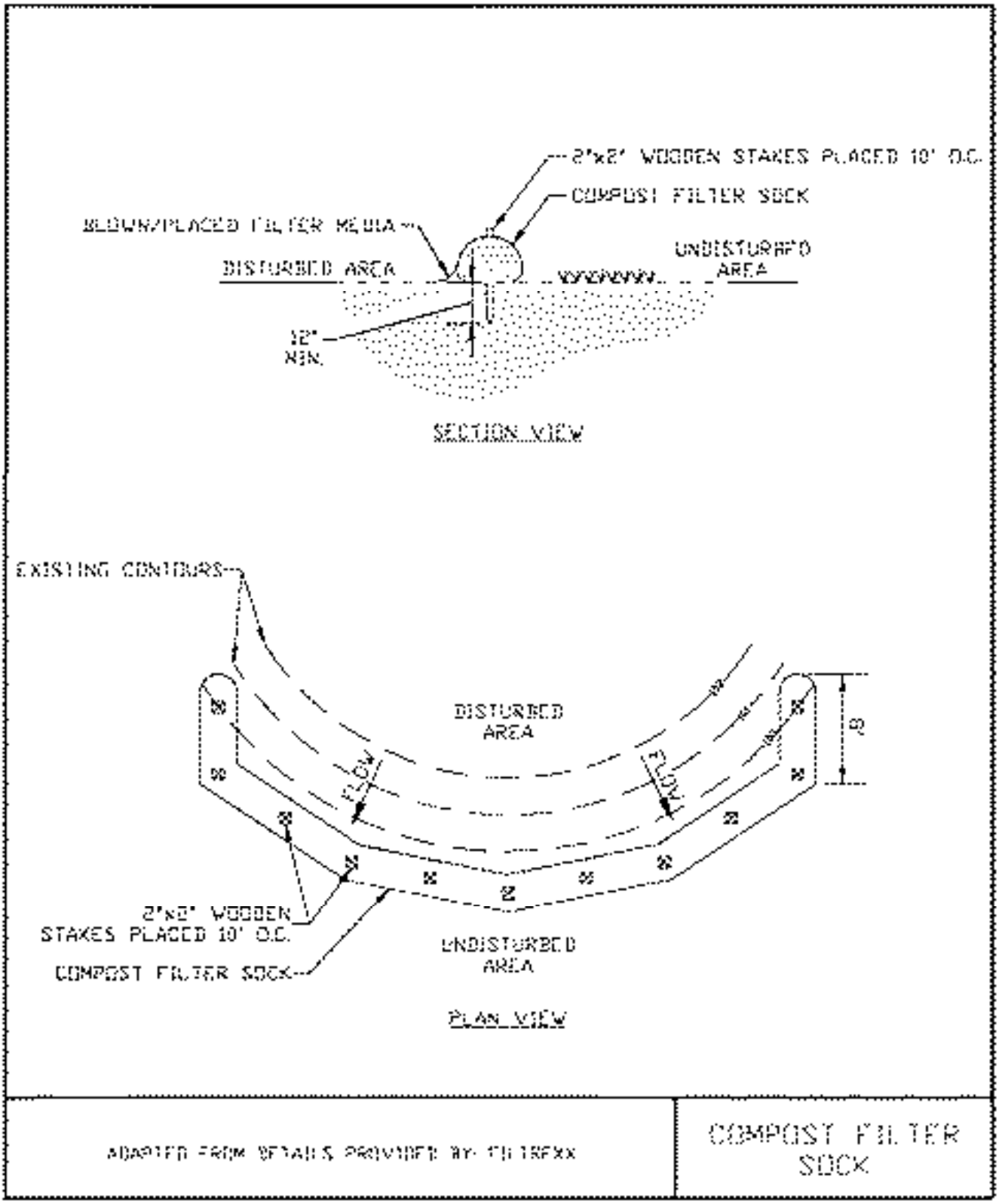
Table 5.1 - Compost Sock Fabric Minimum Specifications Table

Material Type	3 mil HDPE	5 mil HDPE	5 mil HDPE	Multi-Filament Polypropylene (MFPP)	Heavy Duty Multi-Filament Polypropylene (HDMFPP)
Material Characteristics	Photodegradable	Photodegradable	Biodegradable	Photodegradable	Photodegradable
Sock Diameters	12" 18"	12" 18" 24" 32"	12" 18" 24" 32"	12" 18" 24" 32"	12" 18" 24" 32"
Mesh Opening	3/8"	3/8"	3/8"	3/8"	1/8"
Tensile Strength		26 psi	26 psi	44 psi	202 psi
Ultraviolet Stability % Original Strength (ASTM G-155)	23% at 1000 hr.	23% at 1000 hr.		100% at 1000 hr.	100% at 1000 hr.
Minimum Functional Longevity	6 months	9 months	6 months	1 year	2 years

Table 5.2 - Compost Standards Table

Organic matter content	25% - 100% (dry weight)
Organic portion	Fibrous and elongated
pH	6.0 – 8.0
Moisture content	30% - 60%
Particle size	100% passing a 1" screen and 10 - 50% passing a 3/8" screen
Soluble salt concentration	5.0 dS/m (mmhos/cm) maximum

Figure 5.2
Compost Filter Sock



STANDARD AND SPECIFICATIONS FOR GEOTEXTILE FILTER BAG

Definition & Scope

A **temporary** portable device through which sediment laden water is pumped to trap and retain sediment prior to its discharge to drainageways or off-site.

Condition Where Practice Applies

On sites where space is limited such as urban construction or linear projects (e.g. roads and utility work) where rights-of-way are limited and larger de-silting practices are impractical.

Design Criteria

1. Location - The portable filter bag should be located to minimize interference with construction activities and pedestrian traffic. It should also be placed in a location that is vegetated, relatively level, and provides for ease of access by heavy equipment, cleanout, disposal of trapped sediment, and proper release of filtered water.

   The filter bag shall also be placed at least 50 feet from all wetlands, streams or other surface waters.

2. Size - Geotextile filter bag shall be sized in accordance with the manufacturers recommendations based on the pump discharge rate.

Materials and Installation

1. The geotextile material will have the following attributes:

Minimum Grab Tensile Strength	200 lbs.
Minimum Grab Tensile Elongation	50 %
Minimum Trapezoid Tear Strength	80 lbs.
Mullen Burst Strength	380 psi
Minimum Puncture Strength	130 lbs
Apparent Opening Size	40 - 80 US sieve
Minimum UV Resistance	70%
Minimum Flow Thru Rate	70 gpm/sq ft

2. The bag shall be sewn with a double needle machine using high strength thread, double stitched “Joe” type capable of minimum roll strength of 100 lbs/inch (ASTM D4884).

3. The geotextile filter bag shall have an opening large enough to accommodate a 4 inch diameter discharge hose with an attached strap to tie off the bag to the hose to prevent back flow.

4. The geotextile shall be placed on a gravel bed 2 inches thick, a straw mat 4 inches thick, or a vegetated filter strip to allow water to flow out of the bag in all directions.

Maintenance

1. The geotextile filter bag is considered full when remaining bag flow area has been reduced by 75%. At this point, it should be replaced with a new bag.

2. Disposal may be accomplished by removing the bag to an appropriate designated upland area, cut open, remove the geotextile for disposal, and spread sediment contents and seeded and mulched according to the vegetative plan.

STANDARD AND SPECIFICATIONS FOR SITE POLLUTION PREVENTION

Definition & Scope

A collection of management practices intended to control non-sediment pollutants associated with construction activities to prevent the generation of pollutants due to improper handling, storage, and spills and prevent the movement of toxic substances from the site into surface waters.

Conditions Where Practice Applies

On all construction sites where the earth disturbance exceeds 5,000 square feet, and involves the use of fertilizers, pesticides, petroleum based chemicals, fuels and lubricants, as well as sealers, paints, cleared woody vegetation, garbage, and sanitary wastes.

Design Criteria

The variety of pollutants on a particular site and the severity of their impacts depend on factors such as the nature of the construction activity, the physical characteristics of the construction site, and the proximity of water bodies and conveyances to the pollutant source.

1. All state and federal regulations shall be followed for the storage, handling, application, usage, and disposal of pesticides, fertilizers, and petroleum products.

2. Vehicle and construction equipment staging and maintenance areas will be located away from all drainage ways with their parking areas graded so the runoff from these areas is collected, contained and treated prior to discharge from the site.

3. Provide sanitary facilities for on-site personnel.

4. Store, cover, and isolate construction materials including topsoil, and chemicals, to prevent runoff of pollutants and contamination of groundwater and surface waters.

5. Develop and implement a spill prevention and control plan. The plan should include NYSDEC's spill reporting and initial notification requirements.

6. Provide adequate disposal for solid waste including woody debris, stumps, and other construction waste and include these methods and directions in the construction details on the site construction drawings. Fill, woody debris, stumps and construction waste shall not be placed in regulated wetlands, streams or other surface waters.

7. Distribute or post informational material regarding proper handling, spill response, spill kit location, and emergency actions to be taken, to all construction personnel.

8. Refueling equipment shall be located at least 100 feet from all wetlands, streams and other surface waters.

STANDARD AND SPECIFICATIONS FOR SEDIMENT TRAP

Definition & Scope

A **temporary** sediment control device formed by excavation and/or embankment to intercept sediment-laden runoff and trap the sediment in order to protect drainageways, properties, and rights-of-way below the sediment trap from sedimentation.

Conditions Where Practice Applies

A sediment trap is usually installed in a drainageway, at a storm drain inlet, or other points of collection from a disturbed area for one construction season.

Sediment traps should be used to artificially break up the natural drainage area into smaller sections where a larger device (sediment basin) would be less effective.

Design Criteria

If the drainage area to the proposed trap location exceeds 5 acres, or the trap is in place beyond one construction season, or any of the additional design criteria presented here cannot be met, a full Sediment Basin must be used. See Standard and Specification for Sediment Basin on page 5.19.

Drainage Area

The maximum drainage area for all sediment traps shall be 5 acres.

Location

Sediment traps shall be located so that they can be installed prior to grading or filling in the drainage area they are to protect. Traps must **not be located any closer than 20 feet** from a proposed building foundation if the trap is to function during building construction. Locate traps to obtain maximum storage benefit from the terrain and for ease of cleanout and disposal of the trapped sediment.

Trap Size

The volume of a sediment trap as measured at the elevation of the crest of the outlet shall be at least 3,600 cubic feet per acre of drainage area. A minimum length to width ratio of 2:1 should be provided. The volume of a constructed trap shall be calculated using standard mathematical procedures. The volume of a natural sediment trap may be approximated by the equation: Volume (cu.ft.) = 0.4 x surface area (sq.ft.) x maximum depth (ft.).

Trap Cleanout

Sediment shall be removed and the trap restored to the original dimensions when the sediment has accumulated to ½ of the design depth of traps I-II, and 1/3 the depth for trap III. Sediment removed from the trap shall be deposited in a protected area and in such a manner that it will not erode.

Embankment

All earth embankments for sediment traps shall not exceed five (5) feet in height as measured at the low point of the original ground along the centerline of the embankment. Embankments shall have a minimum four (4) foot wide top and side slopes of 2:1 or flatter. The embankment shall be compacted by traversing with equipment while it is being constructed. The embankment shall be stabilized with seed and mulch as soon as it is completed

The elevation of the top of any dike directing water to any sediment trap will equal or exceed the maximum height of the outlet structure along the entire length of the trap.

Excavation

All excavation operations shall be carried out in such a manner that erosion and water pollution shall be minimal. Excavated portions of sediment traps shall have 1:1 or flatter slopes.

Outlet

The outlet shall be designed, constructed, and maintained in such a manner that sediment does not leave the trap and that erosion at or below the outlet does not occur.

Sediment traps must outlet onto stabilized (preferable undisturbed) ground, into a watercourse, stabilized channel, or into a storm drain system. Distance between inlet and outlet should be maximized to the longest length practicable.

All traps must be seeded and mulched immediately after construction.

Trap Details Needed on Erosion and Sediment Control Plans

Each trap shall be delineated on the plans in such a manner that it will not be confused with any other features. Each trap on a plan shall indicate all the information necessary to properly construct and maintain the structure. If the drawings are such that this information cannot be delineated on the drawings, then a table shall be developed. If a table is developed, then each trap on a plan shall have a number and the numbers shall be consecutive.

The following information shall be shown for each trap in a summary table format on the plans.

1. Trap number
2. Type of trap
3. Drainage area
4. Storage required
5. Storage provided (if applicable)
6. Outlet length or pipe sizes
7. Storage depth below outlet or cleanout elevation
8. Embankment height and elevation (if applicable)

Type of Sediment Traps

There are three (3) specific types of sediment traps which vary according to their function, location, or drainage area.

I. Pipe Outlet Sediment Trap
II. Stone Outlet Sediment Trap
III. Compost Filter Sock Sediment Trap

I. Pipe Outlet Sediment Trap

A Pipe Outlet Sediment Trap consists of a trap formed by embankment or excavation. The outlet for the trap is through a perforated riser and a pipe through the embankment. The outlet pipe and riser shall be made of steel, corrugated metal or other suitable material. The top of the embankment shall be at least 1 ½ feet above the crest of the riser. The preferred method of dewatering the sediment trap is by surface skimmer. See Dewatering Device Standard, page 5.10. If the riser alone is used for dewatering, the top 2/3 of the riser shall be perforated with one (1) inch nominal diameter holes or slits spaced six (6) inches vertically and horizontally placed in the concave portion of the corrugated pipe.

No holes or slits will be allowed within six (6) inches of the top of the horizontal barrel. All pipe connections shall be watertight. The riser shall be wrapped with ½ to ¼ inch hardware cloth wire then wrapped with filter cloth with a sieve size between #40-80 and secured with strapping or connecting band at the top and bottom of the cloth. The cloth shall cover an area at least six (6) inches above the highest hole and six (6) inches below the lowest hole. The top of the riser pipe shall not be covered with filter cloth. The riser shall have a base with sufficient weight to prevent flotation of the riser. Two approved bases are:

1. A concrete base 12 in. thick with the riser embedded 9 in. into the concrete base, or
2. One quarter inch, minimum, thick steel plate attached to the riser by a continuous weld around the circumference of the riser to form a watertight connection. The plate shall have 2.5 feet of stone, gravel, or earth placed on it to prevent flotation. In either case, each side of the square base measurement shall be the riser diameter plus 24 inches.

Pipe outlet sediment traps shall be limited to a five (5) acre maximum drainage area. Pipe outlet sediment trap is interchangeable in the field with stone outlet provided that these sediment traps are constructed in accordance with the detail and specifications for that trap.

Select pipe diameter from the following table:
See details for Pipe Outlet Sediment Trap ST-I in Figure 5.25 and 5.26 on pages 5.49 and 5.50.

Optional sediment trap dewatering devices are shown on Figure 5.29 on Page 5.53.

Minimum Sizes

Barrel Diameter[1] (in.)	Riser Diameter[1] (in.)	Maximum Drainage Area (ac.)
12	15	1
15	18	2
18	21	3
21	24	4
21	27	5

[1] Barrel diameter may be same size as riser diameter

II. Stone Outlet Sediment Trap

A Stone Outlet Sediment Trap consists of a trap formed by an embankment or excavation. The outlet of this trap is over a stone section placed on level ground. The minimum length (feet) of the outlet shall be equal to four (4) times the drainage area (acres).

Required storage shall be 3,600 cubic feet per acre of drainage area.

The outlet crest (top of stone in weir section) shall be level, at least one (1) foot below top of embankment and no more than one (1) foot above ground beneath the outlet. Stone used in the outlet shall be small riprap (4 in. x 8 in.). To provide more efficient trapping effect, a layer of filter cloth should be embedded one (1) foot back into the upstream face of the outlet stone or a one (1) foot thick layer of two (2) inch or finer aggregate shall be placed on the upstream face of the outlet.

Stone Outlet Sediment Traps may be interchangeable in the field with pipe outlet sediment traps provided they are constructed in accordance with the detail and specifications for those traps. Stone outlet sediment traps shall be limited to a five (5) acre maximum drainage area.

See details for Stone Outlet Sediment Trap ST-II in Figure 5.27 on page 5.51

III. Compost Sock Sediment Trap

A compost sock sediment trap consists of a trap formed by creating an enclosure of geotextile mesh tubes filled with a compost filter media. These traps are used in locations where there is no opportunity to direct runoff into larger traps or well vegetated areas. This could occur at site entrances and access points or in tight areas due to construction boundary limits.

Surface runoff can be directed to the trap with standard conveyance practices. Groundwater or surface ponding in low areas can be pumped into the compost sock sediment trap with appropriate energy dissipation at the pump outlet to prevent scour.

Design criteria for Compost Sock Sediment Trap

1. The maximum drainage area tributary to the trap shall be 5 acres.

2. The minimum settled height above ground shall be 2.0 feet formed by staking 3 compost filter socks in a pyramid as shown in Figure 5.28 on page 5.52.

3. The storage volume provided in the compost sock sediment trap shall be 3,600 cubic feet per tributary drainage acre.

4. If necessary, additional storage area can be created by excavating a sump 1 foot deep beginning at least 5 feet away from the inside sock.

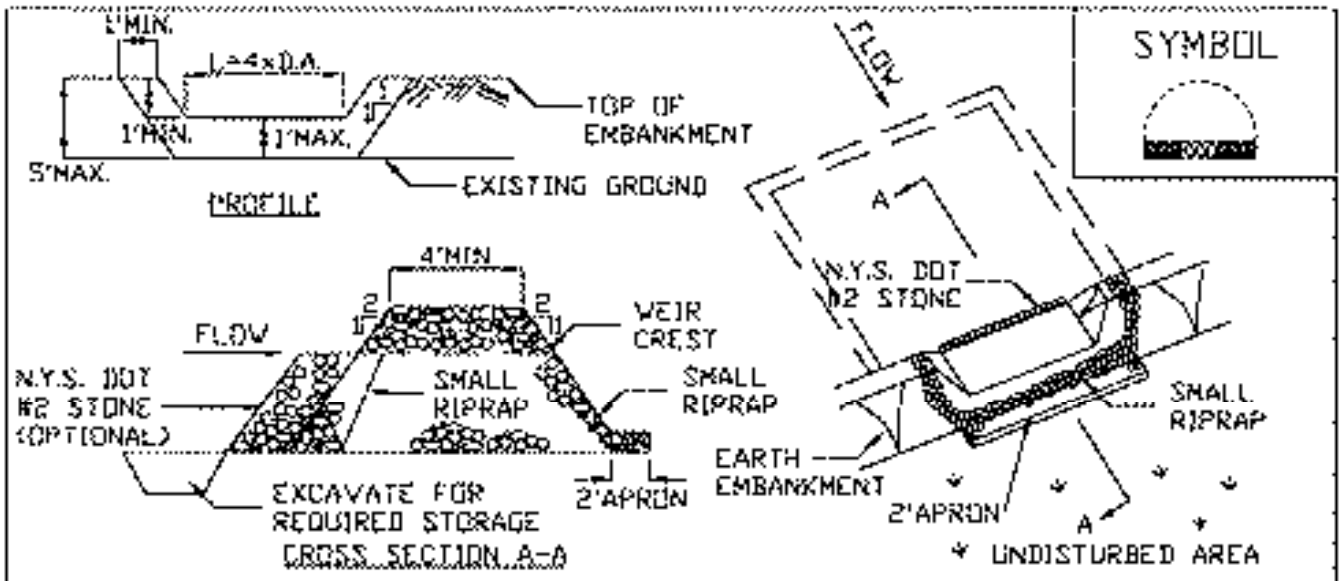
5. All compost filter sock materials, mesh, and compost, will meet the material specifications listed in the Compost Filter Sock standard. No spillway is required.

6. Compost filter sock sediment traps shall be inspected weekly and after every rainfall event. Sediment shall be removed when it reaches one third, 1/3, the height of the trap.

7. The maximum limit of use for a compost sock sediment trap is one (1) year. The existing trap shall be replaced if there is a need for a trap beyond that time limit.

8. Upon completion of the work, the compost sock sediment trap shall be removed. The compost within the socks may be used during cleanup as a vegetative growth medium in accordance with the site stabilization plan.

Figure 5.27
Stone Outlet Sediment Trap: ST-II



OPTION: A ONE FOOT LAYER OF N.Y.S. DOT #2 STONE MAY BE PLACED ON THE UPSTREAM SIDE OF THE RIPRAP INPLACE OF THE EMBEDDED FILTER CLOTH.

CONSTRUCTION SPECIFICATIONS

1. AREA UNDER EMBANKMENT SHALL BE CLEARED, GRUBBED AND STRIPPED OF ANY VEGETATION AND ROOT MAT. THE POOL AREA SHALL BE CLEARED.
2. THE FILL MATERIAL FOR THE EMBANKMENT SHALL BE FREE OF ROOTS AND OTHER WOODY VEGETATION AS WELL AS OVER-SIZED STONES, ROCKS, ORGANIC MATERIAL OR OTHER OBJECTIONABLE MATERIAL. THE EMBANKMENT SHALL BE COMPACTED BY TRAVERSING WITH EQUIPMENT WHILE IT IS BEING CONSTRUCTED.
3. ALL CUT AND FILL SLOPES SHALL BE 2:1 OR FLATTER.
4. THE STONE USED IN THE OUTLET SHALL BE SMALL RIPRAP 4"-8" ALONG WITH A 1' THICKNESS OF 2" AGGREGATE PLACED ON THE UP-GRADE SIDE ON THE SMALL RIPRAP OR EMBEDDED FILTER CLOTH IN THE RIPRAP.
5. SEDIMENT SHALL BE REMOVED AND TRAP RESTORED TO ITS ORIGINAL DIMENSIONS WHEN THE SEDIMENT HAS ACCUMULATED TO 1/2 THE DESIGN DEPTH OF THE TRAP. IT SHALL BE PLACED ON SITE AND STABILIZED.
6. THE STRUCTURE SHALL BE INSPECTED AFTER EACH RAIN AND REPAIRS MADE AS NEEDED.
7. CONSTRUCTION OPERATIONS SHALL BE CARRIED OUT IN SUCH A MANNER THAT EROSION AND SEDIMENT ARE CONTROLLED.
8. THE STRUCTURE SHALL BE REMOVED AND THE AREA STABILIZED WHEN THE DRAINAGE AREA HAS BEEN PROPERLY STABILIZED.

MAXIMUM DRAINAGE AREA 5 ACRES

ADAPTED FROM DETAILS PROVIDED BY: USDA - NRCS, NEW YORK STATE DEPARTMENT OF TRANSPORTATION, NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION, NEW YORK STATE SOIL & WATER CONSERVATION COMMITTEE

STONE OUTLET SEDIMENT TRAP ST-II

STANDARD AND SPECIFICATIONS FOR TREES, SHRUBS, AND VINES

Definition & Scope

Establishing trees, shrubs, and vines or selectively reducing stand density and trimming woody plants to protect the soil and plant resources, improve an area for recreation and increase the attractiveness and usefulness of areas.

Conditions Where Practice Applies

On any area planned for recreation or landscape use such as yard areas, leisure areas, picnic areas, and park lands providing outdoor recreational opportunities.

Criteria and Specifications

1. Planting nursery stock

   A. Select species to serve the intended purpose. See Appendix G, Table G.1**,** "Trees Suitable for Landscape and Conservation Plantings in New York." Where planting of trees is to be done in recreation areas, use those species resistant to compaction listed in Table G.2, "Susceptibility of Tree Species to Compaction" whenever possible.

   B. Plant Materials

      1) Plants shall conform to the species, variety, size, number, and conditions as stated in a conservation plan or on a plant list shown on landscape drawings. "American Standard for Nursery Stock," by American Association of Nurserymen, shall be used to develop the plant list for landscape drawings and to check quality of plant materials.

      2) Durable, legible labels with the scientific and common name and cultivar shall be securely attached to plants, bundles of seedlings, containers, and/or flats.

   C. Plant Protection

      Prior to delivery, the trunk, branches, and foliage of the plants shall be sprayed with non-toxic antidesiccant, applied according to the manufacturer's recommendations. This does not apply to state nursery seedlings.

   D. Planting Time

      Deciduous trees and shrubs: April 1 to June 1 and October 15 to December 15. Evergreen trees and shrubs: April 1 to June 1 and September 1 to November 15.

   E. Spacing

      Plant all trees and shrubs well back from buildings to allow for mature crown size. The following are guides for planning:

Large Trees	50-60 feet apart
Small Trees	20-30 feet apart
Columnar Species	6-8 feet apart
Hedges	1-4 feet apart
Shrubs	For clumps, plan spacing so mature shrubs will be touching or overlapping by only 1 or 2 feet

   F. Site Preparation

      1) Individual sites for planting seedlings can be prepared by scalping the sod away from a four foot square area where the seedling is to be planted.

      2) All planting beds shall be cultivated to a depth of 8 inches, or chemically treated for weed control. Remove objectionable objects that will interfere with maintenance of site.

   G. Planting

      1) Plants shall be located as shown on plans and/or drawings and, where necessary, located on the site by stakes, flags or other means.

      2) Prior to planting, remove galvanized wire basket securing root ball, untie and roll down burlap covering from around the stem.

3) The plants shall be set upright in holes as illustrated in Figure G.1 in Appendix G.

4) All plants shall be thoroughly watered on the same day of planting. Plants that have settled shall be reset to grade.

H. Wrapping

Immediately after planting, wrap deciduous tree trunks from the bottom to the first limb with a 4 inch wide bituminous impregnated, insect resistant tape or paper manufactured for that purpose. Tie with jute (bag strings) at top and bottom. The wrap should be removed per nursery recommendations.

I. Mulching

Mulch the disturbed area around individual trees and shrubs with a 2-3" layer of wood chips. Pull wood chips 1 inch away from the base of shrubs to avoid fungus development.

J. Pruning

After planting, prune to remove injured twigs and branches. The natural shape of the plant should not be changed.

K. Cleanup and Maintenance

1) After all work is complete, all excess soil, peat moss, debris, etc., shall be removed from the site.

2) Water plants two weeks after planting. For two years, water plants every two weeks during dry periods, which exceed three weeks without a good soaking rain, or water as needed in accordance with local conditions. Shrubs may require 5 to 10 gallons and trees, 20 to 30 gallons for each watering.

3) Remove trunk wrap per nursery recommendation.

2. Transplanting "Wild" Stock

Successful transplanting of wild stock will require heavy equipment and considerable labor as a large weight of soil must be moved with the roots.

A. Select trees and shrubs with good form and full crowns.

B. Transplant only when plants are dormant and soil is moist. Wrap soil ball with burlap to prevent soil from separating from roots.

C. Table 4.8 shows minimum diameter and approximate weight of soil ball that must be moved with each size plant.

D. Plant and maintain as described above for nursery stock.

PRUNING AND THINNING

Use	Cleared Width Each Side of Trail Tread (ft.)	Cleared Height (ft.)
TRAILS		
Hiking	1	8
Bicycle	2	10
Motorbike	2	10
Horse	2	12
X-Country Ski	Total: 3-12	12[1]
Snowmobile	Total: 6-12	12[1]
PICNIC & CAMPING AREAS		
Campfire/Grill	10 ft. diam.	15

[1] Includes allowance for snow depth and snow load on branches

1. Pruning

A. Remove trees, limbs, and limb stubs to the above widths and heights specified for the intended use.

B. Remove dead, diseased, or dying limbs that may fall.

C. Do not remove more than one-third of the live crown of a tree in a year.

D. Cut limbs flush to the branch bark ridge.

E. Use the 3 or 4 cut pruning method on all branches over 2 inches in diameter: First cut about one-third the way through the underside of the limb (about 6-12 inches from the tree trunk). Then (approximately an inch further out) make a second cut through the limb from the upper side. When the branch is removed, there is no splintering of the main tree trunk. Remove the stub. If the branch is larger than 5-6 inches in diameter, use the four cut system. Cuts 1 and 2 remain the same and cut 3 should be from the underside of the limb, on the outside of the branch collar. Cut 4 should be from the top and in alignment with the 3rd cut. Cut 3 should be 1/4 to 1/3 the way through the limb. This will prevent the bark from peeling down the trunk. Do not paint the cut surface.

2. Thinning

   A. Remove dead, diseased, dying, poorly anchored, or ice damaged trees that pose a hazard to recreationists or that interfere with intended use.

   B. To maintain grass cover in a wooded area, thin according to formula Dx3 (average diameter of the trunk of overstory trees, in inches, times three—the answer is the spacing between trees to be left, in feet). For example, for trees with average diameter of 6 inches, spacing after thinning should leave trees 18 feet apart on average. Crown cover after thinning should be about 50 percent.

   C. Selectively thin as needed to favor those trees that are most "resistant" to compaction around their roots. See Table G.2**,** "Susceptibility of Tree Species to Compaction" in Appendix G. If the soil on the site is naturally well drained, those species in the "intermediate" group may also be favored.

Table 4.8
Size and Weight of Earth Ball Required to Transplant Wild Stock

Shade Trees (Maple, Ash, Oak, Birch, etc.)			Small Trees & Shrubs (Crabapple, Thornapple, Viburnum, Dogwood, etc.)		
Caliper[1] (Inches)	Minimum Diameter Ball (Inches)	Weight of Ball (lbs.)	Up to 6 ft. Height --- 6 ft. and Caliper[1]	Minimum Diameter Ball (Inches)	Weight of Ball (lbs.)
1/2	14	88	2	12	55
3/4	16	130	3	14	88
1	18	186	4	16	130
1-1/4	20	227	5	18	186
1-1/2	22	302	3/4	18	186
1-3/4	24	390	1	20	227
2	28	621	1-1/2	22	302
3	32	836	1-3/4	24	390
3-1/2	36	1,400	2	28	621
4	42	1,857	2-1/2	32	836
			3	38	1,400

[1]Caliper is a diameter measurement of trees at a height of 6 inches above the ground.

New York State
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Water

Deep-Ripping and Decompaction

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New York State
Department of Environmental Conservation

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Alternative Stormwater Management
Deep-Ripping and Decompaction

Description

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

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

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

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

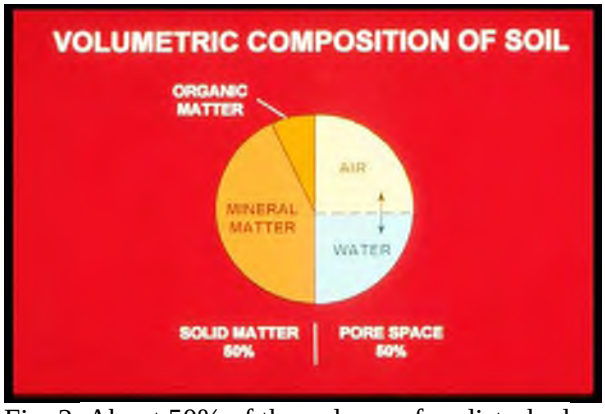

Fig. 2. About 50% of the volume of undisturbed loam surface soil is pore space, when soil is in good condition for plant growth. Brady, 2002.

Recommended Application of Practice

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

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

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

Benefits

Aggressive "deep ripping" through the compressed thickness of exposed subsoil before the replacement/respreading of the topsoil layer, followed by "decompaction," i.e.: "sub-soiling," through the restored topsoil layer down into the subsoil, offers the following benefits:

- Increases the project (larger size) area's direct surface infiltration of rainfall by providing the open site's mitigated soil condition and lowers the demand on concentrated runoff control structures

- Enhances direct groundwater recharge through greater dispersion across and through a broader surface than afforded by some runoff-control structural measures

- Decreases runoff volume generated and provides hydrologic source control

- May be planned for application in feasible open locations either alone or in

conjunction with plans for structural practices (e.g., subsurface drain line or infiltration basin) serving the same or contiguous areas

- Promotes successful long-term revegetation by restoring soil permeability, drainage and water holding capacity for healthy (rather than restricted) root-system development of trees, shrubs and deep rooted ground cover, minimizing plant drowning during wet periods and burnout during dry periods.

Feasibility / Limitations

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

Soil

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

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

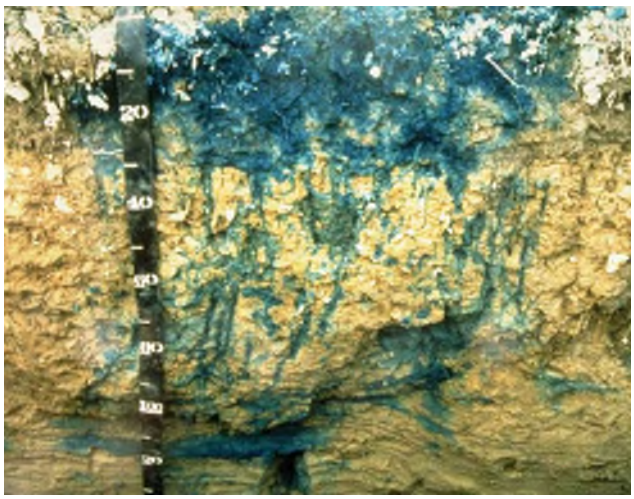

Fig. 4. Profile (in centimeters) displaying the infiltration test result of the natural undisturbed horizons of a soil in Hydrologic Soil Group C.

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

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

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

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

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

Slope

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

Local Weather/Timing/Soil Moisture

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

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

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

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

Design Guidance

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

1) Deep rip the affected thickness of exposed subsoil material (see Figure 10 and 11), aggressively fracturing it before the protected topsoil is reapplied on the site (see Figure 12); and

2) Decompact (deep subsoil), simultaneously through the restored topsoil layer and the upper half of the affected subsoil (Figure 13). The second phase, "decompaction," mitigates the partial recompaction which occurs during the heavy process of topsoil spreading/grading. Prior to deep ripping and decompacting the site, all construction activity, including construction equipment and material storage, site cleanup and trafficking (Figure 14), should be finished; and the site closed off to further disturbance. Likewise, once the practice is underway and the area's soil permeability and

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

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

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

Implements

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

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

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

Use a "heavy duty" agricultural-grade, deep ripper (see Figures 7,9,10 and 11) for the first phase: the lateral and vertical fracturing of the mass of exposed and compressed subsoil, down and through, to the bottom of impact, prior to the replacement of the topsoil layer. (Any oversize rocks which are uplifted to the subsoil surface during the deep ripping phase are picked and removed.) Like the heavy-duty class of implement for the first phase, the decompaction (deep subsoiling) of Phase 2 is conducted with the heavy-duty version of the deep subsoiler. More preferable is the angled-leg variety of deep subsoiler (shown in Figures 8 and 13). It minimizes the inversion of the subsoil and topsoil layers while laterally and vertically fracturing the upper half of the previously ripped subsoil layer and all of the topsoil layer by delivering a momentary, wave-like "lifting and shattering" action up through the soil layers as it is pulled.

Pulling-Power of Equipment

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

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

The operating speed for pulling both types of implement should not exceed 2 to 3 mph. At this slow and managed rate of operating speed, maximum functional performance is sustained by the tractor and the implement performing the soil fracturing. Referring to Figure 8, the implement is the 6-leg version of the deep angled-leg subsoiler. Its two outside legs are "chained up" so that only four legs will be engaged (at the maximum depth), requiring no less than 160 hp, (rather than 240 hp) of pull. The 4-wheel drive, articulated-frame tractor in Figure 8 is 174 hp. It will be decompacting this unobstructed, former construction access area simultaneously through 11 inches of replaced topsoil and the upper 12 inches of the previously deep-ripped subsoil. In constricted areas of Phase 1) Deep Ripping, a medium-size tractor with adequate hp, such as the one in Figure 9 pulling a 3-shank deep ripper, may be more maneuverable.

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

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

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

Depth and Patterns of Movement

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

There may be construction sites where the depth of the exposed subsoil's compression is moderate, e.g.: 12 inches, rather than deep. This can be verified by using a ¾ inch cone penetrometer and a shovel to test the subsoil for its level of compaction, incrementally, every three inches of increasing depth. Once the full thickness of the subsoil's compacted zone is finally "pieced" and there is a significant drop in the psi measurements of the soil penetrometer, the depth/thickness of compaction is determined. This is repeated at several representative locations of the construction site. If the thickness of the site's subsoil compaction is verified as, for example, ten inches, then the Phase 1 Deep Ripping can be correspondingly reduced to the implement's minimum operable depth of 12 inches. However, the Phase 2 simultaneous Decompation (subsoiling) of an 11 inch thick layer of replaced topsoil and the upper subsoil should run at the subsoiling implements full operating depth.

Fig. 10. An early pass with a 3-shank deep ripper penetrating only 8 inches into this worksite's severely compressed subsoil.

Fig. 11. A repeat run of the 3-shank ripper along the same patterned pass area as Fig. 9; here, incrementally reaching 18 of the needed 22 inches of subsoil fracture.

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

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

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

Large, Unobstructed Areas

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

- The first series (pattern) of passes is applied lengthwise, parallel with the longest spread of the site; gradually progressing across the site's width, with each successive pass.

- The second series runs obliquely, crossing the first series at an angle of about 45 degrees.

- The third series runs at right angle (or 90 degrees), to the first series to complete the fracturing and shattering on severely compacted sites, and avoid leaving large unbroken blocks of compressed soil material. (In certain instances, the third series may be optional, depending on how thoroughly the first two series loosen the material and eliminate large chunks/blocks of material as verified by tests with a ¾-inch cone penetrometer.)

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

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

Corridors

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

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

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

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

Maintenance and Cost

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

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

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

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

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

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

Resources

Publications:

- American Society of Agricultural Engineers. 1971. *Compaction of Agricultural Soils.* ASAE.

- Brady, N.C., and R.R. Weil. 2002. *The Nature and Properties of Soils. 13th ed.* Pearson Education, Inc.

- Baver, L.D. 1948. *Soil Physics.* John Wiley & Sons.

- Carpachi, N. 1987 (1995 fifth printing). *Excavation and Grading Handbook, Revised. 2nd ed.* Craftsman Book Company
- Ellis, B. (Editor). 1997. Safe & Easy Lawn Care: The Complete Guide to Organic Low Maintenance Lawn. Houghton Mifflin.

- Harpstead, M.I., T.J. Sauer, and W.F. Bennett. 2001. *Soil Science Simplified. 4th ed.* Iowa State University Press.

- Magdoff, F., and H. van Es. 2000. *Building Soils for Better Crops. 2nd ed.* Sustainable Agricultural Networks

- McCarthy, D.F. 1993. *Essentials of Soil Mechanics and Foundations, Basic Geotechnics 4th ed.* Regents/Prentice Hall.

- Plaster, E.J. 1992. *Soil Science & Management. 3rd ed.* Delmar Publishers.

- Union Gas Limited, Ontario, Canada. 1984. *Rehabilitation of Agricultural Lands, Dawn-Kerwood Loop Pipeline; Technical Report*. Ecological Services for Planning, Ltd.; Robinson, Merritt & Devries, Ltd. and Smith, Hoffman Associates, Ltd.

- US Department of Agriculture in cooperation with Cornell University Agricultural Experiment Station. Various years. *Soil Survey of (various names) County, New York.* USDA.

Internet Access:

- Examples of implements:

V-Rippers. Access by internet search of *John Deere Ag -New Equipment for 915* (larger-frame model) *V-Rippe*; and, *for 913* (smaller-frame model) *V-Ripper*. Deep, angled-leg subsoiler. Access by internet search of: B*igham Brothers Shear Bolt Paratill-Subsoiler.* http://salesmanual.deere.com/sales/salesmanual/en_NA/primary_tillage/2008/feature/rippers/915v_pattern_frame.html?sbu=ag&link=prodcat Last visited March 08.

- Soils data of USDA Natural Resources Conservation Service. *NRCS Web Soil Survey.* http://websoilsurvey.nrcs.usda.gov/app/ and *USDA-NRCS Official Soil Series Descriptions; View by Name.* http://ortho.ftw.nrcs.usda.gov/cgi-bin/osd/osdname.cgi . *Last visited Jan. 08.*

- Soil penetrometer information. Access by internet searches of: *Diagnosing Soil Compaction using a Penetrometer (soil compaction tester), PSU Extension;* as well as *Dickey-john Soil Compaction Tester*. http://www.dickey-johnproducts.com/pdf/SoilCompactionTest.pdf and http://cropsoil.psu.edu/Extension/Facts/uc178pdf Last visited Sept. 07

APPENDIX F

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: CREEDMOOR PC - TRANSITIONAL RESIDENCE

eNOI Submission Number: HQ7-N53W-D3NP7

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

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)
OFFICE OF MENTAL HEALTH SERVICES

Owner/Operator Contact Person Last Name (NOT CONSULTANT)

Owner/Operator Contact Person First Name

Owner/Operator Mailing Address

City

State ☐☐ Zip ☐☐☐☐☐-☐☐☐☐

Phone (Owner/Operator) ☐☐☐-☐☐☐-☐☐☐☐ Fax (Owner/Operator) ☐☐☐-☐☐☐-☐☐☐☐

Email (Owner/Operator)

FED TAX ID ☐☐-☐☐☐☐☐☐☐ (not required for individuals)

Project Site Information

Project/Site Name
CREEDMOOR PC - TRANSITIONAL RESIDENCE

Street Address (NOT P.O. BOX)
80-45 WINCHESTER BLVD

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

City/Town/Village (THAT ISSUES BUILDING PERMIT)
NEW YORK CITY

State: NY
Zip: 11427-
County: QUEENS
DEC Region: 1

Name of Nearest Cross Street
Union Turnpike

Distance to Nearest Cross Street (Feet)
534

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

Tax Map Numbers
Section-Block-Parcel
4 7880 0001

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)
-73.733
Ex. -73.749

Y Coordinates (Northing)
40.737
Ex. 42.652

2. What is the nature of this construction project?

○ **New Construction**

● **Redevelopment with increase in impervious area**

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

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

Pre-Development Existing Land Use

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

Post-Development Future Land Use

- ○ SINGLE FAMILY HOME
- ○ 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

***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
1.2	1.2	.0	0.5

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 05/01/2025 - **End Date** 05/01/2026

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

Name

NYSDEC WETLAND ID LY-FOUR

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?

N A

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
TECTONIC ENGINEERING CONSULTANTS, GEOLOG

Contact Name (Last, Space, First)
OMARA CASEY

Mailing Address
PO BOX 3770 PLEASANT HILL ROAD

City
MOUNTAINVILLE

State NY Zip 10953-

Phone 845-534-5959

Fax 845-534-5999

Email
COMARA@TECTONICENGINEERING.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 **MI**

Last Name

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

0.187 **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)			1.539
○ Bioretention (F-5)			
○ Dry Swale (O-1)			
Standard SMPs			
○ Micropool Extended Detention (P-1)			
○ Wet Pond (P-2)			
○ Wet Extended Detention (P-3)			
○ Multiple Pond System (P-4)			
○ Pocket Pond (P-5)			
○ Surface Sand Filter (F-1)			
○ Underground Sand Filter (F-2)			
○ Perimeter Sand Filter (F-3)			
○ Organic Filter (F-4)			
○ Shallow Wetland (W-1)			
○ Extended Detention Wetland (W-2)			
○ Pond/Wetland System (W-3)			
○ Pocket Wetland (W-4)			
○ Wet Swale (O-2)			

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

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

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

Name

Manufacturer

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

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

Total RRv provided

0.187 **acre-feet**

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

● **Yes** ○ **No**

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

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

Minimum RRv Required

. **acre-feet**

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

○ **Yes** ○ **No**

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

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

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

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

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

WQv Provided

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

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

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

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

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

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

CPv Required

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

CPv Provided

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

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

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

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

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

Total Overbank Flood Control Criteria (Qp)

Pre-Development

0 0 0 . 0 0 0 **CFS**

Post-development

0 0 0 . 0 0 0 **CFS**

Total Extreme Flood Control Criteria (Qf)

Pre-Development

0 0 0 . 0 0 0 **CFS**

Post-development

0 0 0 . 0 0 0 **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

OFFICE OF MENTAL HEALTH SERVICES

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.

100% of runoff is being captured and infiltrated on site.

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

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

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

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

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

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

Owner/Operator Certification

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

Print First Name **MI**

Print Last Name

Owner/Operator Signature

Date / /

APPENDIX G

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

CONTRACTOR'S CERTIFICATION
SPDES GENERAL PERMIT FOR STORMWATER DISCHARGES

To be completed by Contractor and filed with Owner's on-site copy of the SWPPP

CONTRACTOR IDENTIFICATION:

Contractor responsible for installing, constructing, repairing, inspecting and maintaining the erosion and sediment control practices included in the SWPPP; and responsible for construction of all post-construction stormwater management practices included in the SWPPP:

Company: _____

Address: _____

_____

Phone Number: _____

SPECIFIC ELEMENTS OF THE SWPPP THAT THE CONTRACTOR IS RESPONSIBLE FOR:

CERTIFICATION:

I hereby certify 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 New York State Pollutant Discharge Elimination System ("SPDES") general permit for stormwater discharges from construction activities and that it is unlawful for any person to cause or contribute to a violation of water quality standards. Furthermore, I 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.

Signature: _____

Name: _____

Title: _____

Company: _____

Date: _____

TRAINED INDIVIDUAL IDENTIFICATION:

The following trained individual will be on site on a daily basis when soil disturbance activities are being performed:

Name: _____

Title: _____

Company: _____

Individual's training and expiration date: _____

SUBCONTRACTOR'S CERTIFICATION
SPDES GENERAL PERMIT FOR STORMWATER DISCHARGES

To be completed by each Subcontractor and filed with Owner's on-site copy of the SWPPP

CONTRACTOR IDENTIFICATION:

Company: _____

Address: _____

_____

SUBCONTRACTOR IDENTIFICATION:

Subcontractor responsible for some/all of the following: installing, constructing, repairing, inspecting and maintaining the erosion and sediment control practices included in the SWPPP; and responsible for construction of all post-construction stormwater management practices included in the SWPPP:

Company: _____

Address: _____

_____

Phone Number: _____

SPECIFIC ELEMENTS OF THE SWPPP THAT THE SUBCONTRACTOR IS RESPONSIBLE FOR:

CERTIFICATION:

I hereby certify 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 New York State Pollutant Discharge Elimination System ("SPDES") general permit for stormwater discharges from construction activities and that it is unlawful for any person to cause or contribute to a violation of water quality standards. Furthermore, I 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.

Signature: _____

Name: _____

Title: _____

Company: _____

Date: _____

TRAINED INDIVIDUAL IDENTIFICATION:

The following trained individual will be on site on a daily basis when soil disturbance activities are being performed:

Name: _____

Title: _____

Company: _____

Individual's training and expiration date: _____

APPENDIX I
PENDING RESPONSE FROM OPRHP

APPENDIX J

APPENDIX F
CONSTRUCTION SITE INSPECTION AND MAINTENANCE LOG BOOK

STATE POLLUTANT DISCHARGE ELIMINATION SYSTEM FOR CONSTRUCTION ACTIVITIES

SAMPLE CONSTRUCTION SITE LOG BOOK

Table of Contents

I. Pre-Construction Meeting Documents
   a. Preamble to Site Assessment and Inspections
   b. Pre-Construction Site Assessment Checklist

II. Construction Duration Inspections
   a. Directions
   b. Modification to the SWPPP

I. **PRE-CONSTRUCTION MEETING DOCUMENTS**

Project Name _____

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

Name of Operator _____

Prime Contractor _____

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

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

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

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

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

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

1 Refer to "Qualified Inspector" inspection requirements in the current SPDES General Permit for Stormwater Discharges from Construction Activity for complete list of inspection requirements.
2 "Commencement of construction" means the initial removal of vegetation and disturbance of soils associated with clearing, grading or excavating activities or other construction activities.
3 "Final stabilization" means that all soil-disturbing activities at the site have been completed and a uniform, perennial vegetative cover with a density of eighty (80) percent has been established or equivalent stabilization measures (such as the use of mulches or geotextiles) have been employed on all unpaved areas and areas not covered by permanent structures.

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

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

Yes No NA

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

2. Resource Protection

Yes No NA

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

3. Surface Water Protection

Yes No NA

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

4. Stabilized Construction Access

Yes No NA

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

5. Sediment Controls

Yes No NA

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

6. Pollution Prevention for Waste and Hazardous Materials

Yes No NA

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

II. CONSTRUCTION DURATION INSPECTIONS

a. Directions:

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

Required Elements:

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

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

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

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

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

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

SITE PLAN/SKETCH

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

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

Maintaining Water Quality

Yes No NA

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

Housekeeping

1. General Site Conditions

Yes No NA

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

2. Temporary Stream Crossing

Yes No NA

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

3. Stabilized Construction Access

Yes No NA

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

Runoff Control Practices

1. Excavation Dewatering

Yes No NA

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

Runoff Control Practices (continued)

2. Flow Spreader

Yes No NA

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

3. Interceptor Dikes and Swales

Yes No NA

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

4. Stone Check Dam

Yes No NA

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

5. Rock Outlet Protection

Yes No NA

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

Soil Stabilization

1. Topsoil and Spoil Stockpiles

Yes No NA

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

2. Revegetation

Yes No NA

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

Sediment Control Practices

1. Silt Fence and Linear Barriers

Yes No NA

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

Sediment Control Practices (continued)

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

Yes No NA

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

Sediment accumulation ___% of design capacity.

3. Temporary Sediment Trap

Yes No NA

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

Sediment accumulation is ___% of design capacity.

4. Temporary Sediment Basin

Yes No NA

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

Sediment accumulation is ___% of design capacity.

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

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

CONSTRUCTION DURATION INSPECTIONS

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

The Operator shall amend the SWPPP whenever:

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

Modification & Reason:

APPENDIX K

Tectonic

PRACTICAL SOLUTIONS. EXCEPTIONAL SERVICE.

Rare, Threatened, and Endangered Species Report

Creedmoor Psychiatric Center
Transitional Residence Center Project
80-45 Winchester Boulevard
Queens Village, NY 11427-2199

October 22, 2024

Submitted To:

Architectural Resources

303 West 13th Street
New York, NY 10014

Submitted By:

Tectonic Engineering Consultants, Geologists & Land Surveyors, D.P.C.

70 Pleasant Hill Road, PO Box 37
Mountainville, NY 10953
tectonicengineering.com

RARE, THREATENED, ENDANGERED SPECIES REPORT
TECTONIC WO # 12546
CREEDMOOR PSYCHIATRIC CENTER
TRANSITIONAL RESIDENCE CENTER PROJECT
80-45 WINCHESTER BOULEVARD
QUEENS VILLAGE, NY 11427-2199

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APPENDIX V	USFWS OFFICIAL SPECIES LIST AND IPAC RESOURCE LIST
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CONTACTS:

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1.0 INTRODUCTION

Tectonic Engineering Consultants, Geologists & Land Surveyors D.P.C. (Tectonic) was retained to perform a habitat assessment and complete a rare, threatened, and endangered (RTE) species report for the Creedmoor Psychiatric Center Transitional Residence Center Project (Project), which will involve the construction of a new 12,000 square foot, 25-bed Transitional Living Residence (TLR) on the south Campus at Creedmoor Psychiatric Center (PC) at 80-45 Winchester Boulevard, Queens Village, New York 11427-2199 (Block 7880, Lot 1). Project plans are included in **Appendix I**. A street map and an aerial map of the Project area are included in **Appendix II**.

The RTE species report aids in the identification and subsequent documentation of potential adverse impacts to flora, fauna, and overall habitat characteristics in the Project area. The results of this study will supply general baseline data on the ecological characteristics and observed communities in the Project area in accordance with the following:

- Endangered Species Act of 1973 (ESA)
- Bald and Golden Eagle Protection Act (BGEPA)
- Migratory Bird Act (MBA)
- Magnuson-Stevens Act (MSA)
- Environmental Conservation Law Article 11 and 6 NYCRR Part 182

The habitat assessment and RTE species report was performed in order to determine what, if any, state and/or federally listed threatened and endangered species and/or other protected species or associated suitable and/or critical habitat may occur or potentially be impacted by construction activity in the Project area.

2.0 SITE CHARACTERIZATION

2.1 SITE DESCRIPTION

The Project area is located in the US EPA designated Long Island Sound Coastal Lowland ecoregion. Topography within the Project area ranges from approximately 100 feet Above Mean Sea Level (AMSL) to 110 feet AMSL. A topographic map is included in **Appendix III**. The Project area is comprised of paved roadways, walking paths, and parking areas, and a mowed lawn with trees. roadways, and commercial buildings. The Project area is located in an urban area and is surrounded by residential development.

2.2 SOILS

According to the Natural Resource Conservation Services (NRCS) online websoil survey, assessed on October 9, 2024, a total of two (2) soil types occur within the Project area. (**Appendix IV**). A summary of the on-site soils is provided in **Table 1** below.

Table 1: Soil Characterization

Soil Symbol	Soil Name	Approximate Percentage of Project area
UFAI	Urban land-Flatbush complex, 0 to 3 percent slopes, low impervious surface	91.5
UoA	Urban land, outwash substratum, 0 to 3 percent slopes	8.5

3.0 METHODOLOGY

3.1 AGENCY CONSULTATION

An online review of information from federal and state agencies was performed to determine what, if any, critical habitats and/or state or federally protected species exist within the Project area. The desktop analysis was used to develop a habitat assessment plan.

3.1.1 UNITED STATES FISH AND WILDLIFE SERVICE

The United States Fish and Wildlife Service (USFWS) Environmental Conservation Online System (ECOS) Information for Planning and Conservation (IPaC) webpage was assessed to determine which federally protected species and critical habitats, if any, are potentially present within the Project area.

3.1.2 NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

The New York State Department of Environmental Conservation (NYSDEC) Environmental Resource Mapper (ERM) and Environmental Assessment Form (EAF) Mapper were searched to determine which state protected species and significant natural communities, if any, are potentially present within the Project area.

3.2 HABITAT ASSESSMENT

A habitat assessment was performed to determine whether the Project area contains habitat for any RTE species. The goal of the habitat assessment was to provide a characterization of the quality and quantity of habitat available to support RTE species. A desktop review of the Project area and information obtained from agency consultations was utilized to provide a preliminary characterization of site conditions. Information from the USFWS and NYSDEC was analyzed to identify RTE species that may be found in the vicinity of the Project area. Information about the type of habitat preferred by the respective RTE species was compared to the habitats observed in the Project area.

4.0 RESULTS

4.1 AGENCY CONSULTATION

4.1.1 UNITED STATES FISH AND WILDLIFE SERVICE

On October 7, 2024, Tectonic generated a USFWS Official Species List and an IPaC Resource List for the Project area (Appendix V). The results of the reports are summarized below:

Proposed, Candidate, Threatened, and Endangered Species
The USFWS Official Species List indicated that the Project area may be inhabited by a total of two (3) federally threatened or endangered species, including the piping plover (*Charadrius melodus* – threatened) and rufa red knot (*Calidris canutus rufa* – threatened); and one (1) federal candidate species, the monarch butterfly (*Danaus plexippus*).

Critical Habitats
According to the USFWS Official Species List, the Project area does not contain any critical habitat areas.

Migratory Birds
Thirty migratory bird species of concern may inhabit the Project area, including the American oystercatcher (*Haematopus palliatus*), bald eagle (*Haliaeetus leucocephalus*), black skimmer (*Rynchops niger*), black-billed cuckoo (*Coccyzus erythropthalmus*), blue-winged warbler (*Vermivora cyanoptera*), bobolink (*Dolichonyx oryvorus*), Canada warbler (*Cardellina canadensis*), cerulean warbler (*Dendroica cerulea*), chimney swift (*Chaetura pelagica*), golden eagle (*Aquila chrysaetos*), grasshopper sparrow (*Ammodramus savannarum perpallidus*), gull-billed tern (*Gelochelidon nilotica*), Kentucky warbler (*Geothlypis formosa*), least tern (*Sternula antillarum antillarum*), lesser yellowlegs (*Tringa flavipes*), long-eared owl (*Asio otus*), pectoral sandpiper (*Calidris melanotos*), prairie warbler

(*Setophaga discolor*), prothonotary warbler (*Protonotaria citrea*), purple sandpiper (*Calidris maritima*), red-headed woodpecker (*Melanerpes erythrocephalus*), ruddy turnstone (*Arenaria interpres morinella*), rusty blackbird (*Euphagus carolinus*), saltmarsh sparrow (*Ammospiza caudacuta*), scarlet tanager (*Piranga olivacea*), semipalmated sandpiper (*Calidris pusilla*), short-bitted dowitcher (*Limnodromus griseus*), willet (*Tringa semipalmata*), and wood thrush (*Hylocichla mustelina*).

4.1.2 NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

According to the NYSDEC ERM, the Project area is located in the vicinity of plants listed as endangered, threatened, or rare by New York State. However, according to the NYSDEC EAF Mapper, there are no documented occurrences of endangered or threatened species or rare plants or animals in the vicinity of the Project area. The ERM and EAF Mapper results are included in Appendix VI.

4.2 HABITAT ASSESSMENT

A site visit was performed on May 16, 2024 to document the existing conditions in the Project area. The Project area was predominantly comprised of the following ecological communities, based on the New York Natural Heritage Program's *Ecological Communities of New York State, Second Edition, March 2014;* urban structure exterior, paved road/path, and mowed lawn with trees. A photo location map and representative photographs of conditions observed are included in Appendix VII.

5.0 DISCUSSION

Piping Plover

The piping plover is a small migratory shorebird. Piping plovers are sandy grayish brown in color and have white underparts. Adult breeding plumage includes a single black breast band, which is often incomplete, and a black bar across the forehead. There are three populations of piping plover: the shorelines of the Great Lakes, the rivers and lakes in the Northern Great Plains, and the shoreline along the Atlantic Coast. Along the Atlantic Coast piping plovers breed on sparsely vegetated beaches composed of sand, gravel, or cobble, frequently adjacent to sand dunes. Piping plover habitat includes sand spits, small islands, tidal flats, shoals, sandbars with inlets, and unvegetated shorelines of alkaline lakes, reservoirs, or river sandbars. Piping plovers nest between the high tide line and toe of the dunes. Primary foraging habitats include sandy mud flats, ephemeral pools and seasonally emergent seagrass beds with abundant invertebrates.

The Project does not involve activities in the vicinity of potential piping plover habitats such as ocean beaches, primary dune habitats, or other potential habitats near the shoreline. The

Project involves work in an area characterized as a mowed lawn with trees and paved roads/paths, which do not provide suitable habitat for the piping plover. Therefore, the Project will have no effect on the piping plover. This determination is documented in the Northeast Determination Key (DKey) included in **Appendix VIII**.

Red Knot

The red knot is a medium-sized migratory shorebird. Red knots coloration consists of a grayish feathers edged in white, and a speckled white underbelly. Adult breeding plumage includes a "rufous" red color breast, upper belly, face, and prominent stripe above the eye. Migratory red knot populations are generally found on coastal marine and estuarine habitats with large areas of exposed intertidal zones along the Atlantic coast. Red knot habitat includes intertidal areas, tidal flats, sand spits, islets, shoals, and sandbars with inlets, and unimproved tidal inlets. Red knots nest in dry, slightly elevated tundra locations, often on windswept slopes with little vegetation, typically close to the ocean. Primary foraging habitats include sandy mud flats, and intertidal areas with abundant mollusk invertebrates.

The Project does not involve activities in the vicinity of potential red knot habitats such as coastal marine or estuarine habitats with exposed intertidal zones. The Project involves work in an area characterized as a mowed lawn with trees and paved roads/paths, which do not provide suitable habitat for the red knot. Therefore, the Project will have no effect on the red knot. This determination is documented in the Northeast Determination Key (DKey) included in **Appendix VIII**.

Monarch Butterfly

According to the USFWS Official Species List, the monarch butterfly, a candidate species, may occur in the Project area. In eastern North America, monarchs migrate north in the spring, from Mexico to the United States and Canada, over two to three successive generations, breeding along the way. The number of generations of monarchs produced in a given year can vary between three and five and is dependent upon environmental conditions. In the fall, monarchs begin migrating to their respective overwintering sites. This migration can take monarchs distances of over 3,000 km and last for over two months.

Suitable summer breeding and migratory habitat for the monarch butterfly consists of a sufficient quality and quantity of nectar and milkweed resources from flowers. Monarchs also need milkweed (for both oviposition and larval feeding) embedded within this diverse nectaring habitat. A significant population of common milkweed (*Asclepias syriaca*), swamp milkweed (*Asclepias incarnata*) and/or butterfly weed (*Ascepias tuberosa*) is defined as being equal to or more than 50 Stems Per Acre. No significant common milkweed, swamp milkweed, or butterfly milkweed resources were identified during the rare, threatened, and endangered species survey. The Project area does not provide suitable habitat for the monarch butterfly. Therefore, the project would have "no effect" on and would not result in a "take" of the monarch butterfly.

Migratory Birds

According to the USFWS IPaC Resource List, thirty migratory bird species of concern may inhabit the Project area. Human activities can potentially stress or harm birds, affect breeding and nesting, and reduce habitat and food supplies. Vegetation disturbance or removal, ground disturbance, or alteration of structures may result in disturbance to nesting birds. Different species of birds nest in different kinds of habitat, at different heights, and at different times. They nest in trees, shrubs, grass, on the ground, on cliffs, or on man-made structures (bridges, cell towers, poles, overhead power structures, etc.). The structure of nests is highly variable, each species has a characteristic nest style. Birds may construct nests from natural materials (grass, leaves, mud, lichen, and fur) or from man-made materials (paper, plastic, and yarn). In general, fertilized eggs have to be kept in nests where proper care can be taken. The nesting period and the type of nests vary by species. Nests are generally built where they are inaccessible and are concealed from view. Eggs and nestlings are the life stages of migratory birds that are most vulnerable to inadvertent taking through disturbance or the destruction of active nests. Avoidance is the most effective means of minimizing such potential "take" of migratory birds. The nesting season for most migratory birds occurs between April 1 and September 1 in New York.

The Project involves work in paved roadways and pathways and mowed lawns with trees. The Project is not anticipated to result in a "take" of migratory birds. It is recommended that precautions are taken to minimize potential impacts to migratory birds that may be travelling through the Project area during construction, including minimizing construction noise to the extent practicable, using care to avoid birds when operating machinery or vehicles near birds, and general contractor awareness of potential bird presence.

6.0 CONCLUSIONS

The ESA (16 U.S.C. § 1531-1544) is the federal statute designed to protect endangered and threatened fish, wildlife and plant species and the ecosystems upon which they depend. The ESA is administered by the USFWS as it pertains to terrestrial and freshwater species. Section 9 of the ESA makes it unlawful for any person or private entity to "take" individuals of an endangered species and, by regulation, a threatened species. "Take" means to "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct." (16 U.S.C. § 1532(19)). "Harm" includes any "significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering." (50 C.F.R. § 17.3).

According to the USFWS Official Species List, the Project area may be inhabited by a total of two (3) federally threatened or endangered species, including the piping plover (*Charadrius melodus* – threatened) and rufa red knot (*Calidris canutus rufa* – threatened); and one (1) federal candidate species, the monarch butterfly (*Danaus plexippus*). Based on the results of the RTE species report and USFWS IPaC Dkeys, the project would have "no effect" on the piping plover and red knot. The monarch butterfly is listed as a candidate

species by the USFWS, which does not provide legal protection to species under the Endangered Species Act. To prevent a "take" of migratory birds, it is recommended that precautions are taken to minimize potential impacts to migratory birds that may be travelling through the Project area during construction, including minimizing construction noise to the extent practicable, using care to avoid birds when operating machinery or vehicles near birds, and general contractor awareness of potential bird presence. No additional consultations or approvals are necessary to comply with federal RTE regulations.

Endangered and threatened animal species and the habitat they occupy are protected by state law and regulation: Environmental Conservation Law §11-0535 and 6 NYCRR Part 182 . If a proposed project will negatively impact endangered or threatened animal species, permits and additional review from the Department may be needed. A permit from NYSDEC is only required when an activity is likely to cause direct harm to listed animals or is occurring in occupied habitat and will result in adverse modification of that habitat. In order to trigger the permit requirement, a proposed activity must either be likely to result in the take of individuals of a listed animal or involve an adverse modification of occupied habitat, which is defined in the regulations as the geographic area in which a protected species has been determined by the NYSDEC to exhibit one or more essential behaviors.

According to the NYSDEC ERM, the Project area is located in the vicinity of plants listed as endangered, threatened, or rare by New York State. However, according to the NYSDEC EAF Mapper, there are no documented occurrences of endangered or threatened species or rare plants or animals in the vicinity of the Project area. The Project involves work in paved roadways and pathways and mowed lawns with trees in an urban area, which do not provide suitable habitat for any rare plants; therefore, the Project will not result in a take of any rare plants. No additional consultations or approvals are necessary to comply with state RTE regulations.

Should you have any questions, comments, concerns, or require any additional information, please do not hesitate to contact the undersigned by phone at (845) 534-5959, or by e-mail at ccamacho@tectonicengineering.com or lbart@tectoncinegineering.com.

TECTONIC ENGINEERING CONSULTANTS, GEOLOGISTS & LAND SURVEYORS, D.P.C.

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Lori Bart
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Tectonic

PRACTICAL SOLUTIONS. EXCEPTIONAL SERVICE.

Rare, Threatened, and Endangered Species Report

Creedmoor Psychiatric Center
Transitional Residence Center Project
80-45 Winchester Boulevard
Queens Village, NY 11427-2199

October 9, 2024

Submitted To:

Architectural Resources

303 West 13th Street
New York, NY 10014

Submitted By:

Tectonic Engineering Consultants, Geologists & Land Surveyors, D.P.C.

70 Pleasant Hill Road, PO Box 37
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RARE, THREATENED, ENDANGERED SPECIES REPORT
TECTONIC WO # 12175.01
BLOOMING COMMONS PROJECT
TAX ID: 46-2-49
436 BLOOMING GROVE TURNPIKE
TOWN OF NEW WINDSOR, ORANGE COUNTY, NY

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Appendix I

GENERAL NOTES

A. SITE CONDITIONS

1. UNLESS OTHERWISE NOTED ELSEWHERE ON PLANS OR IN THE PROJECT SPECIFICATIONS, ALL WORK SHALL BE PERFORMED BY THE CONSTRUCTION CONTRACTOR.
2. EXISTING CONDITIONS ARE BASED ON A SURVEY ENTITLED "PARTIAL TOPOGRAPHIC SURVEY" BY TECTONIC ENGINEERING CONSULTANTS, GEOLOGISTS & LAND SURVEYORS, D.P.C. DATED 4/12/2024, LAST REVISED 8/19/2024.
3. ALL ELEVATIONS SHOWN ARE FINISHED GRADE ELEVATIONS UNLESS OTHERWISE NOTED.
4. ALL INFORMATION SHOWN OR NOTED FOR EXISTING FACILITIES, GRADES, ROADWAYS, AND MATERIALS IS APPROXIMATE AND THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR CHECKING ALL INFORMATION WHICH MAY AFFECT THEIR WORK.
5. TEST PITS SHALL BE CONSTRUCTED BY THE GENERAL CONTRACTOR AT ALL PIPE CROSSINGS AND AS DIRECTED BY THE DIRECTOR'S REPRESENTATIVE.
6. THE CONSTRUCTION CONTRACTOR IS RESPONSIBLE FOR THE PROVISION OF ALL MATERIALS, LABOR AND INSTALLATION OF ALL ITEMS OF CONSTRUCTION FOR THE SUCCESSFUL COMPLETION AND OPERATION OF THE PROJECT SATISFACTORY TO THE OWNER AND THEIR REPRESENTATIVE IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
7. THE CONSTRUCTION CONTRACTOR SHALL PROVIDE THEIR OWN LAYOUT AND STAKEOUT OF ALL PROPOSED IMPROVEMENTS. OFFSET LINES WITH STAKES SHALL BE SET AT APPROPRIATE INTERVALS TO FACILITATE CONSTRUCTION. CUT SHEETS SHALL BE SUBMITTED FOR APPROVAL TO THE CONSTRUCTION'S REPRESENTATIVE AND TO THE WORK CREWS IN THE TIME IDENTIFIED IN SPECS PRIOR TO CONSTRUCTION.
8. VERIFY ALL BENCHMARKS PRIOR TO THE START OF CONSTRUCTION.
9. PROTECT ALL BENCH MARKS AND MONUMENTS FROM DAMAGE AND SHALL ESTABLISH OFFSET POINTS FOR THIS WORK.
10. THE CONSTRUCTION CONTRACTOR SHALL BE RESPONSIBLE FOR SITE SECURITY THROUGHOUT THE DURATION OF THE PROJECT AND SHALL PROVIDE AND MAINTAIN SAFETY AND SECURITY FENCING, MEASURES, AND PERSONNEL AS DIRECTED BY THE OWNER'S REPRESENTATIVE.
11. ATTENTION IS DIRECTED TO THE SAFETY REQUIREMENTS AS OUTLINED IN THE GENERAL CONDITIONS OF THE CONSTRUCTION SPECIFICATIONS. THE OWNER, ARCHITECT, AND ENGINEER SHALL ASSUME NO RESPONSIBILITY AND/OR LIABILITY FOR THE SAFETY OF THE WORKERS WHERE THE WORK IS BEING PERFORMED.
12. ALL CONTRACTORS SHALL COMPLY WITH ALL FEDERAL, STATE, AND LOCAL LAWS AND ALL CODES, ORDINANCES, RULES AND REGULATIONS OF HEALTH, PUBLIC OR OTHER AUTHORITIES CONTROLLING OR LIMITING THE METHODS, MATERIAL TO BE USED, OR THE ACTIONS OF THOSE EMPLOYED IN WORK OF THIS KIND. ALL WORK, LABOR OR MATERIAL NECESSARY TO COMPLY WITH THESE LAWS, CODES, ORDINANCES, RULES AND REGULATIONS SHALL BE PERFORMED AND FURNISHED BY THE CONTRACTOR.
13. THE CONSTRUCTION CONTRACTOR SHALL PROCURE AND PAY FOR ALL NECESSARY PERMITS AND LICENSES REQUIRED TO CARRY OUT THEIR WORK IN FULL ACCORDANCE WITH REQUIREMENTS OF ALL REGULATIONS AND AUTHORITIES HAVING JURISDICTION.
14. THE SUBJECT PROPERTY DOES NOT FALL WITHIN THE 100 YEAR FLOOD ZONE AS PER THE NATIONAL FLOOD INSURANCE RATE MAP.

B. SOIL EROSION, SEDIMENT, AND DUST CONTROL

1. THE CONSTRUCTION CONTRACTOR SHALL TAKE ALL NECESSARY MEASURES TO MAINTAIN DUST CONTROL AS REQUIRED OR DIRECTED BY THE ENGINEER. ALL VEHICLES SHALL BE CLEAN AND ALL ROADWAYS SHALL BE MAINTAINED FREE OF CONSTRUCTION DEBRIS AND SOIL.
2. ALL SEDIMENT AND SOIL EROSION CONTROLS PRACTICES ARE TO BE INSTALLED IN CONFORMANCE WITH STATE AND LOCAL STANDARDS PRIOR TO ANY MAJOR SOIL DISTURBANCES. ALL WORK SHALL BE COMPLETED IN PROPER SEQUENCE AND MAINTAINED UNTIL PERMANENT PROTECTION IS ESTABLISHED.
3. THE SOIL EROSION AND SEDIMENT CONTROL PLAN SHEET INCLUDES ADDITIONAL NOTES WHICH SHALL BE ADHERED TO BY THE CONSTRUCTION CONTRACTOR.
4. THE STORM WATER POLLUTION PREVENTION PLAN (SWPPP) AS APPROVED BY THE BOROUGH OF QUEENS AND THE NYSDEC SPDES PERMIT IS A PART OF THE CONTRACT DOCUMENTS AND ASSISTS THE OWNER WITH COMPLIANCE WITH GP 0-20-001.

C. UTILITIES

1. AVAILABLE INFORMATION AS TO THE LOCATION OF EXISTING UTILITIES HAS BEEN COLLECTED FROM VARIOUS SOURCES. THE RESULTS OF SUCH INVESTIGATIONS, AS MAY BE SHOWN ON THE GENERAL CONTRACT DRAWINGS, ARE NOT GUARANTEED AS TO ACCURACY OR COMPLETENESS. ALL EXISTING UTILITIES ARE SHOWN FOR INFORMATION ONLY. THE GENERAL CONTRACTOR SHALL CONTACT THE NEW YORK 881 SHOWN BELOW. IT IS THE GENERAL CONTRACTOR'S RESPONSIBILITY TO LOCATE, IDENTIFY AND PROTECT UTILITIES WITHIN THE PROJECT LIMITS. THE CONSTRUCTION CONTRACTOR SHALL DIG TEST PITS TO LOCATE UTILITIES WITHIN THE PROJECT LIMITS
2. NEW YORK 811, DIAL 811 OR PHONE # 1(800)272-4480.
3. THE CONSTRUCTION CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES TEN (10) DAYS PRIOR TO CONSTRUCTION, OF THEIR ANTICIPATED START DATE.
4. THE CONSTRUCTION CONTRACTOR SHALL CONTACT THE UTILITY COMPANIES TO DETERMINE THEIR SCHEDULE FOR PERFORMING UTILITY RELOCATION AND INSTALLATION WORK AND HE SHALL SCHEDULE HIS WORK ACCORDINGLY SO AS NOT TO INTERFERE WITH THE WORK OF THE UTILITY COMPANIES.
5. THE CONSTRUCTION CONTRACTOR SHALL NOTIFY THE UTILITY COMPANIES AT LEAST 72 HOURS IN ADVANCE OF ANY WORK ON THEIR FACILITIES.
6. EXISTING UTILITY FACILITIES THAT MAY HAVE TO BE RELOCATED ARE TO BE MOVED BY THE RESPECTIVE UTILITY COMPANY UNLESS OTHERWISE NOTED. THE CONSTRUCTION CONTRACTOR IS RESPONSIBLE FOR SCHEDULING AND SHALL NOT CLAIM ANY DELAYS TO THEIR CONSTRUCTION SCHEDULE.
7. ALL PROPOSED SITE GAS UTILITIES SHALL BE INSTALLED BY THE CONSTRUCTION CONTRACTOR UNLESS OTHERWISE NOTED AND SHALL BE LOCATED IN ACCORDANCE WITH THE REQUIREMENTS OF THE RESPECTIVE UTILITY COMPANY. THE MECHANICAL CONTRACTOR SHALL BEAR ALL COSTS ASSOCIATED WITH THESE UTILITIES FOR THE PROJECT, BOTH ON AND OFF SITE.
8. THE CONSTRUCTION CONTRACTOR SHALL BE RESPONSIBLE TO COORDINATE ALL REQUIRED UTILITY CONNECTIONS WITH THE RESPECTIVE UTILITY COMPANY.
9. ALL TRENCHES SHALL BE BACK FILLED WITHOUT DELAY. OPEN TRENCHES SHALL BE KEPT TO A MINIMUM. OPEN TRENCHES SHALL BE TEMPORARILY SUPPORTED AND STEEL PLATED WHEN WORK IS NOT IN PROGRESS. NO EXCAVATION AREAS SHALL REMAIN UNCOVERED OVERNIGHT. THE GENERAL CONTRACTOR IS SOLELY RESPONSIBLE FOR THE DESIGN AND INSTALLATION OF STEEL PLATES THAT ARE CAPABLE OF SAFELY SUPPORTING THE LOADS THEY WILL BE SUBJECTED TO.
10. ANY DAMAGE TO UTILITIES SHALL BE THE SOLE RESPONSIBILITY OF THE CONSTRUCTION CONTRACTOR, AND ALL COST FOR REPAIRS SHALL BE BORNE BY THE CONSTRUCTION CONTRACTOR.
11. THE CONSTRUCTION CONTRACTOR SHALL BE RESPONSIBLE FOR COSTS INCURRED IN TEMPORARY SUPPORT OF UTILITY POLES NEAR EXCAVATION THAT DO NOT REQUIRE RELOCATION. IT SHALL BE THE GENERAL CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE APPROPRIATE UTILITY COMPANY FOR UTILITY POLE RELOCATION.
12. ALL GAS VALVES, MARKERS, VENTS AND BOXES WITHIN THE CONSTRUCTION LIMITS SHALL BE RESET BY THE RESPECTIVE UTILITY COMPANIES. IT SHALL BE THE RESPONSIBILITY OF THE CONSTRUCTION CONTRACTOR TO NOTIFY EACH UTILITY COMPANY AND SCHEDULE THE WORK ACCORDINGLY.
13. FIRE HYDRANTS SHALL BE RELOCATED BY THE CONSTRUCTION CONTRACTOR.
14. ALL PROPOSED WATER SERVICES SHALL BE LOCATED A MINIMUM SEPARATION DISTANCE OF 10 HORIZONTAL FEET AND 1.5 VERTICAL FEET FROM ALL SANITARY SEWER FACILITIES. A MINIMUM 4 FEET OF COVER SHALL BE PROVIDED OVER ALL WATER.
15. ALL EXCAVATIONS MADE TO REMOVE EXISTING UNDERGROUND UTILITIES/STRUCTURES, INSTALL NEW UNDERGROUND UTILITIES/STRUCTURES, WITHIN FIVE (5) FEET OUTSIDE OF THE BUILDING, OR WITHIN ROADWAYS SHALL BE BACKFILLED IN ACCORDANCE WITH THE PLAN DETAILS AND SPECIFICATIONS AND UNDER THE SUPERVISION OF THE DIRECTOR'S REPRESENTATIVE.
16. UNDERGROUND IMPROVEMENTS IF ANY AND NOT VISIBLE AT THE TIME OF THE SURVEY, HAVE NOT BEEN LOCATED IN THE FIELD OR SHOWN HEREON. TO THE BEST OF OUR BELIEF, UNDERGROUND IMPROVEMENTS FROM AVAILABLE DOCUMENTATION HAVE BEEN SHOWN.

D. PEDESTRIAN AND TRAFFIC FLOW

1. THE CONSTRUCTION CONTRACTOR MUST PROVIDE A MEANS OF SAFE INGRESS AND EGRESS AT ALL TIMES TO THE PUBLIC OUTSIDE OF THE BUILDING, STARTING FIVE (5) FEET FROM THE POINT OF EACH EXIT. THIS SHALL INCLUDE RIGHTS OF WAYS AS WELL AS INDIVIDUAL RESIDENCES AND/OR BUSINESSES WITHIN THE PROJECT AREA.
2. THE CONSTRUCTION CONTRACTOR IS REQUIRED TO ENSURE THE SAFE, ORDERLY AND EXPEDITIOUS FLOW OF TRAFFIC AT ALL TIMES. SAID TRAFFIC FLOW IS TO BE MAINTAINED IN ACCORDANCE WITH RECOGNIZED TRAFFIC CONTROL STANDARDS AND IS ENSURED, BUT NOT LIMITED TO, THROUGH THE USE OF A FLAGGER, SIGNING, BARRICADES, FLASHING LIGHTS, CONES, BARRELS, ETC. AS APPROVED BY THE CONSTRUCTION MANAGER. A MEETING WITH THE FACILITY REPRESENTATIVE, THE DIRECTOR'S REPRESENTATIVE, AND CONSTRUCTION CONTRACTOR SHALL OCCUR PRIOR TO THE START OF ANY GROUND DISTURBANCE ACTIVITIES. ALL MAINTENANCE AND PROTECTION OF TRAFFIC PLANS REQUIRED TO FACILITATE CONSTRUCTION SHALL BE PROVIDED BY THE CONSTRUCTION CONTRACTOR AND BE REVIEWED AND APPROVED BY THE DIRECTOR'S REPRESENTATIVE. THIS SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO FURNISH AND INSTALL ALL TRAFFIC CONTROL DEVICES.
3. A FLAGGER SHALL BE EMPLOYED BY THE CONSTRUCTION CONTRACTOR FOR THE PROTECTION OF ANY EQUIPMENT ENTERING, LEAVING OR CROSSING ACTIVE TRAFFIC LANES, OR AS MAY BE REQUIRED FOR THE ROUTING OF ANY TRAFFIC AROUND OR THROUGH THE CONSTRUCTION.
4. DURING THE WINTER MONTHS, THE CONSTRUCTION CONTRACTOR SHALL BE RESPONSIBLE FOR SNOW REMOVAL AND THE COMPLETE MAINTENANCE OF EXISTING ROADWAYS UTILIZED FOR CONSTRUCTION PURPOSES BY ALL TRADES. THE ROADWAYS SHALL BE KEPT FREE OF ALL OBSTRUCTIONS AND KEPT IN A SMOOTH RIDING CONDITION AT ALL TIMES. ALL POT HOLES, WASHOUTS, CAVE-INS, ETC., DEVELOPING DURING THIS PERIOD SHALL BE PROPERLY FILLED IN WITH MATERIAL BY METHOD APPROVED BY THE DIRECTOR'S REPRESENTATIVE.
5. BEFORE BEGINNING WORK ON ANY STAGE OF THE PROJECT, THE CONSTRUCTION CONTRACTOR SHALL FURNISH AND INSTALL ALL SPECIFIED WARNING SIGNS, BARRICADES, LIGHTS, AND OTHER DEVICES AS SHOWN ON THE CONTRACT PLANS, OR DEEMED NECESSARY, IN THE OPINION OF THE DIRECTOR'S REPRESENTATIVE, TO PROTECT THE PUBLIC DURING THAT PHASE OF OPERATIONS.
6. ALL NECESSARY REGULATORY AND WARNING SIGNS SHALL BE IN ACCORDANCE WITH THE FHWA MUTCD (LATEST EDITION) WITH THE NYS SUPPLEMENT, LATEST EDITION, AND STANDARD HIGHWAY SIGNS, (LATEST EDITION) AND SHALL BE SUPPLIED AND INSTALLED BY THE CONSTRUCTION CONTRACTOR. WHEN SUCH SIGNS ARE NO LONGER REQUIRED, THE CONSTRUCTION CONTRACTOR SHALL IMMEDIATELY AND CAREFULLY REMOVE AND STORE THEM ON THE PROJECT SITE AT LOCATIONS APPROVED BY THE OWNER'S REPRESENTATIVE UNTIL THEY ARE REUSED ON THE PROJECT OR REMOVED BY THE CONSTRUCTION CONTRACTOR.
7. DURING CONSTRUCTION, ALL EXISTING ROADS AND RAMPS SHALL REMAIN OPEN AND BE PROPERLY MAINTAINED TO ACCOMMODATE EMERGENCY VEHICLES AT ALL TIMES.

E. CONSTRUCTION

1. EXISTING ASPHALT PAVEMENT SHALL BE SAWCUT AND REMOVED IN SUCH A MANNER SO AS NOT TO TEAR, BULGE, DAMAGE, OR DISPLACE ADJACENT PAVEMENT. EDGES SHALL BE CLEAN AND VERTICAL, ALL CUTS SHALL BE PARALLEL OR PERPENDICULAR TO THE DIRECTION OF TRAFFIC.
2. ALL ADJACENT CONCRETE AND BUILDING SURFACES SHALL BE PROTECTED WHEN TACK COAT AND/OR PRIME COAT IS APPLIED. TRAFFIC IS PROHIBITED UNTIL FULLY CURED.
3. WHERE UNSTABLE SUBGRADE IS ENCOUNTERED DURING THE COURSE OF CONSTRUCTION, THE CONSTRUCTION CONTRACTOR SHALL EXCAVATE THE COMPLETE EXTENT OF THE FAILED AREA AS DIRECTED BY THE DIRECTOR'S REPRESENTATIVE. THE CONSTRUCTION CONTRACTOR SHALL REPLACE THE UNSUITABLE SOILS WITH EMBANKMENT FILL, COMPACT THE AREA IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS, AND PROOF ROLL THE AREA TO THE SATISFACTION OF THE DIRECTOR'S REPRESENTATIVE.
4. WHERE UNSTABLE OR WEAK AREAS OF PAVEMENT ARE ENCOUNTERED DURING THE COURSE OF CONSTRUCTION, THE CONSTRUCTION CONTRACTOR SHALL EXCAVATE THE COMPLETE EXTENT OF THE FAILED AREA AS DIRECTED BY THE DIRECTOR'S REPRESENTATIVE. THE CONSTRUCTION CONTRACTOR SHALL REPLACE THE FAILED PAVEMENT WITH HMA BASE COURSE.
5. ONCE THE CONSTRUCTION CONTRACTOR HAS COMMENCED CONSTRUCTION, THE WORK SHALL CONTINUE ON A DAILY BASIS WITHOUT INTERRUPTION UNTIL ALL OF THE WORK HAS BEEN COMPLETED.
6. MAILBOXES, STREET SIGNS, OR TRAFFIC SIGNS REMOVED FOR CONSTRUCTION PURPOSES MUST BE REPLACED BY THE CONSTRUCTION CONTRACTOR WITHIN 24 HOURS.
7. ALL NEW SURFACE CONCRETE SHALL BE PROTECTED FROM DE-ICING SALTS FOR AT LEAST 60 DAYS AFTER THE POUR DATE.
8. ALL UNUSED SIGNS, SIGN POSTS, STORM SEWER CASTINGS AND GRATES REMOVED DURING CONSTRUCTION AND NOT REPLACED ELSEWHERE ON THIS PROJECT SHALL BECOME THE PROPERTY OF THE OWNER. IF THE OWNER DECLINES OWNERSHIP OF THE MATERIALS, THE CONSTRUCTION CONTRACTOR SHALL REMOVE THE MATERIALS FROM THE SITE AT NO ADDITIONAL COST TO THE OWNER.
9. DEPRESSED CURBING SHALL BE CONSTRUCTED AT ALL WALKWAY CROSSINGS. DEPRESSED CURBS FOR HANDICAP ACCESS SHALL BE FLUSH WITH PAVEMENT. ALL HANDICAP ACCESS FACILITIES SHALL COMPLY WITH CURRENT A.D.A. REGULATIONS AND NEW YORK STATE BUILDING CODE, CHAPTER 11.
10. THE CONSTRUCTION CONTRACTOR SHALL MAINTAIN SUFFICIENT COVER (TEMPORARY AND PERMANENT) OVER ALL PIPES DURING THE CONSTRUCTION OF THE PROJECT IN ACCORDANCE WITH THE MANUFACTURER'S REQUIREMENTS.
11. WHERE CONCRETE PIPE IS PROPOSED, ALL PIPE SHALL BE CLASS III WITH O-RING GASKETS, UNLESS OTHERWISE INDICATED.

F. SITE CLEARING AND GRADING

1. SITE CLEARING SHALL INCLUDE, BUT IS NOT LIMITED TO, THE REMOVAL OF ALL DEBRIS, RUBBLE, FENCES, TREES, EXISTING UTILITIES, EXISTING STRUCTURES, FOUNDATIONS, SUBSURFACE STRUCTURES, UNSUITABLE MATERIALS, EXISTING HARDSCAPE AND PAVEMENT, THE COORDINATION OF THE RELOCATION OF EXISTING UTILITIES, GRUBBING, ETC. AND ALL OTHER WORK REQUIRED TO COMPLETE THE PROJECT FOR WHICH THERE IS NO SPECIFIC PAY ITEM OR CALLOUT.
2. ALL DEMOLITION ACTIVITIES TO BE IN ACCORDANCE WITH ALL JURISDICTIONAL AUTHORITIES INCLUDING BUT NOT LIMITED TO COUNTY RULES AND REGULATIONS, THE MUNICIPAL ORDINANCE, NYSDEC RULES AND REGULATIONS, AND NEW YORK STATE BUILDING CODE.
3. THE CONSTRUCTION CONTRACTOR SHALL BE RESPONSIBLE FOR THE DISPOSAL OF ALL UNUSABLE MATERIALS EXCAVATED OF WHATEVER NATURE AT HIS OWN EXPENSE. THE OWNER IS NOT OBLIGATED TO SUPPLY A DISPOSAL SITE. THE GENERAL CONTRACTOR MUST NOT DEPOSIT THE EXCESS MATERIALS WITHIN THE MUNICIPALITY LIMITS WITHOUT EXPRESS PERMISSION OF THE MUNICIPALITY. MATERIALS MUST BE DISPOSED OF IN ACCORDANCE WITH APPROVED NYSDEC METHODS AND MEANS.
4. ANY EXISTING AND NEW CONSTRUCTION DEBRIS SHALL BE REMOVED FROM THE SITE AND LAWFULLY DISPOSED. CONSTRUCTION CONTRACTOR SHALL PROVIDE DUMPING MANIFESTS UPON REQUEST.
5. EXISTING ONSITE SUITABLE SOIL SHALL BE EXCAVATED, TRANSPORTED, SPREAD, GRADED, AND COMPACTED AS REQUIRED BY THE PROPOSED GRADES. ALL EARTHWORK OPERATIONS INVOLVING ONSITE SOILS SHALL BE COMPLETED PRIOR TO IMPORTING ANY OFFSITE MATERIALS. ALL IMPORTED FILL REQUIRED TO ACHIEVE THE PROPOSED GRADES SHALL BE INCLUDED IN THE PROPOSAL. IMPORTED SOIL SHALL BE FREE OF WASTE OR HAZARDOUS MATERIAL AND SHALL COMPLY WITH THE REQUIREMENTS OF THE PROJECT SPECIFICATIONS.
6. NO MATERIALS SHALL BE REMOVED FROM THE SITE FOR DISPOSAL WITHOUT THE PERMISSION OF THE OWNER.
7. ALL AREAS UNDERGOING REGRADING SHOULD BE SLOPED TO PROVIDE POSITIVE DRAINAGE AWAY FROM STRUCTURES AND BUILDINGS.
8. NO TOPSOIL IS TO BE REMOVED FROM THE PROJECT SITE. TOPSOIL SHALL BE STRIPPED SEPARATELY, STOCKPILED, AND PROTECTED
9. THE CONSTRUCTION CONTRACTOR SHALL EXERCISE PARTICULAR CARE, ESPECIALLY AT INTERSECTIONS AND GUTTER LINES, IN THE PLACING OF PAVEMENT TO PROVIDE POSITIVE DRAINAGE. ANY AREAS WHERE WATER IS IMPOUNDED SHALL BE CORRECTED BY THE GENERAL CONTRACTOR.
10. NO MATERIAL SHALL BE PLACED OR ANY DISTURBANCE PERMITTED BEYOND THE PROJECT PROPERTY LINE OR RIGHT OF WAY WITHOUT THE WRITTEN PERMISSION OF THE PROPERTY OWNER DIRECTLY INVOLVED.
11. ALL PRIVATE AND PUBLIC PROPERTY THAT MAY BE DISTURBED OR DAMAGED BY ANY GENERAL CONSTRUCTION ACTIVITY SHALL BE RELOCATED, RESTORED, REPAIRED AND/OR REPLACED BY THE CONSTRUCTION CONTRACTOR AT NO COST TO EITHER THE OWNER OR THE OWNER OF THE PROPERTY. THERE WILL BE NO SEPARATE PAYMENT FOR THIS WORK OR MATERIALS.
12. ALL EARTHWORK SHALL BE PERFORMED IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE GEOTECHNICAL REPORT FOR THE PROJECT.
13. PROOF ROLLING OF THE SUBBASE AND SUBGRADE SHALL BE PERFORMED IN THE PRESENCE OF BOTH THE TOWN ENGINEER AND THE DIRECTOR'S REPRESENTATIVE AND FOUND TO BE ACCEPTABLE PRIOR TO PAVING. THE SUBGRADE SHALL BE FIRM AND UNYIELDING PRIOR TO PLACEMENT OF SUBBASE. PERFORM ALL TESTING AND INSPECTIONS TO ENSURE COMPLIANT COMPACTION.

ABBREVIATIONS

AH., BK.	AHEAD, BACK
B.C.T.	BARRIER CURB TRANSITION
B , B.L.	BASELINE
B.M.	BENCHMARK
BFP	BACKFLOW PREVENTOR
BIT., BITUM.	BITUMINOUS
BLDG.	BUILDING
C , C.L.	CENTERLINE
C.I.P.	CAST IRON PIPE
CDS	CONTINUOUS DEFLECTION SEPARATION
CLF	CHAIN LINK FENCE
C.M.P.	CORRUGATED METAL PIPE
C.O.	CLEANOUT
CONC.	CONCRETE
CULV.	CULVERT
D, DIA.	DIAMETER
D.C.	DROP CURB
DE	DITCH EXCAVATION
DEP., DP	DEPRESSED CURB
DH	DRILL HOLE
DMH	DRAINAGE MANHOLE
DOT	DEPARTMENT OF TRANSPORTATION
D.S.	DOWNSTREAM
DWY	DRIVEWAY
E	EAST
E.B, W.B	EASTBOUND, WESTBOUND
N.B, S.B.,	NORTHBOUND, SOUTHBOUND
EL, ELEV.	ELEVATION
EXIST., EX.	EXISTING
FI	FIELD INLET
GR, GRT	GRATE
HDPE	HIGH DENSITY POLYETHYLENE
HDS	HYDRODYNAMIC SEPARATOR
HMA	HOT MIX ASPHALT
HT.	HEIGHT
H.W.	HEADWALL
HYD.	HYDRANT
INV	INVERT
IP	IRON PIN
J.B.	JUNCTION BOX
LF	LINEAR FOOT
LT., RT.,	LEFT, RIGHT
LOP	LIMIT OF PAVEMENT (PAVING)
LOM	LIMIT OF MILLING
M.B.	MAILBOX
M.P.	MILE POST
MAX, MAX.	MAXIMUM
MIN, MIN.	MINIMUM
N	NORTH
N.I.C.	NOT IN CONTRACT
NO.	NUMBER
N.T.S.	NOT TO SCALE
PAVT	PAVEMENT
PERF.	PERFORATED
P.G.L.	PROFILE GRADE LINE
L.O.D.	LIMIT OF DISTURBANCE
P, P.L.	PROPERTY LINE, PROFILE LINE
PK	PARKER KAYLON MASONRY NAIL
PCC	POINT OF COMPOUND CURVATURE
POC, P.O.C.	POINT ON CURVE
POL, P.O.L.	POINT ON LINE
POT, P.O.T.	POINT ON TANGENT
PRC, P.R.C.	POINT OF REVERSE CURVE
PROP	PROPOSED
PT, P.T.	POINT OF TANGENCY
PVC, P.V.C.	POLYVINYL CHLORIDE PIPE
	POINT OF VERTICAL CURVATURE
PVI, P.V.I.	POINT OF VERTICAL INTERSECTION
PVT, P.V.T	POINT OF VERTICAL TANGENCY, PAVEMENT
R	RADIUS
RCCP, R.C.C.P.	REINFORCED CONCRETE CULVERT PIPE
RCP, R.C.P.	REINFORCED CONCRETE PIPE
RMC, R.M.C.	RIGID METALLIC CONDUIT
RNMC, R.N.M.C.	RIGID NON-METALLIC CONDUIT
ROW, R.O.W.	RIGHT OF WAY
R.R.	RAILROAD
RTE., RT.	ROUTE
S	SOUTH
SAN.	SANITARY
SDWK.	SIDEWALK
SHLD.	SHOULDER
SMH	SANITARY MANHOLE
S.L.	SURVEY LINE
S.O.D.	SUBBASE OUTLET DRAIN
STY.	STORY
T	TANGENT
TBA	TO BE ABANDONED
TBR	TO BE REMOVED
TEL.	TELEPHONE
TEMP.	TEMPORARY
THK., TH.	THICK
TYP, (TYP)	TYPICAL
U.D.	UNDERDRAIN
UP, U.P.	UTILITY POLE
U.S.	UPSTREAM
VAR.	VARIABLE, VARIES
V.C.T.	VERTICAL CURB TRANSITION
W	WEST
W.C.V.C.	WHITE CONCRETE VERTICAL CURB
WM	WATER METER
X-SECT	CROSS SECTION
XS	CROSS SECTION
T.O.S.	TOE OF SLOPE

LIST OF CIVIL DRAWINGS

C-100	GENERAL NOTES & LEGEND
C-101	REMOVALS PLAN
C-102	SITE PLAN
C-103	GRADING & DRAINAGE PLAN
C-104	STORMWATER LANDSCAPING PLAN
C-105	UTILITY PLAN
C-106	EROSION & SEDIMENT CONTROL PLAN
C-201	DRAINAGE PROFILES
C-202	WATER PROFILES
C-203	SANITARY PROFILE
C-310	SITE DETAILS
C-311	SITE DETAILS
C-320	DRAINAGE DETAILS
C-321	DRAINAGE DETAILS
C-330	STORMWATER LANDSCAPING DETAILS
C-340	UTILITY DETAILS
C-350	EROSION AND SEDIMENT CONTROL DETAILS
C-351	EROSION AND SEDIMENT CONTROL DETAILS
C-352	EROSION AND SEDIMENT CONTROL NOTES

LEGEND

	PROPERTY LINE
	ADJOINING PROPERTY LINE
	INDEX CONTOUR LINE
	CONTOUR LINE
x x x x	CHAIN LINK FENCE
	CURB LINE
	EDGE OF CONCRETE
	EDGE OF PAVEMENT
	PAINTED TRAFFIC LINES
C	CABLE (BY MARKOUT)
E	ELECTRIC (BY MARKOUT)
G	GAS (BY MARKOUT)
OHW	OVERHEAD WIRES
	STORM SEWER (BY MARKOUT)
W	WATER (BY MARKOUT)
UNK	UNKNOWN UTILITY (BY MARKOUT)
E(R)	ELECTRIC (UNDERGROUND) (RECORD)
	STRUCTURE
×BC108.58 ×TC108.91	BOTTOM/TOP OF CURB ELEVATION
DS115.38	DOOR SILL ELEVATION
110.7	SPOT ELEVATION
	BOLLARD
	GATEPOST
	GUY ANCHOR
	UTILITY POLE
	CATCH BASIN
	CURB INLET
	FIELD INLET (ROUND)
E	MANHOLE (ELECTRIC)
662	PROPOSED CONTOUR LINE
660	PROPOSED INDEX CONTOUR LINE
x x x	PROPOSED TEMPORARY CONSTRUCTION FENCE
	PROPOSED STORM PIPE < 10"
	PROPOSED STORM PIPE > 10"
	PROPOSED SILT FENCE
	LIMIT OF DISTURBANCE
	PROPOSED SAWCUT LINE
	PROPOSED DECORATIVE FENCE
	PROPOSED SILT FENCE
FR FR FR	PROPOSED FIBER ROLL
	PROPOSED CONCRETE SIDEWALK
170.5	PROPOSED SPOT ELEVATION
D	PROPOSED DRAINAGE MANHOLE
S	PROPOSED SANITARY MANHOLE
	PROPOSED CATCH BASIN
A	PROPOSED SIGN
	PROPOSED THRUST BLOCK
	TREE PROTECTION
	INLET PROTECTION
	PROPOSED STABILIZED CONSTRUCTION
	PROPOSED CONCRETE WASHOUT
WV	WATER VALVE
GV	GAS VALVE
	HYDRANT
	SIGN
	LIGHT POST
FLAG	FLAG POLE
PS	PEDESTRIAN SIGNAL
EPB	ELECTRIC PULLBOX
8" BEECH	BEECH TREE W/SIZE
12" ELM	ELM TREE W/SIZE
14" MAPLE	MAPLE TREE W/SIZE
36" OAK	OAK TREE W/SIZE
1" PINE	PINE TREE W/SIZE
20" SYCAMORE	SYCAMORE TREE W/SIZE
25" STUMP	STUMP W/SIZE
4" MAGNOLIA	MAGNOLIA W/SIZE
4" JUNIPER	JUNIPER W/SIZE
C.N.M.	CAN NOT MEASURE
CIP	CAST IRON PIPE
C.C.	CONCRETE CURB
E.O.I.	END OF INFORMATION
N.V.P.	NO VISIBLE PIPE
SFC	STEEL FACED CURB
110.5	LEGAL GRADE

TECTONIC WORK ORDER NO.: 12546.01

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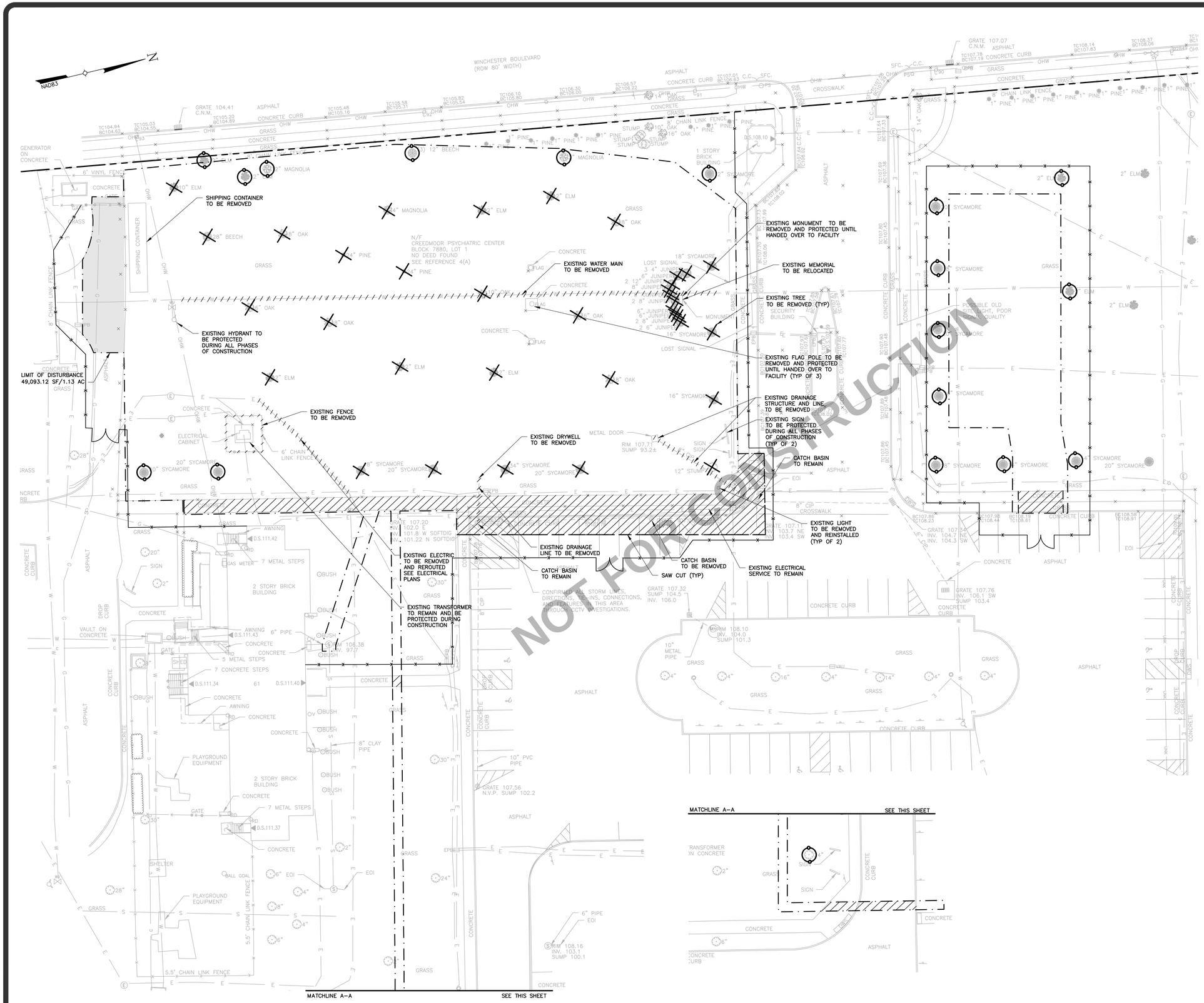

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CONTRACT:
CONSTRUCTION

TITLE:
PROVIDE TRANSITIONAL RESIDENCE, SOUTH CAMPUS CREEDMOOR PSYCHIATRIC CENTER

LOCATION:
80-45 WINCHESTER BLVD
QUEENS, NY 11427

CLIENT:
OFFICE OF MENTAL HEALTH

MARK	DATE	DESCRIPTION
	09/23/24	100% SUBMISSION

PROJECT NUMBER: 47688-C
DESIGNED BY: ZK
DRAWN BY: ECM
FIELD CHECK:
APPROVED:

SHEET TITLE:
REMOVALS PLAN

DRAWING NUMBER:
C-101

SHEET X OF X

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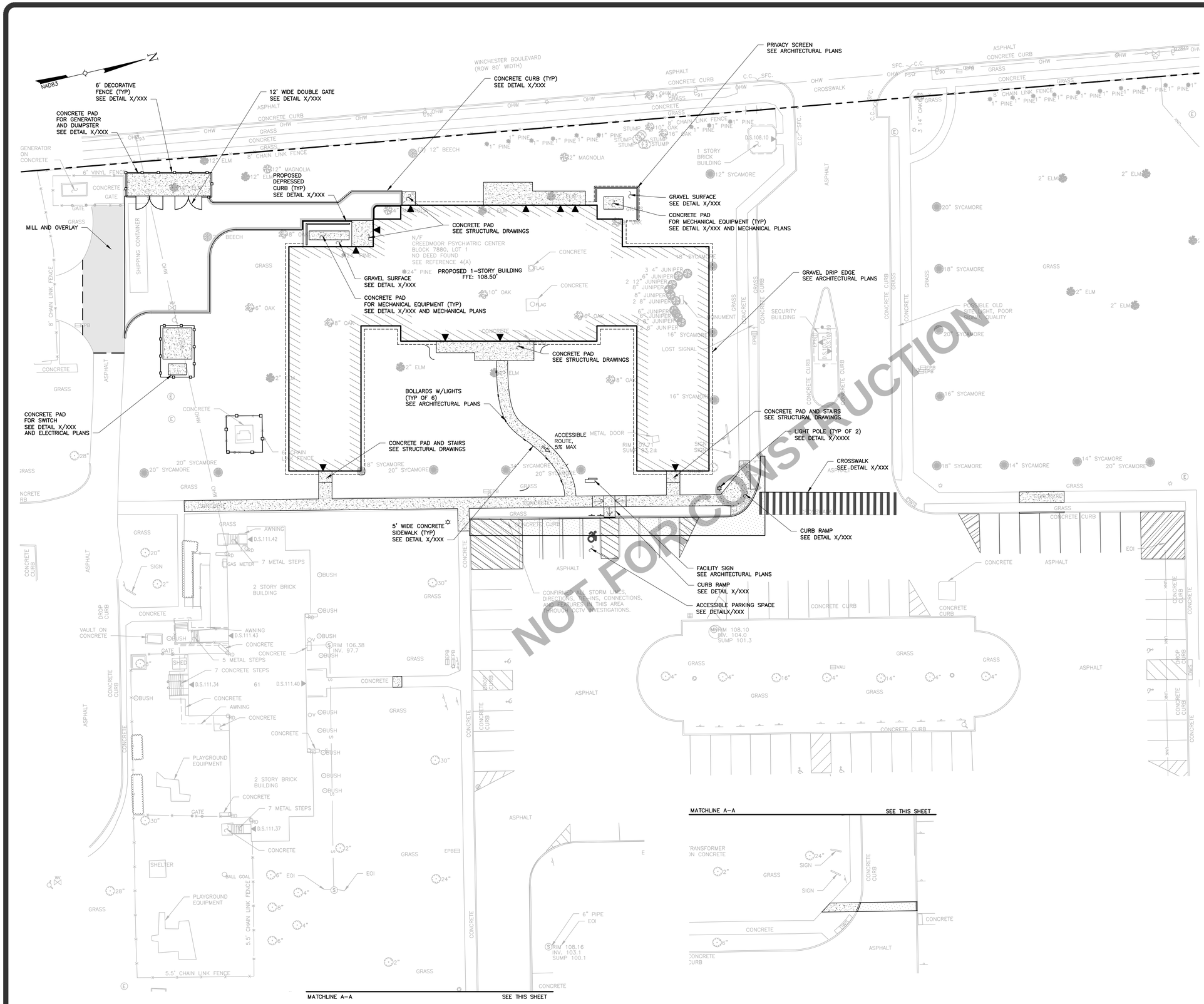

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CONTRACT: CONSTRUCTION

TITLE: PROVIDE TRANSITIONAL RESIDENCE, SOUTH CAMPUS CREEDMOOR PSYCHIATRIC CENTER

LOCATION: 80-45 WINCHESTER BLVD QUEENS, NY 11427

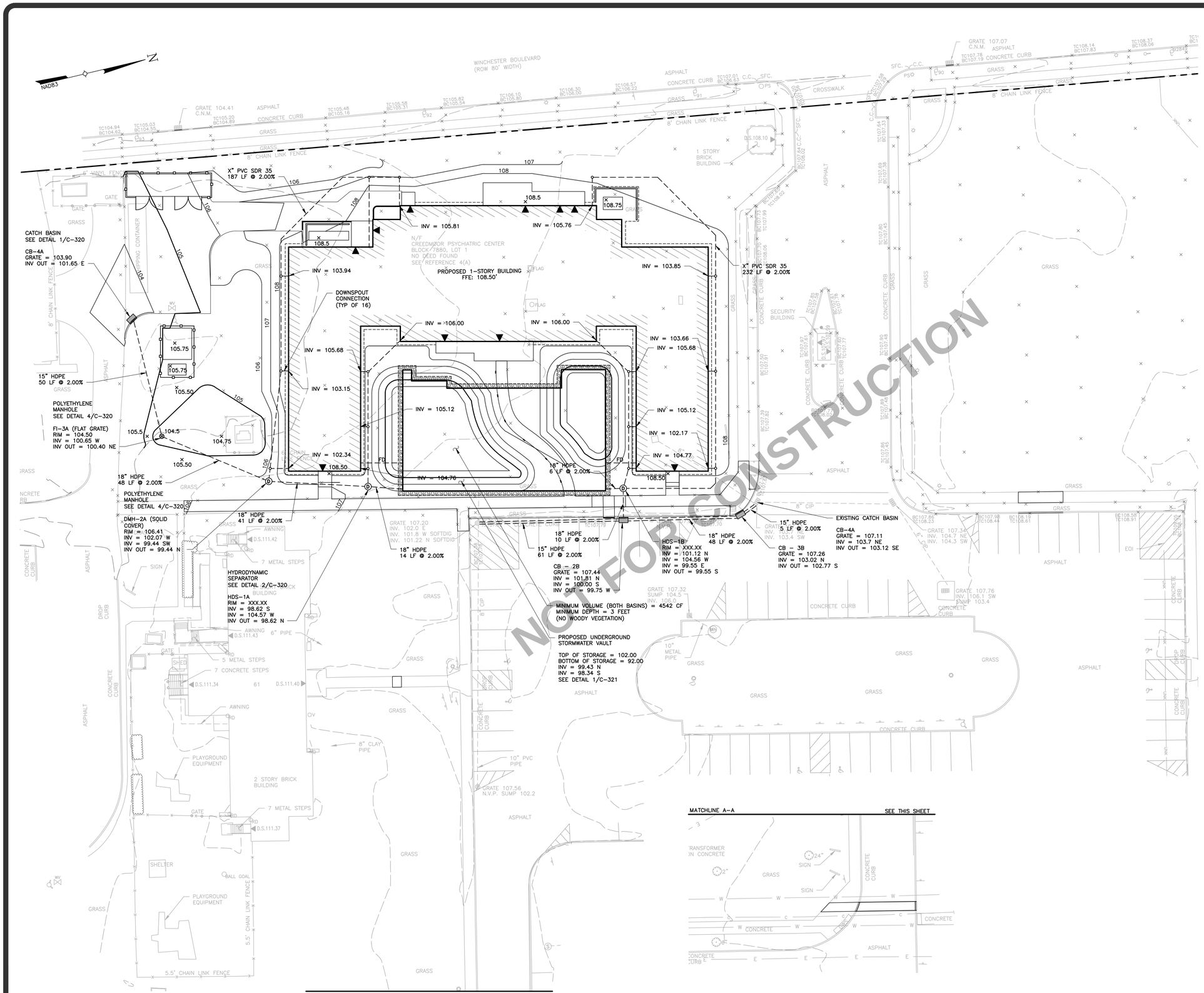
CLIENT: OFFICE OF MENTAL HEALTH

PROJECT NUMBER:	47688-C
DESIGNED BY:	ZK
DRAWN BY:	ECM
FIELD CHECK:	
APPROVED:	

SHEET TITLE: SITE PLAN

DRAWING NUMBER: C-102

SHEET X OF X



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TITLE:
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LOCATION:
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QUEENS, NY 11427

CLIENT:
OFFICE OF MENTAL HEALTH

MARK	DATE	DESCRIPTION
	09/23/24	100% SUBMISSION

PROJECT NUMBER:	47688-C
DESIGNED BY:	ZK
DRAWN BY:	ECM
FIELD CHECK:	
APPROVED:	

SHEET TITLE:
GRADING & DRAINAGE PLAN

DRAWING NUMBER:
C-103

SHEET X OF X

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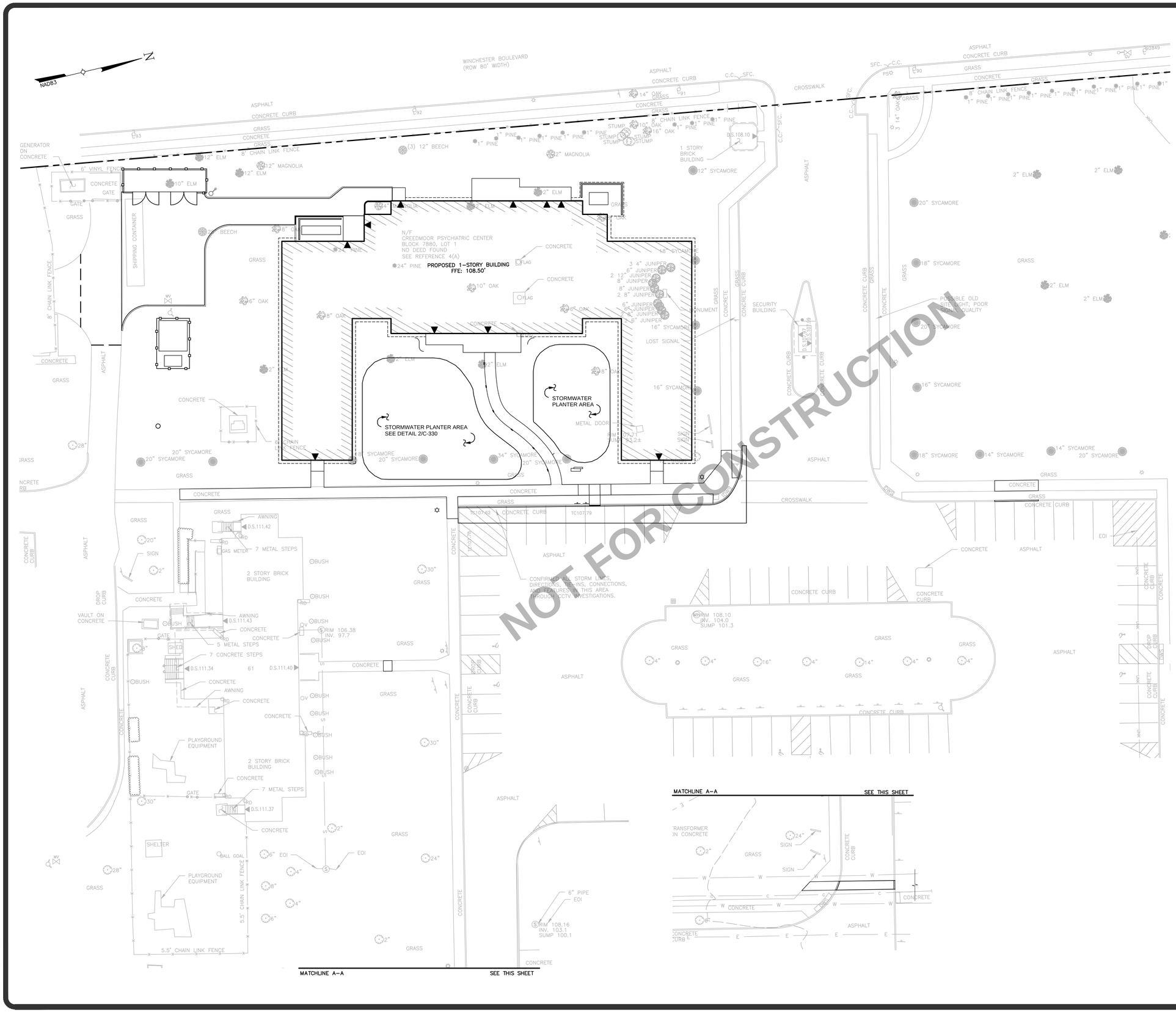

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CONTRACT:
CONSTRUCTION

TITLE:
PROVIDE TRANSITIONAL RESIDENCE, SOUTH CAMPUS CREEDMOOR PSYCHIATRIC CENTER

LOCATION:
80-45 WINCHESTER BLVD
QUEENS, NY 11427

CLIENT:
OFFICE OF MENTAL HEALTH

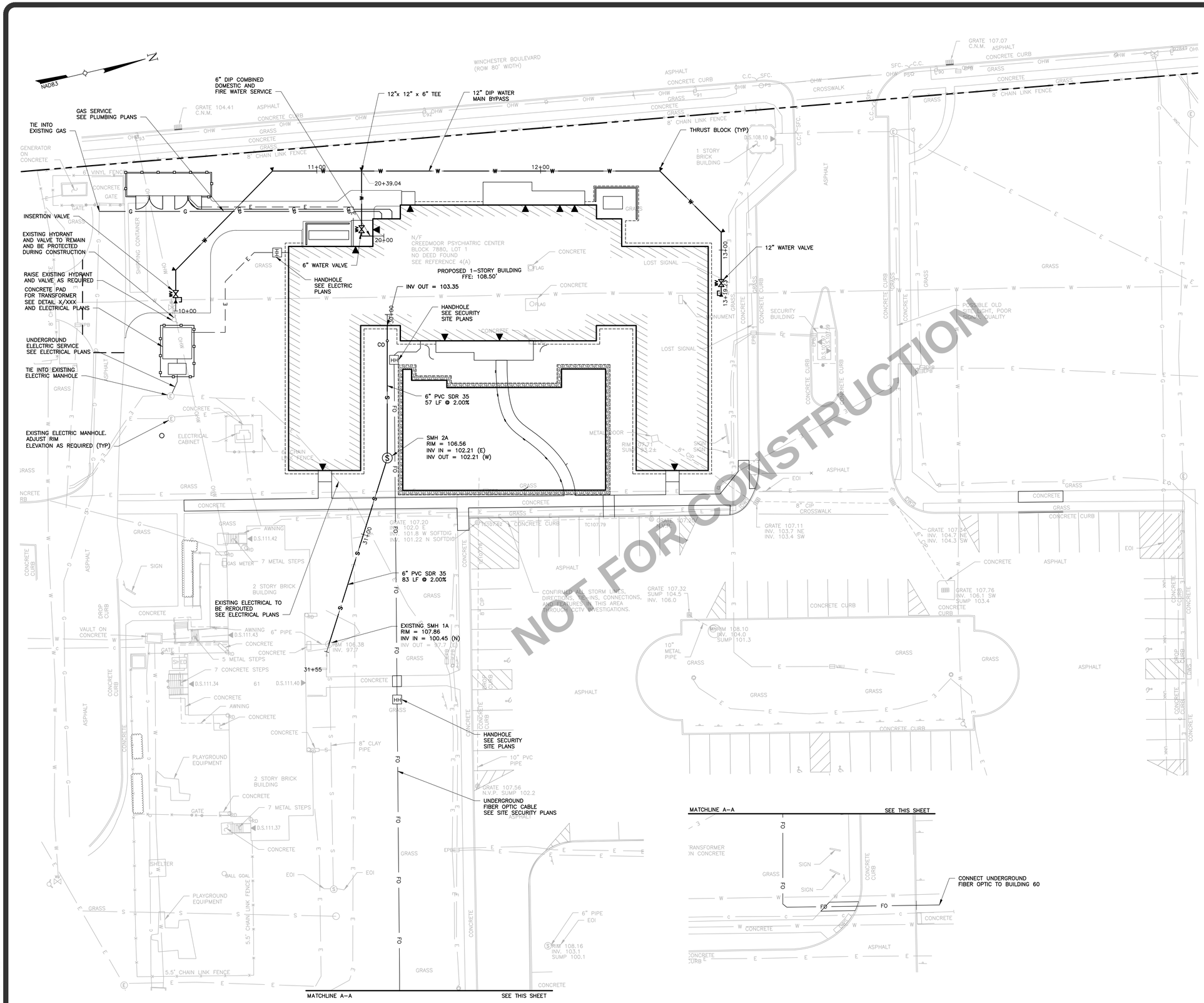
MARK	DATE	DESCRIPTION
	09/23/24	100% SUBMISSION

PROJECT NUMBER:	47688-C
DESIGNED BY:	ZK
DRAWN BY:	ECM
FIELD CHECK:	
APPROVED:	

SHEET TITLE:
STORMWATER LANDSCAPING PLAN

DRAWING NUMBER:
C-104

SHEET X OF X



0 10' 20' 40'

1" = 20'

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TECTONIC WORK ORDER NO.: 12546.01

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Sep 23,2024 - 5:33pm
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36x24 PLOT SHEET

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CONTRACT:
CONSTRUCTION

TITLE:
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LOCATION:
80-45 WINCHESTER BLVD
QUEENS, NY 11427

CLIENT:
OFFICE OF MENTAL HEALTH

MARK	DATE	DESCRIPTION
	09/23/24	100% SUBMISSION

PROJECT NUMBER:	47688-C
DESIGNED BY:	ZK
DRAWN BY:	ECM
FIELD CHECK:	
APPROVED:	

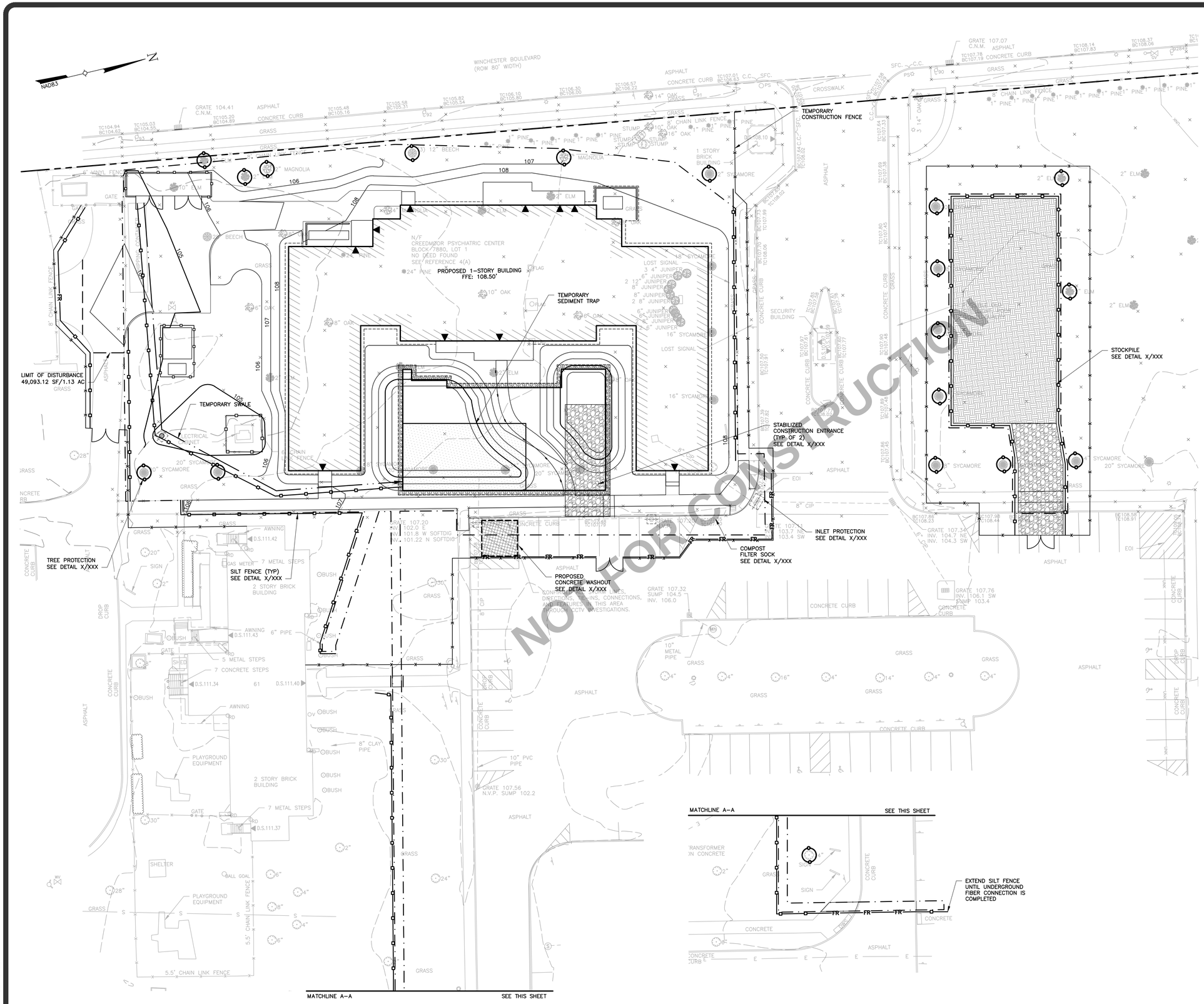
SHEET TITLE:

UTILITY PLAN

DRAWING NUMBER:

C-105

SHEET X OF X



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SHEET TITLE:

EROSION & SEDIMENT CONTROL PLAN

DRAWING NUMBER:

C-106

SHEET X OF X

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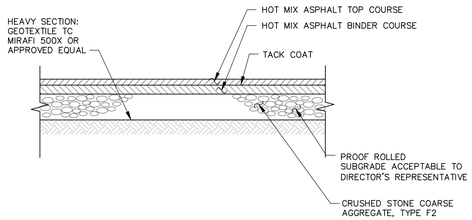


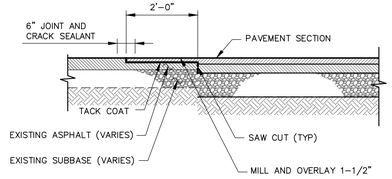
NOTES:

1. ITEM NUMBERS REFER TO NYSDOT SPECIFICATIONS.
2. SUBGRADE AND SUBBASE FOR ALL PARKING AREAS TO BE PROOFROLLED IN THE PRESENCE OF THE DIRECTOR'S REPRESENTATIVE AND FOUND TO BE UNYIELDING PRIOR TO THE PLACEMENT OF ASPHALT.

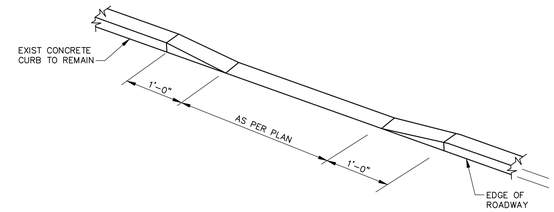
	HEAVY SECTION*	LIGHT SECTION*	OVERLAY SECTION**
TOP COURSE	1-1/2" TYPE 6F ITEM NO. 402.128204	1-1/2" TYPE 6F ITEM NO. 402.128204	1-1/2" TYPE 6F ITEM NO. 402.128204
BINDER COURSE	3-1/2" ITEM NO. 402.198904	2-1/2" ITEM NO. 402.198904	NA
BASE COURSE	8"	4"	NA

* HEAVY SECTION FOR AISLES, LIGHT SECTION FOR PARKING STALLS
** MILL AND OVERLAY LOCATIONS AS IDENTIFIED ON THE PLANS

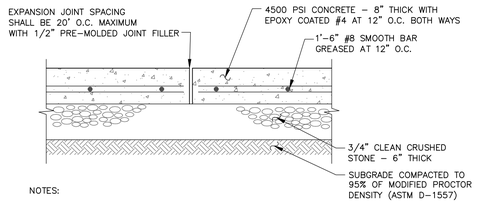
1 C-310 PAVEMENT SECTION
SCALE: NTS



2 C-310 PAVEMENT TRANSITION
SCALE: 1/2" = 1'-0"



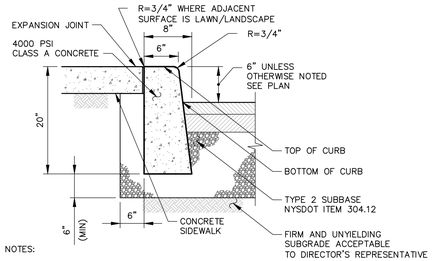
3 C-310 DEPRESSED CURB
SCALE: NONE



NOTES:

1. SUBGRADE IS TO BE COMPACTED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS.
2. THE CONCRETE SHALL HAVE A MINIMUM ULTIMATE COMPRESSIVE STRENGTH OF 4500 PSI AT 28 DAYS AND BE PROPORTIONED AS FOLLOWS:
   A. PROVIDE DCIS CORROSION INHIBITOR (BY GRACE CONSTRUCTION PRODUCT OR EQUIVALENT) IN THE CONCRETE MIX AT A RATE OF 4 GALLONS PER CUBIC YARD.
   B. 6% ENTRAINED AIR.
   C. MAXIMUM 4" SLUMP AT TIME OF PLACEMENT.
   D. MAXIMUM WATER-CEMENT RATIO = 0.48
   E. COARSE AGGREGATE: MINIMUM 1450 LBS OF 1-1/2" CLEAN, CRUSHED, DURABLE STONE CONFORMING TO THE REQUIREMENTS OF ASTM C33 FOR SIZE 57 OR 467 COARSE STONE AGGREGATE.
3. PLACEMENT AND FINISHING SHALL BE IN A CONTINUOUS OPERATION.
4. THE CONCRETE SHALL BE FOGGED AND COVERED WITH POLYETHYLENE AND WET CURED, MAINTAINING MOISTURE CONTENT WHILE COVERED FOR AT LEAST 5 DAYS.
5. CONCRETE SHALL BE PROTECTED FROM BOTH FREEZING AND LOSS OF MOISTURE FOR A PERIOD OF 7 DAYS FROM TIME OF PLACEMENT.
6. CONCRETE SHALL NOT BE PLACED ON FROZEN SUBGRADE SOILS.
7. ALL EDGES SHALL BE ROUNDED AND GIVEN A STEEL TROWEL FINISH.
8. EXPANSION JOINTS ARE TO BE 1/2" WIDE AND FILLED WITH PREFORMED BITUMINOUS TYPE JOINT FILLER. THE TOP OF ALL JOINT FILLER SHALL BE BELOW THE TOP OF THE SURFACE. EXPANSION JOINTS SHALL BE LOCATED 20' (MAX) ON CENTER.
9. STEEL SHALL HAVE A YIELD STRENGTH OF 60,000 PSI.
10. BONDING TO REBAR AND GROUNDING RODS, ACCEPTABLE TO THE DIRECTOR'S REPRESENTATIVE SHALL BE PLACED UNDER THE PAD FOR THE GENERATOR.

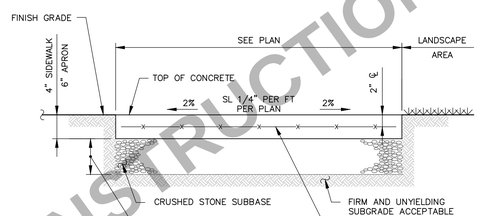
4 C-310 CONCRETE PAD
SCALE: 1" = 1'-0"



NOTES:

1. CURB SHALL BE CAST IN PLACE, 4,000 PSI @ 28 DAYS CONCRETE WITH RUBBED FINISH.
2. USE CONVENTIONALLY FORMED CLASS A PORTLAND CEMENT CONCRETE.
   A. FORMS SHALL BE FREE FROM WARP AND OF SUCH CONSTRUCTION THAT THERE WILL BE NO INTERFERENCE TO INSPECTION FOR GRADE AND ALIGNMENT. ALL FORMS SHALL EXTEND TO THE FULL CURB DEPTH AND BE SECURED SO NO DISPLACEMENT WILL OCCUR DURING THE PLACEMENT OF CONCRETE.
   B. CURB SHALL BE CAST IN SEGMENTS HAVING A UNIFORM LENGTH OF APPROXIMATELY TEN (10) FEET. THE JOINTS BETWEEN SEGMENTS SHALL NOT EXCEED 1/4" IN WIDTH.
   C. EXPANSION JOINTS SHALL BE 3/4" WIDE AND CONTAIN PRE-MOLDED RESILIENT JOINT FILLER. THE FILLER SHALL BE CUT TO CONFORM TO THE CROSS SECTION OF THE CURB. EXPANSION JOINTS SHALL BE LOCATED AT ALL IMMOVABLE OBJECTS, ADJACENT TO EXPANSION JOINTS IN THE PAVEMENT, OR WHERE DIRECTED BY THE ENGINEER.
3. ALL CONSTRUCTION AND MATERIALS USED SHALL MEET THE REQUIREMENTS OF NYSDOT SPECIFICATIONS.

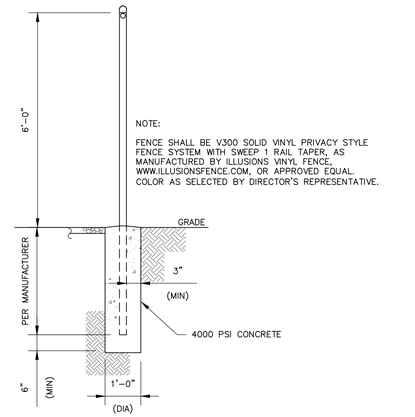
5 C-310 CONCRETE CURB
SCALE: NTS



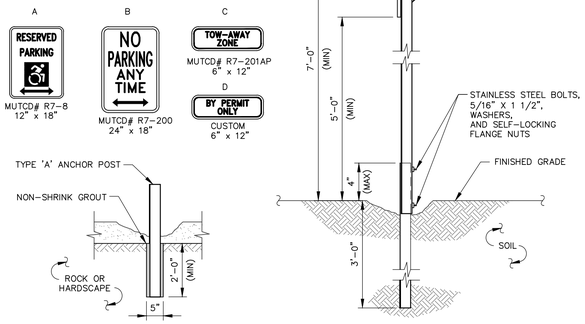
NOTES:

1. SIDEWALK CONSTRUCTION JOINTS SHALL BE SPACED AT 4' INTERVALS AND SHALL BE 1 1/2" DEEP, EDGED WITH 1/8" RADIUS.
2. ALL CONCRETE FOR SHALL BE NYSDOT 4,000 PSI CONCRETE.
3. EXPANSION JOINTS SHALL BE SPACED 20 FT ON CENTER.
4. SIDEWALKS SHALL BE 4" THICK ON A 6" BASE OF NYSDOT ITEM 304.12 WITH 6"x6" WELDED WIRE MESH.

6 C-310 CONCRETE SIDEWALK
SCALE: NTS



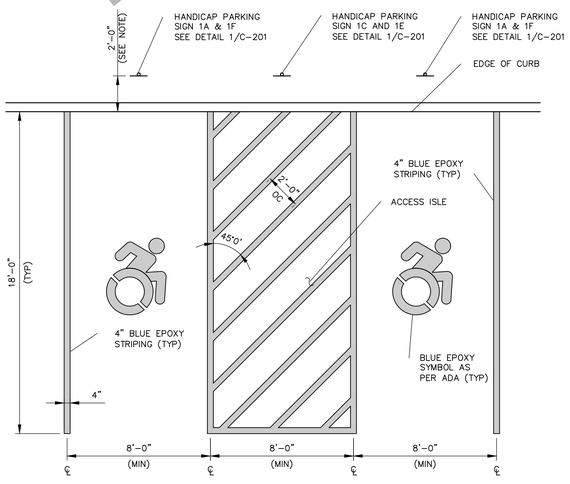
7 C-310 ORNAMENTAL FENCE
SCALE: NTS



NOTES:

1. OFFSET POST 3'-0" FROM EDGE OF PAVEMENT.
2. INSERT 3/16" THREADED SPACER BETWEEN POSTS AT CONNECTION.

8 C-310 SIGN
SCALE: NTS



NOTE:
SIGN POST TO BE A MINIMUM OF 2'-0" BEHIND CURB WHEN LOCATED IN LANDSCAPED/GRASS AREAS OR BEHIND SIDEWALK WHEN ADJACENT TO CURB.

9 C-310 ACCESSIBLE PARKING SPACES
SCALE: 1/4" = 1'-0"

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CONTRACT: CONSTRUCTION
TITLE:
LOCATION:
CLIENT:

MARK	DATE	DESCRIPTION
	09/23/24	100% SUBMISSION

PROJECT NUMBER: 47688-C
DESIGNED BY: ZK
DRAWN BY: ECM
FIELD CHECK:
APPROVED:

SHEET TITLE: SITE DETAILS

DRAWING NUMBER: C-310

SHEET OF

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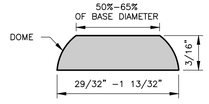

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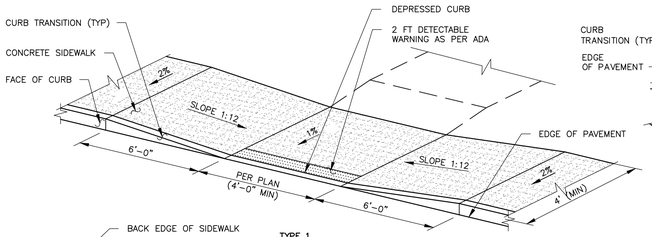

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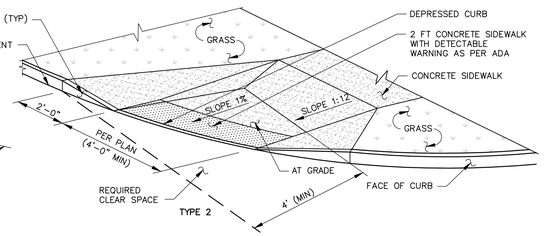

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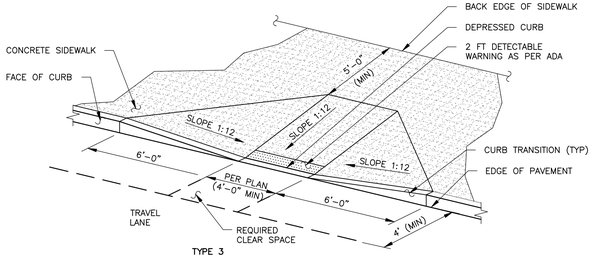

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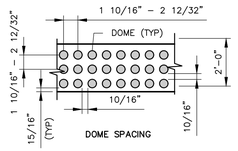
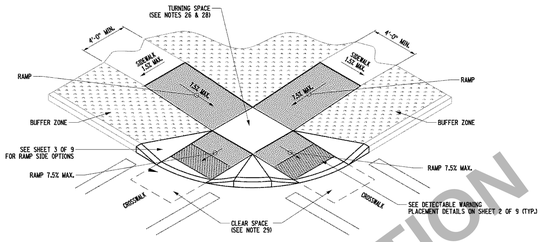


DOME SPACING

NOTE:

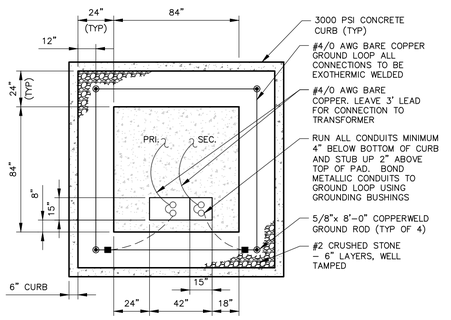
DETECTABLE WARNING SHALL BE RED COLORED, PRECAST CONCRETE TILES (SAFE STEP) MANUFACTURED BY TRANSPO (914–636–1000).



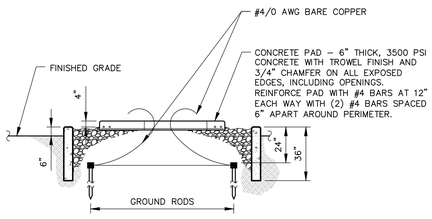
TYPE 4

1 C–311 ACCESSIBLE RAMP

SCALE: NTS



PLAN



SECTION

2 C–311 TRANSFORMER PAD

SCALE: 1/4" = 1'–0"

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CONTRACT:
CONSTRUCTION

TITLE:

LOCATION:

CLIENT:

MARK	DATE	DESCRIPTION
	09/23/24	100% SUBMISSION

PROJECT NUMBER: 47688-C

DESIGNED BY: ZK

DRAWN BY: ECM

FIELD CHECK:

APPROVED:

SHEET TITLE:

SITE DETAILS

DRAWING NUMBER:

C-311

SHEET OF

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TECTONIC WORK ORDER NO.: 12546.01

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Sep 23,2024 – 5:53pm
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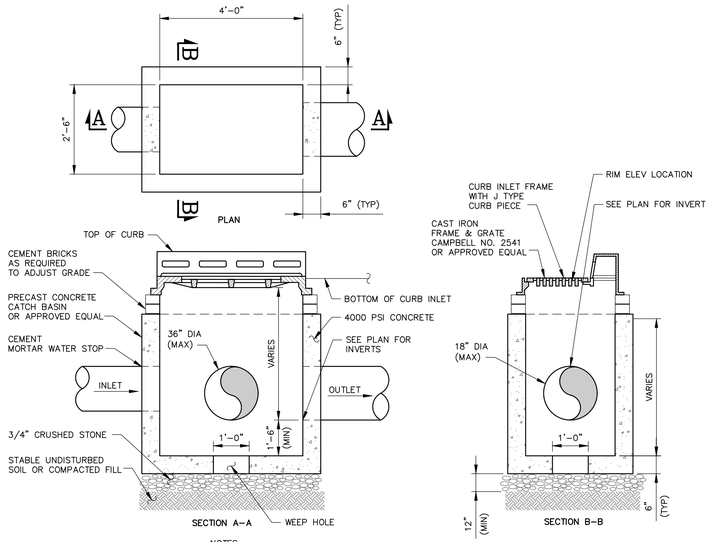
36x24 PLOT SHEET

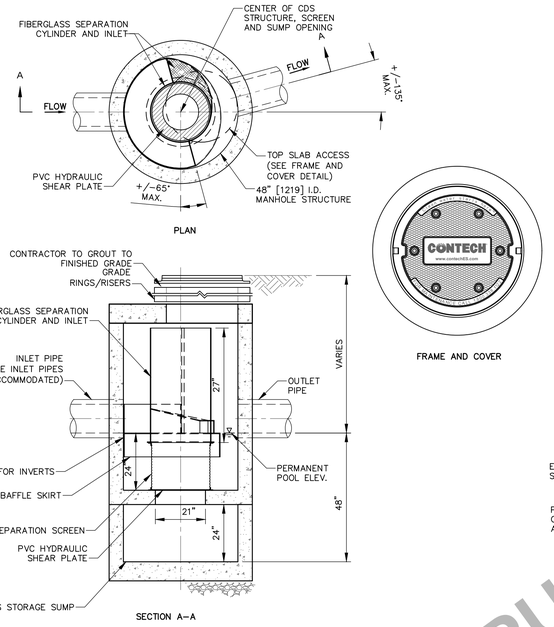


NOTES:

1. BACKFILL AROUND CATCH BASIN TO BE COMPACTED IN MAX 8" LIFTS.
2. PRECAST STEEL REINFORCED COPOLYMER POLYPROPYLENE PLASTIC STEPS SHALL BE PROVIDED FOR ALL BASINS GREATER THAN THREE FEET IN DEPTH.
3. CATCH BASIN SHALL BE CAPABLE TO WITHSTAND HS-25 LOADING.
4. THE ENDS OF ALL PIPES SHALL BE CUT OFF FLUSH WITH THE INSIDE SURFACE OF CATCH BASIN.

1 / C-320 TYPE B CATCH BASIN WITH CURB BOX

SCALE: 1/2" = 1'-0"



GENERAL NOTES

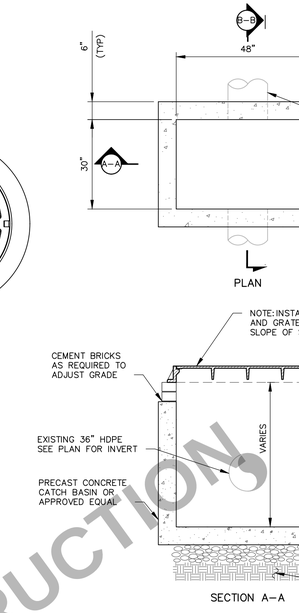
1. CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE FOR UNIT CS-4 OR APPROVED EQUAL. CONTRACTOR SHALL PROVIDE CERTIFICATION OF HDS UNIT BY AN ACCEPTABLE VERIFICATION SOURCE., IN ACCORDANCE WITH REQUIREMENTS FOR ALTERNATIVE PRACTICES IN THE NYSDEC STORMWATER DESIGN MANUAL, 2015 EDITION, PRIOR TO INSTALLATION ON SITE.
2. CDS WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING. CONSTRUCTION TO CONFIRM STRUCTURE MEETS REQUIREMENTS OF PROJECT.
3. STRUCTURE SHALL MEET AASHTO HS20 LOAD RATING, ASSUMING EARTH COVER OF 0' – 2', AND GROUNDWATER ELEVATION AT, OR BELOW, THE OUTLET PIPE INVERT ELEVATION. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION. CASTINGS SHALL MEET AASHTO M306 AND BE CAST WITH THE CONTECH LOGO.
4. IF REQUIRED, PVC HYDRAULIC SHEAR PLATE IS PLACED ON SHELF AT BOTTOM OF SCREEN CYLINDER. REMOVE AND REPLACE AS NECESSARY DURING MAINTENANCE CLEANING.
5. CDS STRUCTURE SHALL BE PRECAST CONCRETE CONFORMING TO ASTM C-478 AND AASHTO LOAD FACTOR DESIGN METHOD.

INSTALLATION NOTES

A. ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
B. CONSTRUCTION TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE CDS MANHOLE STRUCTURE.
C. CONSTRUCTION TO INSTALL JOINT SEALANT BETWEEN ALL STRUCTURE SECTIONS AND ASSEMBLE STRUCTURE.
D. CONSTRUCTION TO PROVIDE, INSTALL, AND GROUT INLET AND OUTLET PIPE(S). MATCH PIPE INVERTS WITH ELEVATIONS SHOWN. ALL PIPE CENTERLINES TO MATCH PIPE OPENING CENTERLINES.
E. CONSTRUCTION TO TAKE APPROPRIATE MEASURES TO ASSURE UNIT IS WATER TIGHT, HOLDING WATER TO FLOWLINE INVERT MINIMUM. IT IS SUGGESTED THAT ALL JOINTS BELOW PIPE INVERTS ARE GROUTED.

2 / C-320 HYDRODYNAMIC SEPARATOR

SCALE: NTS

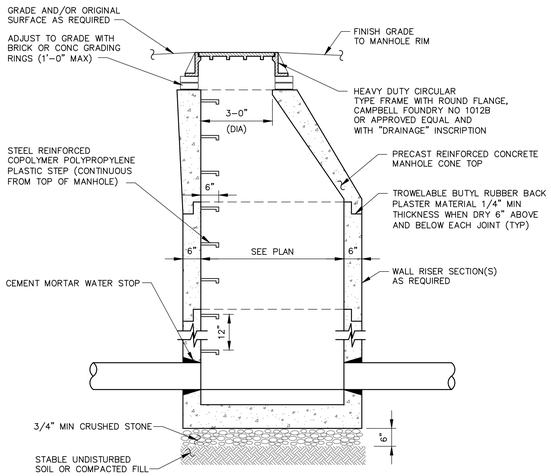


NOTES:

1. BACKFILL AROUND CATCH BASIN TO BE COMPACTED IN MAX 9" LIFTS.
2. PRECAST STEEL REINFORCED COPOLYMER POLYPROPYLENE PLASTIC STEPS SHALL BE PROVIDED FOR ALL BASINS GREATER THAN FOUR FEET IN DEPTH.
3. CATCH BASIN SHALL BE CAPABLE TO WITHSTAND HS-25 LOADING.
4. THE ENDS OF ALL PIPES SHALL BE CUT OFF FLUSH WITH THE INSIDE SURFACE OF THE CATCH BASIN.

3 / C-320 FLAT GRATE CATCH BASIN

SCALE: 1/2" = 1'-0"

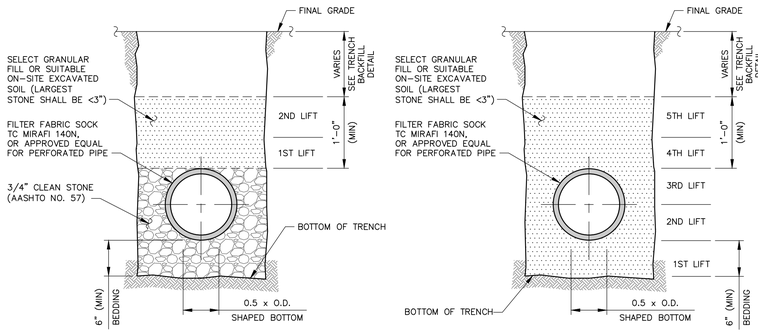


NOTES:

1. CONCRETE TO HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4000 PSI AT 28 DAYS.
2. REINFORCEMENT TO BE IN CONFORMANCE WITH ASTM A615 GRADE 60 AND ASTM A185 GRADE 65.
3. CONSTRUCTION TO ORDER MANHOLE SECTIONS FROM MANUFACTURER TO MATCH REQUIRED ELEVATIONS AND INVERTS PER PLAN.
4. MANHOLE CONSTRUCTION TO BE CAPABLE OF WITHSTANDING HS-25 LOADINGS.
5. PRECAST CONCRETE MANHOLE COMPONENTS BY FORT MILLER OR EQUAL.

4 / C-320 DRAINAGE MANHOLE

SCALE: 1/2" = 1'-0"



NOTES:

1. SELECT FILL TO BE THOROUGHLY COMPACTED IN 6" LAYERS BY APPROVED TAMPING MACHINE.
2. SELECT FILL SHALL BE COMPACTED TO 95% MODIFIED PROCTOR DENSITY (ASTM D1557)
3. APPROVED BACKFILL COMPACTED AS PER SPECIFICATIONS.
4. TRENCH WIDTH TO BE THE LESSER OF (O.D.+2*O.D.) OR (O.D.+2*0.5FT)
5. PVC SEWER PIPE AND FITTINGS, NPS 15 AND SMALLER SHALL BE ASTM D 3034, SDR-35, FOR SOLVENT-CEMENTED OR GASKETED JOINTS. IF GASKETS ARE PROVIDED, GASKETS SHALL MEET ASTM F 477 FOR ELASTOMERIC SEALS.
6. HDPE STORM SEWER PIPE AND FITTINGS SHALL COMPLY WITH THE REQUIREMENTS FOR TEST METHODS, DIMENSIONS AND MARKINGS FOUND IN AASHTO DESIGNATIONS M252, AND M294. PIPE AND FITTINGS SHALL BE MADE FROM VIRGIN PE COMPOUNDS WHICH CONFORM TO THE APPLICABLE CURRENT EDITION OF THE AASHTO MATERIAL SPECIFICATIONS FOR CELL CLASSIFICATION AS DEFINED AND DESCRIBED IN ASTM D3350. STORM SEWER PIPING GREATER THAN EIGHT (8) INCHES IN DIAMETER SHALL BE SMOOTH INTERIOR/CORRUGATED EXTERIOR PIPE FITTED WITH WATERTIGHT JOINTS MEETING OR EXCEEDING ASTM 3212 LAB TEST AND ASTM 1417 WATERTIGHT FIELD TEST. N-12 ® WT®PRODUCT AS MANUFACTURED BY ADVANCED DRAINAGE SYSTEMS, INC. (ADS), COLUMBUS, OH, (614) 457-3051 OR APPROVED EQUAL. STORM SEWER PIPING LESS THAN OR EQUAL TO EIGHT (8) INCHES IN DIAMETER SHALL BE SINGLE WALL, CORRUGATED PIPE FITTED WITH SNAP OR SPLIT COUPLINGS, AS MANUFACTURED BY ADVANCED DRAINAGE SYSTEMS, INC. (ADS), COLUMBUS, OH, (614) 457-3051 OR APPROVED EQUAL. PERFORATIONS APPLIED BY THE MANUFACTURER TO THE PIPE SHALL BE PROVIDED WERE INDICATED ON THE PROJECT PLANS.
7. FILTER FABRIC SHALL BE AASHTO M288 CLASS 2 NON-WOVEN, TC MIRAFI 170N OR APPROVED EQUAL, UNLESS OTHERWISE INDICATED.
8. BEDDING CONDITION SHALL BE DETERMINED BY DIRECTOR'S REPRESENTATIVE.

5 / C-320 STANDARD BEDDING FOR PVC/HDPE PIPE

SCALE: NTS

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MARK	DATE	DESCRIPTION
	09/23/24	100% SUBMISSION

PROJECT NUMBER: 47688-C

DESIGNED BY: ZK

DRAWN BY: ECM

FIELD CHECK:

APPROVED:

SHEET TITLE: DRAINAGE DETAILS

DRAWING NUMBER: C-320

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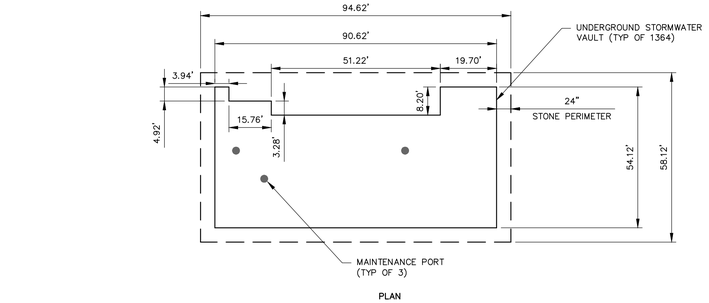
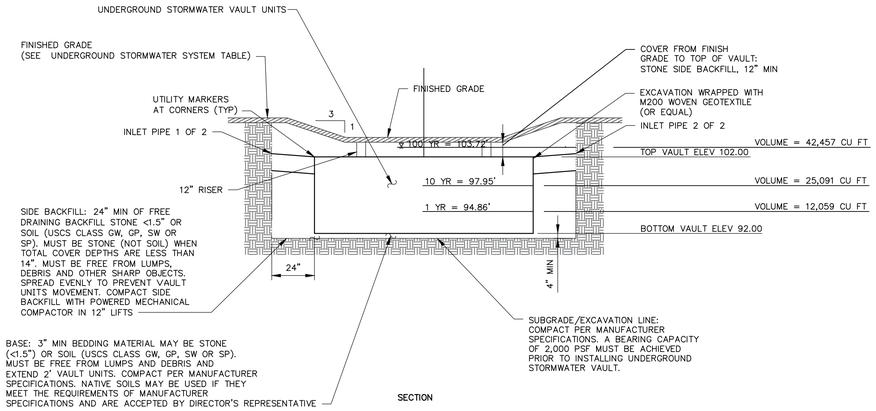
36x24 PLOT SHEET



PLAN



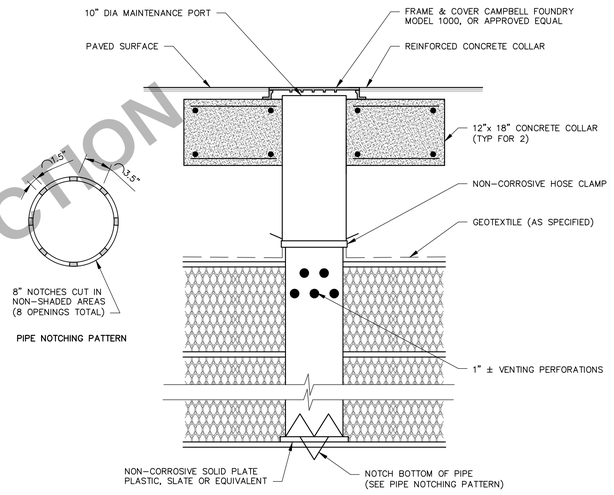
SECTION

NOTES:

1. FOLLOWING PLACEMENT OF SIDE BACKFILL, A UNIFORM 12" LIFT OF THE FREELY DRAINING MATERIAL SHALL BE OVER THE VAULT UNITS AND LIGHTLY COMPACTED USING A WALK-BEHIND TRENCH ROLLER. ALTERNATELY, A ROLLER (MAXIMUM GROSS VEHICLE WEIGHT OF 6 TONS) MAY BE USED. ROLLER MUST REMAIN IN STATIC MODE UNTIL A MINIMUM OF 24" OF COVER HAS BEEN PLACED OVER THE MODULES. SHEEP FOOT ROLLERS SHOULD NOT BE USED.
2. ONLY LOW PRESSURE TIRE OR TRACK VEHICLES (LESS THAN 7 PSI AND OPERATING WEIGHT OF LESS THAN 20,000LBS) SHALL BE OPERATED OVER THE UNDERGROUND STORMWATER VAULT SYSTEM DURING CONSTRUCTION.
3. DUMP TRUCKS AND PANS SHALL NOT BE OPERATED WITHIN THE VAULT UNITS AT ANY TIME. WHERE NECESSARY, THE HEAVY EQUIPMENT SHOULD UNLOAD IN AN AREA ADJACENT TO THE UNDERGROUND STORMWATER VAULT SYSTEM AND THE MATERIAL SHOULD BE MOVED OVER THE SYSTEM WITH TRACKED EQUIPMENT.
4. ENSURE THAT ALL UNRELATED CONSTRUCTION TRAFFIC IS KEPT AWAY FROM THE LIMITS OF EXCAVATION UNTIL THE PROJECT IS COMPLETE AND FINAL SURFACE MATERIALS ARE IN PLACE. NO NON-INSTALLATION RELATED LOADING SHOULD BE ALLOWED OVER THE VAULT UNITS UNTIL THE FINAL DESIGN SECTION HAS BEEN CONSTRUCTED (INCLUDING PAVEMENT).
5. UNDERGROUND STORMWATER VAULT UNITS MANUFACTURED BY ACF ENVIRONMENTAL, MODEL XD-SINGLE 603-339-7131 OR APPROVED EQUAL. SEE UNDERGROUND STORMWATER VAULT INSTALLATION GUIDE OR CONTACT LOCAL FERGUSON REPRESENTATIVE FOR ADDITIONAL INFORMATION.
6. OBSERVED GROUNDWATER AT APPROXIMATE ELEVATION **XXX.XX** FEET. SEE GEOTECHNICAL REPORT FOR FULL DISCUSSION ON SUBSURFACE CONDITIONS.

1 C-321 UNDERGROUND STORMWATER VAULT SYSTEM LAYOUT

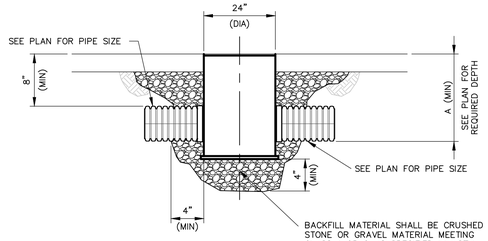
SCALE: NOT TO SCALE



PIPE NOTCHING PATTERN

2 C-321 UNDERGROUND STORMWATER VAULT MAINTENANCE PORT

SCALE: NTS



PIPE SIZE	A (ADS N-12 PIPE)
4"	12"±
6"	14"±
8"	16"±
10"	18"±
12"	20"±
15"	23"±
18"	26"±

NOTES:

1. BASIN SHALL BE NYLOPLAST, AS MANUFACTURED BY ADS, OR APPROVED EQUAL.
2. GRATE/LID SHALL BE DUCTILE IRON, DROP-IN TYPE, COMPATIBLE WITH THE BASIN. PROVIDE ADA COMPLIANT GRATE OR SOLID LID WHERE INDICATED ON THE PLANS

3 C-321 PVC YARD DRAIN/MANHOLE

SCALE: NTS

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PROJECT NUMBER: 47688-C

DESIGNED BY: ZK

DRAWN BY: ECM

FIELD CHECK:

APPROVED:

SHEET TITLE:

DRAINAGE DETAILS

DRAWING NUMBER: C-321

SHEET OF

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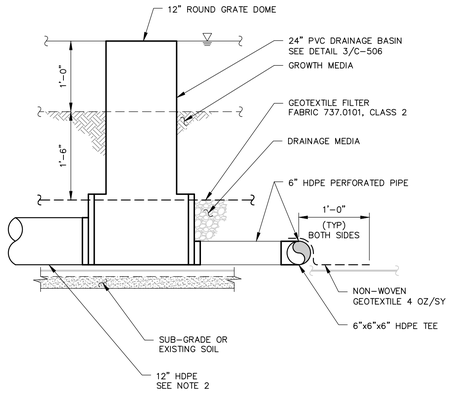
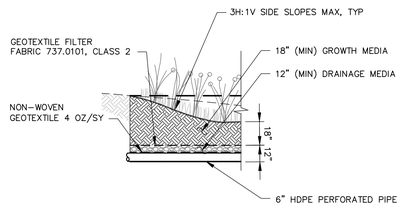


NOTES:
1. GEOTEXTILE FILTER FABRIC SHALL HAVE AN EOS OPENING OF 70.
2. CONNECT TO NEW 12-IN HDPE FOR YD 1DA-1 (SHEET C-301) AND TO EXISTING 12-IN HDPE FOR YD 1G (SHEET C-302).

1 / C-330 PLANTER OVERFLOW

SCALE: NTS



NOTES:
1. GROWING MEDIA SHOULD BE A UNIFORM MIXTURE OF 70% SAND (100% PASSING THE 1-INCH SIEVE AND 5% PASSING THE NO. 200 SIEVE) AND 30% TOPSOIL WITH AN AVERAGE OFM5% ORGANIC MATERIAL, SUCH AS COMPOST OR PEAT, FREE OF STONES, ROOTS AND WOODY DEBRIS AND ANIMAL WASTE.
2. DRAINAGE LAYER SHOULD BE CLEAN SAND WITH 100% PASSING THE 1-INCH SIEVE AND 5% PASSING THE NO. 200 SIEVE).

2 / C-330 STORMWATER PLANTER

SCALE: NTS

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PROJECT NUMBER:	47688-C
DESIGNED BY:	ZK
DRAWN BY:	ECM
FIELD CHECK:	
APPROVED:	

SHEET TITLE:

STORMWATER LANDSCAPING DETAILS

DRAWING NUMBER:

C-330

SHEET OF

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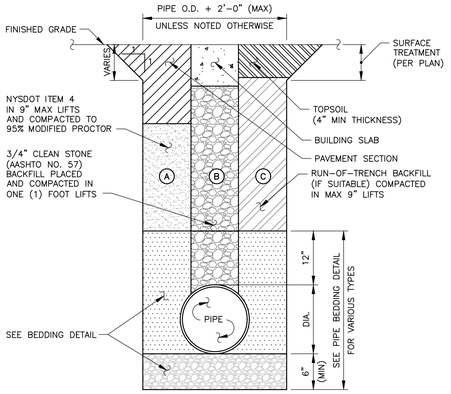


CONSTRUCTION CASES:

A. TRENCH UNDER ROADWAY (EXTEND 5' OUTSIDE CURB/EDGE OF PAVEMENT)

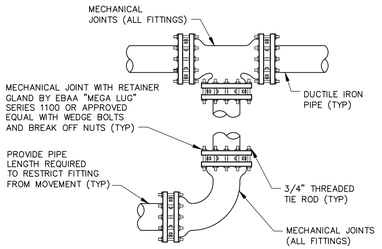
B. TRENCH UNDER BUILDING SLAB/FOOTING (EXTEND 5' OUTSIDE BUILDING LINE)

C. TRENCH UNDER OFF-ROAD AREAS

NOTES:

1. ALL COSTS ASSOCIATED WITH THE PROVISION TRENCH BACKFILL IN ACCORDANCE WITH THIS DETAIL SHALL BE INCLUDED IN THE PRICE BID FOR THE PROJECT.
2. ALL EXCAVATION AND TRENCHING MEET OSHA REQUIREMENTS.
3. BACKFILL WITH EXCAVATED TRENCH MATERIAL FREE OF DELETERIOUS MATERIAL AND STONES OVER 6" DIAMETER (UNLESS OTHERWISE NOTED). BACKFILL TO BE PLACED IN 8" (MAX) LIFTS AND COMPACTED TO 95% MODIFIED PROCTOR DENSITY (ASTM D1557) (UNLESS OTHERWISE NOTED).

1 / C-340 TRENCH BACKFILL
SCALE: NTS



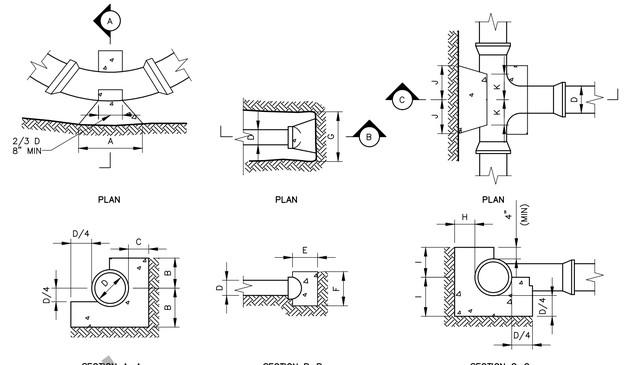
NOTES:

1. THRUST BLOCKING IS NOT PERMITTED WHERE PIPE RESTRAINTS ARE USED.
2. PIPE RESTRAINING TO BE USED FOR VERTICAL DEFLECTIONS ALSO.
3. SEE TABLE A FOR REQUIRED RESTRAINED LENGTH FOR DUCTILE IRON PIPE.
4. PIPE BEDDING SHALL BE IN ACCORDANCE WITH WATER PIPE TRENCH DETAIL.
5. THE CONSTRUCTION SHALL PERFORM SOIL TEST TO DETERMINE SOIL TYPE(S) INDICATED ON TABLE A.

TABLE A – REQUIRED RESTRAINED LENGTH FOR DUCTILE IRON PIPE

PIPE SIZE		UP TO 8"							
BEND ANGLE		45 DEGREE			22.5 DEGREE	11.25 DEGREE	TEE (8x8)	TEE (8x6)	CAP
TYPE OF TEE		H BEND	V BEND (UP)	V BEND (DN)	H BEND	H BEND			
SOIL (UNIFIED CLASSIFICATION)	CL, >75% PASSING NO. 200	13'	13'	28'	6'	3'	28'	18'	34'
	ML, >75% PASSING NO. 200	12'	12'	30'	6'	3'	58'	36'	73'
	CL, >50-75% PASSING NO. 200	12'	12'	28'	6'	3'	27'	17'	34'
	ML, >50-75% PASSING NO. 200	11'	11'	30'	5'	3'	55'	33'	73'
	GC, SC	10'	10'	32'	5'	2'	40'	22'	56'
	GM, SM	10'	10'	29'	5'	2'	53'	30'	71'
	SW, SP, GW	7'	7'	20'	3'	2'	31'	14'	48'

2 / C-340 PIPE RESTRAINT
SCALE: 1"=1'-0"



HORIZONTAL BEND

BEND		4"*	6"	8"	10"
11 1/4" BEND	A	6"	8"	10"	12"
	B	7"	8"	9"	10"
	C	7"	7"	8"	8"
22 1/2" BEND	A	9"	12"	18"	21"
	B	7"	8"	9"	10"
	C	8"	9"	10"	11"
45° BEND	A	15"	15"	25"	30"
	B	7"	8"	9"	10"
	C	8"	9"	10"	11"
90° BEND	A	24"	30"	36"	42"
	B	6"	9"	12"	15"
	C	22"	21"	20"	19"

* SEE NOTE 4

CAP

D	6"* 8"
E	6" 8"
F	12" 16"
G	17" 23"

* SEE NOTE 4

TEE

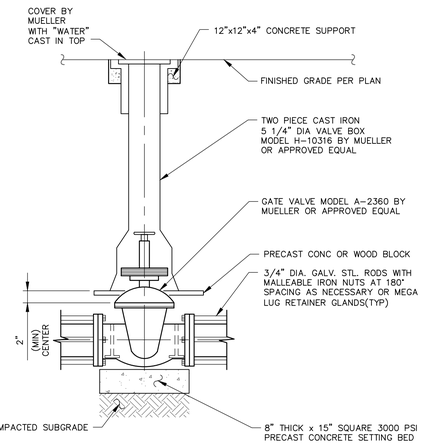
D	4"*	6"	8"	10"
H	8"	9"	10"	12"
I	8"	10"	12"	15"
J	7"	9"	12"	14"
K	6"	8"	8"	8"

* SEE NOTE 4

NOTES:

1. ALL CONCRETE TO BE 3000 PSI.
2. ALL THRUST BLOCKS TO BE CARRIED TO UNDISTURBED EARTH.
3. THRUST BLOCK DIMENSIONS SHOWN ARE MINIMUM.
4. MINIMUM DIMENSION FOR PIPES LESS THAN 4" DIAMETER.
5. THRUST BLOCKS SHALL BE USED AS INDICATED ON THE PLANS, DETAILS, AND/OR SPECIFICATIONS. PIPE RESTRAINTS (SEE DETAIL 2 THIS SHEET) SHALL BE USED FOR ALL HORIZONTAL AND VERTICAL DEFLECTIONS, UNLESS OTHERWISE NOTED ON PLANS, DETAILS AND/OR SPECIFICATIONS.

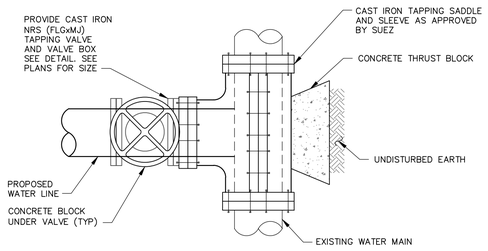
3 / C-340 THRUST BLOCK
SCALE: NTS



NOTES:

1. ALL VALVES TO INCLUDE MEGA-LUG RETAINER GLANDS AND BE RODDED BACK TO THE ADJACENT TEE IN THE WATER MAIN. INLINE VALVES NEED NOT BE RODDED. CONTRACTOR TO UTILIZE 3/4" DIAMETER GALVANIZED STEEL RODS WITH MALLEABLE IRON NUTS AT 180° SPACING.
2. WATER MAIN VALVES FOR 3" THROUGH 48" SHALL BE RESILIENT WEDGE GATE VALVES AS MANUFACTURED BY MUELLER, MODEL #A-2360. VALVES SHALL BE PROVIDED WITH AN EXTENSION SERVICE BOX TO GRADE.
3. MAIN LINE VALVES TO BE SPACED NO FARTHER THAN 500' APART IN COMMERCIAL DISTRICTS AND 800' IN OTHER DISTRICTS.

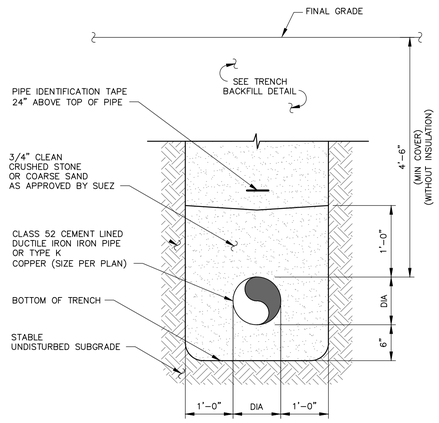
4 / C-340 VALVE AND VALVE BOX
SCALE: 1" = 1'-0"



NOTES:

1. WET TAP TO BE PERFORMED BY CONTRACTOR WITH ENGINEER ON SITE.
2. CONTRACTOR TO CONTACT SUEZ FOR INSTALLATION REQUIREMENTS.
3. TAPPING SLEEVE TO BE CAST IRON.
4. DIG TEST PIT TO VERIFY WATER MAIN SIZE AND MATERIAL PRIOR TO ORDERING SPLIT TAPPING SLEEVE.
5. MEGA LUGS TO BE USED ON ALL MECHANICAL JOINT FITTINGS.
6. A STAINLESS STEEL TAPPING SLEEVE AND VALVE MAY BE SUBSTITUTED WITH THE APPROVAL OF SUEZ.

5 / C-340 WET TAP
SCALE: 1" = 1'-0"



6 / C-340 WATER PIPE BEDDING
SCALE: NTS

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CONTRACT:
CONSTRUCTION

TITLE:

LOCATION:

CLIENT:

MARK	DATE	DESCRIPTION
	09/23/24	100% SUBMISSION

PROJECT NUMBER: 47688-C
DESIGNED BY: ZK
DRAWN BY: ECM
FIELD CHECK:
APPROVED:

SHEET TITLE:
UTILITY DETAILS

DRAWING NUMBER:
C-340

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Sep 23,2024 - 5:56pm
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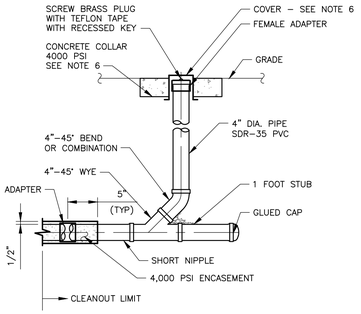
36x24 PLOT SHEET

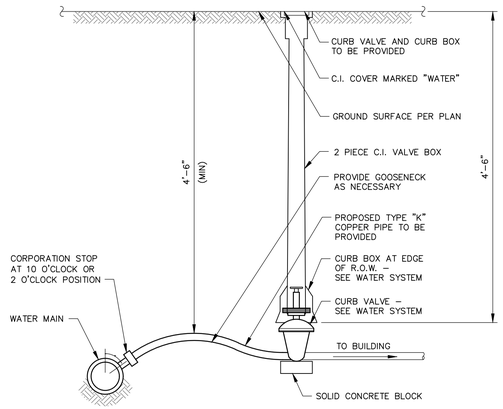


NOTES:

1. TOP OF CLEANOUT STACK/PLUG/CAP ASSEMBLY SHALL BE RECESSED 1/8" BELOW BELOW FINISHED GRADE.
2. ADAPTORS FOR TRANSITION BETWEEN DIFFERENT PIPE MATERIALS SHALL BE SUBJECT TO APPROVAL BY THE DIRECTOR'S REPRESENTATIVE.
3. ALL CONCRETE SHALL HAVE THE MINIMUM ULTIMATE COMPRESSION STRENGTH AS INDICATED WITHIN 28 DAYS.
4. BEDDING BENEATH BASE OF DEEP CONNECTION SHALL BE EQUAL TO THAT PROVIDED FOR REMAINDER OF SEWER MAIN.
5. ADAPTORS FOR DISSIMILAR MATERIALS AND/OR SIZES SHALL BE PROVIDED AS REQUIRED.
6. ALL CLEANOUTS SHALL BE PROVIDED WITH A 18 1/2"x18"x13" DEEP CAST IN PLACE CLEANOUT COLLAR WITH CAMPBELL CASTING 4130 CLEANOUT BOX.
7. THE USE OF FLEXIBLE ADAPTORS (FERNCO) IS ABSOLUTELY PROHIBITED.
8. CLEANOUTS SHALL BE PROVIDED AT ALL BENDS, ENDS, BUILDING LINE CONNECTIONS, AND AT 100' INTERVALS ON LINEAR RUNS EXCEEDING 200' IN LENGTH.

1 C-341 CLEANOUT ASSEMBLIES

SCALE: NTS

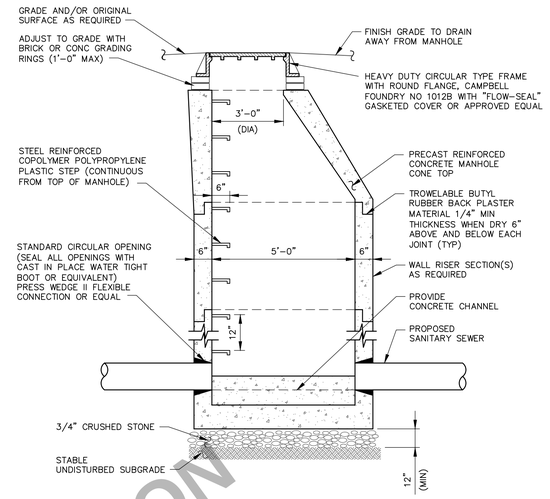


NOTES:

1. ALL WATER SERVICE CONNECTIONS SHALL BE COMPRESSION FITTINGS.
2. CORPORATION STOPS FOR 3/4" AND 1" SERVICE LINES SHALL BE MUELLER H-15008 CONDUCTIVE COMPRESSION. CORPORATION STOPS FOR 1-1/2" AND 2" SERVICE LINES SHALL BE MUELLER H-15013 CONDUCTIVE COMPRESSION. CORPORATION STOPS SHALL BE IN ACCORDANCE WITH AWWA C800, LATEST REVISION.
3. CURB STOPS FOR 3/4" THROUGH 2" SHALL BE MUELLER H-15219 CONDUCTIVE COMPRESSION, WITH DRAIN. CURB STOPS SHALL BE PROVIDED WITH AN EXTENSION SERVICE BOX TO GRADE. CURB STOPS SHALL BE ACCORDANCE WITH AWWA C800, LATEST REVISION.
4. UNDERGROUND SERVICE LINES FOR SIZES 3/4" THROUGH 2" SHALL BE TYPE K COPPER, SUPPLIED IN CONFORMANCE WITH ASTM 888, IN ACCORDANCE WITH AWWA C800, LATEST REVISION.
5. SERVICE CONNECTIONS OR WATER MAIN EXTENSION CONNECTIONS OF 3" OR LARGER SHALL BE MADE BY MEANS OF AN APPROVED TAPPING SLEEVE AND TAPPING VALVE. MECHANICAL JOINT TAPPING SLEEVES SHALL BE PROVIDED WITH DUCK-TIPPED END GASKETS. OUTLET FLANGE SHALL BE CLASS 125, ANSI B16.1.

2 C-341 WATER SERVICE CONNECTION

SCALE: 1" = 1'-0"

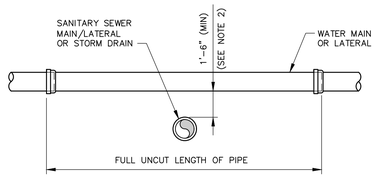


NOTES:

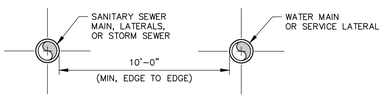
1. CONCRETE TO HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4000 PSI @ 28 DAYS
2. REINFORCEMENT TO BE IN CONFORMANCE WITH ASTM A615 GRADE 60 AND AND ASTM A185 GRADE 65
3. CONSTRUCTION TO ORDER MANHOLE SECTIONS FROM MANUFACTURER TO MATCH REQUIRED ELEVATIONS AND INVERTS PER PLAN.
4. THE OUTSIDE FACES OF BUILT-IN-PLACE MANHOLES SHALL BE COATED WITH A BITUMINOUS WATERPROOFING MATERIAL.

3 C-341 SANITARY MANHOLE

SCALE: 1/2" = 1'-0"



VERTICAL SEPARATION



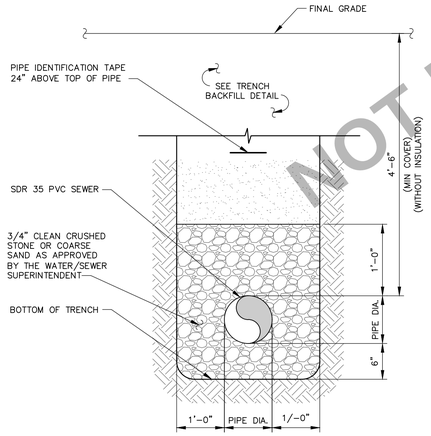
HORIZONTAL SEPARATION

NOTES:

1. NO DEVIATION (EXCEPT AS SPECIFICALLY INDICATED ON THE PLANS) IN THE SEPARATION REQUIREMENTS WILL BE PERMITTED WITHOUT APPROVAL OF THE JURISDICTIONAL AUTHORITY.
2. WHERE WATER AND SANITARY OR STORM SEWER MAINS ARE LESS THAN 10' APART HORIZONTAL OR PROVIDE LESS THAN 18" SEPARATION BETWEEN PIPES, CONCRETE ENCASE WATER MAIN PER ENCASEMENT DETAIL.

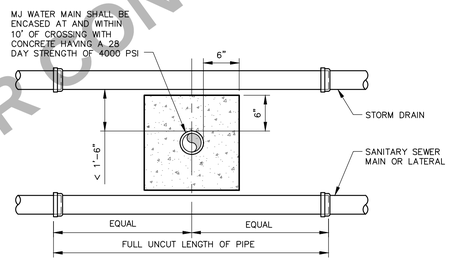
4 C-341 WATER/SEWER SEPARATION REQUIREMENTS

SCALE: NTS

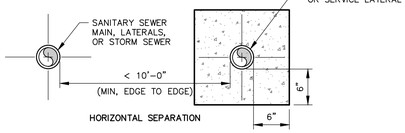


5 C-341 SEWER PIPE BEDDING

SCALE: 1" = 1'-0"



VERTICAL SEPARATION



HORIZONTAL SEPARATION

NOTE:

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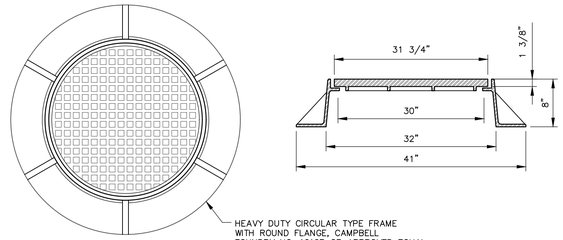
6 C-341 ENCASEMENT

SCALE: NTS



7 C-341 SANITARY FRAME & COVER

SCALE: 1" = 1'-0"

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CONTRACT: CONSTRUCTION

TITLE:

LOCATION:

CLIENT:

MARK	DATE	DESCRIPTION
	09/23/24	100% SUBMISSION

PROJECT NUMBER:	47688-C
DESIGNED BY:	ZK
DRAWN BY:	ECM
FIELD CHECK:	
APPROVED:	

SHEET TITLE:

UTILITY DETAILS

DRAWING NUMBER:

C-341

SHEET OF

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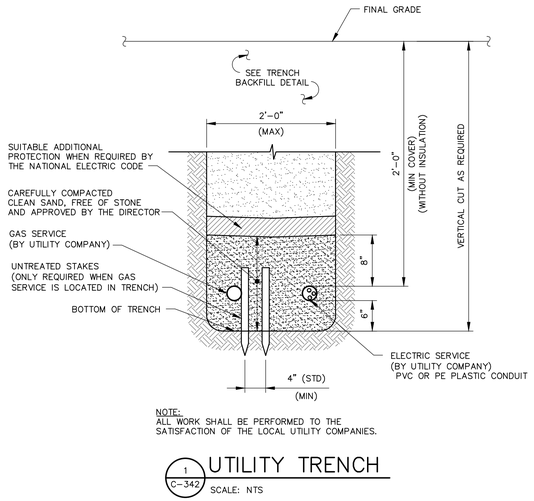

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1 / C-342 UTILITY TRENCH

SCALE: NTS

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C-342

SHEET OF

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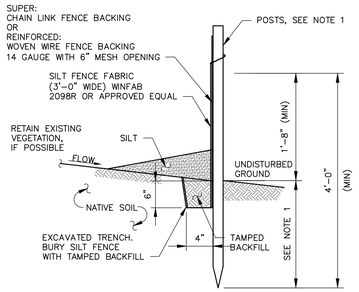


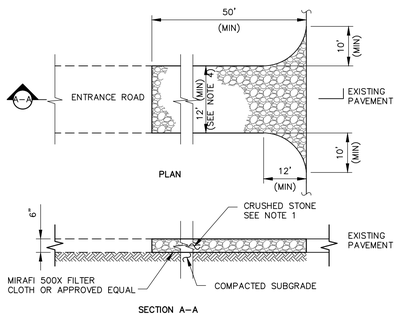
SLOPE	STEEPNESS	SLOPE LENGTH/FENCE LENGTH (FEET)		
		STANDARD	REINFORCED	SUPER
<2%	<50:1	300/1500	N/A	N/A
2-10%	50:1 TO 10:1	125/1000	250/2000	300/2500
10-20%	10:1 TO 5:1	100/750	150/1000	200/1000
20-33%	5:1 TO 3:1	60/500	80/750	100/1000
33-50%	3:1 TO 2:1	40/250	70/350	100/500
>50%	>2:1	20/125	30/175	50/250

TABLE A

NOTES:

1. POST MATERIAL AND SPACING:
   A. STANDARD SILT FENCE – POSTS SHALL BE 2"X2" HARDWOOD OR "T" OR "U" SHAPED STEEL NOT LESS THAN 1.00 POUND PER LINEAR FOOT AND SPACED A MAXIMUM OF 4'-0" ON CENTER. POST EMBEDMENT = 1'-4" (MIN).
   B. REINFORCED SILT FENCE– POSTS SHALL BE 2"X2" HARDWOOD OR "T" OR "U" SHAPED STEEL NOT LESS THAN 1.00 POUND PER LINEAR FOOT AND SPACED A MAXIMUM OF 10'-0" ON CENTER. POST EMBEDMENT = 1'-4" (MIN).
   C. SUPER SILT FENCE – POSTS SHALL BE 2 ½" DIAMETER STEEL, DIRECT BURY, AND SPACED A MAXIMUM OF 10'-0" ON CENTER. POST EMBEDMENT = 3'-0" (MIN).
2. REINFORCEMENT SHALL BE FASTENED TO THE POSTS DEPENDENT ON THE POST MATERIAL AS FOLLOWS:
   A. HARDWOOD – WIRE TIES OR STAPLES
   B. STEEL – WIRE TIES
2. FILTER CLOTH TO BE FASTENED SECURELY TO FENCE WITH TIES SPACED EVERY 24" AT TOP AND MID-SECTION. UNREINFORCED SILT FENCE MUST BE FASTENED SECURELY TO ALL POSTS.
3. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVERLAPPED BY 6 INCHES AND FOLDED.
4. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN "BULGES" FORM IN SILT FENCE.
5. SILT FENCE TO BE MAINTAINED IN PLACE DURING CONSTRUCTION AND SOIL STABILIZATION PERIOD.
6. SILT FENCE SHALL BE INSTALLED PARALLEL TO CONTOURS TO ASSURE NO CONCENTRATION OF WATER.
7. PREFABRICATED UNITS TO MEET THE MINIMUM REQUIREMENTS SHOWN.
8. THE TYPE OF SILT FENCE SPECIFIED FOR EACH LOCATION ON THE PLAN SHALL NOT EXCEED THE MAXIMUM SLOPE LENGTH AND MAXIMUM FENCE LENGTH REQUIREMENTS SHOWN IN TABLE A.

1 C-350 SILT FENCE
SCALE: NTS

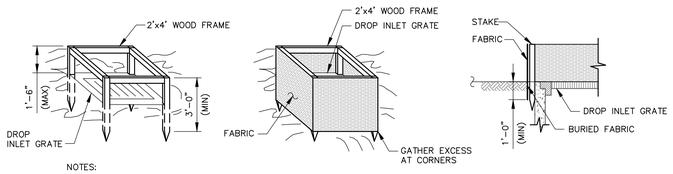


SECTION A–A

NOTES:

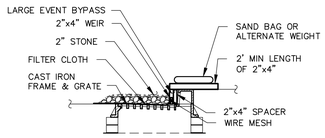
1. STONE SIZE – USE MATRIX 1" TO 4" STONE, OR RECLAIMED OR RECYCLED CONCRETE EQUIVALENT.
2. LENGTH – NOT LESS THAN 50 FEET.
3. THICKNESS – NOT LESS THAN SIX INCHES.
4. WIDTH – 12 FOOT MINIMUM, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS. 24 FOOT IF SINGLE ENTRANCE TO SITE.
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 SHALL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS–OF– WAY. THIS MAY REQUIRED PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED, OR TRACKED ONTO PUBLIC RIGHTS–OF–WAY MUST BE REMOVED IMMEDIATELY.
8. WASHING – WHEELS SHALL BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC RIGHTS–OF–WAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE AND WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.
9. PERIODIC INSPECTIONS AND NEEDED MAINTENANCE SHALL BE PROVIDED.

2 C-350 STABILIZED CONSTRUCTION ACCESS
SCALE: 3/8" = 1'-0"



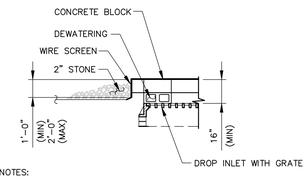
NOTES:

1. FILTER FABRIC SHALL HAVE AN EOS OF 40–85.
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"x4" 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'x4' WOOD FRAME SHALL BE COMPLETED AROUND THE CREST OF THE FABRIC FOR OVER FLOW STABILITY.
7. DRAINAGE AREA LIMITED TO 1 ACRE.



NOTES:

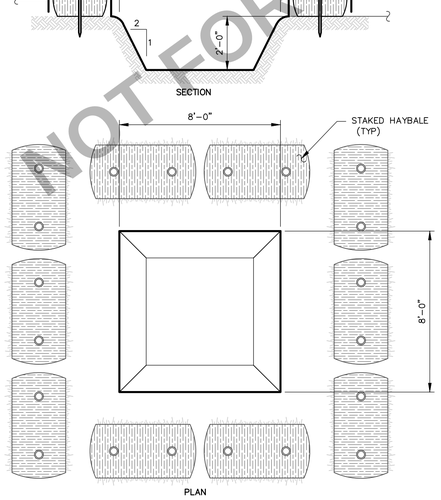
1. FILTER FABRIC SHALL HAVE AN EOS OF 40–85.
2. WIRE MESH SHALL BE BETWEEN THE GRATE AND FILTER FABRIC.
3. WOODEN FRAME SHALL BE CONSTRUCTED OF 2"x4" CONSTRUCTION GRADE LUMBER.
4. WIRE MESH ACROSS THROAT SHALL BE A CONTINUOUS PIECE 30" MIN WIDTH WITH A LENGTH OF 4' LONGER THAN THE THROAT. IT SHALL BE SHAPED AND SECURELY NAILED TO A 2"x4" WEIR.
5. THE WEIR SHALL BE SECURELY NAILED TO 2"x4" SPACERS 9" LONG SPACED NO MORE THAT 6' APART.
6. THE ASSEMBLY SHALL BE PLACED AGAINST THE INLET AND SECURED BY 2"x4" ANCHORS 2' LONG EXTENDING ACROSS THE TOP OF THE INLET AND HELD IN PLACE BY SAND BAGS OR ALTERNATE WEIGHTS.
7. DRAINAGE AREA LIMITED TO 1 ACRE.



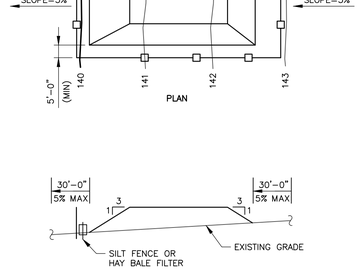
NOTES:

1. LAY ONE BLOCK ON EACH SIDE OF THE STRUCTURE ON ITS SIDE FOR DEWATERING. FOUNDATION SHALL BE 2" 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" DIA PLACED 2 INCHES BELOW THE TOP OF THE BLOCK ON A 2:1 SLOPE OR FLATTER.
4. FOR STONE STRUCTURES ONLY, A 1' THICK LAYER OF THE FILTER STONE WILL BE PLACED AGAINST THE 3" STONE AS SHOWN ON THE DRAWINGS.
5. DRAINAGE AREA LIMITED TO 1 ACRE.

3 C-350 CATCH BASIN PROTECTION
SCALE: 1/4" = 1'-0"



4 C-350 TEMPORARY CONCRETE WASH
SCALE: NTS



SECTION

NOTES:

1. PLACE STOCKPILES AT LOCATIONS AS SHOWN ON THE SOIL EROSION AND SEDIMENT CONTROL PLAN.
2. ALL SIDE SLOPES SHALL BE 3 TO 1 OR FLATTER.
3. STOCKPILE SURFACE SHALL SEALED WITH A ROLLER TO PREVENT SATURATION
4. STOCKPILE SHALL RECEIVE A VEGETATIVE COVER IN ACCORDANCE WITH MINIMUM STABILIZATION REQ.
5. SILT FENCE OR HAY BALE FILTER SHALL BE INSTALLED AS DETAILED HEREON.

5 C-350 SOIL STOCKPILE
SCALE: NTS

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CONTRACT:
CONSTRUCTION

TITLE:

LOCATION:

CLIENT:

MARK	DATE	DESCRIPTION
	09/23/24	100% SUBMISSION

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PROJECT NUMBER:	47688-C
DESIGNED BY:	ZK
DRAWN BY:	ECM
FIELD CHECK:	
APPROVED:	

SHEET TITLE:

EROSION AND SEDIMENT CONTROL DETAILS

DRAWING NUMBER:
C-350

SHEET OF

Sep 23,2024 – 5:57pm
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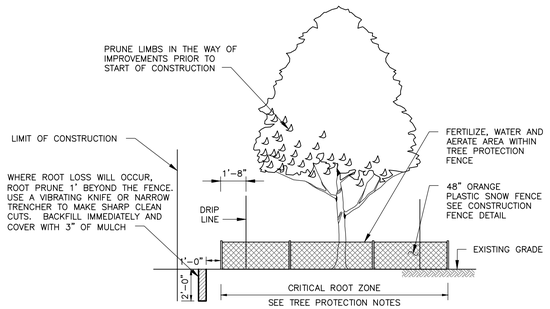
36x24 PLOT SHEET



TREE PROTECTION NOTES:

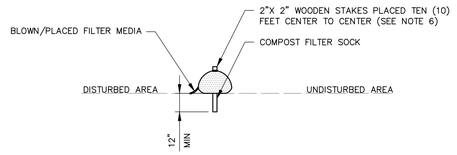
1. THE TREE PROTECTION AND PRESERVATION GUIDELINES ADOPTED PURSUANT TO THE LAND DEVELOPMENT REGULATIONS OF THE MUNICIPALITY WILL BE IMPLEMENTED IN ORDER TO PROTECT AND PRESERVE BOTH INDIVIDUAL SPECIMEN TREES AND BUFFER AREA WITH MANY TREES. STEPS THAT WILL BE TAKEN TO RESERVE AND PROTECT EXISTING TREES TO REMAIN ARE AS FOLLOWS:
   - A. NO CONSTRUCTION EQUIPMENT SHALL BE PARKED UNDER THE TREE CANOPY.
   - B. THERE WILL BE NO STOCKPILING OF EARTH UNDERNEATH THE TREES.
   - C. TREES DESIGNATED TO BE PRESERVED SHALL BE MARKED CONSPICUOUSLY ON ALL SIDES AT A 5 TO 10 FOOT HEIGHT.
   - D. THE TREE PROTECTION ZONE FOR TREES DESIGNATED TO BE PRESERVED WILL BE ESTABLISHED BY ONE OF THE FOLLOWING METHODS:
     - i. ONE (1) FOOT RADIUS FROM TRUNK PER INCH DBH
     - II. DRIP LINE OF THE TREE CANOPY. THE METHOD CHOSEN SHOULD BE BASED ON PROVIDING THE MAXIMUM PROTECTION ZONE POSSIBLE. A BARRIER OF SNOW FENCE OR EQUAL IS TO BE PLACED AND MAINTAINED ONE YARD BEYOND THE ESTABLISHED TREE PROTECTION ZONE. IF IT IS AGREED THAT THE TREE PROTECTION ZONE OF A SELECTED TREE MUST BE VIOLATED, ONE OF THE FOLLOWING METHODS MUST BE EMPLOYED TO MITIGATE THE IMPACT: LIGHT TO HEAVY IMPACTS – MINIMUM OF EIGHT INCHES OF WOOD CHIPS INSTALLED IN THE AREAS TO BE PROTECTED. CHIPS SHALL BE REMOVED UPON COMPLETION OF WORK.
     - iii. LIGHT IMPACTS ONLY – INSTALLATION OF 3/4 INCH OF PLYWOOD OR BOARDS, OR EQUAL OVER THE AREA TO BE PROTECTED.
   - E. WHERE EXCAVATION FOR NEW CONSTRUCTION IS REQUIRED WITHIN TREE PROTECTION ZONES, HAND CLEAR AND EXCAVATE TO MINIMIZE DAMAGE TO ROOT SYSTEMS. USE NARROW–TINE SPADING FORKS AND COMB SOIL TO EXPOSE ROOTS.
   - F. REDIRECT ROOTS IN BACKFILL AREAS WHERE POSSIBLE. IF ENCOUNTERING LARGE, MAIN LATERAL ROOTS, EXPOSE ROOTS BEYOND EXCAVATION LIMITS AS REQUIRED TO BEND AND REDIRECT THEM WITHOUT BRAKING. IF ENCOUNTERED IMMEDIATELY ADJACENT TO LOCATION OF NEW CONSTRUCTION AND REDIRECTION IS NOT PRACTICAL, CUT ROOTS APPROXIMATELY 3 INCHES BACK FROM NEW CONSTRUCTION AS FOLLOWS:
     - i. ROOT PRUNING: PRUNE TREE ROOTS EXPOSED DURING GRADE LOWERING. DO NOT CUT MAIN LATERAL ROOTS OR TAPROOTS; CUT ONLY SMALLER ROOTS. CUT ROOTS WITH SHARP PRUNING INSTRUMENTS; DO NOT BREAK OR CHOP.
     - ii. TREE PRUNING STANDARD: COMPLY WITH ANSI A300 (PART 1), "TREE, SHRUB, AND OTHER WOODY PLANT MAINTENANCE–STANDARD PRACTICES (PRUNING)."
   - G. DO NOT ALLOW EXPOSED ROOTS TO DRY OUT BEFORE PLACING PERMANENT BACKFILL. PROVIDE TEMPORARY EARTH COVER OR PACK WITH PEAT MOSS AND WRAP WITH BURLAP. WATER AND MAINTAIN IN A MOIST CONDITION. TEMPORARILY SUPPORT AND PROTECT ROOTS FROM DAMAGE UNTIL THEY ARE PERMANENTLY RELOCATED AND COVERED.
2. SEPARATE PAYMENT WILL NOT BE MADE FOR THIS WORK.

1 C–351 TREE PROTECTION AND PRUNING

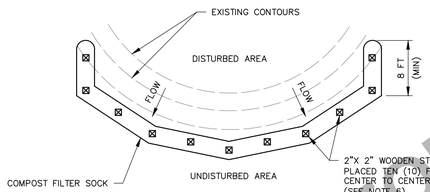
SCALE: NTS

COMPOST SOCK FABRIC MINIMUM SPECIFICATIONS					
MATERIAL TYPE	3 MIL HDPE	5 MIL HDPE	5 MIL HDPE	MULTI-FILAMENT POLYPROPYLENE (MFPP)	HEAVY DUTY MULTI-FILAMENT POLYPROPYLENE (HDMFPP)
MATERIAL CHARACTERISTICS	PHOTODEGRADABLE	PHOTODEGRADABLE	BIODEGRADABLE	PHOTODEGRADABLE	PHOTODEGRADABLE
SOCK DIAMETERS	12" 18"	12" 18" 24" 32"	12" 18" 24" 32"	12" 18" 24" 32"	12" 18" 24" 32"
MESH OPENING	3/8"	3/8"	3/8"	3/8"	3/8"
TENSILE STRENGTH	N/A	26 PSI	26 PSI	44 PSI	202 PSI
ULTRAVIOLET STABILITY % ORIGINAL STRENGTH (ASTM G-155)	23% AT 1000 HR.	23% AT 1000 HR.	N/A	100% AT 1000 HR.	100% AT 100 HR.
MINIMUM FUNCTIONAL LONGEVITY	6 MONTHS	9 MONTHS	6 MONTHS	1 YEAR	2 YEARS

COMPOST STANDARDS	
ORGANIC MATTER CONTENT	25% - 100% (DRY WEIGHT)
ORGANIC PORTION	FIBROUS AND ELONGATED
PH	6.0 - 8.0
MOISTURE CONTENT	30% - 60%
PARTICLE SIZE	100% PASSING A 1" SCREEN AND 10% - 50% PASSING A 3/8" SCREEN
SOLUBLE SALT CONCENTRATION	5.0 DS/M (MMHOS/CM) MAXIMUM



SECTION VIEW



PLAN VIEW

NOTES:

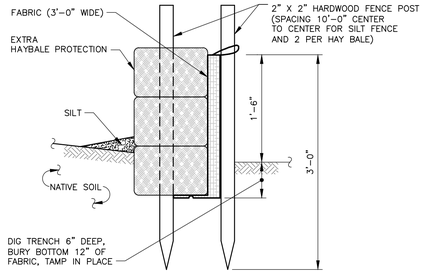
1. CONTINUOUS CONTACT BETWEEN THE FILTER SOCK AND THE SOIL, OR GROUND SHALL BE MAINTAINED.
2. PROPER ANCHORAGE SHALL BE PROVIDED TO PREVENT SHIFTING, OR SEPARATION OF SOCK FROM SURFACE.
3. COMPOST FILTER SOCKS SHALL BE PLACED ON THE CONTOUR WITH BOTH TERMINAL ENDS OF THE SOCK EXTENDED EIGHT (8) FEET UPSLOPE AT A 45 DEGREE ANGLE TO PREVENT BYPASS FLOW.
4. THE RATIO OF THE FLAT DIMENSION TO THE NOMINAL DIAMETER OF THE SOCK SHALL BE 1.5:1.
5. THE COMPOST INFILL MATERIAL SHALL BE WELL DECOMPOSED (MATURED AT A MINIMUM OF 3 MONTHS), WEED–FREE, ORGANIC MATTER. IT SHALL BE AEROBICALLY COMPOSED, POSSESS NO OBJECTIONABLE ODORS, SHALL CONTAIN LESS THAN ONE (1) PERCENT (BY DRY WEIGHT) OF MANMADE FOREIGN MATTER, AND SHALL BE IN ACCORDANCE WITH REGULATION NYSDEC 6 NYVRR PART 360.
6. SPACING MAY BE INCREASED TO ENHANCE SUPPORT STRUCTURE FOR FILTER SOCK AND AS DIRECTED BY THE QUALIFIED INSPECTOR.
7. TRAFFIC SHALL NOT BE PERMITTED TO TRAVERSE FILTER SOCKS. FILTER SOCK SHOULD BE REPLACED IMMEDIATELY IF DAMAGED BY VEHICLE TRAFFIC.
8. SEDIMENT SHALL BE REMOVED UPSTREAM OF FILTER SOCK WHEN IT REACHES HALF THE DEPTH OF THE FILTER SOCK.
9. LENGTH OF FILTER SOCK REQUIRED SHALL BE DETERMINED FROM TABLE BELOW BASED ON NOMINAL DIAMETER OF SOCK AND SLOPE OF TERRAIN:

MAXIMUM ALLOWABLE SLOPE LENGTH (FEET) ABOVE COMPOST FILTER SOCK							
NOMINAL DIAMETER	SLOPE (%)						
(IN)	2	5	10	20	25	33	50
8"	225	200	100	50	20	N/A	N/A
12	250	225	125	65	50	40	25
18	275	250	150	70	55	45	30
24	350	275	200	130	100	60	35
32	450	325	275	150	120	75	50

*8-INCH DIAMETER SHALL BE RESTRICTED TO A DRAINAGE AREA OF 0.25 ACRES

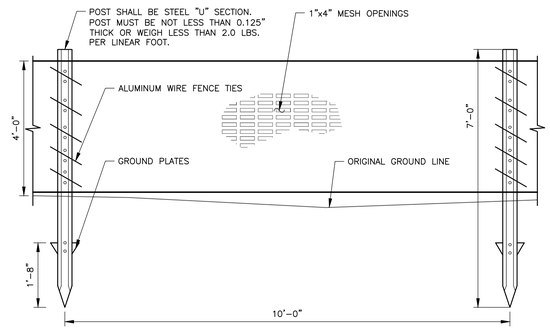
2 C–351 COMPOST FILTER SOCK

SCALE: NTS



3 C–351 SILT FENCE WITH STRAW BALE DIKE

SCALE: 1" = 1'–0"

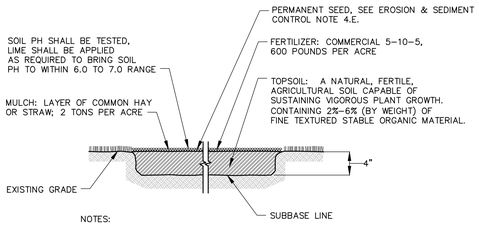


NOTES:

1. FENCING TO BE PLACED LINEARLY ALONG LIMIT OF CLEARING, AND AS SHOWN ON PLAN AND AS REQUIRED BY REFERRING DETAILS.
2. MESH COLOR TO BE BLAZE ORANGE.

4 C–351 CONSTRUCTION FENCE (PLASTIC)

SCALE: NTS



NOTES:

1. TOPSOIL, SEED, MULCH, AND FERTILIZE DISTURBED SOIL AREAS THAT WILL BE LEFT EXPOSED FOR 14 DAYS OR MORE.
2. SEED MIX IN RIGHT OF WAY TO BE A MIXTURE OF 30% KENTUCKY BLUE, 25% PERENNIAL RYE, 20% RED FESCUE, 25% PALMER RYE.

5 C–351 TOPSOIL, FERTILIZER, SEED & MULCH

SCALE: NTS

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CONTRACT: CONSTRUCTION

TITLE:

LOCATION:

CLIENT:

MARK	DATE	DESCRIPTION
	09/23/24	100% SUBMISSION

PROJECT NUMBER: 47688-C

DESIGNED BY: ZK

DRAWN BY: ECM

FIELD CHECK:

APPROVED:

SHEET TITLE:

EROSION AND SEDIMENT CONTROL DETAILS

DRAWING NUMBER: C-351

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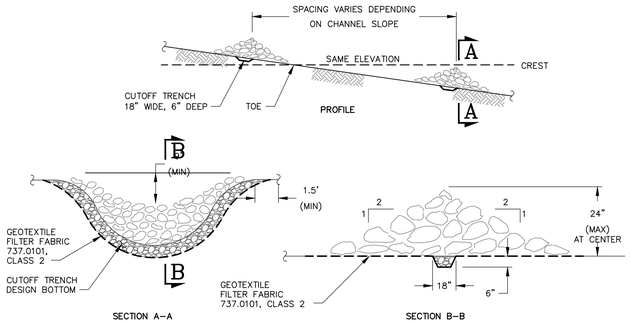
36x24 PLOT SHEET

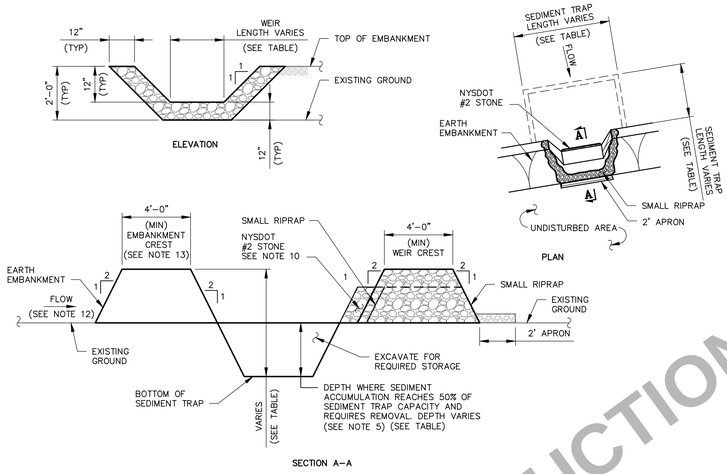


CONSTRUCTION SPECIFICATIONS:

1. STONE SHALL BE NYSDOT ITEM 620.03 STONE FILLING (LIGHT).
2. GEOTEXTILE FILTER FABRIC SHALL HAVE AN EOS OPENING OF 70.
3. STONE WILL BE PLACED ON A FILTER FABRIC FOUNDATION AT LOCATIONS SHOWN ON THE PLAN.
4. SET SPACING OF CHECK DAMS TO ASSURE THAT THE ELEVATIONS OF THE CREST OF THE DOWNSTREAM DAM IS AT THE SAME ELEVATION AS THE TOE OF THE UPSTREAM DAM.
5. EXTEND THE STONE A MINIMUM OF 1.5 FEET BEYOND THE DITCH BANKS TO PREVENT CUTTING AROUND THE DAM.
6. PROTECT THE CHANNEL DOWNSTREAM OF THE LOWEST CHECK DAM FROM SCOUR AND EROSION WITH STONE OR LINER AS APPROPRIATE UNLESS OTHERWISE INDICATED ON THE PLANS.
7. ENSURE THAT CHANNEL APPURTENANCES SUCH AS CULVERT ENTRANCES BELOW CHECK DAMS ARE NOT SUBJECT TO DAMAGE OR BLOCKAGE FROM DISPLACED STONES.
8. REFER TO SECTION 312500 FOR ADDITIONAL INFORMATION ON EROSION AND SEDIMENTATION CONTROL.

1 / C–352 STONE CHECK DAM

SCALE: NTS

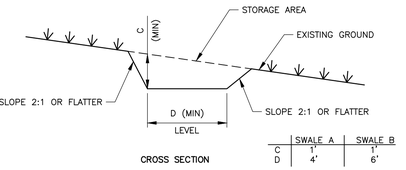


CONSTRUCTION SPECIFICATIONS:

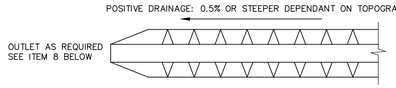
1. AREA UNDER EMBANKMENT SHALL BE CLEARED, GRUBBED AND STRIPPED OF ANY VEGETATION AND ROOT MAT. THE POOL AREA SHALL BE CLEARED.
2. THE FILL MATERIAL FOR THE EMBANKMENT SHALL BE FREE OF ROOTS AND OTHER WOODY VEGETATION AS WELL AS OVER–SIZED STONES, ROCKS, ORGANIC MATERIAL OR OTHER OBJECTIONABLE MATERIAL. THE EMBANKMENT SHALL BE COMPACTED BY TRAVERSING WITH EQUIPMENT WHILE IT IS BEING CONSTRUCTED.
3. ALL CUT AND FILL SLOPES SHALL BE 2:1 OR FLATTER.
4. THE STONE USED IN THE OUTLET SHALL BE SMALL RIPRAP 4"–8" ALONG WITH A 1' THICKNESS OF 2" AGGREGATE PLACED ON THE UP–GRADE SIDE ON THE SMALL RIPRAP OR EMBEDDED FILTER CLOTH IN THE RIPRAP.
5. SEDIMENT SHALL BE REMOVED AND TRAP RESTORED TO ITS ORIGINAL DIMENSIONS WHEN THE SEDIMENT HAS ACCUMULATED TO 1/2 THE DESIGN DEPTH OF THE TRAP. IT SHALL BE PLACED ON SITE AND STABILIZED OR DISPOSED OF PROPERLY AS DIRECTED BY THE OWNER'S REPRESENTATIVE.
6. THE STRUCTURE SHALL BE INSPECTED AFTER EACH RAIN AND REPAIRS MADE AS NEEDED.
7. CONSTRUCTION OPERATIONS SHALL BE CARRIED OUT IN SUCH A MANNER THAT EROSION AND SEDIMENT ARE CONTROLLED.
8. THE STRUCTURE SHALL BE REMOVED AND THE AREA STABILIZED WHEN THE DRAINAGE AREA HAS BEEN PROPERLY STABILIZED.
9. MAXIMUM DRAINAGE AREA 5 ACRES.
10. A 1' LAYER OF NYSDOT #2 STONE MAY BE PLACED ON THE UPSTREAM SIDE OF THE RIPRAP IN PLACE OF THE EMBEDDED FILTER CLOTH.
11. THE MINIMUM CAPACITY FOR SEDIMENT TRAP "A" SHALL BE 7,920 CUBIC FEET AND FOR SEDIMENT TRAP "B" SHALL BE 10,800 CUBIC FEET. VOLUME OF SEDIMENT STORAGE REQUIRED SHALL BE 3,600 CUBIC FEET PER ACRE OF CONTRIBUTORY DRAINAGE. SEDIMENT TRAP B SHALL BE REDUCED IN SIZE WHEN ALL UPSTREAM AREA HAS BEEN STABILIZED.
12. OPENING IN EARTH EMBANKMENT SHALL BE MADE TO CAPTURE ALL UPSTREAM FLOW DISCHARGING TO SEDIMENT TRAP. CAPACITY SHALL NOT BE REDUCED TO ACCOMMODATE FLOW ENTERING SEDIMENT TRAP.
13. OBSERVED GROUNDWATER AT APPROXIMATE ELEVATIONS 205.50 FEET. SEE GEOTECHNICAL REPORT FOR FULL DISCUSSION ON SUBSURFACE CONDITIONS.

2 / C–352 STONE OUTLET SEDIMENT TRAP (ST–II)

SCALE: NTS



	SWALE A	SWALE B
C	1'	1'
D	4'	6'



CONSTRUCTION SPECIFICATIONS:

1. FOR DRAINAGE AREA LESS THAN 5 ACRES USE SWALE A FOR DRAINAGE AREAS GREATER THAN 5 ACRES AND LESS THAN 10 ACRES USE SWALE B.
2. DIVERTED RUNOFF FROM A DISTURBED AREA SHALL BE CONVEYED TO A SEDIMENT TRAPPING DEVICE.
3. DIVERTED RUNOFF FROM AN UNDISTURBED AREA SHALL OUTLET DIRECTLY INTO AN UNDISTURBED STABILIZED AREA AT NON–EROSIVE VELOCITY.
4. ALL TREES, BRUSH, STUMPS, OBSTRUCTIONS AND OTHER OBJECTIONABLE MATERIAL SHALL BE REMOVED AND DISPOSED OF SO AS NOT TO INTERFERE WITH THE PROPER FUNCTIONING OF THE SWALE.
5. THE SWALE SHALL BE EXCAVATED OR SHAPED TO LINE, GRADE, AND CROSS SECTION AS REQUIRED TO MEET THE CRITERIA SPECIFIED HEREIN AND BE FREE OF BANK PROJECTIONS OR OTHER IRREGULARITIES WHICH WILL IMPEDE NORMAL FLOW.
6. FILLS SHALL BE COMPACTED BY EARTH MOVING EQUIPMENT.
7. ALL EARTH REMOVED AND NOT NEEDED FOR CONSTRUCTION SHALL BE PLACED SO THAT IT WILL NOTE INTERFERE WITH THE FUNCTIONING OF THE SWALE.
8. STABILIZATION SHALL BE AS PER THE FLOW CHANNEL STABILIZATION CHART BELOW

TYPE OF TREATMENT	CHANNEL GRADE	SWALE A (5 AC OR LESS)	SWALE B (5 AC TO 10 AC)
1	0.5–3.0%	SEED AND STRAW MULCH	SEED AND STRAW MULCH
2	3.1–5.0%	SEED AND STRAW MULCH	SEED USING JUTE OR EXCELSIOR
3	5.1–8.0%	SEE WITH JUTE OR EXCELSIOR, SOD	LINED WITH 4"–8" RIP–RAP OR RECYCLED CONCRETE EQUIVALENT
4	8.1–20%	LINED WITH 4"–8" RIP–RAP	ENGINEERED DESIGN

9. PERIODIC INSPECTION AND REQUIRED MAINTENANCE MUST BE PROVIDED AFTER EACH RAIN EVENT.

8 / C–205 TEMPORARY SWALE

SCALE: NTS

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DRAFT

WE HEREBY AFFIRM THAT TO THE BEST OF OUR KNOWLEDGE, BELIEF, AND PROFESSIONAL JUDGEMENT, THESE PLANS AND SPECIFICATIONS ARE IN COMPLIANCE WITH THE 2020 ENERGY CONSERVATION CONSTRUCTION CODE OF NEW YORK STATE AND THE 2020 NEW YORK STATE UNIFORM BUILDING CODE.

CONTRACT:
CONSTRUCTION

TITLE:

LOCATION:

CLIENT:

MARK	DATE	DESCRIPTION
	09/23/24	100% SUBMISSION

PROJECT NUMBER: 47688-C
DESIGNED BY: ZK
DRAWN BY: ECM
FIELD CHECK:
APPROVED:

SHEET TITLE:
EROSION AND SEDIMENT CONTROL NOTES, SEQUENCING, AND MAINTENANCE TABLE

DRAWING NUMBER:
C-352

SHEET OF

Sep 23,2024 – 5:57pm
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36x24 PLOT SHEET

EROSION AND SEDIMENT CONTROL SEQUENCING

CONSTRUCTION SEQUENCING

1. ALL APPROVALS AND PERMITS SHALL BE SECURED BY THE CONTRACTOR.

2. A PRE–CONSTRUCTION MEETING WITH THE OWNER, OWNER'S REPRESENTATIVE, MUNIPAL REPRESENTATIVE, AND CONTRACTOR PRESENT SHALL BE HELD TO REVIEW THE SWPPP, EROSION AND SEDIMENT CONTROLS PLANS, AND THE SEQUENCING.

3. EROSION CONTROL SEQUENCE OF OPERATIONS SHALL BE COORDINATED WITH THE SEQUENCING PLAN ON C–107.

4. CERTIFICATIONS OBTAINED FROM CONTRACTORS, SUBCONTRACTORS, AND ANY OTHERS PERFORMING SITE DISTURBANCES, INCLUDING UNDERGROUND UTILITY CONTRACTORS, BE SIGNED AND MAINTAINED ON SITE.

5. CONSTRUCTION ENTRANCE, SILT FENCE STORM DRAIN INLETS PROTECTION, CONSTRUCTION FENCE, TREE PROTECTION, AND OTHER TEMPORARY EROSION CONTROL MEASURES WILL BE INSTALLED PRIOR TO CONSTRUCTION, INCLUDING CLEARING, GRUBBING, AND DEMOLITION OF THE SITE, IN ACCORDANCE WITH THE NYS STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL, LATEST EDITION.

6. INSTALL PROVISIONS FOR PROTECTION OF EXISTING FACILITIES, WHERE INDICATED ON THE PLANS.

7. CHANGES TO THE EROSION AND SEDIMENT CONTROL SEQUENCING SHALL BE APPROVED BY THE OWNER'S REPRESENTATIVE.

8. ACTIVE DISTURBANCE SHALL BE LIMITED TO LESS THAN 5 AC MAXIMUM AT ANY TIME WITHOUT TEMPORARY STABILIZATION. ALL NON–ACTIVE DISTURBANCE AREAS SHALL RECEIVE TEMPORARY OR PERMANENT STABILIZATION. NON–ACTIVE DISTURBED SOIL AREAS SHALL NOT REMAIN EXPOSED FOR LONGER THAN 14 DAYS WITHOUT BEING STABILIZED.

9. ANY BORROW OR WASTE PIT LOCATED ON OR OFF–SITE MUST IMMEDIATELY RECEIVE TEMPORARY STABILIZATION, SHALL NOT BE LEFT UNSTABILIZED, AND BE MAINTAINED PER THE REQUIREMENTS OF THE GENERAL CONSTRUCTION PERMIT.

10. DRAINAGE STRUCTURES AND PIPES SHALL BE INSTALLED ALONG WITH ENERGY DISSIPATERS.

11. ROADWAYS SHALL BE GRADED AND IMMEDIATELY STABILIZED WITH PROPOSED STONE SURFACE.

12. SEQUENCE 1 – EROSION AND SEDIMENT CONTROL SCHEDULE:
    A. INSTALL PERIMETER CONTROLS, INLET PROTECTION. TREE PROTECTION, AND FIBER ROLLS IN VICINITY OF WORK AREA AS SHOWN ON THE PLANS.
    B. INSTALL STABILIZED CONSTRUCTION ACCESS IN NORTHEAST CORNER OF SITE NEAR ENTRANCE TO DUTCH HILL ROAD.
    C. INSTALL SEDIMENT TRAP B WITHIN LIMITS SHOWN ON THE PLANS.
    D. DEMOLISH EXISTING PARKING LOT AS SHOWN ON THE PLANS TO CREATE AN AREA FOR CONTRACTOR USE.
    E. CONSTRUCT PROPOSED UTILITIES, PAVEMENT, AND HARDSCAPE WITHIN LIMITS SHOWN ON THE PLANS. IMMEDIATELY AFTER SUBGRADE IS ESTABLISHED, INSTALL STONE SUBBASE LAYERS FOR PAVEMENT AND HARDSCAPE AREAS (MAINTAIN STABILIZED CONSTRUCTION ACCESS UNTIL STONE SUBBASE PLACEMENT IS COMPLETE FOR NEW PAVEMENT). IMMEDIATELY AFTER UTILITY INSTALLATION IS COMPLETE, INSTALL UTILITY BEDDING AND PERFORM FINAL GRADING IN VICINITY. AS PROPOSED PAVEMENT ALONG EASTERN EDGE OF SITE PROGRESSES.
    F. APPLY TEMPORARY OR PERMANENT STABILIZATION TO ALL AREAS IMPACTED BY CONSTRUCTION THAT ARE NOT PLANNED TO BE DISTURBED IN FOLLOW ON SEQUENCES OR WILL BE INACTIVE FOR GREATER THAN FOURTEEN (14) DAYS.

13. SEQUENCE 2 – EROSION AND SEDIMENT CONTROL SCHEDULE:
    A. INSTALL PERIMETER CONTROLS, INLET PROTECTION, TREE PROTECTION, AND FIBER ROLLS IN VICINITY OF WORK AREA AS SHOWN ON THE PLANS. MAINTAIN ALL EROSION AND SEDIMENT CONTROL MEASURES FROM SEQUENCE 1 THAT ARE STILL REQUIRED.
    B. DEMOLISH EXISTING PARKING LOT AND TEMPORARY ELECTRIC WITHIN LIMITS SHOWN ON THE PLANS.
    C. INSTALL SEDIMENT TRAP A WITHIN LIMITS SHOWN ON THE PLANS.
    D. INSTALL STABILIZED CONSTRUCTION ACCESS OFF ORANGEBURG RD.
    E. TRANSITION AREA FOR CONTRACTOR USE TO NEW LOCATION ON PAVEMENT INSTALLED IN SEQUENCE 1 IN LIMITS APPROVED BY THE OWNER'S REPRESENTATIVE.
    F. CONSTRUCT PROPOSED ADDITION, UTILITIES, PAVEMENT, AND HARDSCAPE WITHIN LIMITS SHOWN ON THE PLANS. IMMEDIATELY AFTER SUBGRADE IS ESTABLISHED, INSTALL STONE SUBBASE LAYERS FOR PAVEMENT AND HARDSCAPE AREAS (MAINTAIN STABILIZED CONSTRUCTION ACCESS UNTIL STONE SUBBASE PLACEMENT IS COMPLETE FOR NEW PAVEMENT). IMMEDIATELY AFTER UTILITY INSTALLATION IS COMPLETE, INSTALL UTILITY BEDDING AND PERFORM FINAL GRADING IN VICINITY.
    G. APPLY TEMPORARY OR PERMANENT STABILIZATION TO ALL AREAS IMPACTED BY CONSTRUCTION THAT ARE NOT PLANNED TO BE DISTURBED IN FOLLOW ON SEQUENCES OR WILL BE INACTIVE FOR GREATER THAN FOURTEEN (14) DAYS.
    H. REMOVE SEDIMENT TRAP ONCE ALL DISTURBANCE UPSTREAM OF TRAP HAD BEEN STABILIZED AND INSTALL STORMWATER VAULT.

14. SEQUENCE 3 – EROSION AND SEDIMENT CONTROL SCHEDULE:
    A. INSTALL PERIMETER CONTROLS, INLET PROTECTION, TREE PROTECTION, AND FIBER ROLLS IN VICINITY OF WORK AREA AS SHOWN ON THE PLANS. MAINTAIN ALL EROSION AND SEDIMENT CONTROL MEASURES FROM SEQUENCE 1–2 THAT ARE STILL REQUIRED.
    B. ONCE EXISTING SOUTH BUILDING DEMOLITION IS COMPLETED (NOT IN CONTRACT) AND AREA HAS BEEN HANDED OVER TO OWNER, TRANSITION AREA FOR CONTRACTOR USE TO THIS AREA.
    C. CONSTRUCT UTILITIES, PAVEMENT, AND HARDSCAPE WITHIN LIMITS SHOWN ON THE PLANS. IMMEDIATELY AFTER SUBGRADE IS ESTABLISHED, INSTALL STONE SUBBASE LAYERS FOR PAVEMENT AND HARDSCAPE AREAS. REDUCE AREA FOR SEDIMENT TRAP B, WHILE MAINTAINING VOLUMETRIC CAPACITY. IMMEDIATELY AFTER UTILITY INSTALLATION IS COMPLETE, INSTALL UTILITY BEDDING AND PERFORM FINAL GRADING IN VICINITY.
    D. MILL AND OVERLAY EXISTING PAVEMENT AREAS AS SHOWN ON THE PLANS.
    E. APPLY TEMPORARY OR PERMANENT STABILIZATION TO ALL AREAS IMPACTED BY CONSTRUCTION THAT ARE NOT PLANNED TO BE DISTURBED IN FOLLOW ON SEQUENCES OR WILL BE INACTIVE FOR GREATER THAN FOURTEEN (14) DAYS.
    F. REMOVE SEDIMENT TRAP B ONCE ALL DISTURBANCE UPSTREAM OF TRAP HAS BEEN STABILIZED. STABILIZE AREA FOR TRAP ONCE COMPLETELY REMOVED.

15. SEQUENCE 4 – EROSION AND SEDIMENT CONTROL SCHEDULE:
    A. INSTALL PERIMETER CONTROLS, INLET PROTECTION, TREE PROTECTION, AND FIBER ROLLS IN VICINITY OF WORK AREA AS SHOWN ON THE PLANS. MAINTAIN ALL EROSION AND SEDIMENT CONTROL MEASURES FROM SEQUENCE 1–3 THAT ARE STILL REQUIRED.
    B. CONSTRUCT HARDSCAPE WITHIN LIMITS SHOWN ON THE PLAN. IMMEDIATELY AFTER SUBGRADE IS ESTABLISHED, INSTALL STONE SUBBASE LAYERS FOR HARDSCAPE AREAS.
    C. MILL AND OVERLAY EXISTING PAVEMENT AREAS AS SHOWN ON THE PLANS.

16. DECOMPACT ACCESS AND STORAGE/STOCKPILE AREAS.

17. ALL LANDSCAPED/GRASSED AREAS WILL BE SEEDED AND MULCHED IN A TWO STEP HYDRAULIC PROCESS TO PROMOTE GROWTH AS SOON AS POSSIBLE AND IN ACCORDANCE WITH NOTE 4 OF THE EROSION AND SEDIMENTATION CONTROL NOTES ON THIS SHEET.

18. GENERAL CONTRACTOR TO REMOVE SEDIMENT TRAP B AND APPLY TEMPORARY STABILIZATION TO AREA.

19. UPON FINAL STABILIZATION, GENERAL CONTRACTOR SHALL REMOVE ALL EROSION AND SEDIMENT CONTROLS. REAPPLICATION OF HAY AND SEED MAY BE REQUIRED IN SOME AREAS IF REMOVAL OF TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES CREATES DISTURBANCE.

20. REMOVE ALL SILT AND SEDIMENT FROM SITE.

21. ALL DEBRIS, SILT, AND OTHER OBSTRUCTIONS ARE TO BE REMOVED FROM THE END OF THE DRAINAGE STRUCTURES AFTER ALL ONSITE WORK IS COMPLETE AND ALL DISTURBED AREAS HAVE BEEN STABILIZED.

22. OWNER'S REPRESENTATIVE TO REVIEW SITE AND DIRECT ANY CORRECTIVE ACTIONS DEEMED NECESSARY TO APPROVE FINAL STABILIZATION AND FACILITATE SPDES PERMIT CLOSEOUT.

23. CONTRACTOR TO PROVIDE ASBUILT OF DRAINAGE NETWORK AND POST CONSTRUCTION STORMWATER CONTROLS TO OWNER'S REPRESENTATIVE PRIOR TO SPDES PERMIT CLOSEOUT AND IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS.

EROSION AND SEDIMENTATION CONTROL NOTES

1. SITE DISTURBANCE SHALL BE LIMITED TO THE MINIMUM NECESSARY GRADING AND VEGETATION REMOVAL REQUIRED FOR CONSTRUCTION.

2. ACTIVE DISTURBANCE SHALL BE LIMITED TO LESS THAN A 5 AC MAXIMUM AT ANY TIME WITHOUT TEMPORARY STABILIZATION. ALL NON–ACTIVE DISTURBED AREAS SHALL NOT REMAIN FALLOW FOR LONGER THAN FOURTEEN (14) DAYS.

3. TEMPORARY EROSION CONTROL MEASURES, INCLUDING SILT FENCES AND/OR STRAW BALE DIKES, DRAINAGE STRUCTURES, SEDIMENTATION BASINS, DIVERSION SWALES/DIKES, AND RIP–RAP PROTECTION SHALL BE INSTALLED PRIOR TO GROUND DISTURBANCE FOR GRADING AND CONSTRUCTION.

4. ALL DISTURBED AREAS SHALL BE SEEDED AND MULCHED AS SOON AS PRACTICAL FOLLOWING DISTURBANCE TO STABILIZE BARE SOIL AND PROMOTE THE PROMPT RE–ESTABLISHMENT OF VEGETATION:
    A. AN ADEQUATE SEEDBED SHALL BE PREPARED BY SCARIFYING SOIL AND REMOVING SURFACE DEBRIS AND OBSTACLES WITHIN THE DISTURBED AREA TO A DEPTH OF 4".
    B. LIME SHALL BE APPLIED SUFFICIENTLY TO ATTAIN A SOIL ACIDITY Ph OF 5.5.
    C. FERTILIZER (10–20–10 MIXTURE OR EQUIVALENT) SHALL BE APPLIED PER SOIL TEST RESULTS OR AT A RATE OF 15 LBS. PER 1000 SQFT.
    D. DISTURBED AREAS WHICH WILL REMAIN TEMPORARILY FALLOW FOR PERIODS GREATER THAN 14 DAYS SHALL BE SEEDED AT THE FOLLOWING RATE TO PRODUCE TEMPORARY GROUND COVER: 30 LBS. RYEGRASS (ANNUAL) PER ACRE. DURING THE WINTER, USE 100 LBS. CERTIFIED "AROOSTOOK" WINTER RYE CEREAL RYE) PER ACRE.
    E. AREAS USED FOR CONSTRUCTION ACCESS AND STORAGE,/STOCKPILING OF CONSTRUCTION MATERIALS SHALL BE DECOMPACTED USING THE PROCEDURES OUTLINED IN THE NYSDEC PUBLICATION "DEEP RIPPING AND DECOMPACTION", APRIL 2008 OR AS CURRENTLY AMENDED THIS DOCUMENT IS INCLUDED WITHIN THE PROJECT SWPPP.
    F. PERMANENT SEEDING SHALL BE APPLIED ON 4" MIN TOPSOIL AND IN ACCORDANCE WITH LANDSCAPE PLAN.
    G. ALL SEEDING SHALL BE PERFORMED USING HYDROSEEDING. HYDROSEEDING SLURRY SHALL BE COMPRISED OF A HOMOGENEOUS MIX OF SEED AND FERTILIZER IN WATER. VARIOUS SPECIFIED SEED MIXES SHALL BE INDEPENDENTLY MIXED AND APPLIED.
    H. ALL DISTURBED AREAS SHALL BE STABILIZED SUBSEQUENT TO SEEDING BY APPLYING 2 TONS OF STRAW MULCH PER ACRE. STRAW MULCH SHALL BE ANCHORED BY APPLYING 750 LBS OF WOOD FIBER MULCH PER ACRE WITH A HYDROSEEDER. HYDROMULCHING SLURRY SHALL BE COMPRISED OF A HOMOGENEOUS MIX OF NON–ASPHALTIC TACKIFIER AND FIBER MULCH IN WATER.

5. ALL EROSION AND SEDIMENTATION CONTROL MEASURES AND DRAINAGE STRUCTURES SHALL BE INSPECTED DAILY BY THE CONTRACTOR AND FOLLOWING EVERY SITE RAINFALL EVENT, AND MAINTENANCE AND REPAIRS SHALL BE PERFORMED PROMPTLY TO MAINTAIN PROPER FUNCTION. TRAPPED SEDIMENT SHALL BE REMOVED AND DEPOSITED IN A PROTECTED AREA IN A PROPER MANNER WHICH WILL NOT RESULT IN EROSION. THE CONTRACTOR SHALL REPLACE ANY PRACTICE THAT IS NO LONGER PERFORMING AS DESIGNED OR INTENDED. TEMPORARY CONTROL MEASURES SHALL REMAIN IN PLACE UNTIL DISTURBED AREAS ARE PERMANENTLY STABILIZED AND GROUND COVER IS COMPLETELY REESTABLISHED. FOLLOWING STABILIZATION, TEMPORARY MEASURES SHALL BE REMOVED TO AVOID INTERFERENCE WITH DRAINAGE.

6. ALL STORM INLETS TO BE PROTECTED FROM SEDIMENTATION DURING CONSTRUCTION.

7. SYNTHETIC OR ORGANIC SOIL STABILIZERS MAY BE USED UNDER SUITABLE CONDITIONS AND IN SUFFICIENT QUANTITIES AS APPROVED BY THE OWNER'S REPRESENTATIVE.

8. MULCH NETTING SUCH AS PAPER, JUTE, EXCELSIOR, COTTON OR PLASTIC MAY BE USED. STAPLE IN PLACE OVER HAY OR STRAW MULCH. USE A DEGRADABLE NETTING IN AREAS TO BE MOWED.

10. OPTIMUM SEEDING PERIODS ARE 3/15–5/15 AND 8/15–10/15.

11. EXISTING CATCH BASINS THAT ARE PLANNED FOR REMOVAL SHALL HAVE INLET PROTECTION INSTALLED UNTIL REMOVAL OCCURS.

12. FIBER ROLLS SHALL BE PLACED WHEN WORK IS OCCURRING DIRECTLY IN AREA AND THERE IS A RISK OF SEDIMENT LEAVING THE SITE. WHEN WORK IS NOT OCCURRING AND WHEN FINAL STABILIZATION UPSTREAM OF LOGS HAS BEEN COMPLETED, FIBER ROLLS ARE NOT NEEDED. TWO–WAY ACCESS AT NORTHEAST CORNER OF SITE SHALL BE MAINTAINED AS MUCH AS POSSIBLE.

13. CONSTRUCTION FENCE SHALL BE INSTALLED TO FACILITATE PEDESTRIAN ACCESS TO OPERATIONAL TOWN HALL BUILDING AND SHALL SEPARATE PEDESTRIAN TRAFFIC FROM ALL ONGOING CONSTRUCTION.

14. ANY BORROW OR WASTE PITS LOCATED ON OR OFF–SITE MUST IMMEDIATELY RECEIVE TEMPORARY STABILIZATION, SHALL NOT BE LEFT UNSTABILIZED, AND SHALL NOT REMAIN FALLOW FOR MORE THAN 14 DAYS IN ACCORDANCE WITH THE GENERAL PERMIT.

15. DECOMPACT ACCESS AND STORAGE/STOCKPILED AREAS AS NECESSARY.

EROSION CONTROL MAINTENANCE SCHEDULE

MEASURE	INSPECTION FREQUENCY	PROBLEMS TO LOOK FOR	POTENTIAL REMEDIES
AS SHOWN ON PLANS			
SILT FENCE	ONCE A WEEK AND AFTER EVERY RUNOFF EVENT	DAMAGED FABRIC	REPLACE DAMAGED FABRIC
		DAMAGED POSTS	REPLACE DAMAGED POSTS
		DAMAGE OF WIRE FOR REINFORCED SILT FENCE AND CHAIN LINK FENCE FOR SUPER SILT FENCE	REINSTALL ENTIRE WIRE BACKED SILT FENCE FOR REINFORCED SILT FENCE AND REINSTALL CHAIN LINK FENCE FOR SUPER SILT FENCE
		DAMAGED FASTENING OF SILT FENCE FABRIC TO POSTS	REFASTEN SILT FENCE FABRIC TO POSTS
		BULGES DEVELOPING IN SILT FENCE	REMOVE SEDIMENT AND REINSTALL SECTION OF SILT FENCE
		SILT FENCE SEDIMENT ACCUMULATION HAS REACHED 50% ITS CAPACITY	REMOVE SEDIMENT AND REINSTALL. REPLACE SILT FENCE IF DAMAGED
STRAW BALE DIKE	ONCE A WEEK AND AFTER EVERY RUNOFF EVENT	STRAW BALE DIKE SEDIMENT ACCUMULATION HAS REACHED 50% ITS CAPACITY	REMOVE SEDIMENT AND REINSTALL. REPLACE HAY BALE IF EXCEESIVE DAMAGE OBSERVED
		DISCHARGE IS SEDIMENT-LADEN	REINSTALL STRAW BALE DIKE
		DAMAGE TO ANCHORING SYSTEM	RENSTALL REBAR ANCHORS
STABILIZED CONSTRUCTION ACCESS	ONCE A WEEK AND AFTER EVERY RUNOFF EVENT	TRACKING OF SEDIMENT OBSERVED ON PAVEMENT	INCREASE THICKNESS OF AGGREGATE MATERIAL. REMOVE SEDIMENT LOADED AGGREGATE AND REINSTALL NEW AGGREGATE. EXTEND LENGTH OF AGGREGATE MATERIAL AND INSTALL TIRE WASHING STATIONS NEAR ENTRANCE. PROVIDE WATER BAR UPSTREAM OF ENTRANCE AND DIRECT TO A SEDIMENT TRAPPING STRUCTURE
		DAMAGE TO FILTER CLOTH	REPLACE FILTER CLOTH
CONCRETE TRUCK WASHOUT	DAILY	DAMAGE TO FILTER CLOTH	REPLACE FILTER CLOTH
		RAINWATER FILLS WASHOUT PIT	DISCHARGE TO GRASS IF NO MIXING WITH CONCRETE OCCURS. TREAT AS CONCRETE IF MIXING OCCURS AND DISPOSE OF PROPERLY
		OVERLOADING OF WASHOUT PIT WITH CONCRETE	DISPOSE OF CONCRETE PROPERLY
		CONCRETE DISCARDED OUTSIDE OF WASHOUT PIT	PLACE CONCRETE AND ASSOCIATED SOIL IN WASHOUT PIT
STORM DRAIN INLET PROTECTION	ONCE A WEEK AND AFTER EVERY RUNOFF EVENT	DAMAGE TO MATERIAL USED FOR INLET PROTECTION	REPLACE MATERIAL USED FOR INLET PROTECTION
		INLET PROTECTION OVERLOADED WITH SEDIMENT	REMOVE SEDIMENT AND REPLACE MATERIAL IF NO LONGER FUNCTIONAL
		INLET ISN'T AT LOWEST POINT AND CAUSES PONDING	REGRADE SURROUNDING AREA OR RESET GRATE ELEVATION
COMPOST FILTER SOCK	ONCE A WEEK AND AFTER EVERY RUNOFF EVENT	ACCUMULATED SEDIMENT REACHES HALF THE HEIGHT OF THE SOCK	REMOVE SEDIMENT AND REPLACE MATERIAL IF NO LONGER FUNCTIONAL
		DAMAGED WOODEN STAKES	REPLACE WOODEN STAKES
		DAMAGED FILTER MATERIAL	REPLACE COMPOST FILTER SOCK
POTENTIAL USE ONSITE			
DEWATERING SUMP PIT	ONCE A WEEK AND AFTER EVERY RUNOFF EVENT	DAMAGED HOSE, PUMP, STANDPIPE, & FILTER (IF WARRANTED)	REPLACE COMPONENT OR REPAIR (EQUIPMENT ONLY)
FLOW DIFFUSER	ONCE A WEEK AND AFTER EVERY RUNOFF EVENT	ACCUMULATED SEDIMENT IN AGGREGATE	REPLACE MATERIAL IN AGGREGATE
ANCHORED STABILIZATION MATTING	EVERY OTHER DAY AND AFTER RUNOFF EVENT	DAMAGED OR DISPLACED BLANKETS	REPAIR & REINSTALL BLANKETS. REPLACE IF DAMAGED
DEWATERING DEVICE	ONCE A WEEK AND AFTER EVERY RUNOFF EVENT	DAMAGED FILTER FABRIC	REPLACE FILTER FABRIC
		MALFUNCTIONING SKIMMER	REPAIR SKIMMER; REPLACE IF CANNOT BE REPAIRED
		SEDIMENT REACHES LEVEL MARKED ON SEDIMENT CLEANOUT STAKE	REMOVE SEDIMENT
GEOTEXTILE FILTER BAG	ONCE A WEEK AND AFTER EVERY RUNOFF EVENT	REDUCTION OF BAG FLOW AREA REDUCES 75% FROM INITIAL CAPACITY	REPLACE BAG
		DAMAGED BAG	REPLACE BAG
*WINTER STABILIZATION MEASURES SHALL BE APPLIED BETWEEN DATES OF 11/15 TO 4/1.			

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TECTONIC WORK ORDER NO.: 12546.01

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DRAFT

WE HEREBY AFFIRM THAT TO THE BEST OF OUR KNOWLEDGE, BELIEF, AND PROFESSIONAL JUDGEMENT, THESE PLANS AND SPECIFICATIONS ARE IN COMPLIANCE WITH THE 2020 ENERGY CONSERVATION CONSTRUCTION CODE OF NEW YORK STATE AND THE 2020 NEW YORK STATE UNIFORM BUILDING CODE.

CONTRACT: CONSTRUCTION

TITLE:

LOCATION:

CLIENT:

MARK	DATE	DESCRIPTION
	09/23/24	100% SUBMISSION

PROJECT NUMBER: 47688-C
DESIGNED BY: ZK
DRAWN BY: ECM
FIELD CHECK:
APPROVED:

SHEET TITLE:
EROSION AND SEDIMENT CONTROL NOTES, SEQUENCING, AND MAINTENANCE TABLE

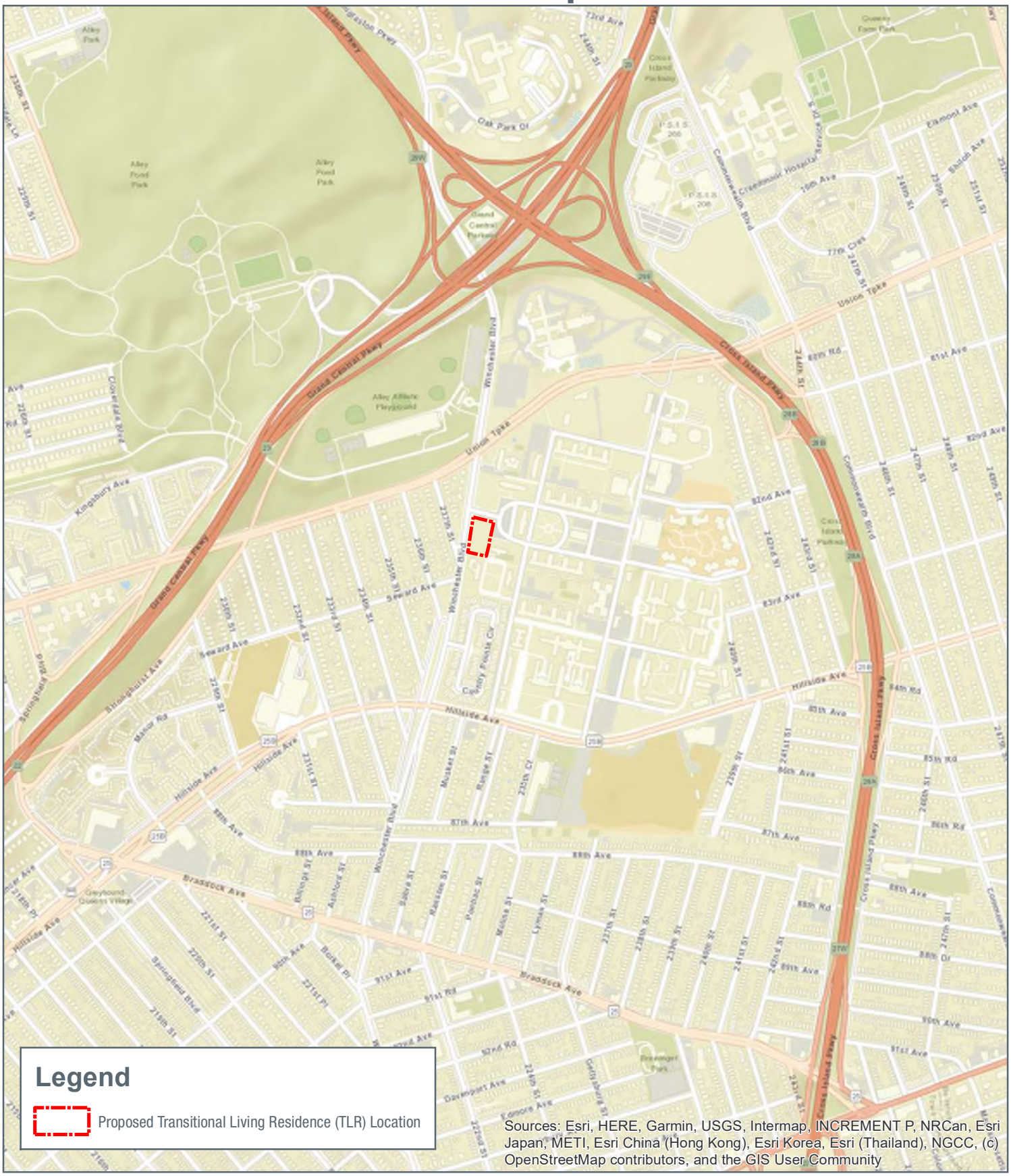
DRAWING NUMBER: C-353

SHEET OF

Sep 23,2024 – 5:57pm
F:\Mountainville\Civ\12546\12546-01 OMH Creedmoor\Dwg\MT-CV-12546101-350_DETAILS.dwg
36x24 PLOT SHEET

Appendix II

Street Map



Creedmoor Psychiatric Center Transitional Residence Center Project
Creedmoor Psychiatric Center
80-45 Winchester Blvd
Queens, New York 11427

Tectonic

Aerial Map

Creedmoor Psychiatric Center Transitional Residence Center Project
Creedmoor Psychiatric Center
80-45 Winchester Blvd
Queens, New York 11427

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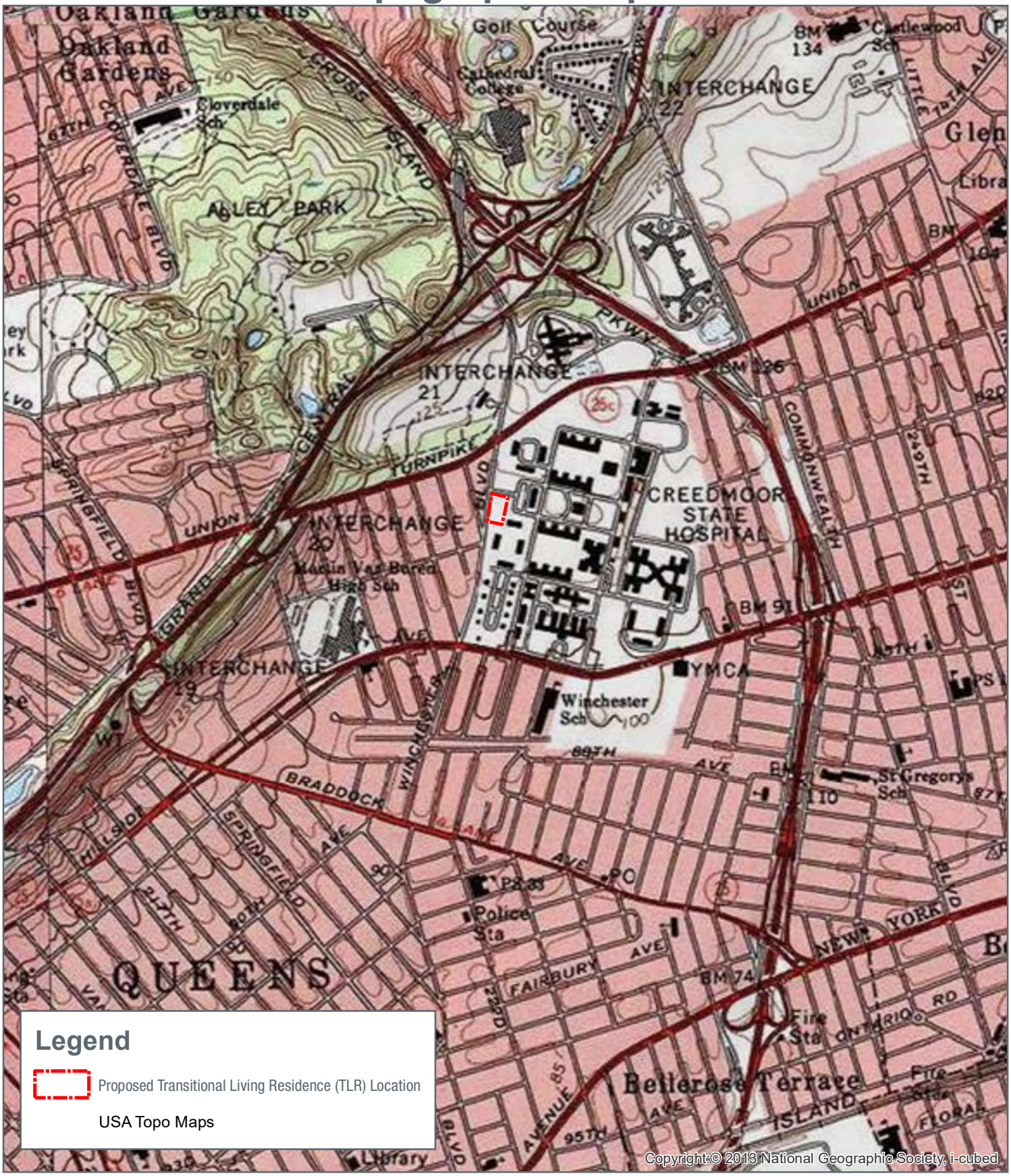
Appendix III

Topographic Map



Creedmoor Psychiatric Center Transitional Residence Center Project
Creedmoor Psychiatric Center
80-45 Winchester Blvd
Queens, New York 11427

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Appendix IV

United States Department of Agriculture

NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Queens County, New York

October 9, 2024

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

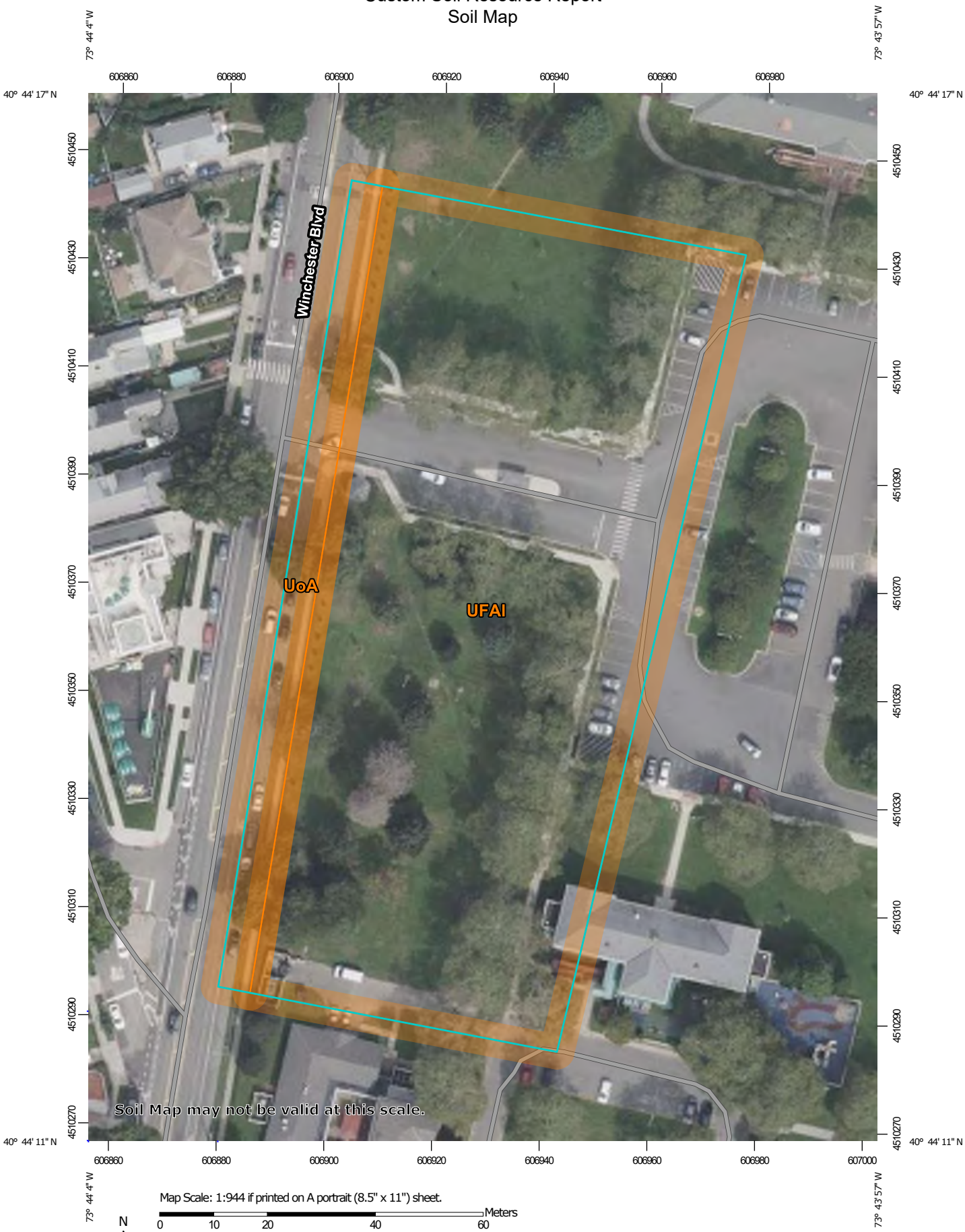
After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report
Soil Map



Map Scale: 1:944 if printed on A portrait (8.5" x 11") sheet.

N

Meters
0 10 20 40 60

Feet
0 45 90 180 270

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 18N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

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

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:12,000.

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

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

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

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

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

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

Soil Survey Area: Queens County, New York
Survey Area Data: Version 15, Aug 29, 2024

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

Date(s) aerial images were photographed: Mar 1, 2023—Sep 1, 2023

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

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
UFAl	Urban land-Flatbush complex, 0 to 3 percent slopes, low impervious surface	2.4	91.5%
UoA	Urban land, outwash substratum, 0 to 3 percent slopes	0.2	8.5%
Totals for Area of Interest		**2.6**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The

delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Queens County, New York

UFAl—Urban land-Flatbush complex, 0 to 3 percent slopes, low impervious surface

Map Unit Setting

National map unit symbol: 2pbm6
Elevation: 0 to 140 feet
Mean annual precipitation: 40 to 52 inches
Mean annual air temperature: 47 to 62 degrees F
Frost-free period: 216 to 234 days
Farmland classification: Not prime farmland

Map Unit Composition

Urban land, outwash substratum: 60 percent
Flatbush and similar soils: 20 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Urban Land, Outwash Substratum

Setting

Landform position (two-dimensional): Summit
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Asphalt over human-transported material

Typical profile

M1 - 0 to 6 inches: cemented material
M2 - 6 to 20 inches: cemented material
2^C - 20 to 72 inches: gravelly sand

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: 0 inches to manufactured layer
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low (0.00 to 0.00 in/hr)
Calcium carbonate, maximum content: 10 percent
Available water supply, 0 to 60 inches: Very low (about 0.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8s
Hydric soil rating: Unranked

Description of Flatbush

Setting

Landform position (two-dimensional): Summit, backslope, footslope, toeslope
Landform position (three-dimensional): Side slope, base slope, crest, talf, rise
Down-slope shape: Convex, linear
Across-slope shape: Convex, linear
Parent material: Loamy human-transported material over outwash

Typical profile

^A - 0 to 9 inches: loam
^Bwu - 9 to 25 inches: very fine sandy loam
2Bwb - 25 to 33 inches: fine sandy loam
2BCb - 33 to 42 inches: sandy loam
2C - 42 to 72 inches: very gravelly loamy sand

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.43 to 1.42 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 10 percent
Available water supply, 0 to 60 inches: Moderate (about 7.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 1
Hydrologic Soil Group: B
Ecological site: F149BY100NY - Urban Site Complex
Hydric soil rating: No

Minor Components

Riverhead

Percent of map unit: 10 percent
Landform: Outwash plains, moraines
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Tread
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

Greenbelt

Percent of map unit: 5 percent
Landform position (two-dimensional): Summit, backslope, footslope
Landform position (three-dimensional): Crest, side slope, base slope, talf
Down-slope shape: Convex, linear
Across-slope shape: Convex, linear
Hydric soil rating: No

Bigapple, non-dredge material

Percent of map unit: 2 percent
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

North meadow, outwash substratum

Percent of map unit: 1 percent
Landform position (two-dimensional): Backslope, footslope, toeslope

Landform position (three-dimensional): Base slope, side slope, talf
Down-slope shape: Concave, linear
Across-slope shape: Concave, linear
Hydric soil rating: No

Centralpark

Percent of map unit: 1 percent
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Talf
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

Laguardia

Percent of map unit: 1 percent
Landform position (two-dimensional): Summit, shoulder, backslope, footslope, toeslope
Landform position (three-dimensional): Base slope, side slope, crest, rise, dip, talf
Down-slope shape: Concave, convex, linear
Across-slope shape: Concave, linear, convex
Hydric soil rating: No

UoA—Urban land, outwash substratum, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: 2pbdp
Elevation: 0 to 160 feet
Mean annual precipitation: 40 to 52 inches
Mean annual air temperature: 47 to 62 degrees F
Frost-free period: 216 to 234 days
Farmland classification: Not prime farmland

Map Unit Composition

Urban land, outwash substratum: 92 percent
Minor components: 8 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Urban Land, Outwash Substratum

Setting

Landform position (two-dimensional): Summit
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Asphalt over human-transported material

Typical profile

M1 - 0 to 6 inches: cemented material
M2 - 6 to 20 inches: cemented material
2^C - 20 to 72 inches: gravelly sand

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: 0 inches to manufactured layer
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low (0.00 to 0.00 in/hr)
Calcium carbonate, maximum content: 10 percent
Available water supply, 0 to 60 inches: Very low (about 0.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8s
Hydric soil rating: Unranked

Minor Components

Greenbelt

Percent of map unit: 3 percent
Landform position (two-dimensional): Summit, backslope, footslope
Landform position (three-dimensional): Crest, side slope, base slope, talf
Down-slope shape: Convex, linear
Across-slope shape: Convex, linear
Hydric soil rating: No

Flatbush

Percent of map unit: 2 percent
Landform position (two-dimensional): Summit, backslope, footslope, toeslope
Landform position (three-dimensional): Side slope, base slope, crest, talf, rise
Down-slope shape: Convex, linear
Across-slope shape: Convex, linear
Hydric soil rating: No

Ebbets

Percent of map unit: 1 percent
Landform position (two-dimensional): Summit, backslope, footslope
Landform position (three-dimensional): Side slope, crest, base slope, talf
Down-slope shape: Convex, linear
Across-slope shape: Convex, linear
Hydric soil rating: No

Laguardia

Percent of map unit: 1 percent
Landform position (two-dimensional): Summit, shoulder, backslope, footslope, toeslope
Landform position (three-dimensional): Base slope, side slope, crest, rise, dip, talf
Down-slope shape: Concave, convex, linear
Across-slope shape: Concave, linear, convex
Hydric soil rating: No

Centralpark

Percent of map unit: 1 percent
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Talf
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

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Appendix V

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Long Island Ecological Services Field Office
340 Smith Road
Shirley, NY 11967-2258
Phone: (631) 286-0485 Fax: (631) 286-4003

In Reply Refer To: 10/07/2024 21:31:32 UTC
Project Code: 2025-0002909
Project Name: Creedmoor Psychiatric Center Transitional Residence Center Project

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological

evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

https://www.fws.gov/sites/default/files/documents/endangered-species-consultation-handbook.pdf

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts, see https://www.fws.gov/program/migratory-bird-permit/what-we-do.

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures, see https://www.fws.gov/library/collections/threats-birds.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit https://www.fws.gov/partner/council-conservation-migratory-birds.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Code in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

OFFICIAL SPECIES LIST

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Long Island Ecological Services Field Office
340 Smith Road
Shirley, NY 11967-2258
(631) 286-0485

PROJECT SUMMARY

Project Code: 2025-0002909
Project Name: Creedmoor Psychiatric Center Transitional Residence Center Project
Project Type: Residential Construction
Project Description: The project involves the construction of a new 12,000 square foot, 25-bed Transitional Living Residence (TLR) on the south Campus at Creedmoor Psychiatric Center (PC).
Project Location:

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@40.7372383,-73.73365232873186,14z

Counties: Queens County, New York

ENDANGERED SPECIES ACT SPECIES

There is a total of 3 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

BIRDS

NAME	STATUS
Piping Plover *Charadrius melodus*	Threatened

Population: [Atlantic Coast and Northern Great Plains populations] - Wherever found, except those areas where listed as endangered.
There is **final** critical habitat for this species. Your location does not overlap the critical habitat.
Species profile: https://ecos.fws.gov/ecp/species/6039

Rufa Red Knot *Calidris canutus rufa*	Threatened

There is **proposed** critical habitat for this species. Your location does not overlap the critical habitat.
Species profile: https://ecos.fws.gov/ecp/species/1864

INSECTS

NAME	STATUS
Monarch Butterfly *Danaus plexippus*	Candidate

No critical habitat has been designated for this species.
Species profile: https://ecos.fws.gov/ecp/species/9743

CRITICAL HABITATS

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

YOU ARE STILL REQUIRED TO DETERMINE IF YOUR PROJECT(S) MAY HAVE EFFECTS ON ALL ABOVE LISTED SPECIES.

IPAC USER CONTACT INFORMATION

Agency: Tectonic Engineering
Name: Chris Camacho
Address: 70 Pleasant Hill Road
City: Mountainville
State: NY
Zip: 10953
Email ccamacho@tectonicengineering.com
Phone: 8455345959

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

NOT FOR CONSULTATION

Project information

NAME

Creedmoor Psychiatric Center Transitional Residence Center Project

LOCATION

Queens County, New York

DESCRIPTION

Some(The project involves the construction of a new 12,000 square foot, 25-bed Transitional Living Residence (TLR) on the south Campus at Creedmoor Psychiatric Center (PC).)

Local office

Long Island Ecological Services Field Office

(631) 286-0485
(631) 286-4003

340 Smith Road
Shirley, NY 11967-2258

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Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Log in to IPaC.
2. Go to your My Projects list.
3. Click PROJECT HOME for this project.
4. Click REQUEST SPECIES LIST.

Listed species[1] and their critical habitats are managed by the Ecological Services Program of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries[2]).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact NOAA Fisheries for species under their jurisdiction.

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1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the listing status page for more information. IPaC only shows species that are regulated by USFWS (see FAQ).
2. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of

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Commerce.

The following species are potentially affected by activities in this location:

Birds

NAME	STATUS
Piping Plover Charadrius melodus There is **final** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/6039	Threatened
Rufa Red Knot Calidris canutus rufa Wherever found There is **proposed** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/1864	Threatened

Insects

NAME	STATUS
Monarch Butterfly Danaus plexippus Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/9743	Candidate

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

There are no critical habitats at this location.

You are still required to determine if your project(s) may have effects on all above listed species.

Bald & Golden Eagles

Bald and golden eagles are protected under the Bald and Golden Eagle Protection Act[1] and the Migratory Bird Treaty Act[2].

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Any person or organization who plans or conducts activities that may result in impacts to bald or golden eagles, or their habitats[3], should follow appropriate regulations and consider implementing appropriate conservation measures, as described in the links below. Specifically, please review the "Supplemental Information on Migratory Birds and Eagles".

Additional information can be found using the following links:

- Eagle Management https://www.fws.gov/program/eagle-management
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide conservation measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf
- Supplemental Information for Migratory Birds and Eagles in IPaC https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action

There are likely bald eagles present in your project area. For additional information on bald eagles, refer to Bald Eagle Nesting and Sensitivity to Human Activity

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, see the PROBABILITY OF PRESENCE SUMMARY below to see when these birds are most likely to be present and breeding in your project area.

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NAME	BREEDING SEASON
Bald Eagle *Haliaeetus leucocephalus* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Oct 15 to Aug 31
Golden Eagle *Aquila chrysaetos* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1680	Breeds elsewhere

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read "Supplemental Information on Migratory Birds and Eagles", specifically the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

Breeding Season (■)

Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)

Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

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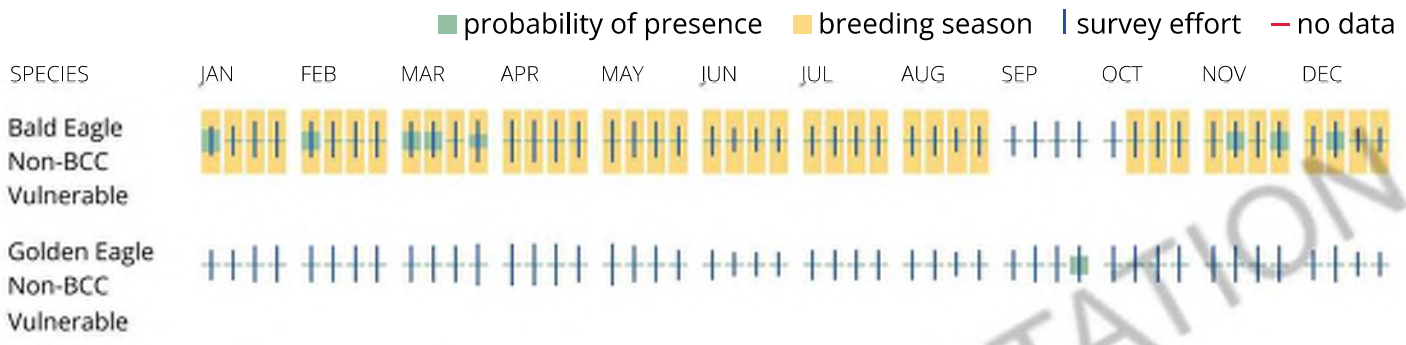
To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.



What does IPaC use to generate the potential presence of bald and golden eagles in my specified location?

The potential for eagle presence is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply). To see a list of all birds potentially present in your project area, please visit the Rapid Avian Information Locator (RAIL) Tool.

What does IPaC use to generate the probability of presence graphs of bald and golden eagles in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the Rapid Avian Information Locator (RAIL) Tool.

What if I have eagles on my list?

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If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur. Please contact your local Fish and Wildlife Service Field Office if you have questions.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats[3] should follow appropriate regulations and consider implementing appropriate conservation measures, as described in the links below. Specifically, please review the "Supplemental Information on Migratory Birds and Eagles".

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.

Additional information can be found using the following links:

- Eagle Management https://www.fws.gov/program/eagle-management
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide conservation measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf
- Supplemental Information for Migratory Birds and Eagles in IPaC https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action

The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ below. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the E-bird data mapping tool (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found below.

NOT FOR CONSULTATION

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, see the PROBABILITY OF PRESENCE SUMMARY below to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
American Oystercatcher *Haematopus palliatus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/8935	Breeds Apr 15 to Aug 31
Bald Eagle *Haliaeetus leucocephalus* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Oct 15 to Aug 31
Black Skimmer *Rynchops niger* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/5234	Breeds May 20 to Sep 15
Black-billed Cuckoo *Coccyzus erythropthalmus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9399	Breeds May 15 to Oct 10
Blue-winged Warbler *Vermivora cyanoptera* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds May 1 to Jun 30
Bobolink *Dolichonyx oryzivorus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 20 to Jul 31
Canada Warbler *Cardellina canadensis* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 20 to Aug 10

NOT FOR CONSULTATION

Cerulean Warbler *Setophaga cerulea* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/2974	Breeds Apr 29 to Jul 20
Chimney Swift *Chaetura pelagica* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Mar 15 to Aug 25
Golden Eagle *Aquila chrysaetos* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1680	Breeds elsewhere
Grasshopper Sparrow *Ammodramus savannarum perpallidus* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/8329	Breeds Jun 1 to Aug 20
Gull-billed Tern *Gelochelidon nilotica* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9501	Breeds May 1 to Jul 31
Kentucky Warbler *Geothlypis formosa* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Apr 20 to Aug 20
Least Tern *Sternula antillarum antillarum* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Apr 25 to Sep 5
Lesser Yellowlegs *Tringa flavipes* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9679	Breeds elsewhere

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Long-eared Owl asio otus — Breeds Mar 1 to Jul 15
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/3631

Pectoral Sandpiper Calidris melanotos — Breeds elsewhere
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Prairie Warbler Setophaga discolor — Breeds May 1 to Jul 31
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Prothonotary Warbler Protonotaria citrea — Breeds Apr 1 to Jul 31
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Purple Sandpiper Calidris maritima — Breeds elsewhere
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Red-headed Woodpecker Melanerpes erythrocephalus — Breeds May 10 to Sep 10
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Ruddy Turnstone Arenaria interpres morinella — Breeds elsewhere
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA

Rusty Blackbird Euphagus carolinus — Breeds elsewhere
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA

Saltmarsh Sparrow Ammospiza caudacuta — Breeds May 15 to Sep 5
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9719

Scarlet Tanager Piranga olivacea — Breeds May 10 to Aug 10
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA

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Semipalmated Sandpiper Calidris pusilla This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds elsewhere
Short-billed Dowitcher Limnodromus griseus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9480	Breeds elsewhere
Willet Tringa semipalmata This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Apr 20 to Aug 5
Wood Thrush Hylocichla mustelina This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 10 to Aug 31

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read "Supplemental Information on Migratory Birds and Eagles", specifically the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (▬)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence

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in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.

3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

Breeding Season (■)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.

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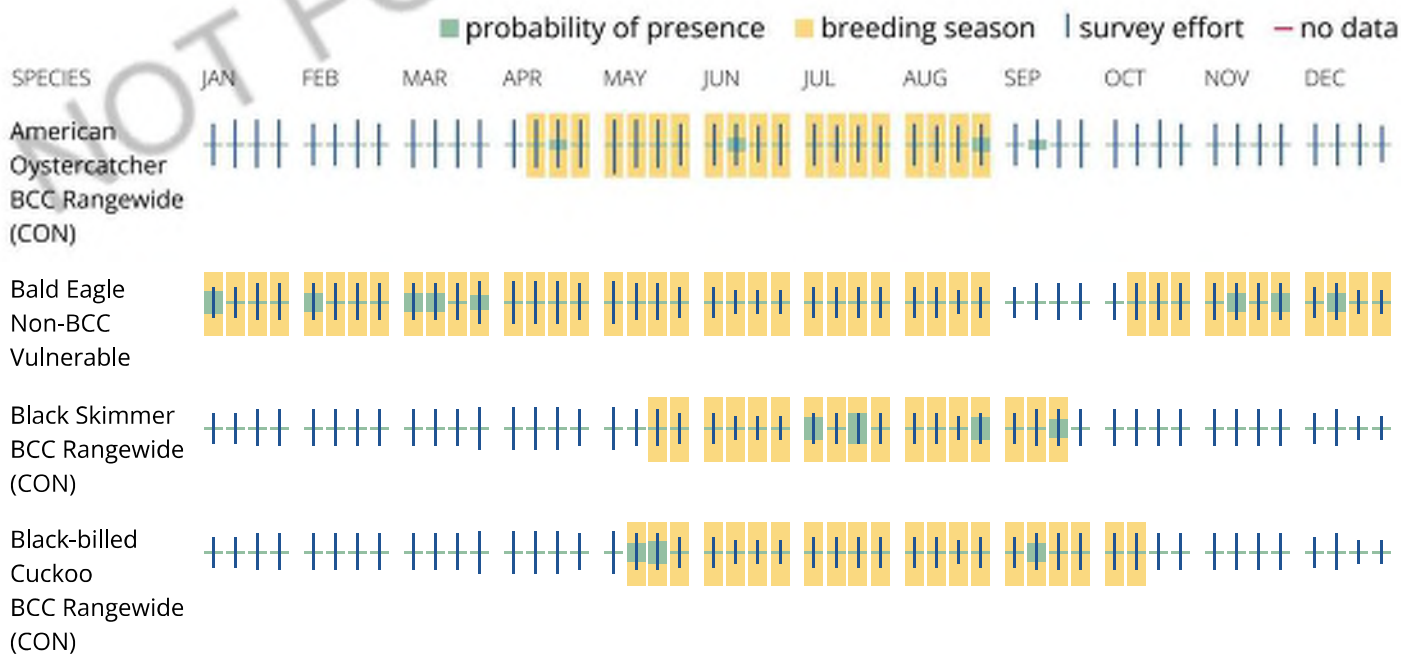

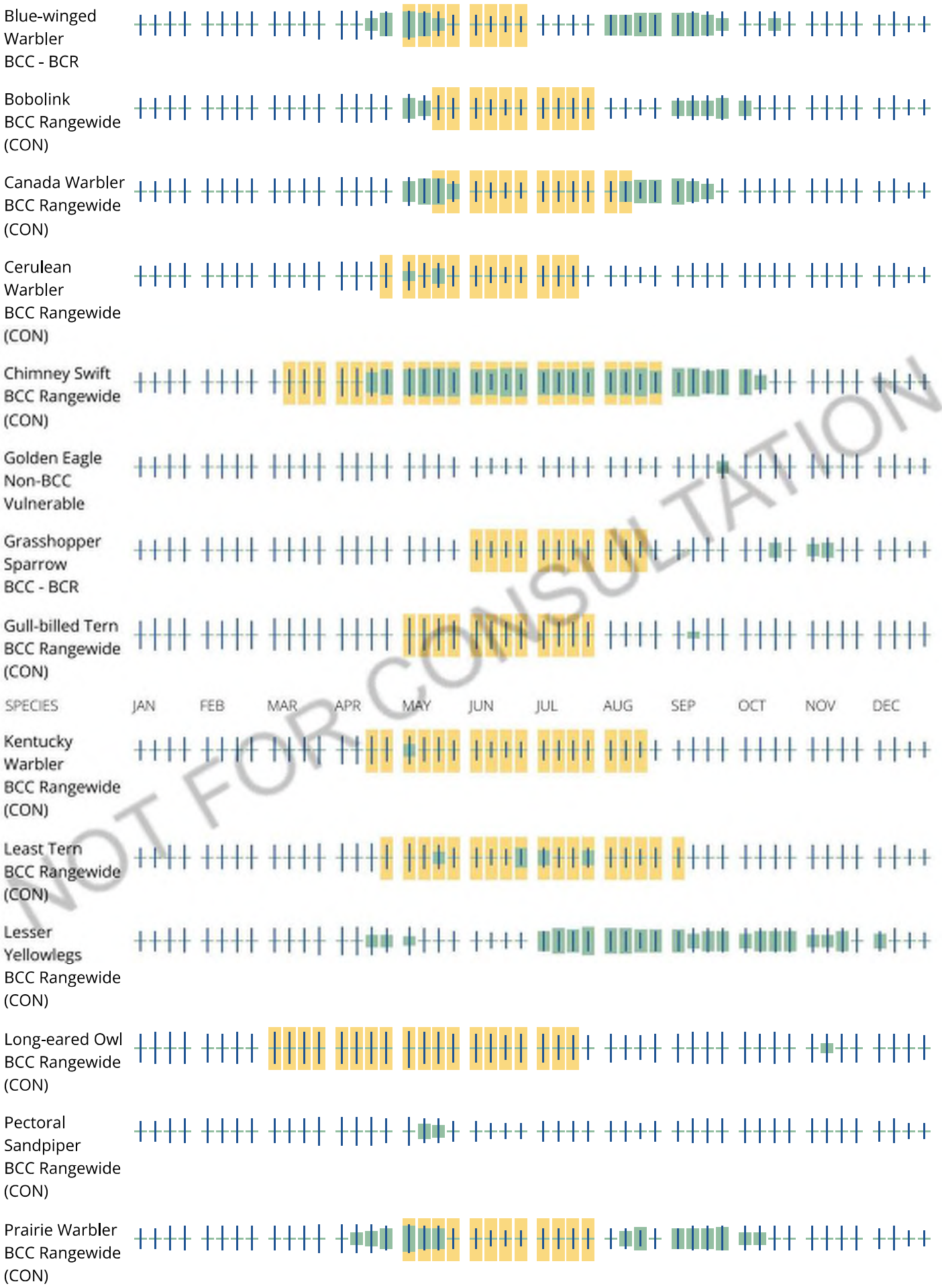

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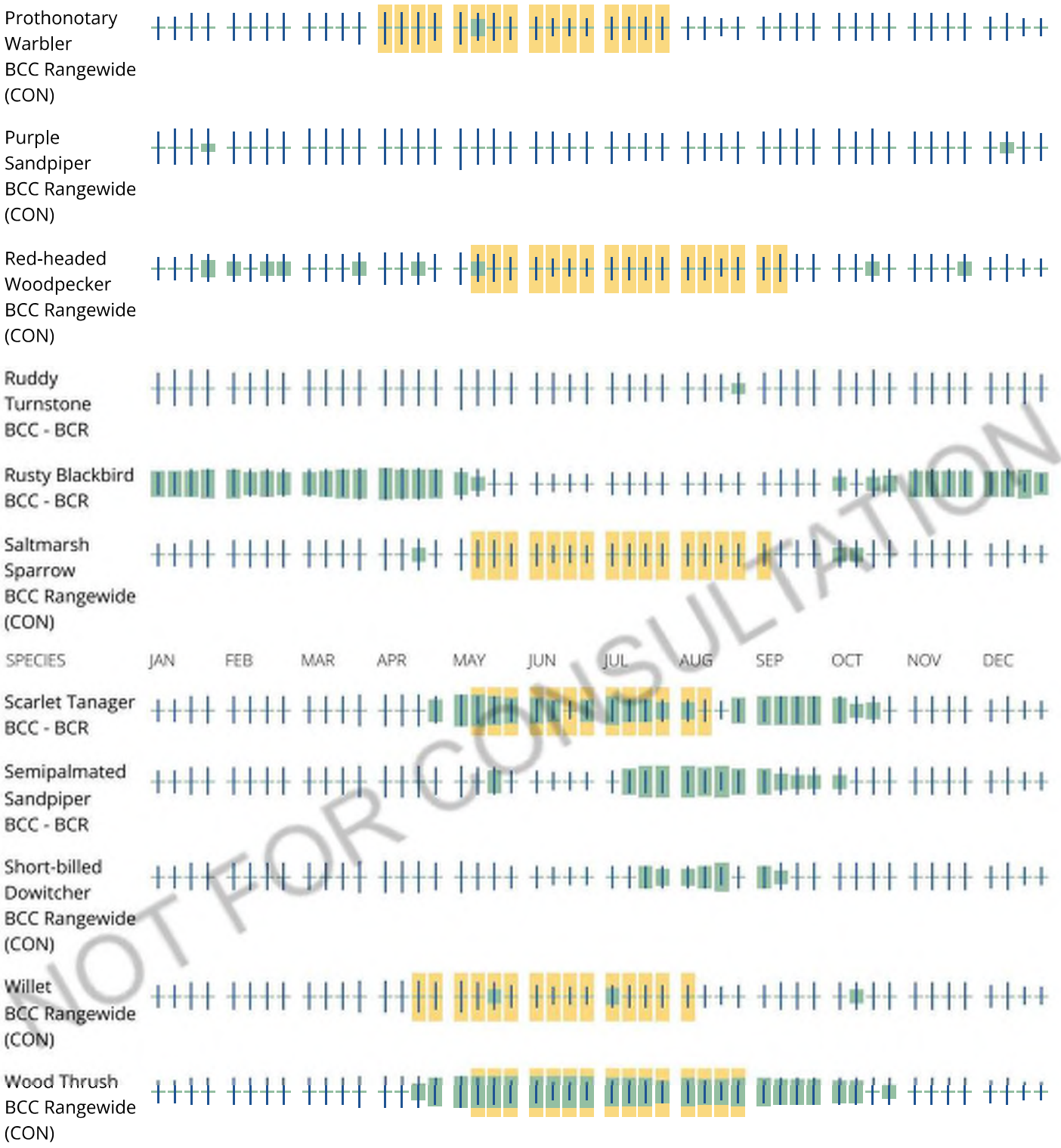

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Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the list of migratory birds that potentially occur in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the Rapid Avian Information Locator (RAIL) Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets.

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering or migrating in my area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may query your location using the RAIL Tool and look at the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

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Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the Diving Bird Study and the nanotag studies or contact Caleb Spiegel or Pam Loring.

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

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Facilities

National Wildlife Refuge lands

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

There are no refuge lands at this location.

Fish hatcheries

There are no fish hatcheries at this location.

Wetlands in the National Wetlands Inventory (NWI)

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

This location did not intersect any wetlands mapped by NWI.

NOTE: This initial screening does **not** replace an on-site delineation to determine whether wetlands occur. Additional information on the NWI data is provided below.

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

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The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate Federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

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Appendix VI

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Environmental Resource Mapper

Base Map: Satellite with Labels | Using this map

- Search
- Tools
- **Layers and Legend**
  - State Regulated Freshwater Wetlands (Outside of the Adirondack Park)
  - State Regulated Wetland Checkzone
  - Imperiled Mussels
  - Mussel Screening Ponded Waters
  - Mussel Screening Streams
  - Significant Natural Communities
  - Natural Communities Near This Location
  - Rare Plants or Animals
  - Base Flood Elevation Plus 72/75 Inches Sea-level Rise
  - Limit to Moderate Wave Action
- Other Wetland Layers
- Reference Layers
- Tell Me More...
- Need A Permit?
- Contacts

Environmental Resource Mapper

The coordinates of the point you clicked on are:

UTM 18	**Easting:**	606915.9619136419	**Northing:**	4510342.24992455
Longitude/Latitude	**Longitude:**	-73.73376273149	**Latitude:**	40.73708902005039

The approximate address of the point you clicked on is:
Winchester Blvd, Bellerose, New York, 11426

County: Queens
City: New York
USGS Quad: LYNBROOK

Rare Plants and Rare Animals

This location is in the vicinity of Plants Listed as Endangered, Threatened, or Rare by NYS

If your project or action is within or near an area with a rare animal, a permit may be required if the species is listed as endangered or threatened and the department determines the action may be harmful to the species or its habitat.

If your project or action is within or near an area with rare plants and/or significant natural communities, the environmental impacts may need to be addressed.

The presence of a unique geological feature or landform near a project, unto itself, does not trigger a requirement for a NYS DEC permit. Readers are advised, however, that there is the chance that a unique feature may also show in another data layer (ie. a wetland) and thus be subject to permit jurisdiction.

Please refer to the "Need a Permit?" tab for permit information or other authorizations regarding these natural resources.

Disclaimer: If you are considering a project or action in, or near, a wetland or a stream, a NYS DEC permit may be required. The Environmental Resources Mapper does not show all natural resources which are regulated by NYS DEC, and for which permits from NYS DEC are required. For example, Regulated Tidal Wetlands, and Wild, Scenic, and Recreational Rivers, are currently not included on the maps.

Print Preview

EAF Mapper Summary Report

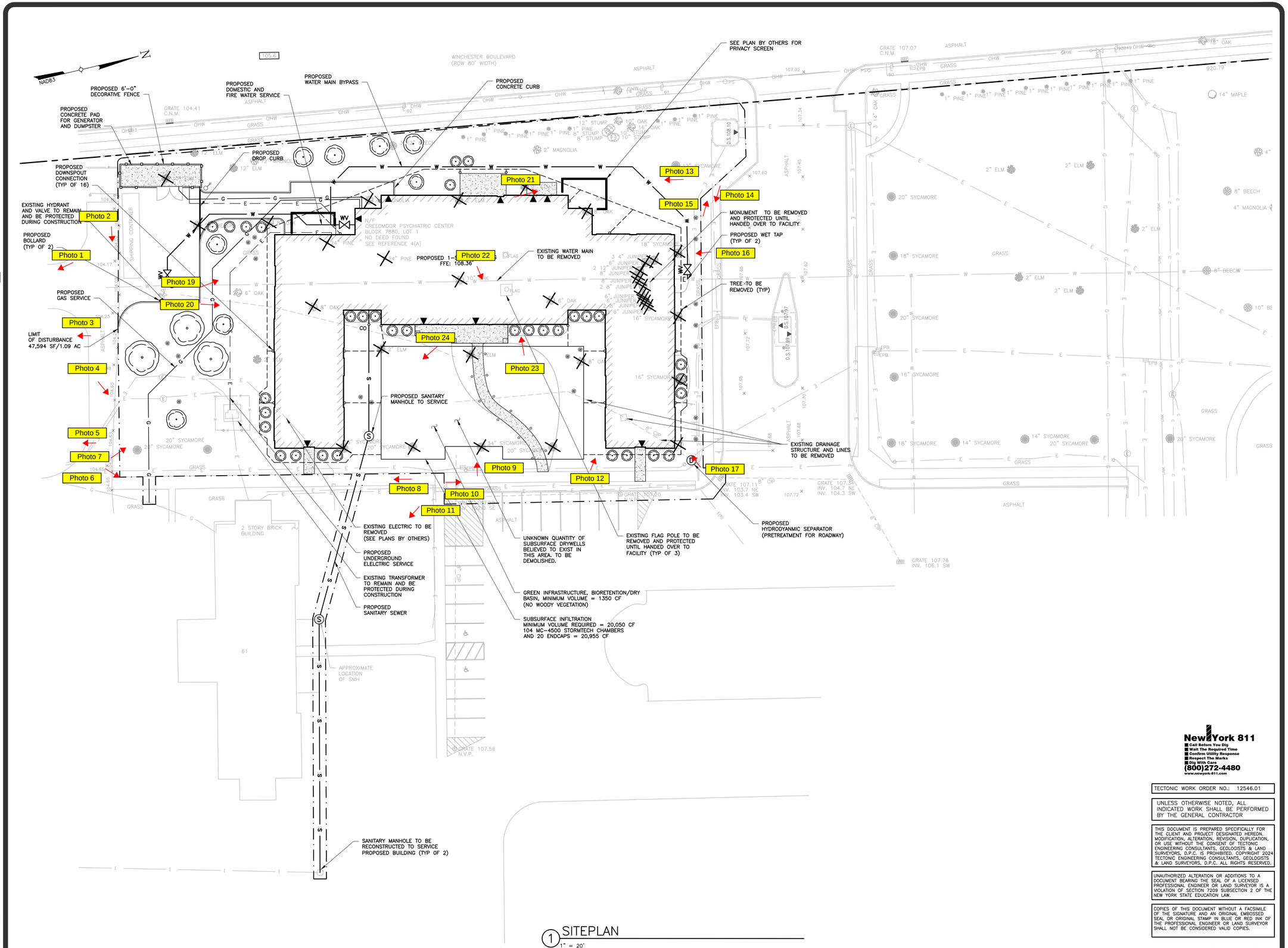
Friday, October 4, 2024 11:38 AM

Disclaimer: The EAF Mapper is a screening tool intended to assist project sponsors and reviewing agencies in preparing an environmental assessment form (EAF). Not all questions asked in the EAF are answered by the EAF Mapper. Additional information on any EAF question can be obtained by consulting the EAF Workbooks. Although the EAF Mapper provides the most up-to-date digital data available to DEC, you may also need to contact local or other data sources in order to obtain data not provided by the Mapper. Digital data is not a substitute for agency determinations.

B.i.i [Coastal or Waterfront Area]	No
B.i.ii [Local Waterfront Revitalization Area]	Yes
C.2.b. [Special Planning District]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.
E.1.h [DEC Spills or Remediation Site - Potential Contamination History]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.
E.1.h.i [DEC Spills or Remediation Site - Listed]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.
E.1.h.i [DEC Spills or Remediation Site - Environmental Site Remediation Database]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.
E.1.h.iii [Within 2,000' of DEC Remediation Site]	No
E.2.g [Unique Geologic Features]	No
E.2.h.i [Surface Water Features]	No
E.2.h.ii [Surface Water Features]	No
E.2.h.iii [Surface Water Features]	No
E.2.h.v [Impaired Water Bodies]	No
E.2.i. [Floodway]	No
E.2.j. [100 Year Floodplain]	No
E.2.k. [500 Year Floodplain]	No
E.2.l. [Aquifers]	Yes
E.2.l. [Aquifer Names]	Sole Source Aquifer Names:Brooklyn-Queens SSA
E.2.n. [Natural Communities]	No
E.2.o. [Endangered or Threatened Species]	No
E.2.p. [Rare Plants or Animals]	No

E.3.a. [Agricultural District]	No
E.3.c. [National Natural Landmark]	No
E.3.d [Critical Environmental Area]	No
E.3.e. [National or State Register of Historic Places or State Eligible Sites]	Yes - Digital mapping data for archaeological site boundaries are not available. Refer to EAF Workbook.
E.3.e.ii [National or State Register of Historic Places or State Eligible Sites - Name]	Eligible property:BLDG 62/RESIDENCE HALL (1925), Eligible property:BLDG 69/PRIVATE SCHOOL/THERAPEUTIC (1925), Eligible property:BLDG 60/ADMINISTRATION (1960), Eligible property:BLDG 66/ADMINISTRATION (1925), Eligible property:BLDG 19/RESIDENCE HALL (1931), Eligible property:CREEDMOOR PSYCHIATRIC CENTER, Eligible property:BLDG 15/SUPPORT BLDG (1930), Eligible property:BLDG 46/GATEHOUSE (1925), Eligible property:BLDG 61/ADMINISTRATION (1925)
E.3.f. [Archeological Sites]	No
E.3.i. [Designated River Corridor]	No

Appendix VII



1 SITEPLAN
1" = 20'

0 10' 20' 40'
1" = 20'

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■ Wait The Required Time
■ Confirm Utility Response
■ Respect The Marks
■ Dig With Care
(800)272-4480
www.newyork-811.com

TECTONIC WORK ORDER NO.: 12546.01

UNLESS OTHERWISE NOTED, ALL INDICATED WORK SHALL BE PERFORMED BY THE GENERAL CONTRACTOR

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NEW YORK STATE OF OPPORTUNITY. Office of General Services
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DRAFT

WE HEREBY AFFIRM THAT TO THE BEST OF OUR KNOWLEDGE, BELIEF, AND PROFESSIONAL JUDGEMENT, THESE PLANS AND SPECIFICATIONS ARE IN COMPLIANCE WITH THE 2020 ENERGY CONSERVATION CONSTRUCTION CODE OF NEW YORK STATE AND THE 2020 NEW YORK STATE UNIFORM BUILDING CODE.

CONTRACT:
CONSTRUCTION

TITLE:
PROVIDE TRANSITIONAL RESIDENCE, SOUTH CAMPUS CREEDMOOR PSYCHIATRIC CENTER

LOCATION:
80-45 WINCHESTER BLVD
QUEENS, NY 11427

CLIENT:
OFFICE OF MENTAL HEALTH

MARK	DATE	DESCRIPTION
	06/07/24	30% SCHEMATIC DESIGN

PROJECT NUMBER:	47688-C
DESIGNED BY:	ZK
DRAWN BY:	YZ
FIELD CHECK:	
APPROVED:	

SHEET TITLE:
SITE PLAN

DRAWING NUMBER:
C-101

SHEET X OF X

Jun 21,2024 - 4:39pm
F:\Mountainville\Civ\12546\12546-01 OMH Creedmoor\Dwg\MT-CV-1254601-PLANS.dwg

36x24 PLOT SHEET

SITE PHOTOS

PHOTO 1: View, looking south, of building adjacent to the project area.

PHOTO 2: View, looking southeast, of roadway adjacent to the project area.

PHOTO 3: View, looking southwest, of building adjacent to the project area.

PHOTO 4: View, looking northeast, of building adjacent to the project area.

PHOTO 5: View, looking southwest, of building adjacent to the project area.

PHOTO 6: View, looking northeast, of building adjacent to the project area.

PHOTO 7: View, looking northwest, of the project area.

PHOTO 8: View, looking southwest, of building adjacent to the project area and the project area.

PHOTO 9: View, looking west, of the project area.

PHOTO 10: View, looking northeast, of periphery of the project area.

PHOTO 11: View, looking southeast, of building adjacent to the project area.

PHOTO 12: View, looking northwest, of the project area.

PHOTO 13: View, looking southwest, of the project area.

PHOTO 14: View, looking southeast, toward existing monument.

PHOTO 15: View, looking northwest, of periphery of the project area.

PHOTO 16: View, looking southwest, of existing monument.

PHOTO 17: View, looking southwest, of the project area.

PHOTO 18: View, looking northwest, of building adjacent to the project area.

PHOTO 19: View, looking northwest, of the project area.

PHOTO 20: View, looking north, of the project area.

PHOTO 21: View, looking northwest, of the project area.

PHOTO 22: View, looking northeast, of the project area.

PHOTO 23: View, looking west, of the project area.

PHOTO 24: View, looking southeast, of the project area.

Appendix VIII

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Long Island Ecological Services Field Office
340 Smith Road
Shirley, NY 11967-2258
Phone: (631) 286-0485 Fax: (631) 286-4003

In Reply Refer To: 10/07/2024 21:32:09 UTC
Project code: 2025-0002909
Project Name: Creedmoor Psychiatric Center Transitional Residence Center Project

Federal Nexus: no
Federal Action Agency (if applicable):

Subject: Federal agency coordination under the Endangered Species Act, Section 7 for 'Creedmoor Psychiatric Center Transitional Residence Center Project'

Dear Chris Camacho:

This letter records your determination using the Information for Planning and Consultation (IPaC) system provided to the U.S. Fish and Wildlife Service (Service) on October 07, 2024, for "Creedmoor Psychiatric Center Transitional Residence Center Project" (here forward, Project). This project has been assigned Project Code 2025-0002909 and all future correspondence should clearly reference this number.

The Service developed the IPaC system and associated species' determination keys in accordance with the Endangered Species Act of 1973 (ESA; 87 Stat. 884, as amended; 16 U.S.C. 1531 et seq.) and based on a standing analysis. All information submitted by the Project proponent into the IPaC must accurately represent the full scope and details of the Project. Failure to accurately represent or implement the Project as detailed in IPaC or the Northeast Determination Key (DKey), invalidates this letter. ***Answers to certain questions in the DKey commit the project proponent to implementation of conservation measures that must be followed for the ESA determination to remain valid.***

To make a no effect determination, the full scope of the proposed project implementation (action) should not have any effects (either positive or negative effect(s)), to a federally listed species or designated critical habitat. Effects of the action are all consequences to listed species or critical habitat that are caused by the proposed action, including the consequences of other activities that are caused by the proposed action. A consequence is caused by the proposed action if it would not occur but for the proposed action and it is reasonably certain to occur. Effects of the action may occur later in time and may include consequences occurring outside the immediate area involved in the action. (See § 402.17). Under Section 7 of the ESA, if a federal action agency makes a no effect determination, no further consultation with, or concurrence from, the Service is

required (ESA §7). If a proposed Federal action may affect a listed species or designated critical habitat, formal consultation is required (except when the Service concurs, in writing, that a proposed action "is not likely to adversely affect" listed species or designated critical habitat [50 CFR §402.02, 50 CFR§402.13]).

The IPaC results indicated the following species is (are) potentially present in your project area and, based on your responses to the Service's Northeast DKey, you determined the proposed Project will have the following effect determinations:

Species	Listing Status	Determination
Piping Plover (*Charadrius melodus*)	Threatened	No effect
Rufa Red Knot (*Calidris canutus rufa*)	Threatened	No effect

Conclusion If there are no updates on listed species, no further consultation/coordination for this project is required for the species identified above. However, the Service recommends that project proponents re-evaluate the Project in IPaC if: 1) the scope, timing, duration, or location of the Project changes (includes any project changes or amendments); 2) new information reveals the Project may impact (positively or negatively) federally listed species or designated critical habitat; or 3) a new species is listed, or critical habitat designated. If any of the above conditions occurs, additional consultation with the Service should take place before project implements any changes which are final or commits additional resources.

In addition to the species listed above, the following species and/or critical habitats may also occur in your project area and are not covered by this conclusion:

- Monarch Butterfly *Danaus plexippus* Candidate

Please Note: If the Action may impact bald or golden eagles, additional coordination with the Service under the Bald and Golden Eagle Protection Act (BGEPA) (54 Stat. 250, as amended, 16 U.S.C. 668a-d) by the prospective permittee may be required. Please contact the Migratory Birds Permit Office, (413) 253-8643, or PermitsR5MB@fws.gov, with any questions regarding potential impacts to Eagles.

If you have any questions regarding this letter or need further assistance, please contact the Long Island Ecological Services Field Office and reference the Project Code associated with this Project.

Action Description
You provided to IPaC the following name and description for the subject Action.

1. Name

Creedmoor Psychiatric Center Transitional Residence Center Project

2. Description

The following description was provided for the project 'Creedmoor Psychiatric Center Transitional Residence Center Project':

> The project involves the construction of a new 12,000 square foot, 25-bed Transitional Living Residence (TLR) on the south Campus at Creedmoor Psychiatric Center (PC).

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@40.7372383,-73.73365232873186,14z

QUALIFICATION INTERVIEW

1. As a representative of this project, do you agree that all items submitted represent the complete scope of the project details and you will answer questions truthfully?

   Yes

2. Does the proposed project include, or is it reasonably certain to cause, intentional take of listed species?

   Note: This question could refer to research, direct species management, surveys, and/or studies that include intentional handling/encountering, harassment, collection, or capturing of any individual of a federally listed threatened, endangered, or proposed species.

   No

3. Is the action authorized, permitted, licensed, funded, or being carried out by a Federal agency in whole or in part?

   No

4. Will the proposed project involve the use of herbicide where listed species are present?

   No

5. Are there any caves or anthropogenic features suitable for hibernating or roosting bats within the area expected to be impacted by the project?

   No

6. Does any component of the project associated with this action include activities or structures that may pose a collision risk to **birds** (e.g., plane-based surveys, land-based or offshore wind turbines, communication towers, high voltage transmission lines, any type of towers with or without guy wires)?

   Note: For federal actions, answer ‘yes’ if the construction or operation of wind power facilities is either (1) part of the federal action or (2) would not occur but for a federal agency action (federal permit, funding, etc.).

   No

7. Does any component of the project associated with this action include activities or structures that may pose a collision risk to **bats** (e.g., plane-based surveys, land-based or offshore wind turbines)?

   Note: For federal actions, answer ‘yes’ if the construction or operation of wind power facilities is either (1) part of the federal action or (2) would not occur but for a federal agency action (federal permit, funding, etc.).

   No

8. Will the proposed project result in permanent changes to water quantity in a stream or temporary changes that would be sufficient to result in impacts to listed species?

   For example, will the proposed project include any activities that would alter stream flow, such as water withdrawal, hydropower energy production, impoundments, intake structures, diversion structures, and/or turbines? Projects that include temporary and limited water reductions that will not displace listed species or appreciably change water availability for listed species (e.g. listed species will experience no changes to feeding, breeding or sheltering) can answer "No". Note: This question refers only to the amount of water present in a stream, other water quality factors, including sedimentation and turbidity, will be addressed in following questions.

   No

9. Will the proposed project affect wetlands where listed species are present?

   This includes, for example, project activities within wetlands, project activities within 300 feet of wetlands that may have impacts on wetlands, water withdrawals and/or discharge of contaminants (even with a NPDES).

   No

10. Will the proposed project activities (including upland project activities) occur within 0.125 miles of the water's edge of a stream or tributary of a stream where listed species may be present?

    No

11. Will the proposed project directly affect a streambed (below ordinary high water mark (OHWM)) of the stream or tributary where listed species may be present?

    No

12. Will the proposed project bore underneath (directional bore or horizontal directional drill) a stream where listed species may be present?

    No

13. Will the proposed project involve a new point source discharge into a stream or change an existing point source discharge (e.g., outfalls; leachate ponds) where listed species may be present?

    No

14. Will the proposed project involve the removal of excess sediment or debris, dredging or in-stream gravel mining where listed species may be present?

    No

15. Will the proposed project involve the creation of a new water-borne contaminant source where listed species may be present?

    Note New water-borne contaminant sources occur through improper storage, usage, or creation of chemicals. For example: leachate ponds and pits containing chemicals that are not NSF/ANSI 60 compliant have contaminated waterways. Sedimentation will be addressed in a separate question.

    No

16. Will the proposed project involve perennial stream loss, in a stream of tributary of a stream where listed species may be present, that would require an individual permit under 404 of the Clean Water Act?

    No

17. Will the proposed project involve blasting where listed species may be present?

    No

18. Will the proposed project include activities that could negatively affect fish movement temporarily or permanently (including fish stocking, harvesting, or creation of barriers to fish passage).

    No

19. Will the proposed project involve earth moving that could cause erosion and sedimentation, and/or contamination along a stream or tributary of a stream where listed species may be present?

    Note: Answer "Yes" to this question if erosion and sediment control measures will be used to protect the stream.

    Yes

20. Will earth moving activities result in sediment being introduced to streams or tributaries of streams where listed species may be present through activities such as, but not limited to, valley fills, large-scale vegetation removal, and/or change in site topography?

    No

21. Will the proposed project involve vegetation removal within 200 feet of a perennial stream bank where aquatic listed species may be present?

    No

22. Will erosion and sedimentation control Best Management Practices (BMPs) associated with applicable state and/or Federal permits, be applied to the project? If BMPs have been provided by and/or coordinated with and approved by the appropriate Ecological Services Field Office, answer "Yes" to this question.

    Yes

23. Is the project being funded, lead, or managed in whole or in part by U.S Fish and Wildlife Restoration and Recovery Program (e.g., Partners, Coastal, Fisheries, Wildlife and Sport Fish Restoration, Refuges)?

    No

24. Will the proposed project result in changes to beach dynamics that may modify formation of habitat over time?

    Note: Examples of projects that result in changes to beach dynamics include 1) construction of offshore breakwaters and groins; 2) mining of sand from an updrift ebb tidal delta; 3) removing or adding beach sands; and 4) projects that stabilize dunes (including placement of sand fences or planting vegetation).

    No

25. [Hidden Semantic] Is the project area located within the piping plover AOI?

    Automatically answered
    Yes

26. If you have determined that the piping plover is unlikely to occur within your project's action area or that your project is unlikely to have any potential effects on the piping plover, you may wish to make a "no effect" determination for the piping plover. Additional guidance on how to make this decision can be found in the project review section of your local Ecological Services Field Office's website. CBFO: https://www.fws.gov/office/chesapeake-bay-ecological-services/project-review ; MEFO: https://www.fws.gov/office/maine-ecological-services ; NJFO: https://www.fws.gov/office/new-jersey-ecological-services/new-jersey-field-office-project-review-guide ; NEFO: https://www.fws.gov/office/new-england-ecological-services/endangered-species-project-review#Step5 ; WVFO: https://www.fws.gov/office/west-virginia-ecological-services/project-planning. If you are unsure, answer "No" and continue through the key.

    Would you like to make a no effect determination for the piping plover?

    Yes

27. [Hidden Semantic] Is the project area located within the piping plover AOI?

    Automatically answered
    Yes

28. [Hidden Semantic] Is the project area located within the red knot AOI?

    Automatically answered
    Yes

29. If you have determined that the red knot is unlikely to occur within your project's action area or that your project is unlikely to have any potential effects on the red knot, you may wish to make a "no effect" determination for the red knot. Additional guidance on how to make this decision can be found in the project review section of your local Ecological Services Field Office's website. CBFO: https://www.fws.gov/office/chesapeake-bay-ecological-services/project-review ; MEFO: https://www.fws.gov/office/maine-ecological-services ; NJFO: https://www.fws.gov/office/new-jersey-ecological-services/new-jersey-field-office-project-review-guide ; NEFO: https://www.fws.gov/office/new-england-ecological-services/endangered-species-project-review#Step5 ; WVFO: https://www.fws.gov/office/west-virginia-ecological-services/project-planning. If you are unsure, answer "No" and continue through the key.

    Would you like to make a no effect determination for the red knot?

    Yes

30. [Semantic] Does the project intersect the Virginia big-eared bat critical habitat?

    Automatically answered
    No

31. [Semantic] Does the project intersect the Indiana bat critical habitat?

    Automatically answered
    No

32. [Semantic] Does the project intersect the candy darter critical habitat?

    Automatically answered
    No

33. [Semantic] Does the project intersect the diamond darter critical habitat?

    Automatically answered
    No

34. [Semantic] Does the project intersect the Big Sandy crayfish critical habitat?

    Automatically answered
    No

35. [Hidden Semantic] Does the project intersect the Guyandotte River crayfish critical habitat?

    Automatically answered
    No

36. Do you have any other documents that you want to include with this submission?

    No

PROJECT QUESTIONNAIRE

1. Briefly describe the habitat within the construction/disturbance limits of the project site.

   Mowed lawn with trees

2. Approximately how many acres of trees would the proposed project remove?

   1.13

3. Approximately how many total acres of disturbance are within the disturbance/ construction limits of the proposed project?

   1.13

IPAC USER CONTACT INFORMATION

Agency: Tectonic Engineering
Name: Chris Camacho
Address: 70 Pleasant Hill Road
City: Mountainville
State: NY
Zip: 10953
Email ccamacho@tectonicengineering.com
Phone: 8455345959

APPENDIX L

GENERAL NOTES

A. SITE CONDITIONS

1. UNLESS OTHERWISE NOTED ELSEWHERE ON PLANS OR IN THE PROJECT SPECIFICATIONS, ALL WORK SHALL BE PERFORMED BY THE CONSTRUCTION CONTRACTOR.
2. EXISTING CONDITIONS ARE BASED ON A SURVEY ENTITLED "PARTIAL TOPOGRAPHIC SURVEY" BY TECTONIC ENGINEERING CONSULTANTS, GEOLOGISTS & LAND SURVEYORS, D.P.C. DATED 4/12/2024, LAST REVISED 10/02/2024.
3. ALL ELEVATIONS SHOWN ARE FINISHED GRADE ELEVATIONS UNLESS OTHERWISE NOTED.
4. ALL INFORMATION SHOWN OR NOTED FOR EXISTING FACILITIES, GRADES, ROADWAYS, AND MATERIALS IS APPROXIMATE AND THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR CHECKING ALL INFORMATION WHICH MAY AFFECT THEIR WORK.
5. TEST PITS SHALL BE PERFORMED BY THE CONSTRUCTION CONTRACTOR AT ALL PIPE CROSSINGS AND AS DIRECTED BY THE DIRECTOR'S REPRESENTATIVE.
6. THE CONSTRUCTION CONTRACTOR IS RESPONSIBLE FOR THE PROVISION OF ALL MATERIALS, LABOR AND INSTALLATION OF ALL ITEMS OF CONSTRUCTION FOR THE SUCCESSFUL COMPLETION AND OPERATION OF THE PROJECT SATISFACTORY TO THE OWNER AND THEIR REPRESENTATIVE IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
7. THE CONSTRUCTION CONTRACTOR SHALL PROVIDE THEIR OWN LAYOUT AND STAKEOUT OF ALL PROPOSED IMPROVEMENTS. OFFSET LINES WITH STAKES SHALL BE SET AT APPROPRIATE INTERVALS TO FACILITATE CONSTRUCTION. CUT SHEETS SHALL BE SUBMITTED FOR APPROVAL TO THE DIRECTOR'S REPRESENTATIVE AND TO THE WORK CREWS IN THE TIME IDENTIFIED IN THE PROJECT SPECIFICATIONS PRIOR TO CONSTRUCTION.
8. THE CONSTRUCTION CONTRACTOR SHALL VERIFY ALL BENCHMARKS PRIOR TO THE START OF CONSTRUCTION.
9. THE CONSTRUCTION CONTRACTOR SHALL PROTECT ALL BENCH MARKS AND MONUMENTS FROM DAMAGE AND SHALL ESTABLISH OFFSET POINTS FOR THEIR WORK.
10. THE CONSTRUCTION CONTRACTOR SHALL BE RESPONSIBLE FOR SITE SECURITY THROUGHOUT THE DURATION OF THE PROJECT AND SHALL PROVIDE AND MAINTAIN SAFETY AND SECURITY FENCING, MEASURES, AND PERSONNEL AS DIRECTED BY THE DIRECTOR'S REPRESENTATIVE.
11. ATTENTION IS DIRECTED TO THE SAFETY REQUIREMENTS AS OUTLINED IN THE GENERAL CONDITIONS OF THE CONSTRUCTION SPECIFICATIONS. THE OWNER, ARCHITECT, AND ENGINEER SHALL ASSUME NO RESPONSIBILITY AND/OR LIABILITY FOR THE SAFETY OF THE WORKERS WHERE THE WORK IS BEING PERFORMED.
12. THE CONSTRUCTION CONTRACTOR SHALL COMPLY WITH ALL FEDERAL, STATE, AND LOCAL LAWS AND ALL CODES, ORDINANCES, RULES AND REGULATIONS OF HEALTH, PUBLIC OR OTHER AUTHORITIES CONTROLLING OR LIMITING THE METHODS, MATERIAL TO BE USED, OR THE ACTIONS OF THOSE EMPLOYED IN WORK OF THIS KIND. ALL WORK, LABOR OR MATERIAL NECESSARY TO COMPLY WITH THESE LAWS, CODES, ORDINANCES, RULES AND REGULATIONS SHALL BE PERFORMED AND FURNISHED BY THE CONSTRUCTION CONTRACTOR.
13. THE CONSTRUCTION CONTRACTOR SHALL PROCURE AND PAY FOR ALL NECESSARY PERMITS AND LICENSES REQUIRED TO CARRY OUT THEIR WORK IN FULL ACCORDANCE WITH REQUIREMENTS OF ALL REGULATIONS AND AUTHORITIES HAVING JURISDICTION.
14. THE SUBJECT PROPERTY DOES NOT FALL WITHIN THE 100 YEAR FLOOD ZONE AS PER THE NATIONAL FLOOD INSURANCE RATE MAP.

B. SOIL EROSION, SEDIMENT, AND DUST CONTROL

1. THE CONSTRUCTION CONTRACTOR SHALL TAKE ALL NECESSARY MEASURES TO MAINTAIN DUST CONTROL AS REQUIRED OR DIRECTED BY THE ENGINEER AND/OR THE DIRECTOR'S REPRESENTATIVE. ALL VEHICLES SHALL BE CLEAN AND ALL ROADWAYS SHALL BE MAINTAINED FREE OF CONSTRUCTION DEBRIS AND SOIL.
2. ALL SEDIMENT AND SOIL EROSION CONTROLS PRACTICES ARE TO BE INSTALLED IN CONFORMANCE WITH STATE AND LOCAL STANDARDS PRIOR TO ANY MAJOR SOIL DISTURBANCES. ALL WORK SHALL BE COMPLETED IN PROPER SEQUENCE AND MAINTAINED UNTIL PERMANENT PROTECTION IS ESTABLISHED.
3. THE EROSION & SEDIMENT CONTROL PLAN, DETAILS, SEQUENCING, AND MAINTENANCE TABLE ON VARIOUS SHEETS INCLUDES ADDITIONAL NOTES WHICH SHALL BE ADHERED TO BY THE CONSTRUCTION CONTRACTOR.
4. THE STORM WATER POLLUTION PREVENTION PLAN (SWPPP) AND NYSDEC SPDES PERMIT ARE A PART OF THE CONTRACT DOCUMENTS AND ASSIST THE OWNER WITH COMPLIANCE WITH GP 0-20-001.

C. UTILITIES

1. AVAILABLE INFORMATION AS TO THE LOCATION OF EXISTING UTILITIES HAS BEEN COLLECTED FROM VARIOUS SOURCES. THE RESULTS OF SUCH INVESTIGATIONS, AS MAY BE SHOWN ON THE CONSTRCUTION CONTRACT DRAWINGS, ARE NOT GUARANTEED AS TO ACCURACY OR COMPLETENESS. ALL EXISTING UTILITIES ARE SHOWN FOR INFORMATION ONLY. THE CONSTRUCTION CONTRACTOR SHALL CONTACT THE NEW YORK 811 SHOWN BELOW. IT IS THE CONSTRUCTION CONTRACTOR'S RESPONSIBILITY TO LOCATE, IDENTIFY AND PROTECT UTILITIES WITHIN THE PROJECT LIMITS. THE CONSTRUCTION CONTRACTOR SHALL DIG TEST PITS TO LOCATE UTILITIES WITHIN THE PROJECT LIMITS.
2. NEW YORK 811, DIAL 811 OR PHONE # 1(800)272-4480.
3. THE CONSTRUCTION CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES TEN (10) DAYS PRIOR TO CONSTRUCTION, OF THEIR ANTICIPATED START DATE.
4. THE CONSTRUCTION CONTRACTOR SHALL CONTACT THE UTILITY COMPANIES TO DETERMINE THEIR SCHEDULE FOR PERFORMING UTILITY RELOCATION AND INSTALLATION WORK AND THEY SHALL SCHEDULE THEIR WORK ACCORDINGLY SO AS NOT TO INTERFERE WITH THE WORK OF THE UTILITY COMPANIES.
5. THE CONSTRUCTION CONTRACTOR SHALL NOTIFY THE UTILITY COMPANIES AT LEAST 72 HOURS IN ADVANCE OF ANY WORK ON THEIR FACILITIES.
6. EXISTING UTILITY FACILITIES THAT MAY HAVE TO BE RELOCATED ARE TO BE MOVED BY THE RESPECTIVE UTILITY COMPANY UNLESS OTHERWISE NOTED. THE CONSTRUCTION CONTRACTOR IS RESPONSIBLE FOR SCHEDULING AND SHALL NOT CLAIM ANY DELAYS TO THEIR CONSTRUCTION SCHEDULE.
7. THE CONSTRUCTION CONTRACTOR SHALL BE RESPONSIBLE TO COORDINATE ALL REQUIRED UTILITY CONNECTIONS WITH THE RESPECTIVE UTILITY COMPANY.
8. ALL TRENCHES SHALL BE BACK FILLED WITHOUT DELAY. OPEN TRENCHES SHALL BE KEPT TO A MINIMUM. OPEN TRENCHES SHALL BE TEMPORARILY SUPPORTED AND STEEL PLATED WHEN WORK IS NOT IN PROGRESS. NO EXCAVATION AREAS SHALL REMAIN OPEN OVERNIGHT. THE CONSTRUCTION CONTRACTOR IS SOLELY RESPONSIBLE FOR THE DESIGN AND INSTALLATION OF STEEL PLATES THAT ARE CAPABLE OF SAFELY SUPPORTING THE LOADS THEY WILL BE SUBJECTED TO.
9. ANY DAMAGE TO UTILITIES SHALL BE THE SOLE RESPONSIBILITY OF THE CONSTRUCTION CONTRACTOR, AND ALL COST FOR REPAIRS SHALL BE BORNE BY THE CONSTRUCTION CONTRACTOR.
10. THE CONSTRUCTION CONTRACTOR SHALL BE RESPONSIBLE FOR COSTS INCURRED IN TEMPORARY SUPPORT OF UTILITY POLES NEAR EXCAVATION THAT DO NOT REQUIRE RELOCATION. IT SHALL BE THE CONSTRUCTION CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE APPROPRIATE UTILITY COMPANY FOR UTILITY POLE RELOCATION.
11. FIRE HYDRANTS SHALL BE RELOCATED BY THE CONSTRUCTION CONTRACTOR.
12. ALL PROPOSED WATER SERVICES SHALL BE LOCATED A MINIMUM SEPARATION DISTANCE OF 10 HORIZONTAL FEET AND 1.5 VERTICAL FEET FROM ALL SANITARY SEWER FACILITIES. A MINIMUM 4.5 FEET OF COVER SHALL BE PROVIDED OVER ALL WATER.
13. ALL EXCAVATIONS MADE TO REMOVE EXISTING UNDERGROUND UTILITIES/STRUCTURES, INSTALL NEW UNDERGROUND UTILITIES/STRUCTURES, WITHIN FIVE (5) FEET OUTSIDE OF THE BUILDING, OR WITHIN ROADWAYS SHALL BE BACKFILLED IN ACCORDANCE WITH THE PLAN DETAILS AND SPECIFICATIONS AND UNDER THE SUPERVISION OF THE DIRECTOR'S REPRESENTATIVE.
14. UNDERGROUND IMPROVEMENTS IF ANY AND NOT VISIBLE AT THE TIME OF THE SURVEY, HAVE NOT BEEN LOCATED IN THE FIELD OR SHOWN HEREON. TO THE BEST OF OUR BELIEF, UNDERGROUND IMPROVEMENTS FROM AVAILABLE DOCUMENTATION HAVE BEEN SHOWN.

D. PEDESTRIAN AND TRAFFIC FLOW

1. THE CONSTRUCTION CONTRACTOR MUST PROVIDE A MEANS OF SAFE INGRESS AND EGRESS AT ALL TIMES TO THE PUBLIC OUTSIDE OF THE BUILDING, STARTING FIVE (5) FEET FROM THE POINT OF EACH EXIT. THIS SHALL INCLUDE RIGHTS OF WAYS AS WELL AS INDIVIDUAL RESIDENCES AND/OR BUSINESSES WITHIN THE PROJECT AREA.
2. THE CONSTRUCTION CONTRACTOR IS REQUIRED TO ENSURE THE SAFE, ORDERLY AND EXPEDITIOUS FLOW OF TRAFFIC AT ALL TIMES. SAID TRAFFIC FLOW IS TO BE MAINTAINED IN ACCORDANCE WITH RECOGNIZED TRAFFIC CONTROL STANDARDS AND IS ENSURED, BUT NOT LIMITED TO, THROUGH THE USE OF A FLAGGER, SIGNING, BARRICADES, FLASHING LIGHTS, CONES, BARRELS, ETC. AS APPROVED BY THE DIRECTOR'S REPRESENTATIVE. A MEETING WITH THE FACILITY REPRESENTATIVE, THE DIRECTOR'S REPRESENTATIVE, AND CONSTRUCTION CONTRACTOR SHALL OCCUR PRIOR TO THE START OF ANY GROUND DISTURBANCE ACTIVITIES. ALL MAINTENANCE AND PROTECTION OF TRAFFIC PLANS REQUIRED TO FACILITATE CONSTRUCTION SHALL BE PROVIDED BY THE CONSTRUCTION CONTRACTOR AND BE REVIEWED AND APPROVED BY THE DIRECTOR'S REPRESENTATIVE. THIS SHALL BE THE SOLE RESPONSIBILITY OF THE CONSTRUCTION CONTRACTOR TO FURNISH AND INSTALL ALL TRAFFIC CONTROL DEVICES.
3. A FLAGGER SHALL BE EMPLOYED BY THE CONSTRUCTION CONTRACTOR FOR THE PROTECTION OF ANY EQUIPMENT ENTERING, LEAVING OR CROSSING ACTIVE TRAFFIC LANES, OR AS MAY BE REQUIRED FOR THE ROUTING OF ANY TRAFFIC AROUND OR THROUGH THE CONSTRUCTION.
4. DURING THE WINTER MONTHS, THE CONSTRUCTION CONTRACTOR SHALL BE RESPONSIBLE FOR SNOW REMOVAL AND THE COMPLETE MAINTENANCE OF EXISTING ROADWAYS UTILIZED FOR CONSTRUCTION PURPOSES BY ALL TRADES. THE ROADWAYS SHALL BE KEPT FREE OF ALL OBSTRUCTIONS AND KEPT IN A SMOOTH RIDING CONDITION AT ALL TIMES. ALL POT HOLES, WASHOUTS, CAVE-INS, ETC. DEVELOPING DURING THIS PERIOD SHALL BE PROPERLY FILLED IN WITH MATERIAL BY METHOD APPROVED BY THE DIRECTOR'S REPRESENTATIVE.
5. BEFORE BEGINNING WORK ON ANY STAGE OF THE PROJECT, THE CONSTRUCTION CONTRACTOR SHALL FURNISH AND INSTALL ALL SPECIFIED WARNING SIGNS, BARRICADES, LIGHTS, AND OTHER DEVICES AS SHOWN ON THE CONTRACT PLANS, OR DEEMED NECESSARY, IN THE OPINION OF THE DIRECTOR'S REPRESENTATIVE, TO PROTECT THE PUBLIC DURING THAT PHASE OF OPERATIONS.
6. ALL NECESSARY REGULATORY AND WARNING SIGNS SHALL BE IN ACCORDANCE WITH THE FHWA MUTCD (LATEST EDITION) WITH THE NYS SUPPLEMENT, LATEST EDITION, AND STANDARD HIGHWAY SIGNS, (LATEST EDITION) AND SHALL BE SUPPLIED AND INSTALLED BY THE CONSTRUCTION CONTRACTOR. WHEN SUCH SIGNS ARE NO LONGER REQUIRED, THE CONSTRUCTION CONTRACTOR SHALL IMMEDIATELY AND CAREFULLY REMOVE AND STORE THEM ON THE PROJECT SITE AT LOCATIONS APPROVED BY THE OWNER'S REPRESENTATIVE UNTIL THEY ARE REUSED ON THE PROJECT OR REMOVED BY THE CONSTRUCTION CONTRACTOR.
7. DURING CONSTRUCTION, ALL EXISTING ROADS AND RAMPS SHALL REMAIN OPEN AND BE PROPERLY MAINTAINED TO ACCOMMODATE EMERGENCY VEHICLES AT ALL TIMES.

E. CONSTRUCTION

1. EXISTING ASPHALT PAVEMENT SHALL BE SAWCUT AND REMOVED IN SUCH A MANNER SO AS NOT TO TEAR, BULGE, DAMAGE, OR DISPLACE ADJACENT PAVEMENT. EDGES SHALL BE CLEAN AND VERTICAL. ALL CUTS SHALL BE PARALLEL OR PERPENDICULAR TO THE DIRECTION OF TRAFFIC.
2. ALL ADJACENT CONCRETE AND BUILDING SURFACES SHALL BE PROTECTED WHEN TACK COAT AND/OR PRIME COAT IS APPLIED. TRAFFIC IS PROHIBITED UNTIL FULLY CURED.
3. WHERE UNSTABLE SUBGRADE IS ENCOUNTERED DURING THE COURSE OF CONSTRUCTION, THE CONSTRUCTION CONTRACTOR SHALL EXCAVATE THE COMPLETE EXTENT OF THE FAILED AREA AS DIRECTED BY THE DIRECTOR'S REPRESENTATIVE. THE CONSTRUCTION CONTRACTOR SHALL REPLACE THE UNSUITABLE SOILS WITH EMBANKMENT FILL, COMPACT THE AREA IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS, AND PROOF ROLL THE AREA TO THE SATISFACTION OF THE DIRECTOR'S REPRESENTATIVE.
4. WHERE UNSTABLE OR WEAK AREAS OF PAVEMENT ARE ENCOUNTERED DURING THE COURSE OF CONSTRUCTION, THE CONSTRUCTION CONTRACTOR SHALL EXCAVATE THE COMPLETE EXTENT OF THE FAILED AREA AS DIRECTED BY THE DIRECTOR'S REPRESENTATIVE. THE CONSTRUCTION CONTRACTOR SHALL REPLACE THE FAILED PAVEMENT WITH HMA BASE COURSE.
5. ONCE THE CONSTRUCTION CONTRACTOR HAS COMMENCED CONSTRUCTION, THE WORK SHALL CONTINUE ON A DAILY BASIS WITHOUT INTERRUPTION UNTIL ALL OF THE WORK HAS BEEN COMPLETED.
6. MAILBOXES, STREET SIGNS, OR TRAFFIC SIGNS REMOVED FOR CONSTRUCTION PURPOSES MUST BE REPLACED BY THE CONSTRUCTION CONTRACTOR WITHIN 24 HOURS.
7. ALL NEW SURFACE CONCRETE SHALL BE PROTECTED FROM DE-ICING SALTS FOR AT LEAST 60 DAYS AFTER THE POUR DATE.
8. ALL UNUSED SIGNS, SIGN POSTS, STORM SEWER CASTINGS AND GRATES REMOVED DURING CONSTRUCTION AND NOT REPLACED ELSEWHERE ON THIS PROJECT SHALL BECOME THE PROPERTY OF THE DIRECTOR. IF THE DIRECTOR'S REPRESENTATIVE DECLINES OWNERSHIP OF THE MATERIALS, THE CONSTRUCTION CONTRACTOR SHALL REMOVE THE MATERIALS FROM THE SITE AT NO ADDITIONAL COST TO THE DIRECTOR.
9. DEPRESSED CURBING SHALL BE CONSTRUCTED AT ALL WALKWAY CROSSINGS. DEPRESSED CURBS FOR HANDICAP ACCESS SHALL BE FLUSH WITH PAVEMENT. ALL HANDICAP ACCESS FACILITIES SHALL COMPLY WITH CURRENT A.D.A. REGULATIONS AND NEW YORK STATE BUILDING CODE, CHAPTER 11.
10. THE CONSTRUCTION CONTRACTOR SHALL MAINTAIN SUFFICIENT COVER (TEMPORARY AND PERMANENT) OVER ALL PIPES DURING THE CONSTRUCTION OF THE PROJECT IN ACCORDANCE WITH THE MANUFACTURER'S REQUIREMENTS.
11. WHERE CONCRETE PIPE IS PROPOSED, ALL PIPE SHALL BE CLASS III WITH O-RING GASKETS, UNLESS OTHERWISE INDICATED.

F. SITE CLEARING AND GRADING

1. SITE CLEARING SHALL INCLUDE, BUT IS NOT LIMITED TO, THE REMOVAL OF ALL DEBRIS, RUBBLE, FENCES, TREES, EXISTING UTILITIES, EXISTING STRUCTURES, FOUNDATIONS, SUBSURFACE STRUCTURES, UNSUITABLE MATERIALS, EXISTING HARDSCAPE AND PAVEMENT, THE COORDINATION OF THE RELOCATION OF EXISTING UTILITIES, GRUBBING, ETC. AND ALL OTHER WORK REQUIRED TO COMPLETE THE PROJECT FOR WHICH THERE IS NO SPECIFIC PAY ITEM OR CALLOUT.
2. ALL DEMOLITION ACTIVITIES TO BE IN ACCORDANCE WITH ALL JURISDICTIONAL AUTHORITIES INCLUDING BUT NOT LIMITED TO COUNTY RULES AND REGULATIONS, THE MUNICIPAL ORDINANCE, NYSDEC RULES AND REGULATIONS, AND NEW YORK STATE BUILDING CODE.
3. THE CONSTRUCTION CONTRACTOR SHALL BE RESPONSIBLE FOR THE DISPOSAL OF ALL UNUSABLE MATERIALS EXCAVATED OF WHATEVER NATURE AT HIS OWN EXPENSE. THE DIRECTOR IS NOT OBLIGATED TO SUPPLY A DISPOSAL SITE. THE CONSTRUCTION CONTRACTOR MUST NOT DEPOSIT THE EXCESS MATERIALS WITHIN THE MUNICIPALITY LIMITS WITHOUT EXPRESS PERMISSION OF THE MUNICIPALITY. MATERIALS MUST BE DISPOSED OF IN ACCORDANCE WITH APPROVED NYSDEC METHODS AND MEANS.
4. ANY EXISTING AND NEW CONSTRUCTION DEBRIS SHALL BE REMOVED FROM THE SITE AND LAWFULLY DISPOSED. CONSTRUCTION CONTRACTOR SHALL PROVIDE DUMPING MANIFESTS UPON REQUEST.
5. EXISTING ONSITE SUITABLE SOIL SHALL BE EXCAVATED, TRANSPORTED, SPREAD, GRADED, AND COMPACTED AS REQUIRED BY THE PROPOSED GRADES. ALL EARTHWORK OPERATIONS INVOLVING ONSITE SOILS SHALL BE COMPLETED PRIOR TO IMPORTING ANY OFFSITE MATERIALS. ALL IMPORTED FILL REQUIRED TO ACHIEVE THE PROPOSED GRADES SHALL BE INCLUDED IN THE PROPOSAL. IMPORTED SOIL SHALL BE FREE OF WASTE OR HAZARDOUS MATERIAL AND SHALL COMPLY WITH THE REQUIREMENTS OF THE PROJECT SPECIFICATIONS.
6. NO MATERIALS SHALL BE REMOVED FROM THE SITE FOR DISPOSAL WITHOUT THE PERMISSION OF THE DIRECTOR'S REPRESENTATIVE.
7. ALL AREAS UNDERGOING REGRADING SHOULD BE SLOPED TO PROVIDE POSITIVE DRAINAGE AWAY FROM STRUCTURES AND BUILDINGS.
8. NO TOPSOIL IS TO BE REMOVED FROM THE PROJECT SITE. TOPSOIL SHALL BE STRIPPED SEPARATELY, STOCKPILED, AND PROTECTED
9. THE CONSTRUCTION CONTRACTOR SHALL EXERCISE PARTICULAR CARE, ESPECIALLY AT INTERSECTIONS AND GUTTER LINES, IN THE PLACING OF PAVEMENT TO PROVIDE POSITIVE DRAINAGE. ANY AREAS WHERE WATER IS IMPOUNDED SHALL BE CORRECTED BY THE CONSTRUCTION CONTRACTOR.
10. NO MATERIAL SHALL BE PLACED OR ANY DISTURBANCE PERMITTED BEYOND THE PROJECT PROPERTY LINE OR RIGHT OF WAY WITHOUT THE WRITTEN PERMISSION OF THE PROPERTY OWNER DIRECTLY INVOLVED.
11. ALL PRIVATE AND PUBLIC PROPERTY THAT MAY BE DISTURBED OR DAMAGED BY ANY CONSTRUCTION ACTIVITY SHALL BE RELOCATED, RESTORED, REPAIRED AND/OR REPLACED BY THE CONSTRUCTION CONTRACTOR AT NO COST TO EITHER THE OWNER OR THE OWNER OF THE PROPERTY. THERE WILL BE NO SEPARATE PAYMENT FOR THIS WORK OR MATERIALS.
12. ALL EARTHWORK SHALL BE PERFORMED IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE GEOTECHNICAL REPORT FOR THE PROJECT.
13. PROOF ROLLING OF THE SUBBASE AND SUBGRADE SHALL BE PERFORMED IN THE PRESENCE OF THE DIRECTOR'S REPRESENTATIVE AND FOUND TO BE ACCEPTABLE PRIOR TO PAVING. THE SUBGRADE SHALL BE FIRM AND UNYIELDING PRIOR TO PLACEMENT OF SUBBASE. PERFORM ALL TESTING AND INSPECTIONS TO ENSURE COMPLIANT COMPACTION.

ABBREVIATIONS

AH., BK.	AHEAD, BACK	P.G.L.	PROFILE GRADE LINE
B.C.T.	BARRIER CURB TRANSITION	L.O.D.	LIMIT OF DISTURBANCE
B , B.L.	BASELINE	P, P.L.	PROPERTY LINE, PROFILE LINE
B.M.	BENCHMARK	PK	PARKER KAYLON MASONRY NAIL
BFP	BACKFLOW PREVENTOR	POC	POINT OF COMPOUND CURVATURE
BIT., BITUM.	BITUMINOUS	POC, P.O.C.	POINT ON CURVE
BLDG.	BUILDING	POL, P.O.L.	POINT ON LINE
C , C.L.	CENTERLINE	POT, P.O.T.	POINT ON TANGENT
C.I.P.	CAST IRON PIPE	PRC, P.R.C.	POINT OF REVERSE CURVE
CDS	CONTINUOUS DEFLECTION SEPARATION	PROP	PROPOSED
CLF	CHAIN LINK FENCE	PT, P.T.	POINT OF TANGENCY
C.M.P.	CORRUGATED METAL PIPE	PVC, P.V.C.	POLYVINYL CHLORIDE PIPE
C.O.	CLEANOUT	PVC	POINT OF VERTICAL CURVATURE
CONC.	CONCRETE	PVI, P.V.I.	POINT OF VERTICAL INTERSECTION
CULV.	CULVERT	PVT, P.V.T	POINT OF VERTICAL TANGENCY, PAVEMENT
D, DIA.	DIAMETER	R	RADIUS
D.C.	DROP CURB	RCCP, R.C.C.P.	REINFORCED CONCRETE CULVERT PIPE
DE	DITCH EXCAVATION	RCP, R.C.P.	REINFORCED CONCRETE PIPE
DEP., DP	DEPRESSED CURB	RMC, R.M.C.	RIGID METALLIC CONDUIT
DH	DRILL HOLE	RNMC, R.N.M.C.	RIGID NON-METALLIC CONDUIT
DMH	DRAINAGE MANHOLE	ROW, R.O.W.	RIGHT OF WAY
DOT	DEPARTMENT OF TRANSPORTATION	R.R.	RAILROAD
D.S.	DOWNSTREAM	RTE., RT.	ROUTE
DWY	DRIVEWAY	S	SOUTH
E	EAST	SAN.	SANITARY
E.B, W.B	EASTBOUND, WESTBOUND	SDWK.	SIDEWALK
N.B, S.B.,	NORTHBOUND, SOUTHBOUND	SHLD.	SHOULDER
EL, ELEV.	ELEVATION	SMH	SANITARY MANHOLE
EXIST., EX.	EXISTING	S.L.	SURVEY LINE
FI.	FIELD INLET	S.O.D.	SUBBASE OUTLET DRAIN
GR, GRT	GRATE	STY.	STORY
HDPE	HIGH DENSITY POLYETHYLENE	T	TANGENT
HDS	HYDRODYNAMIC SEPARATOR	TBA	TO BE ABANDONED
HMA	HOT MIX ASPHALT	TBR	TO BE REMOVED
HT.	HEIGHT	TEL.	TELEPHONE
H.W.	HEADWALL	TEMP.	TEMPORARY
HYD.	HYDRANT	THK., TH.	THICK
INV	INVERT	TYP, (TYP)	TYPICAL
IP	IRON PIN	U.D.	UNDERDRAIN
J.B.	JUNCTION BOX	UP, U.P.	UTILITY POLE
LF	LINEAR FOOT	U.S.	UPSTREAM
LT., RT.,	LEFT, RIGHT	VAR.	VARIABLE, VARIES
LOP	LIMIT OF PAVEMENT (PAVING)	V.C.T.	VERTICAL CURB TRANSITION
LOM	LIMIT OF MILLING	W	WEST
M.B.	MAILBOX	W.C.V.C.	WHITE CONCRETE VERTICAL CURB
M.P.	MILE POST	WM	WATER METER
MAX., MAX.	MAXIMUM	X-SECT	CROSS SECTION
MIN., MIN.	MINIMUM	XS	CROSS SECTION
N	NORTH	T.O.S.	TOE OF SLOPE
N.I.C.	NOT IN CONTRACT		
NO.	NUMBER		
N.T.S.	NOT TO SCALE		
PAVT	PAVEMENT		
PERF.	PERFORATED		

LIST OF CIVIL DRAWINGS

C-100	GENERAL NOTES & LEGEND
C-101	REMOVALS PLAN
C-102	SITE PLAN
C-103	GRADING & DRAINAGE PLAN
C-104	STORMWATER LANDSCAPING PLAN, DETAILS, & NOTES
C-105	UTILITY PLAN
C-106	EROSION & SEDIMENT CONTROL PLAN
C-201	WATER PROFILES
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C-351	EROSION & SEDIMENT CONTROL DETAILS
C-352	EROSION & SEDIMENT CONTROL DETAILS
C-353	EROSION & SEDIMENT CONTROL SEQUENCING, & MAINTENANCE TABLE

LEGEND

	PROPERTY LINE	WV	EXISTING WATER VALVE
	ADJOINING PROPERTY LINE	GV	EXISTING GAS VALVE
	EXISTING INDEX CONTOUR LINE		EXISTING HYDRANT
	EXISTING CONTOUR LINE		EXISTING SIGN
X X X X	EXISTING CHAIN LINK FENCE		EXISTING LIGHT POST
	EXISTING CURB LINE	FLAG	EXISTING FLAG POLE
	EXISTING EDGE OF CONCRETE	PS	EXISTING PEDESTRIAN SIGNAL
	EXISTING EDGE OF PAVEMENT	EPB	EXISTING ELECTRIC PULLBOX
	EXISTING PAINTED TRAFFIC LINES	8" BEECH	EXISTING BEECH TREE W/SIZE
C	EXISTING CABLE (BY MARKOUT)	2" ELM	EXISTING ELM TREE W/SIZE
E	EXISTING ELECTRIC (BY MARKOUT)	14" MAPLE	EXISTING MAPLE TREE W/SIZE
G	EXISTING GAS (BY MARKOUT)	36" OAK	EXISTING OAK TREE W/SIZE
OHW	EXISTING OVERHEAD WIRES	1" PINE	EXISTING PINE TREE W/SIZE
	EXISTING STORM SEWER (BY MARKOUT)	20" SYCAMORE	EXISTING SYCAMORE TREE W/SIZE
W	EXISTING WATER (BY MARKOUT)	5" STUMP	EXISTING STUMP W/SIZE
UNK	EXISTING UNKNOWN UTILITY (BY MARKOUT)	14" MAGNOLIA	EXISTING MAGNOLIA W/SIZE
E(R)	EXISTING ELECTRIC (UNDERGROUND) (RECORD)	4" JUNIPER	EXISTING JUNIPER W/SIZE
	EXISTING STRUCTURE	C.N.M.	EXISTING CAN NOT MEASURE
BC108.58 TC108.91	EXISTING BOTTOM/TOP OF CURB ELEVATION	CIP	EXISTING CAST IRON PIPE
DS115.38	EXISTING DOOR SILL ELEVATION	C.C.	EXISTING CONCRETE CURB
110.7	EXISTING SPOT ELEVATION	E.O.I.	EXISTING END OF INFORMATION
	EXISTING BOLLARD	N.V.P.	EXISTING NO VISIBLE PIPE
	EXISTING GATEPOST	SFC.	EXISTING STEEL FACED CURB
	EXISTING GUY ANCHOR	110.5	EXISTING LEGAL GRADE
	EXISTING UTILITY POLE		
	EXISTING CATCH BASIN		
	EXISTING CURB INLET		
	EXISTING FIELD INLET (ROUND)		
E	EXISTING MANHOLE (ELECTRIC)		
662	CONTOUR LINE		
660	INDEX CONTOUR LINE		
X X X	TEMPORARY CONSTRUCTION FENCE		
	STORM PIPE < 10"		
	STORM PIPE > 10"		
	SILT FENCE		
	LIMIT OF DISTURBANCE		
	SAWCUT LINE		
	DECORATIVE FENCE		
FR FR FR	FIBER ROLL		
	CONCRETE SIDEWALK		
170.5	SPOT ELEVATION		
D	DRAINAGE MANHOLE		
S	SANITARY MANHOLE		
	CATCH BASIN		
A	SIGN		
	THRUST BLOCK		
	TREE PROTECTION		
	INLET PROTECTION		
	STABILIZED CONSTRUCTION		
	CONCRETE WASHOUT		

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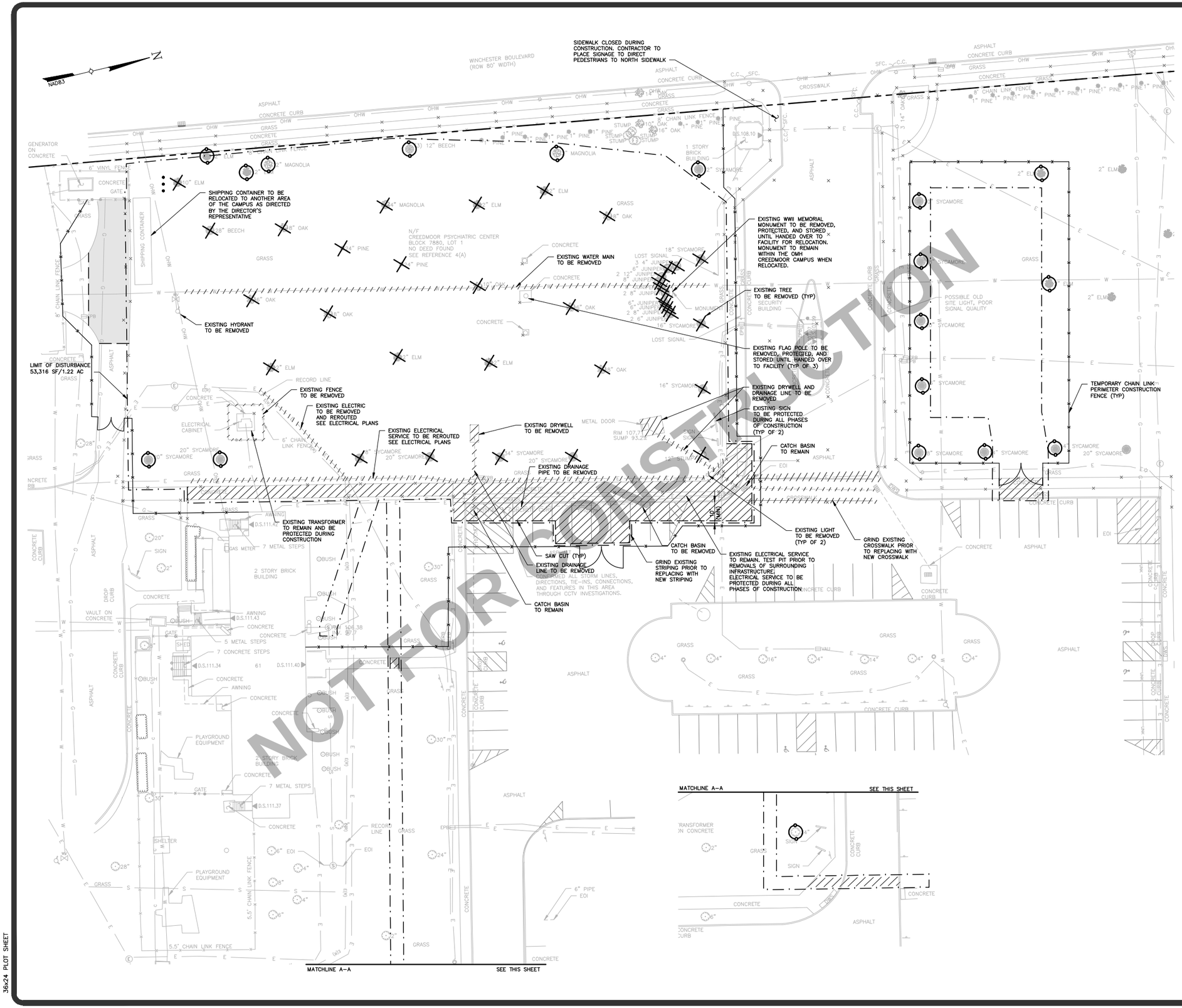
CONTRACT:
CONSTRUCTION

TITLE:
PROVIDE TRANSITIONAL RESIDENCE, SOUTH CAMPUS CREEDMOOR PSYCHIATRIC CENTER

LOCATION:
80-45 WINCHESTER BLVD
QUEENS, NY

CLIENT:
OFFICE OF MENTAL HEALTH

| MARK | DATE | DESCRIPTION



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LOCATION: 80-45 WINCHESTER BLVD QUEENS, NY 11427

CLIENT: OFFICE OF MENTAL HEALTH

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0 10' 20' 40'
1" = 20'

MARK	DATE	DESCRIPTION
	11/08/24	100% SUBMISSION

PROJECT NUMBER: 47688-C

DESIGNED BY: ZK

DRAWN BY: ECM

FIELD CHECK:

APPROVED:

SHEET TITLE: REMOVALS PLAN

DRAWING NUMBER: C-101

SHEET OF

Oct 31,2024 - 3:19pm
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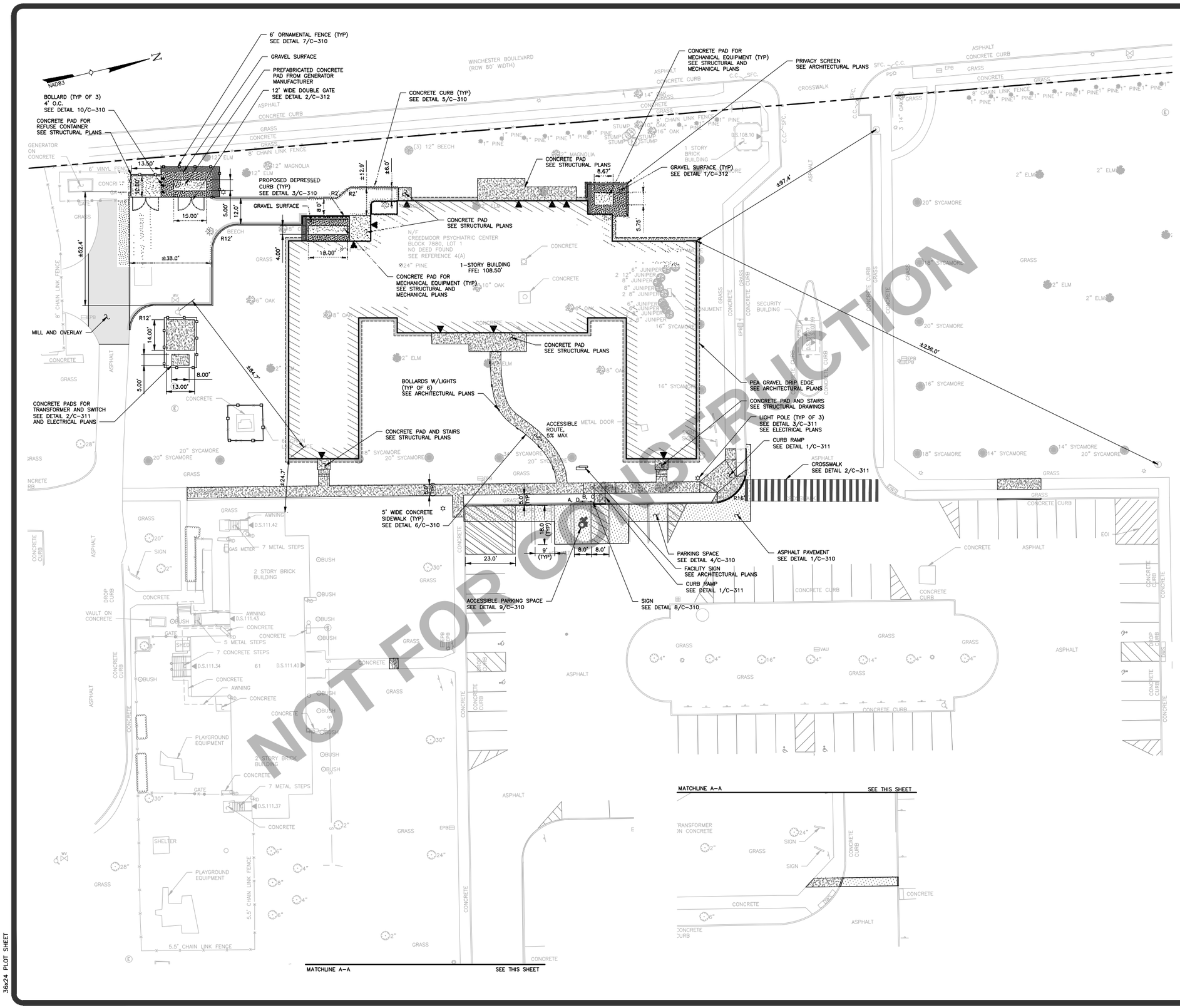
36x24 PLOT SHEET



Nov. 01,2024 - 13:21pm
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CLIENT:
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1" = 20'

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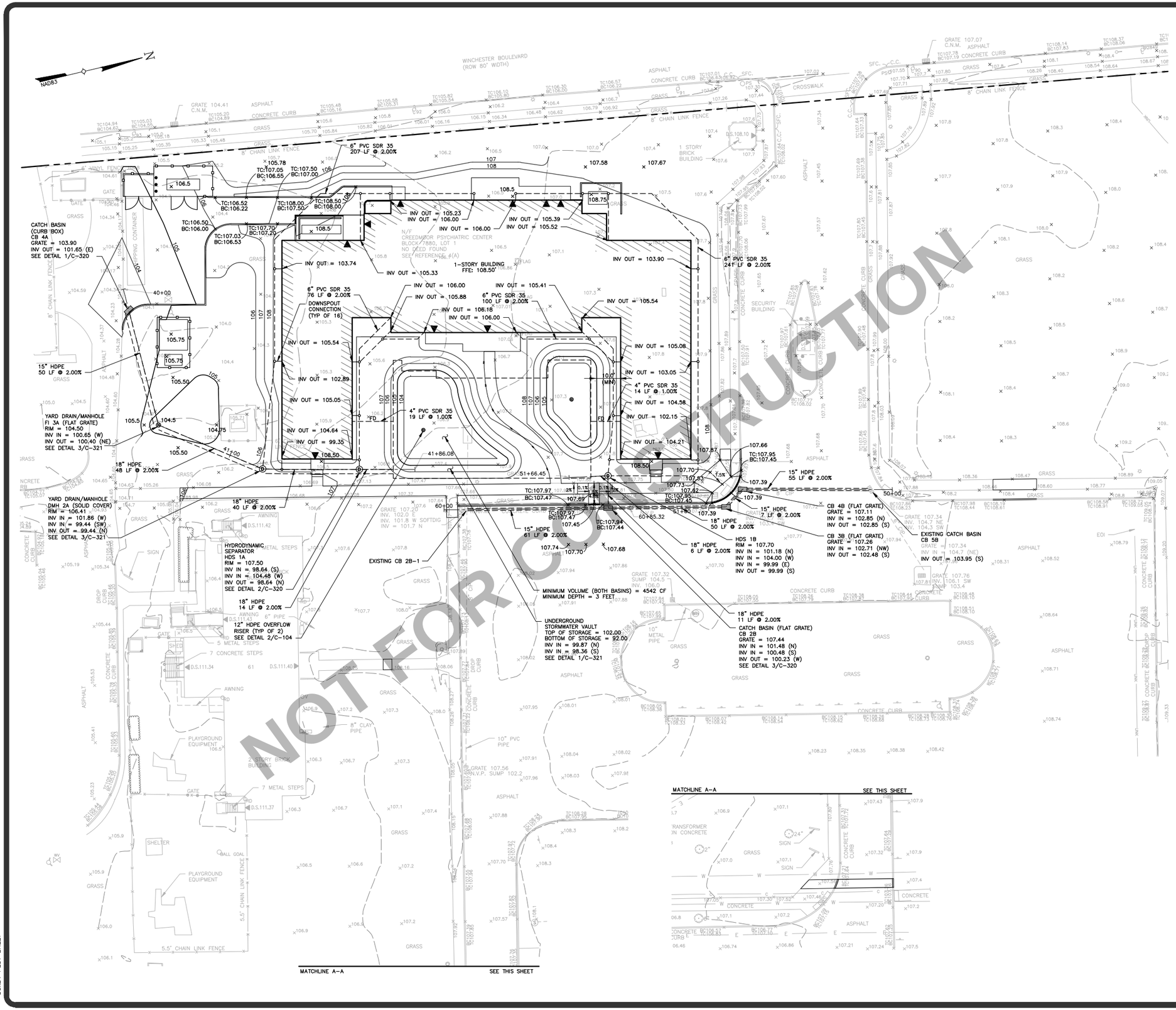
	11/08/24	100% SUBMISSION

PROJECT NUMBER: 47688-C
DESIGNED BY: ZK
DRAWN BY: ECM
FIELD CHECK:
APPROVED:

SHEET TITLE:
SITE PLAN

DRAWING NUMBER:
C-102

SHEET OF



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CONTRACT:

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TITLE:

PROVIDE TRANSITIONAL RESIDENCE, SOUTH CAMPUS CREEDMOOR PSYCHIATRIC CENTER

LOCATION:

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QUEENS, NY 11427

CLIENT:

OFFICE OF MENTAL HEALTH

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0 10' 20' 40'

1" = 20'

MARK	DATE	DESCRIPTION
	11/08/24	100% SUBMISSION

PROJECT NUMBER:	47688-C
DESIGNED BY:	ZK
DRAWN BY:	ECM
FIELD CHECK:	
APPROVED:	

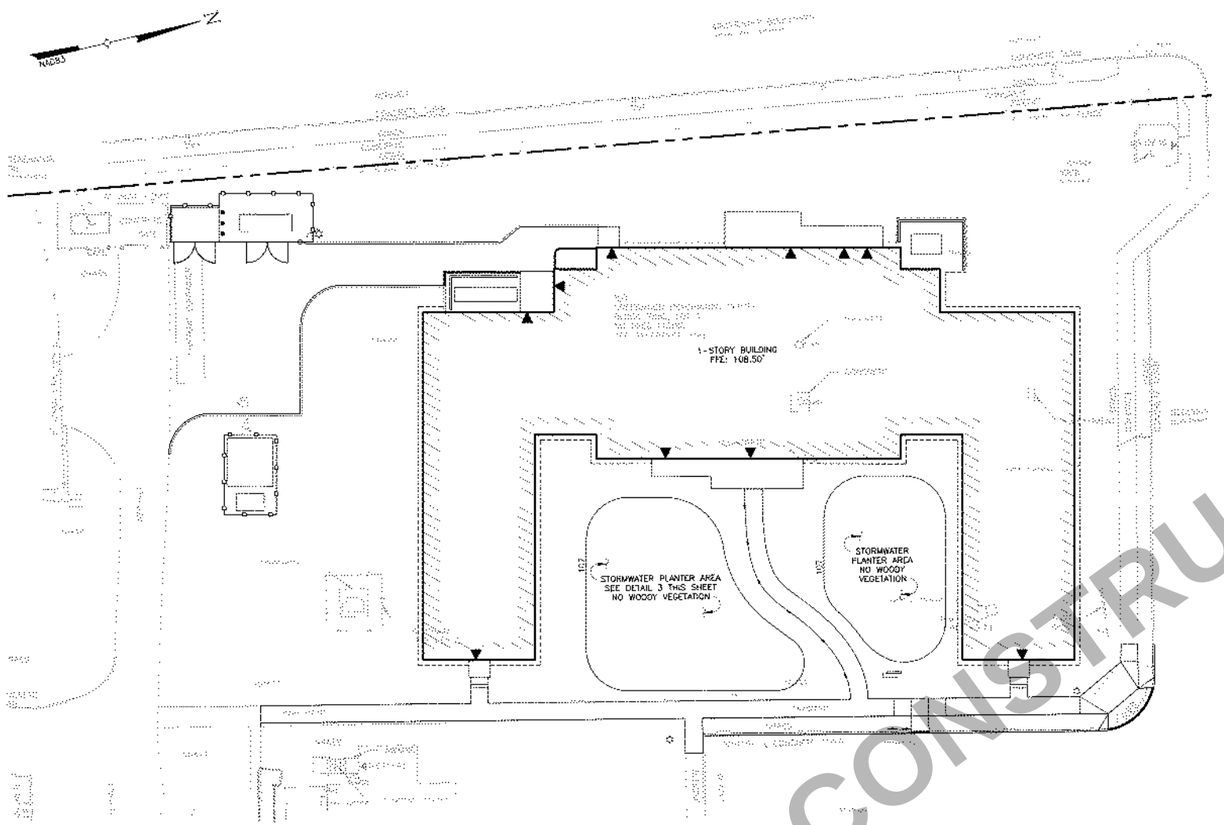
SHEET TITLE:

GRADING & DRAINAGE PLAN

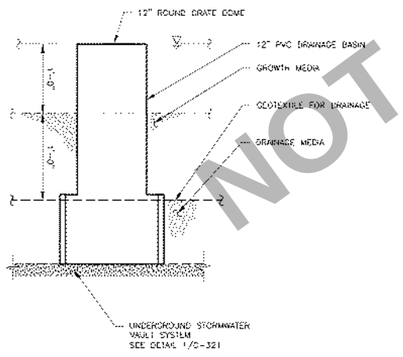
DRAWING NUMBER:

C-103

SHEET OF

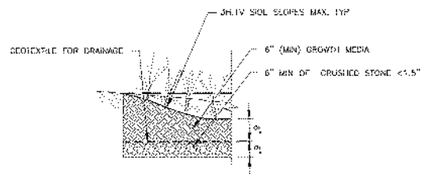


1 C-104 STORMWATER LANDSCAPING PLAN
SCALE: 1" = 20'



NOTE:
1. GEOTEXTILE FILTER FABRIC SHALL HAVE AN EOS OPENING OF 70

2 C-104 PLANTER OVERFLOW
SCALE: NTS



NOTES:
1. GROWING MEDIA SHOULD BE A UNIFORM MIXTURE OF 70% SAND (100% PASSING THE 1-INCH SIEVE AND 5% PASSING THE NO. 200 SIEVE) AND 30% TOPSOIL WITH AN AVERAGE OF 5% ORGANIC MATERIAL SUCH AS COMPOST OR PEAT. FREE OF STONES, ROOTS AND WOODY DEBRIS AND ANIMAL WASTE.
2. DRAINAGE LAYER SHOULD BE CLEAN SAND WITH 100% PASSING THE 1-INCH SIEVE AND 5% PASSING THE NO. 200 SIEVE).
3. SEE PLANTING TABLE. SPECIES TO BE DESIGNATED BY THE DIRECTOR'S REPRESENTATIVE BASED ON PREFERENCE AND AVAILABILITY.
4. PLANTINGS SHALL BE SPACED AS FOLLOWS:
   A. SHRUBS SHOULD BE 4'-5' ON CENTER, STAGGERED ROWS
   B. HERBACIOUS PLANTS (PERENNIALS) SHOULD BE 1 1/2 – 2" ON CENTER.

3 C-104 STORMWATER PLANTER
SCALE: NTS

PLANTING TABLE

PLANT TABLE	
SHRUBS	
COMMON NAME	SCIENTIFIC NAME
WITCH HAZEL	HAMAMELIS VIRGINIANA
WINTERBERRY	ILEX VERTICILLATA
ARROWWOOD	VIBURNUM DENTATUM
BROOK-SIDE ALDER	ALNUS SERRULATA
RED-OSIER DOGWOOD	CORNUS STOLONIFERA
SWEET PEPPERBUSH	CLETHRA ALNIFOLIA
HERBACEOUS PLANS	
COMMON NAME	SCIENTIFIC NAME
CHAINMOK FERN	OSMUNDA CINNAMOMEA
CUTLEAF CONEFLOWER	RUDBECKIA LACINIATA
WOOLGRASS	SCIRPUS CYPERINUS
NEW ENGLAND ASTER	ASTER NOVAE-ANGLIAE
FOX SEDGE	CAREX VULPINOIDEA
SPOTTED JOE-PYE WEED	EUPATORIUM MACULATUM
SWITCH GRASS	PANICUM VIRGATUM
GREAT BLUE LOBELIA	LOBELIA SIPHATICA
WILD BERGAMOT	MONARDA FISTULOSA
RED MILKWEED	ASCLEPIAS INCARNATE

STORMWATER PLANTER – RAIN GARDEN MIX

1. ERNMIX # ERNMX-180
2. SEEDING RATE: 15 LB PER ACRE OR 1/3 – 1/2 LB PER 1,000 SQ FT
3. USE TYPE: UPLAND & MEADOW SITES
4. SPECIES LIST:
   - 22% LITTLE BLUESTEM, FIR PA ECOTYPE (SCHIZACHYRIUM SCOPARIUM, FIR PA ECOTYPE)
   - 14% RIVER OATS, PA/VA ECOTYPE BLEND (CHASMANTHIUM LATIFOLIUM, PA/VA ECOTYPE BLEND)
   - 10% RIVERBANK WILD RYE, PA ECOTYPE (ELYMUS RIPARIUS, PA ECOTYPE)
   - 9% BLACK EYED SUSAN, CP NC ECOTYPE (RUDBECKIA HIRTA, CP NC ECOTYPE)
   - 6% MARSH (DENSE) BLAZING STAR (SPIKED GAYFEATHER) (LIATRIS SPICATA)
   - 5% PURPLE CONEFLOWER (ECHINACEA PURPUREA)
   - 5% FOX SEDGE, PA ECOTYPE (CAREX VULPINOIDEA, PA ECOTYPE)
   - 5% SQUARROSE SEDGE, VA ECOTYPE (CAREX SQUARROSA, VA ECOTYPE)
   - 4% WILD SENNA, VA & WV ECOTYPE (SENNA HEBECARPA (CASSIA H.), VA & WV ECOTYPE)
   - 4% TALL WHITE BEARD TONGUE, PA ECOTYPE (PENSTEMON DIGITALIS, PA ECOTYPE)
   - 3% GOLDEN ALEXANDERS (ZIZIA AUREA)
   - 2% LANCE LEAVED COREOPSIS, CP NC ECOTYPE (COREOPSIS LANCEOLATA,CP NC ECOTYPE)
   - 2% BLUE VERVAIN (VERBENA HASTATA)
   - 2% SWAMP MILKWEED, IM ECOTYPE (ASCLEPIAS INCARNATA, IM ECOTYPE)
   - 2% PURPLE BERGAMOT, PA ECOTYPE (MONARDA MEDIA, PA ECOTYPE)
   - 2% BLUE FALSE INDIGO, S WV ECOTYPE (BAPTISIA AUSTRALIS, S WV ECOTYPE)
   - 2% NEW ENGLAND ASTER, PA ECOTYPE (ASTER NOVAE-ANGLIAE (SYMPHYOTRICHUM N.), PA ECOTYPE)
   - 2% BIG BLUESTEM, 'NIAGARA' (ANDROPOGON GERARDII, 'NIAGARA')
   - 2% OHIO SPIDERWORT, IA ECOTYPE (TRADESCANTIA OHENSIS, IA ECOTYPE)
   - 1% ROUGH AVENS, PA ECOTYPE (GEUM LACINIATUM, PA ECOTYPE)
   - 1% AUTUMN BENTGRASS, APR (AGROSTIS PERENNANS, APR)

TOTAL: 100%

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CERTIFICATE OF AUTHORIZATION 1127432

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STATUS: CONSTRUCTION

TITLE:
PROVIDE TRANSITIONAL RESIDENCE, SOUTH CAMPUS CREEDMOOR PSYCHIATRIC CENTER

LOCATION:
80-45 WINCHESTER BLVD
QUEENS, NY 11427

CLIENT:
OFFICE OF MENTAL HEALTH

MARK	DATE	DESCRIPTION
	11/26/24	100% SUBMISSION

PROJECT NUMBER	47688-C
DESIGNED BY:	ZK
DRAWN BY:	EGM
FIELD CHECK	
APPROVED:	

SHEET TITLE:
STORMWATER LANDSCAPING PLAN, DETAILS, AND NOTES

DRAWING NUMBER:
C-104

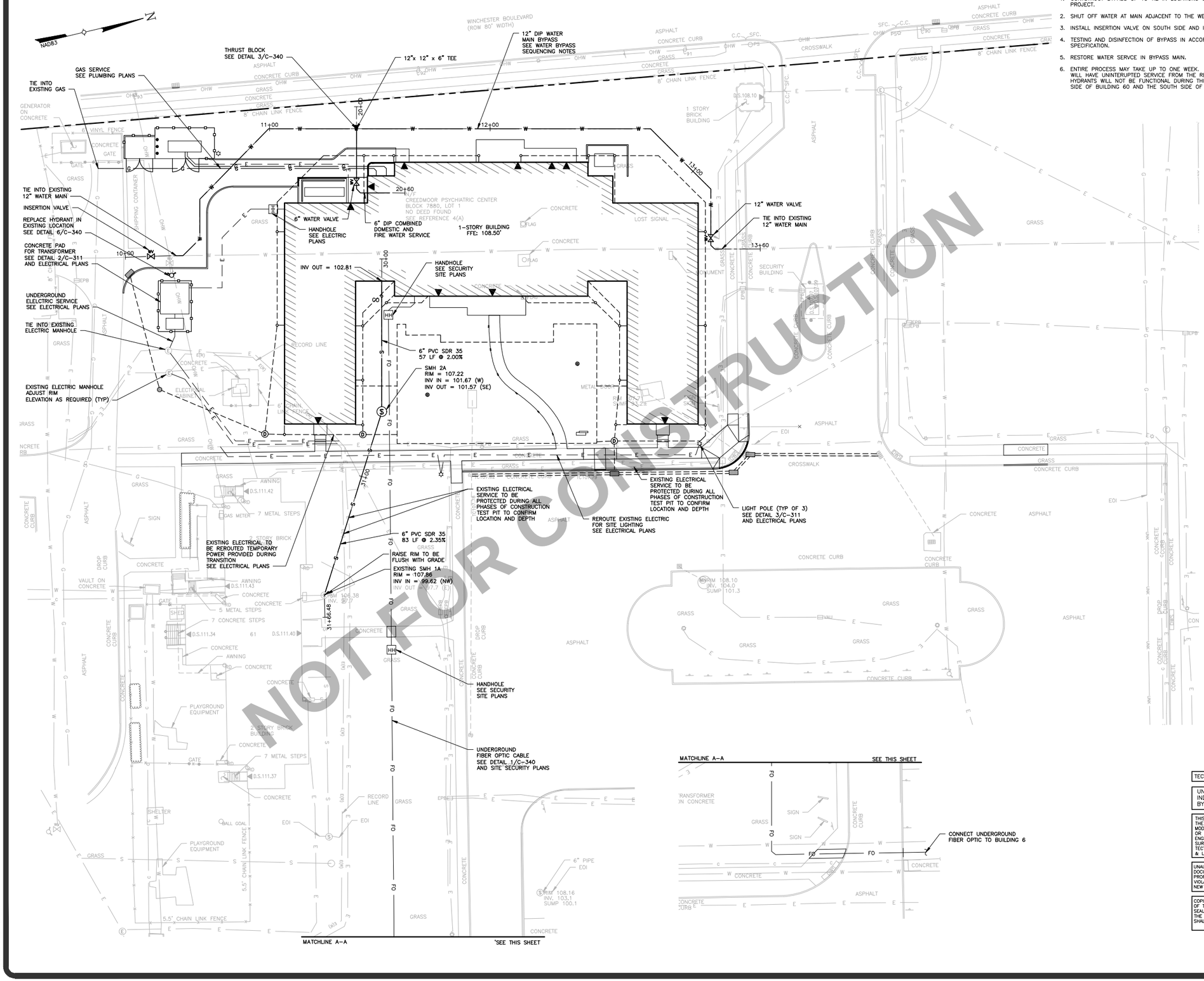
SHEET OF

Nov 01,2024 - 12:34pm
F:\Work\Active\Cvil\12546\12546-01 GVM Creedmoor\Dwg\MP-CIV-12546101-PLANS.dwg

36x24 PLOT SHEET

WATER BYPASS SEQUENCING NOTES

1. CONTSTRUCT BYPASS UP TO TIE IN LOCATIONS ON NORTH AND SOUTH SIDES OF PROJECT.
2. SHUT OFF WATER AT MAIN ADJACENT TO THE WEST SIDE OF BUILDING 66.
3. INSTALL INSERTION VALVE ON SOUTH SIDE AND ISOLATE WATER PIPE.
4. TESTING AND DISINFECTION OF BYPASS IN ACCORDANCE WITH NOTES AND PROJECT SPECIFICATION.
5. RESTORE WATER SERVCE IN BYPASS MAIN.
6. ENTIRE PROCESS MAY TAKE UP TO ONE WEEK. EXISTING BUILDINGS IN THE VICINITY WILL HAVE UNINTERUPTED SERVICE FROM THE REMAINING WATER MAIN LOOP. TWO HYDRANTS WILL NOT BE FUNCTIONAL DURING THIS PROCESS, ADJACENT TO WEST SIDE OF BUILDING 60 AND THE SOUTH SIDE OF THE NEW BUILDING.



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TECTONIC WORK ORDER NO.: 12546.01

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1" = 20'

Nov 01,2024 – 12:56pm
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CONTRACT:
CONSTRUCTION

TITLE:
PROVIDE TRANSITIONAL RESIDENCE, SOUTH CAMPUS CREEDMOOR PSYCHIATRIC CENTER

LOCATION:
80-45 WINCHESTER BLVD
QUEENS, NY 11427

CLIENT:
OFFICE OF MENTAL HEALTH

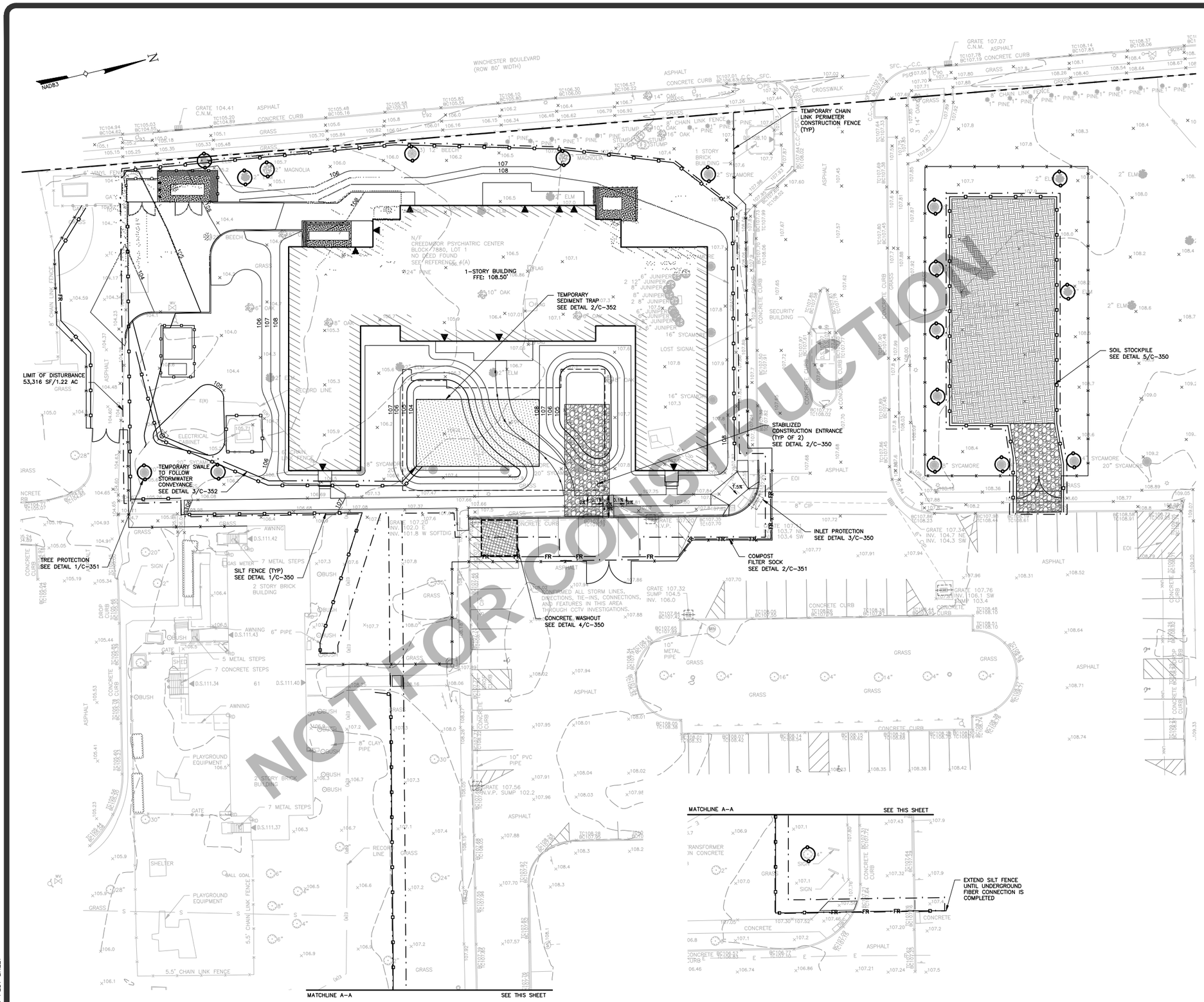
MARK	DATE	DESCRIPTION
	11/08/24	100% SUBMISSION

PROJECT NUMBER:	47688-C
DESIGNED BY:	ZK
DRAWN BY:	ECM
FIELD CHECK:	
APPROVED:	

SHEET TITLE:
UTILITY PLAN

DRAWING NUMBER:
C-105

SHEET OF



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0 10' 20' 40'

1" = 20'

Nov 01,2024 – 3:23pm
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CONTRACT:
CONSTRUCTION

TITLE:
PROVIDE TRANSITIONAL RESIDENCE, SOUTH CAMPUS CREEDMOOR PSYCHIATRIC CENTER

LOCATION:
80-45 WINCHESTER BLVD
QUEENS, NY 11427

CLIENT:
OFFICE OF MENTAL HEALTH

MARK	DATE	DESCRIPTION
	11/08/24	100% SUBMISSION

PROJECT NUMBER:	47688-C
DESIGNED BY:	ZK
DRAWN BY:	ECM
FIELD CHECK:	
APPROVED:	

SHEET TITLE:

EROSION & SEDIMENT CONTROL PLAN

DRAWING NUMBER:
C-106

SHEET OF

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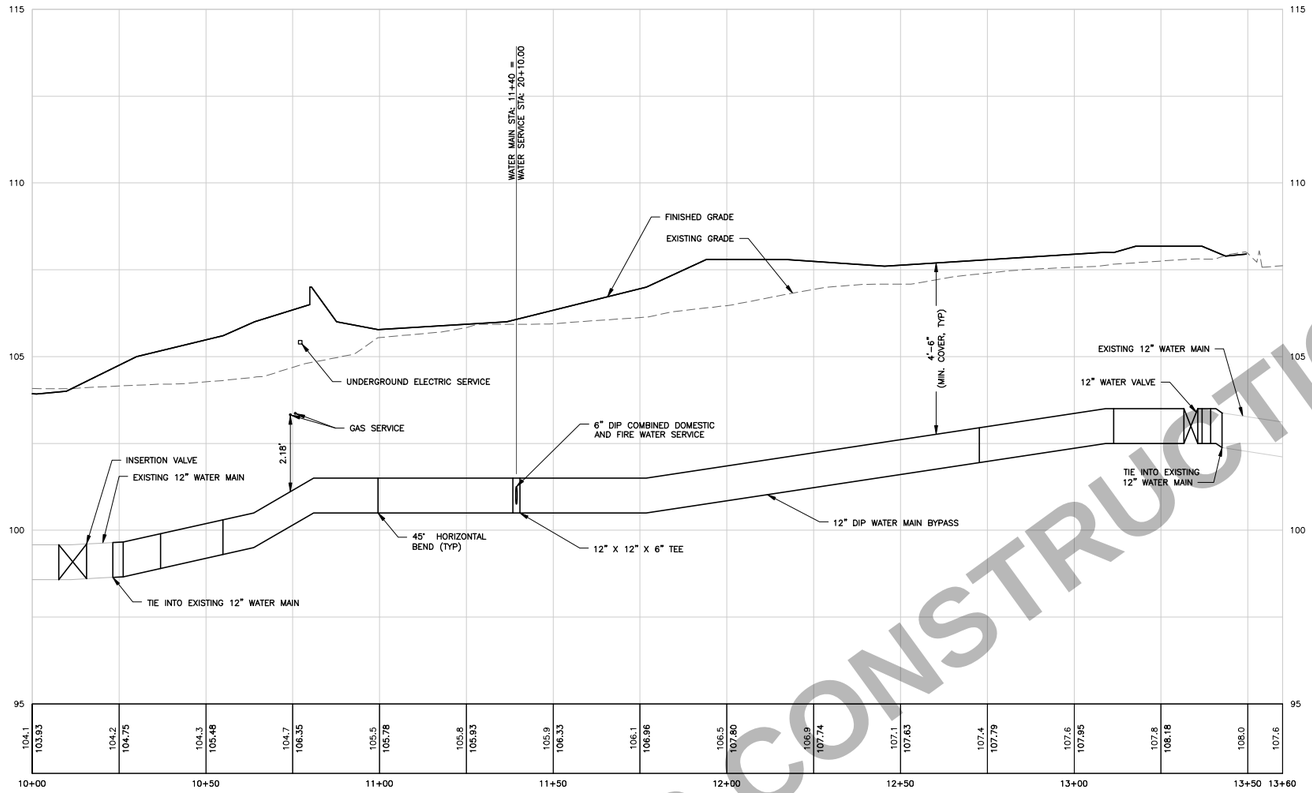
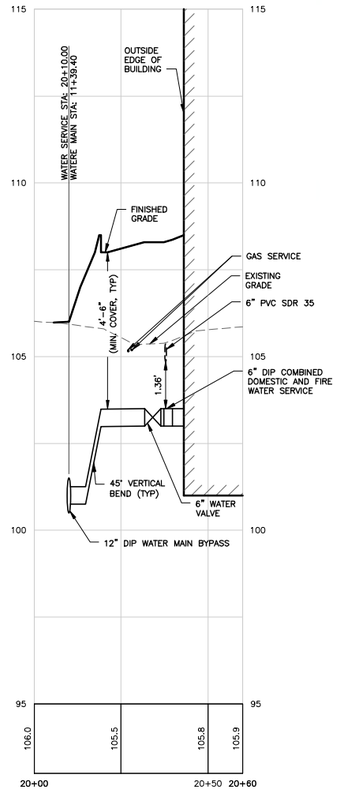


1 C-201 WATER MAIN PROFILE

SCALE: HORIZONTAL: 1" = 20'
VERTICAL: 1" = 2'



2 C-201 WATER SERVICE PROFILE

SCALE: HORIZONTAL: 1" = 20'
VERTICAL: 1" = 2'

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CONTRACT:
CONSTRUCTION

TITLE:
PROVIDE TRANSITIONAL RESIDENCE, SOUTH CAMPUS CREEDMOOR PSYCHIATRIC CENTER

LOCATION:
80-45 WINCHESTER BLVD
QUQUEENS, NY

CLIENT:
OFFICE OF MENTAL HEALTH

MARK	DATE	DESCRIPTION
	11/08/24	100% SUBMISSION

PROJECT NUMBER: 47688-C
DESIGNED BY: ZK
DRAWN BY: ECM
FIELD CHECK:
APPROVED:

SHEET TITLE:
WATER PROFILES

DRAWING NUMBER:
C-201

SHEET OF

Nov. 01,2024 - 4:07pm
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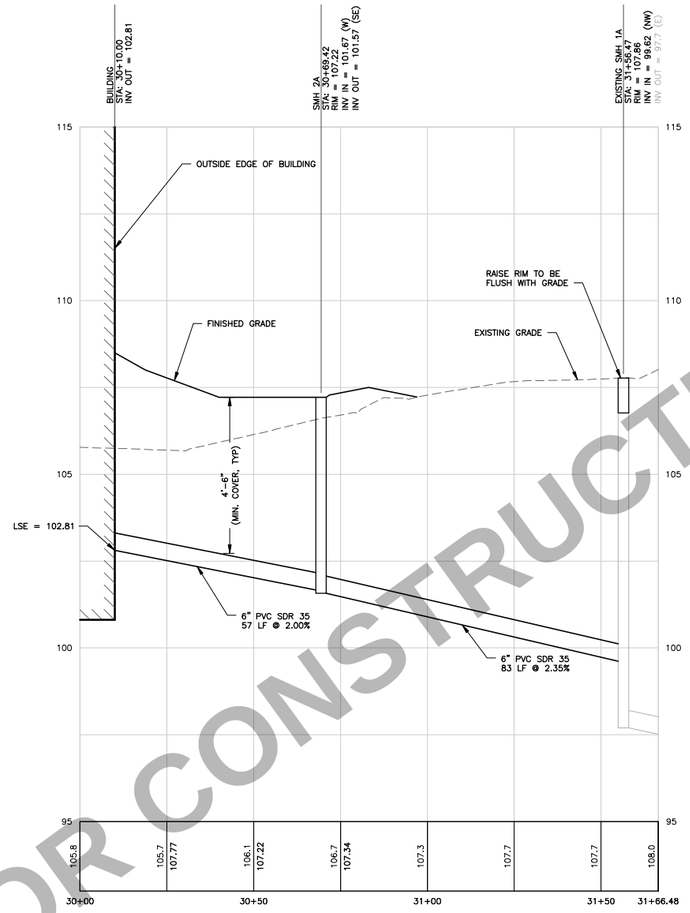
36x24 PLOT SHEET



1 C-202 SANITARY PROFILE

SCALE: HORIZONTAL : 1" = 20'
VERTICAL: 1" = 2'

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CONSULTANT

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CONTRACT:
CONSTRUCTION

TITLE:
PROVIDE TRANSITIONAL RESIDENCE, SOUTH CAMPUS CREEDMOOR PSYCHIATRIC CENTER

LOCATION:
80-45 WINCHESTER BLVD
QUQUEENS, NY

CLIENT:
OFFICE OF MENTAL HEALTH

MARK	DATE	DESCRIPTION
	11/08/24	100% SUBMISSION

PROJECT NUMBER: 47688-C
DESIGNED BY: ZK
DRAWN BY: ECM
FIELD CHECK:
APPROVED:

SHEET TITLE:
SANITARY PROFILES

DRAWING NUMBER:
C-202

SHEET OF

Nov. 01,2024 – 2:52pm
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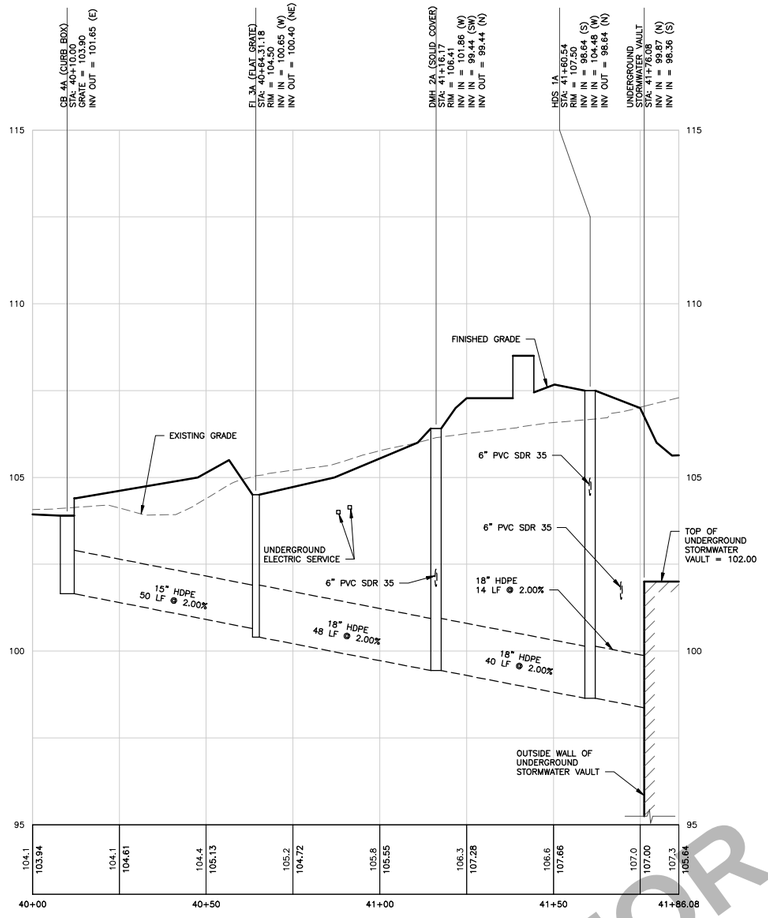
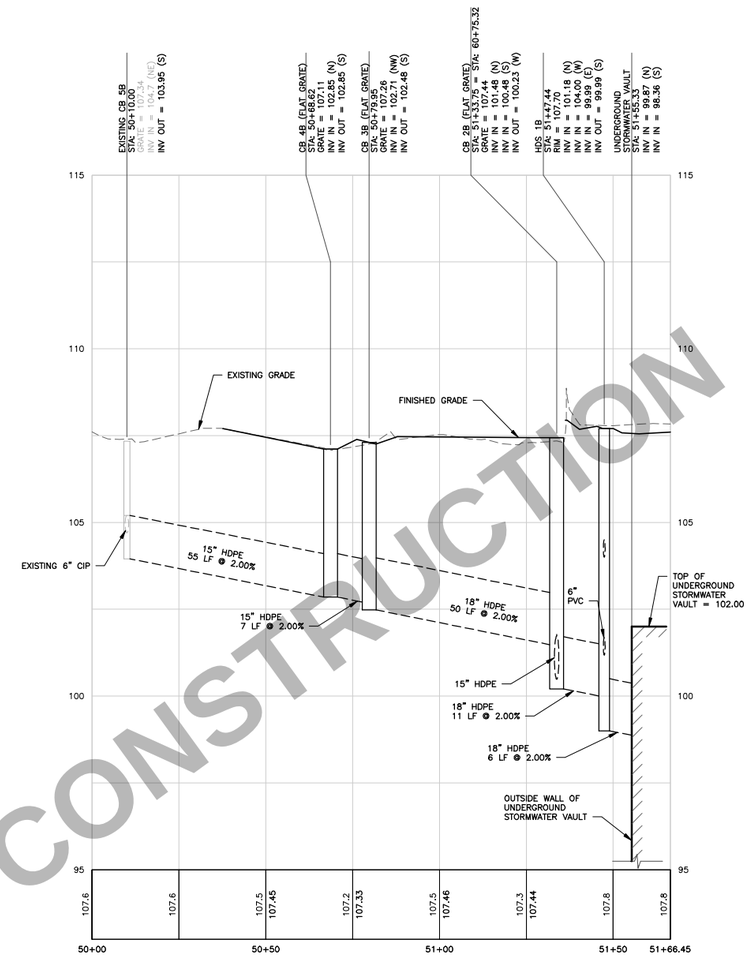


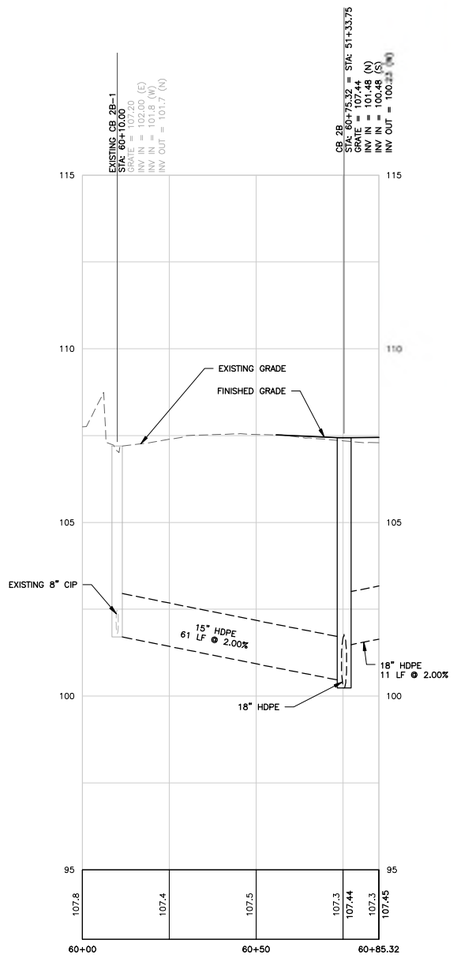
1 C-203 DRAINAGE PROFILE A

SCALE: HORIZONTAL: 1" = 20'
VERTICAL: 1" = 2'



2 C-203 DRAINAGE PROFILE B

SCALE: HORIZONTAL: 1" = 20'
VERTICAL: 1" = 2'



2 C-203 DRAINAGE PROFILE C

SCALE: HOIRIZONTAL: 1" = 20'
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CONSULTANT
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CONTRACT:
CONSTRUCTION

TITLE:
PROVIDE TRANSITIONAL RESIDENCE, SOUTH CAMPUS CREEDMOOR PSYCHIATRIC CENTER

LOCATION:
80-45 WINCHESTER BLVD
QUQUEENS, NY

CLIENT:
OFFICE OF MENTAL HEALTH

MARK	DATE	DESCRIPTION
	11/08/24	100% SUBMISSION

PROJECT NUMBER:	47688-C
DESIGNED BY:	ZK
DRAWN BY:	ECM
FIELD CHECK:	
APPROVED:	

SHEET TITLE:
DRAINAGE PROFILES

DRAWING NUMBER:
C-203

SHEET OF

Nov. 01,2024 - 3:16pm
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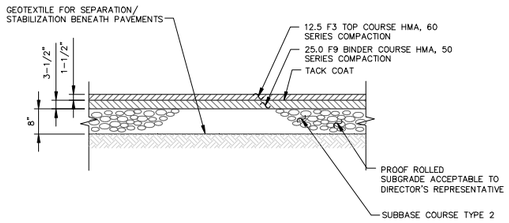
36x24 PLOT SHEET

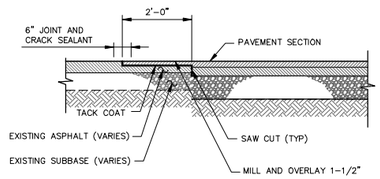


NOTES:

1. APPLY 1-1/2" OF 12.5 F3 TOP COURSE HMA, 60 SERIES COMPACTION FOR MILL AND OVERLAY AT LOCATIONS AS IDENTIFIED ON THE PLANS.
2. SUBGRADE AND SUBBASE FOR ALL PARKING AREAS TO BE PROOF ROLLED IN THE PRESENCE OF THE DIRECTOR'S REPRESENTATIVE AND FOUND TO BE UNYIELDING PRIOR TO THE PLACEMENT OF ASPHALT.

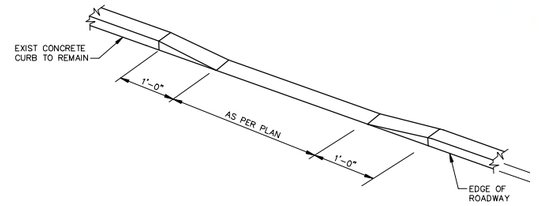
1 C-310 PAVEMENT SECTION

SCALE: NTS



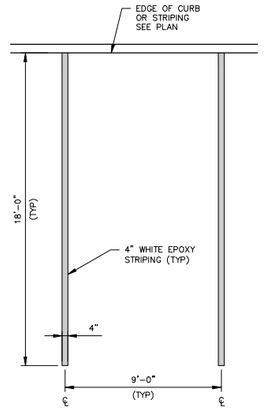
2 C-310 PAVEMENT TRANSITION

SCALE: 1/2" = 1'-0"



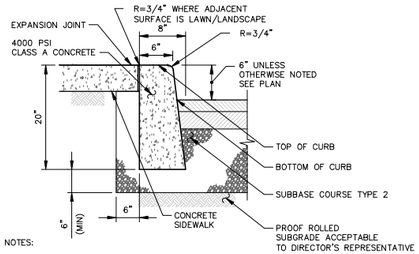
3 C-310 DEPRESSED CURB

SCALE: NONE



4 C-310 PARKING SPACE

SCALE: 1/4" = 1'-0"

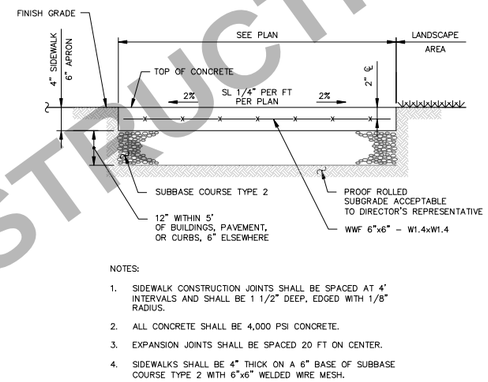


NOTES:

1. CURB SHALL BE CAST IN PLACE, 4,000 PSI @ 28 DAYS CONCRETE WITH RUBBED FINISH.
2. USE CONVENTIONALLY FORMED CLASS A PORTLAND CEMENT CONCRETE.
   A. FORMS SHALL BE FREE FROM WARP AND OF SUCH CONSTRUCTION THAT THERE WILL BE NO INTERFERENCE TO INSPECTION FOR GRADE AND ALIGNMENT. ALL FORMS SHALL EXTEND TO THE FULL CURB DEPTH AND BE SECURED SO NO DISPLACEMENT WILL OCCUR DURING THE PLACEMENT OF CONCRETE.
   B. CURB SHALL BE CAST IN SEGMENTS HAVING A UNIFORM LENGTH OF APPROXIMATELY TEN (10) FEET. THE JOINTS BETWEEN SEGMENTS SHALL NOT EXCEED 1/4" IN WIDTH.
   C. EXPANSION JOINTS SHALL BE 3/4" WIDE AND CONTAIN PRE-MOLDED RESILIENT JOINT FILLER. THE FILLER SHALL BE CUT TO CONFORM TO THE CROSS SECTION OF THE CURB. EXPANSION JOINTS SHALL BE LOCATED AT ALL IMMOVABLE OBJECTS, ADJACENT TO EXPANSION JOINTS IN THE PAVEMENT, OR WHERE DIRECTED BY THE ENGINEER.

5 C-310 CONCRETE CURB

SCALE: NTS

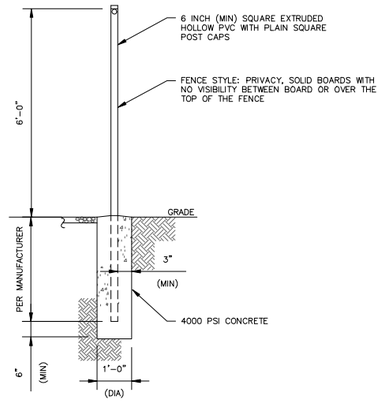


NOTES:

1. SIDEWALK CONSTRUCTION JOINTS SHALL BE SPACED AT 4' INTERVALS AND SHALL BE 1 1/2" DEEP, EDGED WITH 1/8" RADIUS.
2. ALL CONCRETE SHALL BE 4,000 PSI CONCRETE.
3. EXPANSION JOINTS SHALL BE SPACED 20 FT ON CENTER.
4. SIDEWALKS SHALL BE 4" THICK ON A 6" BASE OF SUBBASE COURSE TYPE 2 WITH 6"x6" WELDED WIRE MESH.

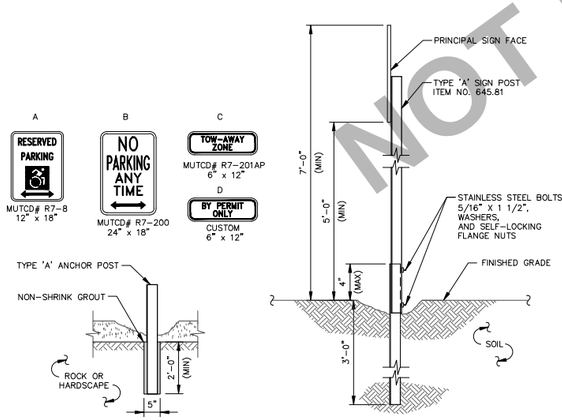
6 C-310 CONCRETE SIDEWALK

SCALE: NTS



7 C-310 ORNAMENTAL FENCE

SCALE: NTS

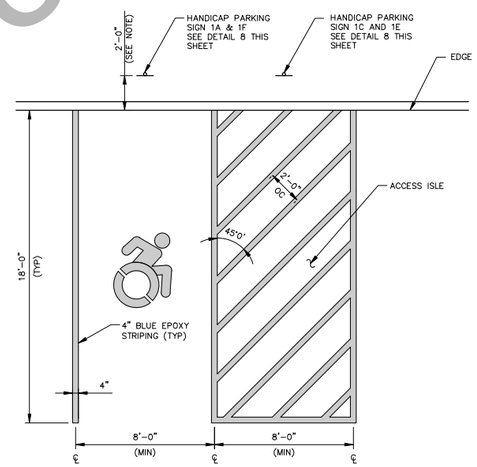


NOTES:

1. OFFSET POST 3'-0" FROM EDGE OF PAVEMENT.
2. INSERT 3/16" THREADED SPACER BETWEEN POSTS AT CONNECTION.

8 C-310 SIGN

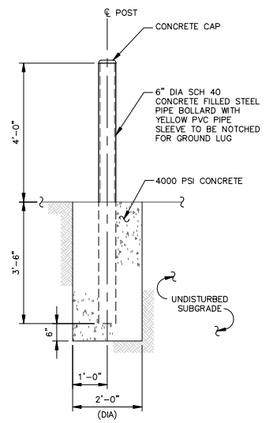
SCALE: NTS



NOTE:
SIGN POST TO BE A MINIMUM OF 2'-0" BEHIND CURB WHEN LOCATED IN LANDSCAPED/GRASS AREAS OR BEHIND SIDEWALK WHEN ADJACENT TO CURB.

9 C-310 ACCESSIBLE PARKING SPACES

SCALE: 1/4" = 1'-0"



10 C-310 BOLLARD

SCALE: NTS

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CONTRACT:
CONSTRUCTION

TITLE:
PROVIDE TRANSITIONAL RESIDENCE, SOUTH CAMPUS CREEDMOOR PSYCHIATRIC CENTER

LOCATION:
80-45 WINCHESTER BLVD
QUEENS, NY

CLIENT:
OFFICE OF MENTAL HEALTH

MARK	DATE	DESCRIPTION
	11/08/24	100% SUBMISSION

PROJECT NUMBER: 47688-C
DESIGNED BY: ZK
DRAWN BY: ECM
FIELD CHECK:
APPROVED:

SHEET TITLE:
SITE DETAILS

DRAWING NUMBER:
C-310

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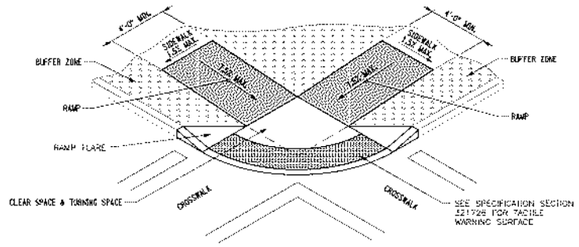
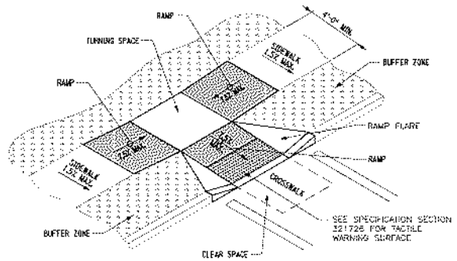
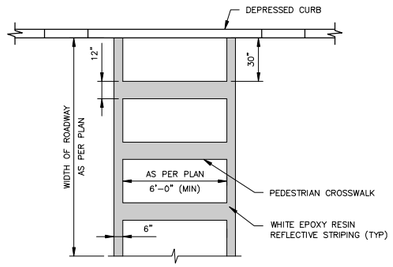
36x24 PLOT SHEET

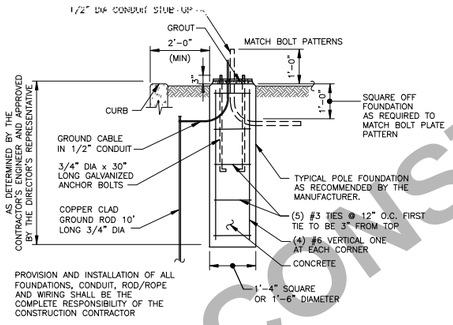




1 C-311 ACCESSIBLE RAMP
SCALE: NTS



2 C-311 PEDESTRIAN CROSSWALK
SCALE: 1/4" = 1'-0"



NOTES:

1. THE CONSTRUCTION CONTRACTOR SHALL FIELD VERIFY ALL POLE LOCATIONS IN ORDER TO ACCOMMODATE ALL UTILITIES.
2. ALL SITE LIGHTING SHALL RECEIVE UNDERGROUND ELECTRICAL SERVICE.
3. POLES SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.
4. ALL CONDUIT SHALL BE 2" DIA. SCHEDULE 40 PVC BURIED 24" (MIN.) BELOW GRADE.
5. ALL SWEEPS SHALL HAVE A MIN. RADIUS OF 24". NO ELBOWS SHALL BE PERMITTED.
6. SEE ELECTRICAL PLANS FOR SITE LIGHTING WIRING.
7. LIGHT POLE FOUNDATIONS SHALL BE DESIGNED BY A STRUCTURAL ENGINEER LICENSED TO PRACTICE IN THE STATE OF NEW YORK. SHOP DRAWINGS OF THE FOUNDATION DESIGN SHALL BE SIGNED AND SEALED BY THE CONTRACTOR'S ENGINEER AND PROVIDED TO THE DIRECTOR'S REPRESENTATIVE FOR REVIEW PRIOR TO CONSTRUCTION.

3 C-311 SITE LIGHT FOUNDATION
SCALE: NTS

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NEW YORK STATE Office of General Services

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CLIENT:
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MARK	DATE	DESCRIPTION
	11/08/24	100% SUBMISSION

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PROJECT NUMBER:	47688-C
DESIGNED BY:	ZK
DRAWN BY:	ECM
FIELD CHECK:	
APPROVED:	

SHEET TITLE:
SITE DETAILS

DRAWING NUMBER:
C-311

SHEET OF

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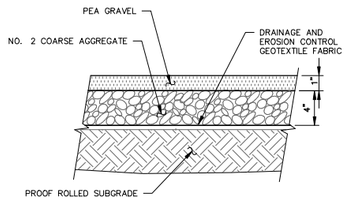
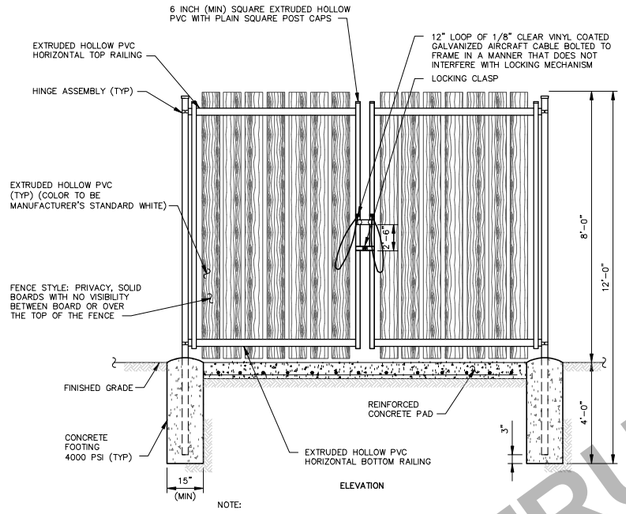
36x24 PLOT SHEET



NOTES:

1. PEA GRAVEL SHOULD NOT BE INSTALLED ON PERMANENT GRAVEL AREAS UNTIL CONSTRUCTION IS COMPLETE. CONSTRUCTION CONTRACTOR SHALL ENSURE TEMPORARY CRUSHED STONE WITHIN PERMANENT GRAVEL AREAS REMAINS CLEAN AND FREE OF SEDIMENT THROUGHOUT CONSTRUCTION. CONSTRUCTION CONTRACTOR SHALL REPLACE CRUSHED STONE WHERE REQUIRED AS DIRECTED BY THE DIRECTOR'S REPRESENTATIVE AT THEIR OWN EXPENSE.
2. PEA GRAVEL IS NOT REQUIRED ON AREAS OF TEMPORARY GRAVEL SURFACES.

1 / C-312 PEA GRAVEL SURFACE AREA
SCALE: NTS



NOTE:
SINGLE FOOTING TO BE PROVIDED FOR GATE POST AND 8 FT. BOARD ON BOARD FENCE POST. CONCRETE TO EXTEND A MINIMUM OF 6 INCHES OUTSIDE POST.

2 / C-312 ORNAMENTAL FENCE DOUBLE GATE
SCALE: NTS

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36x24 PLOT SHEET

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TITLE:
PROVIDE TRANSITIONAL RESIDENCE, SOUTH CAMPUS CREEDMOOR PSYCHIATRIC CENTER

LOCATION:
80-45 WINCHESTER BLVD
QUEENS, NY

CLIENT:
OFFICE OF MENTAL HEALTH

MARK	DATE	DESCRIPTION
	11/08/24	100% SUBMISSION

PROJECT NUMBER:	47688-C
DESIGNED BY:	ZK
DRAWN BY:	ECM
FIELD CHECK:	
APPROVED:	

SHEET TITLE:
SITE DETAILS

DRAWING NUMBER:
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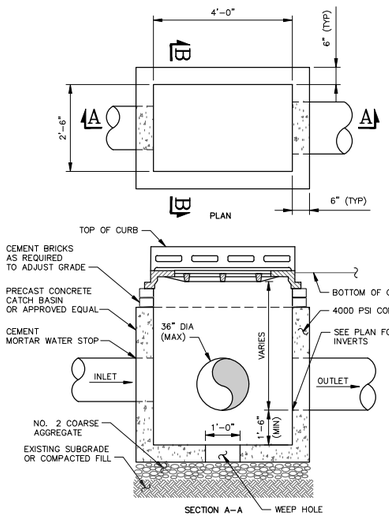
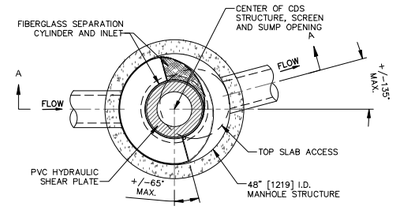


NOTES:

1. BACKFILL WITH SELECT GRANULAR MATERIAL AROUND CATCH BASIN TO BE COMPACTED IN MAX 9" LIFTS.
2. PRECAST STEEL REINFORCED COPOLYMER POLYPROPYLENE PLASTIC STEPS SHALL BE PROVIDED FOR ALL BASINS GREATER THAN FIVE FEET IN DEPTH.
3. COMBINATION GRATES SHALL CONFORM TO US FOUNDRY MODEL 5236/6352. AVAILABLE MANUFACTURERS INCLUDE EAST JORDAN IRON WORKS AND NEENAH FOUNDRY. THEY SHALL BE HEAVY-DUTY CAST IRON FRAMES AND POSSESS BIKE SAFE GRATES.
4. THE ENDS OF ALL PIPES SHALL BE CUT OFF FLUSH WITH THE INSIDE SURFACE OF CATCH BASIN.

1 C-320 CATCH BASIN WITH CURB BOX

SCALE: 1/2" = 1'-0"



GENERAL NOTES

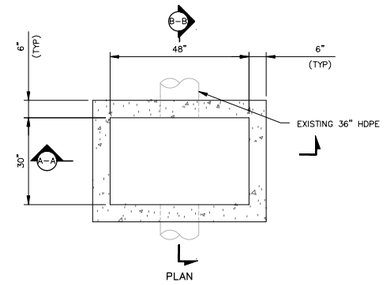
1. CONSTRUCTION CONTRACTOR SHALL PROVIDE CERTIFICATION OF HDS UNIT BY AN ACCEPTABLE VERIFICATION SOURCE, IN ACCORDANCE WITH REQUIREMENTS FOR ALTERNATIVE PRACTICES IN THE NYSDEC STORMWATER DESIGN MANUAL, 2015 EDITION, PRIOR TO INSTALLATION ON SITE.
2. SEPERATOR WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING. CONSTRUCTION CONTRACTOR TO CONFIRM STRUCTURE MEETS REQUIREMENTS OF PROJECT.
3. STRUCTURE SHALL MEET AASHTO HS20 LOAD RATING, ASSUMING EARTH COVER OF 0' – 2', AND GROUNDWATER ELEVATION AT, OR BELOW, THE OUTLET PIPE INVERT ELEVATION. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION. CASTINGS SHALL MEET AASHTO M306.
4. BACKFILL WITH SELECT GRANULAR MATERIAL AROUND HYDRODYNAMIC TO BE COMPACTED IN MAX 9" LIFTS.

INSTALLATION NOTES

A. CONSTRUCTION CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE SEPERATOR MANHOLE STRUCTURE.
B. CONSTRUCTION CONTRACTOR TO INSTALL JOINT SEALANT BETWEEN ALL STRUCTURE SECTIONS AND ASSEMBLE STRUCTURE.
C. CONSTRUCTION CONTRACTOR TO PROVIDE, INSTALL, AND GROUT INLET AND OUTLET PIPE(S). MATCH PIPE INVERTS WITH ELEVATIONS SHOWN. ALL PIPE CENTERLINES TO MATCH PIPE OPENING CENTERLINES.
D. CONSTRUCTION CONTRACTOR TO TAKE APPROPRIATE MEASURES TO ASSURE UNIT IS WATER TIGHT, HOLDING WATER TO FLOWLINE INVERT MINIMUM. IT IS SUGGESTED THAT ALL JOINTS BELOW PIPE INVERTS ARE GROUTED.

2 C-320 HYDRODYNAMIC SEPARATOR

SCALE: NTS

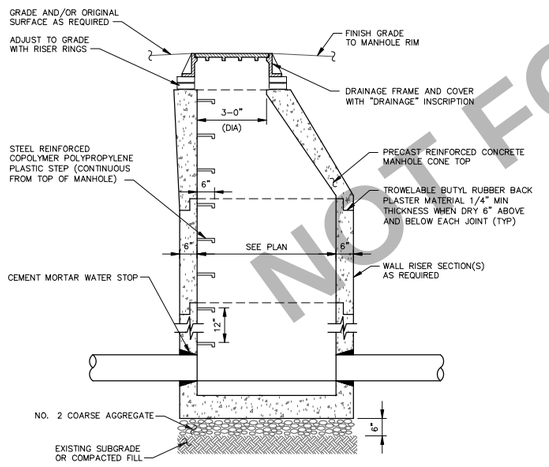


NOTES:

1. BACKFILL WITH SELECT GRANULAR MATERIAL AROUND CATCH BASIN TO BE COMPACTED IN MAX 9" LIFTS.
2. PRECAST STEEL REINFORCED COPOLYMER POLYPROPYLENE PLASTIC STEPS SHALL BE PROVIDED FOR ALL BASINS GREATER THAN FIVE FEET IN DEPTH.
3. FLAT GRATES SHALL CONFORM TO US FOUNDRY MODEL 4040/6040. AVAILABLE MANUFACTURERS INCLUDE EAST JORDAN IRON WORKS AND NEENAH FOUNDRY. THEY SHALL BE HEAVY-DUTY CAST IRON FRAMES AND POSSESS BIKE SAFE GRATES.
4. THE ENDS OF ALL PIPES SHALL BE CUT OFF FLUSH WITH THE INSIDE SURFACE OF THE CATCH BASIN.

3 C-320 FLAT GRATE CATCH BASIN

SCALE: 1/2" = 1'-0"

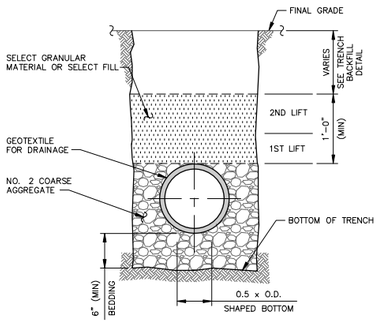


NOTES:

1. CONSTRUCTION CONTRACTOR TO ORDER MANHOLE SECTIONS FROM MANUFACTURER TO MATCH REQUIRED ELEVATIONS AND INVERTS PER PLAN.
2. DRAINAGE FRAME AND COVER SHALL CONFORM TO HEAVY-DUTY ROUND FLANGE NEENAH FOUNDRY MODEL 186. AVAILABLE MANUFACTURERS INCLUDE EAST JORDAN IRON WORKS.
3. BACKFILL WITH SELECT GRANULAR MATERIAL AROUND MANHOLE TO BE COMPACTED IN MAX 9" LIFTS..

4 C-320 DRAINAGE MANHOLE

SCALE: 1/2" = 1'-0"



NOTES:

1. SELECT FILL TO BE THOROUGHLY PROOF ROLLED IN 6" LAYERS BY APPROVED TAMPING MACHINE.
2. SELECT FILL SHALL BE COMPACTED TO 95% MODIFIED PROCTOR DENSITY (ASTM D1557)
3. APPROVED BACKFILL PROOF ROLLED AS PER SPECIFICATIONS.
4. TRENCH WIDTH TO BE THE LESSER OF (O.D.+2*O.D.) OR (O.D.+2*0.5FT)
5. PVC SEWER PIPE AND FITTINGS, NPS 15 AND SMALLER SHALL BE ASTM D 3034, SDR-35, FOR SOLVENT-CEMENTED OR GASKETED JOINTS. IF GASKETS ARE PROVIDED, GASKETS SHALL MEET ASTM F 477 FOR ELASTOMERIC SEALS.
6. HDPE STORM SEWER PIPE AND FITTINGS SHALL COMPLY WITH THE REQUIREMENTS FOR TEST METHODS, DIMENSIONS AND MARKINGS FOUND IN AASHTO DESIGNATIONS M252, AND M294. PIPE AND FITTINGS SHALL BE MADE FROM VIRGIN PE COMPOUNDS WHICH CONFORM TO THE APPLICABLE CURRENT EDITION OF THE AASHTO MATERIAL SPECIFICATIONS FOR CELL CLASSIFICATION AS DEFINED AND DESCRIBED IN ASTM D3350. STORM SEWER PIPING GREATER THAN EIGHT (8) INCHES IN DIAMETER SHALL BE SMOOTH INTERIOR/CORRUGATED EXTERIOR PIPE FITTED WITH WATERTIGHT JOINTS MEETING OR EXCEEDING ASTM 3212 LAB TEST AND ASTM 1417 WATERTIGHT FIELD TEST. N-12 IB WT™PRODUCT AS MANUFACTURED BY ADVANCED DRAINAGE SYSTEMS, INC. (ADS), COLUMBUS, OH, (614) 457-3051 OR APPROVED EQUAL. STORM SEWER PIPING LESS THAN OR EQUAL TO EIGHT (8) INCHES IN DIAMETER SHALL BE SINGLE WALL, CORRUGATED PIPE FITTED WITH SNAP OR SPLIT COUPLINGS, AS MANUFACTURED BY ADVANCED DRAINAGE SYSTEMS, INC. (ADS), COLUMBUS, OH, (614) 457-3051 OR APPROVED EQUAL. PERFORATIONS APPLIED BY THE MANUFACTURER TO THE PIPE SHALL BE PROVIDED WERE INDICATED ON THE PROJECT PLANS.
7. BEDDING CONDITION SHALL BE DETERMINED BY DIRECTOR'S REPRESENTATIVE.

5 C-320 STANDARD BEDDING FOR PVC/HDPE PIPE

SCALE: NTS

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LOCATION: 80-45 WINCHESTER BLVD QUEENS, NY

CLIENT: OFFICE OF MENTAL HEALTH

MARK	DATE	DESCRIPTION
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PROJECT NUMBER:	47688-C
DESIGNED BY:	ZK
DRAWN BY:	ECM
FIELD CHECK:	
APPROVED:	

SHEET TITLE: DRAINAGE DETAILS

DRAWING NUMBER: C-320

SHEET OF

Oct 31,2024 - 3:19pm
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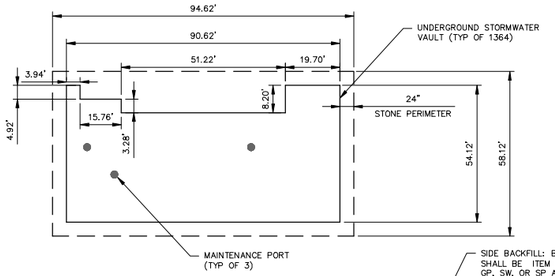
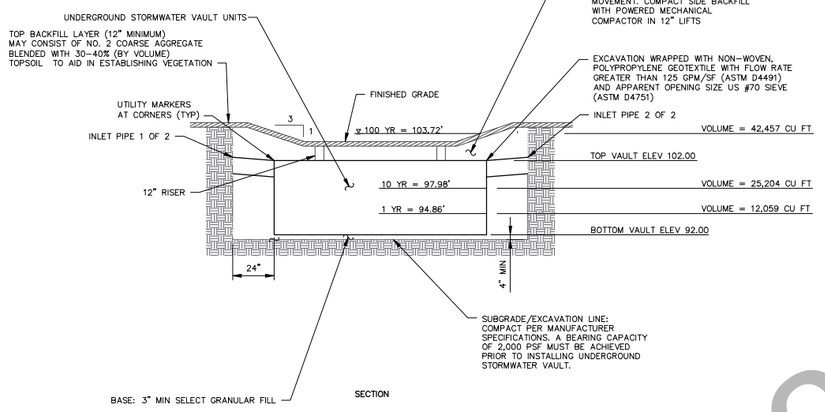
36x24 PLOT SHEET



PLAN



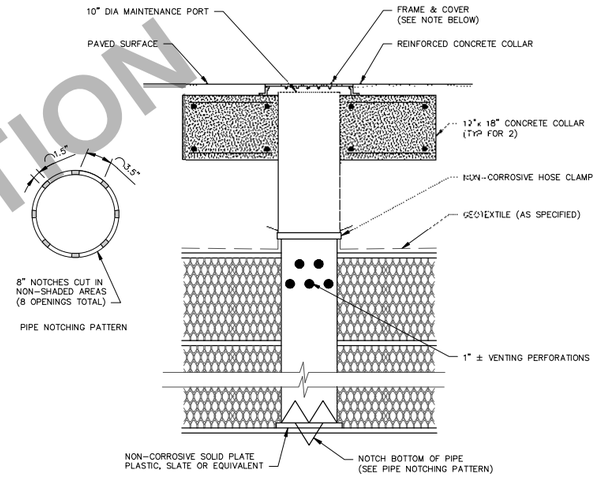
SECTION

NOTES:

1. FOLLOWING PLACEMENT OF SIDE BACKFILL, A UNIFORM 12" LIFT OF THE FREELY DRAINING MATERIAL SHALL BE OVER THE VAULT UNITS AND LIGHTLY COMPACTED USING A WALK-BEHIND TRENCH ROLLER. ALTERNATELY, A ROLLER (MAXIMUM GROSS VEHICLE WEIGHT OF 6 TONS) MAY BE USED. ROLLER MUST REMAIN IN STATIC MODE UNTIL A MINIMUM OF 24" OF COVER HAS BEEN PLACED OVER THE MODULES. SHEEP FOOT ROLLERS SHOULD NOT BE USED.
2. ONLY LOW PRESSURE TIRE OR TRACK VEHICLES (LESS THAN 7 PSI AND OPERATING WEIGHT OF LESS THAN 20,000LBS) SHALL BE OPERATED OVER THE UNDERGROUND STORMWATER VAULT SYSTEM DURING CONSTRUCTION.
3. DUMP TRUCKS AND PANS SHALL NOT BE OPERATED WITHIN THE VAULT UNITS AT ANY TIME. WHERE NECESSARY, THE HEAVY EQUIPMENT SHOULD UNLOAD IN AN AREA ADJACENT TO THE UNDERGROUND STORMWATER VAULT SYSTEM AND THE MATERIAL SHOULD BE MOVED OVER THE SYSTEM WITH TRACKED EQUIPMENT.
4. ENSURE THAT ALL UNRELATED CONSTRUCTION TRAFFIC IS KEPT AWAY FROM THE LIMITS OF EXCAVATION UNTIL THE PROJECT IS COMPLETE AND FINAL SURFACE MATERIALS ARE IN PLACE. NO NON-INSTALLATION RELATED LOADING SHOULD BE ALLOWED OVER THE VAULT UNITS UNTIL THE FINAL DESIGN SECTION HAS BEEN CONSTRUCTED (INCLUDING PAVEMENT).
5. UNDERGROUND STORMWATER VAULT UNITS MANUFACTURED BY ACF ENVIRONMENTAL, MODEL XD-SINGLE 603-339-7131 OR APPROVED EQUAL. SEE UNDERGROUND STORMWATER VAULT INSTALLATION GUIDE OR CONTACT LOCAL FERGUSON REPRESENTATIVE FOR ADDITIONAL INFORMATION.
6. OBSERVED GROUNDWATER WAS NOT ENCOUNTERED DOWN TO ELEVATION 77 FEET (BOTTOM OF GROUNDWATER OBSERVATION WELLS). SEE GEOTECHNICAL REPORT FOR FULL DISCUSSION ON SUBSURFACE CONDITIONS.

1 C-321 UNDERGROUND STORMWATER VAULT SYSTEM LAYOUT

SCALE: NOT TO SCALE

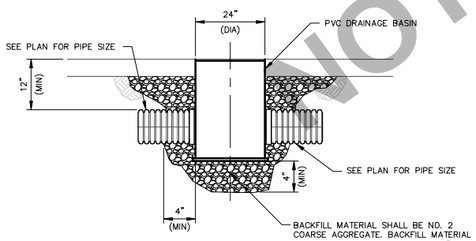


PIPE NOTCHING PATTERN

NOTE:
FRAME AND COVER SHALL CONFORM TO CAMPBELL FOUNDRY MODEL 1000. AVAILABLE MANUFACTURERS INCLUDE US FOUNDRY AND GENERAL FOUNDRIES.

2 C-321 UNDERGROUND STORMWATER VAULT MAINTENANCE PORT

SCALE: NTS



NOTES:

1. BASIN SHALL BE MANUFACTURED BY ADS, OR APPROVED EQUAL.
2. GRATE/LID SHALL BE DUCTILE IRON, DROP-IN TYPE, COMPATIBLE WITH THE BASIN. PROVIDE ADA COMPLIANT GRATE OR SOLID LID WHERE INDICATED ON THE PLANS

3 C-321 YARD DRAIN/MANHOLE

SCALE: NTS

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36x24 PLOT SHEET

NEW YORK STATE Office of General Services

CONSULTANT:

CERTIFICATE OF AUTHORIZATION 1127432

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CONTRACT:
CONSTRUCTION

TITLE:
PROVIDE TRANSITIONAL RESIDENCE, SOUTH CAMPUS CREEDMOOR PSYCHIATRIC CENTER

LOCATION:
80-45 WINCHESTER BLVD
QUEENS, NY

CLIENT:
OFFICE OF MENTAL HEALTH

MARK	DATE	DESCRIPTION
	11/08/24	100% SUBMISSION

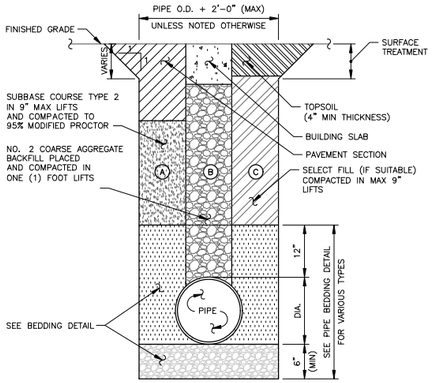
PROJECT NUMBER:	47688-C
DESIGNED BY:	ZK
DRAWN BY:	ECM
FIELD CHECK:	
APPROVED:	

SHEET TITLE:

DRAINAGE DETAILS

DRAWING NUMBER:
C-321

SHEET OF



CONSTRUCTION CASES:

A. TRENCH UNDER ROADWAY (EXTEND 5' OUTSIDE CURB/EDGE OF PAVEMENT)

B. TRENCH UNDER BUILDING SLAB/FOOTING (EXTEND 5' OUTSIDE BUILDING LINE)

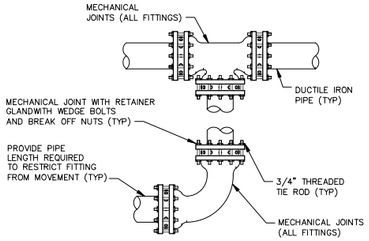
C. TRENCH UNDER OFF-ROAD AREAS

NOTES:

1. ALL COSTS ASSOCIATED WITH THE PROVISION TRENCH BACKFILL IN ACCORDANCE WITH THIS DETAIL SHALL BE INCLUDED IN THE PRICE BID FOR THE PROJECT.
2. ALL EXCAVATION AND TRENCHING MEET OSHA REQUIREMENTS.
3. BACKFILL WITH EXCAVATED TRENCH MATERIAL FREE OF DELETERIOUS MATERIAL AND STONES OVER 6" DIAMETER (UNLESS OTHERWISE NOTED). BACKFILL TO BE PLACED IN 9" (MAX) LIFTS AND COMPACTED TO 95% MODIFIED PROCTOR DENSITY (ASTM D1557) (UNLESS OTHERWISE NOTED)

1 C-340 TRENCH BACKFILL

SCALE: NTS



NOTES:

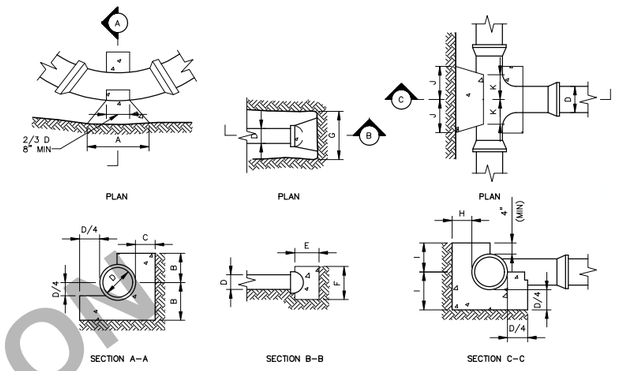
1. THRUST BLOCKING IS NOT PERMITTED WHERE PIPE RESTRAINTS ARE USED.
2. PIPE RESTRAINING TO BE USED FOR VERTICAL DEFLECTIONS ALSO.
3. SEE TABLE A FOR REQUIRED RESTRAINED LENGTH FOR DUCTILE IRON PIPE.
4. PIPE BEDDING SHALL BE IN ACCORDANCE WITH WATER PIPE TRENCH DETAIL.
5. THE CONSTRUCTION CONTRACTOR SHALL PERFORM SOIL TEST TO DETERMINE SOIL TYPE(S) INDICATED ON TABLE A.

TABLE A – REQUIRED RESTRAINED LENGTH FOR DUCTILE IRON PIPE

PIPE SIZE		UP TO 12"							
BEND ANGLE		45 DEGREE			22.5 DEGREE	11.25 DEGREE	TEE (12x6)	TEE (8x6)	CAP
TYPE OF TEE		H BEND	V BEND (UP)	V BEND (DN)	H BEND	H BEND			
SOIL (UNIFIED CLASSIFICATION)	CL, >75% PASSING NO. 200	13'	13'	28'	6'	3'	28'	16'	34'
	ML, >75% PASSING NO. 200	12'	12'	30'	6'	3'	58'	36'	73'
	CL, >50-75% PASSING NO. 200	12'	12'	28'	6'	3'	27'	17'	34'
	ML, >50-75% PASSING NO. 200	11'	11'	30'	5'	3'	55'	33'	73'
	CC, SC	10'	10'	32'	5'	2'	40'	22'	56'
	GM, SM	10'	10'	29'	5'	2'	53'	30'	71'
	SW, SP, GW	7'	7'	20'	3'	2'	31'	14'	48'

2 C-340 PIPE RESTRAINT

SCALE: 1" = 1'-0"



HORIZONTAL BEND

BEND		4"*	6"	8"	10"
11 1/4" BEND	A	6"	8"	10"	12"
	B	7"	8"	9"	10"
	C	7"	7"	8"	8"
22 1/2" BEND	A	9"	12"	18"	21"
	B	7"	8"	9"	10"
	C	8"	9"	10"	11"
45° BEND	A	15"	15"	25"	30"
	B	7"	8"	9"	10"
	C	8"	9"	10"	11"
90° BEND	A	24"	30"	36"	42"
	B	6"	9"	12"	15"
	C	22"	21"	20"	19"

* SEE NOTE 4

CAP

D	6"* 8"
E	6" 8"
F	12" 6"
G	17" 23"

* SEE NOTE 4

TEE

D	4"*	6"	8"	10"
H	8"	9"	10"	12"
I	8"	10"	12"	15"
J	7"	9"	12"	14"
K	6"	8"	8"	8"

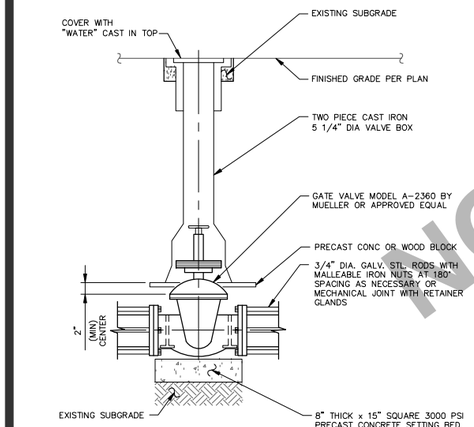
* SEE NOTE 4

NOTES:

1. ALL CONCRETE TO BE 3000 PSI.
2. ALL THRUST BLOCKS TO BE CARRIED TO UNDISTURBED EARTH.
3. THRUST BLOCK DIMENSIONS SHOWN ARE MINIMUM.
4. MINIMUM DIMENSION FOR PIPES LESS THAN 4" DIAMETER.
5. THRUST BLOCKS SHALL BE USED AS INDICATED ON THE PLANS, DETAILS, AND/OR SPECIFICATIONS. PIPE RESTRAINTS (SEE DETAIL THIS SHEET) SHALL BE USED FOR ALL HORIZONTAL AND VERTICAL DEFLECTIONS, UNLESS OTHERWISE NOTED ON PLANS, DETAILS AND/OR SPECIFICATIONS.

3 C-340 THRUST BLOCK

SCALE: NTS

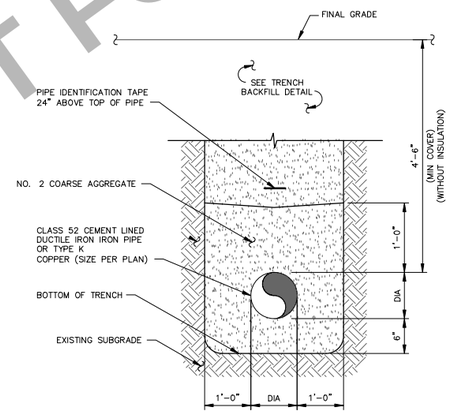


NOTES:

1. ALL VALVES TO INCLUDE MECHANICAL JOINT WITH RETAINER GLANDS AND BE RODDED BACK TO THE ADJACENT TEE IN THE WATER MAIN. INLINE VALVES NEED NOT BE RODDED. CONSTRUCTION CONTRACTOR TO UTILIZE 3/4" DIAMETER GALVANIZED STEEL RODS WITH MALLEABLE IRON NUTS AT 180° SPACING.
2. MAIN LINE VALVES TO BE SPACED NO FARTHER THAN 500' APART IN COMMERCIAL DISTRICTS AND 800' IN OTHER DISTRICTS.

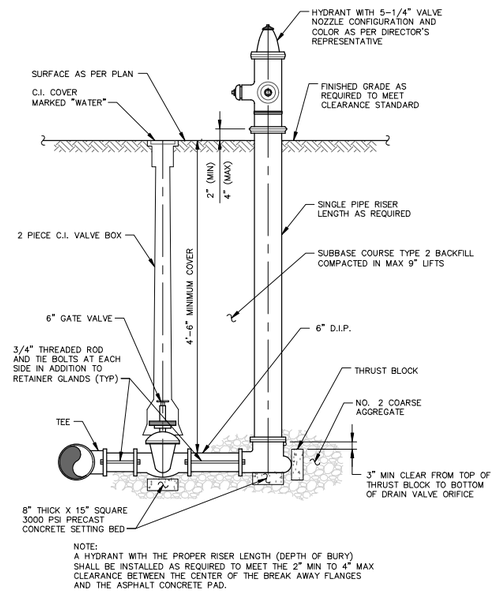
4 C-340 VALVE AND VALVE BOX

SCALE: 1" = 1'-0"



5 C-340 WATER PIPE BEDDING

SCALE: NTS



NOTE:
A HYDRANT WITH THE PROPER RISER LENGTH (DEPTH OF BURY) SHALL BE INSTALLED AS REQUIRED TO MEET THE 2" MIN TO 4" MAX CLEARANCE BETWEEN THE CENTER OF THE BREAK AWAY FLANGES AND THE ASPHALT CONCRETE PAD.

6 C-340 HYDRANT AND HYDRANT VALVE DETAIL

SCALE: 1" = 1'-0"

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CONTRACT:
CONSTRUCTION

TITLE:
PROVIDE TRANSITIONAL RESIDENCE, SOUTH CAMPUS CREEDMOOR PSYCHIATRIC CENTER

LOCATION:
80-45 WINCHESTER BLVD
QUEENS, NY

CLIENT:
OFFICE OF MENTAL HEALTH

MARK	DATE	DESCRIPTION
	11/08/24	100% SUBMISSION

PROJECT NUMBER:	47688-C
DESIGNED BY:	ZK
DRAWN BY:	ECM
FIELD CHECK:	
APPROVED:	

SHEET TITLE:
UTILITY DETAILS

DRAWING NUMBER:
C-340

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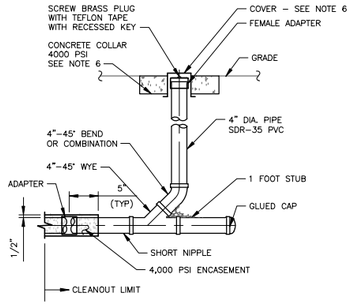
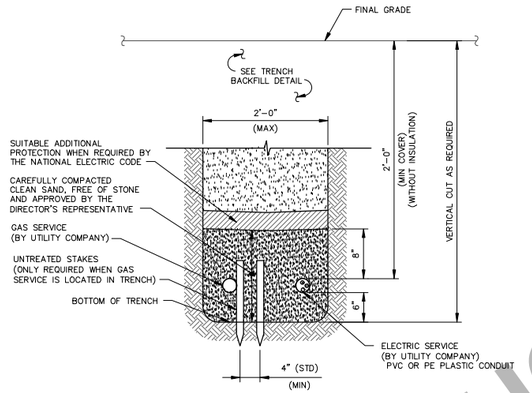


NOTES:

1. TOP OF CLEANOUT STACK/PLUG/CAP ASSEMBLY SHALL BE RECESSED 1/8" BELOW BELOW FINISHED GRADE.
2. ADAPTORS FOR TRANSITION BETWEEN DIFFERENT PIPE MATERIALS SHALL BE SUBJECT TO APPROVAL BY THE DIRECTOR'S REPRESENTATIVE.
3. ALL CONCRETE SHALL HAVE THE MINIMUM ULTIMATE COMPRESSION STRENGTH AS INDICATED WITHIN 28 DAYS.
4. BEDDING BENEATH BASE OF DEEP CONNECTION SHALL BE EQUAL TO THAT PROVIDED FOR REMAINDER OF SEWER MAIN.
5. ADAPTORS FOR DISSIMILAR MATERIALS AND/OR SIZES SHALL BE PROVIDED AS REQUIRED.
6. ALL CLEANOUTS SHALL BE PROVIDED WITH A 18 1/2"x18"x13" DEEP CAST IN PLACE CLEANOUT COLLAR WITH CAMPBELL CASTING 4130 CLEANOUT BOX.
7. THE USE OF FLEXIBLE ADAPTORS (FERNCO) IS ABSOLUTELY PROHIBITED.
8. CLEANOUTS SHALL BE PROVIDED AT ALL BENDS, ENDS, BUILDING LINE CONNECTIONS, AND AT 100' INTERVALS ON LINEAR RUNS EXCEEDING 200' IN LENGTH.

1 / C-341 CLEANOUT ASSEMBLIES
SCALE: NTS



NOTE:
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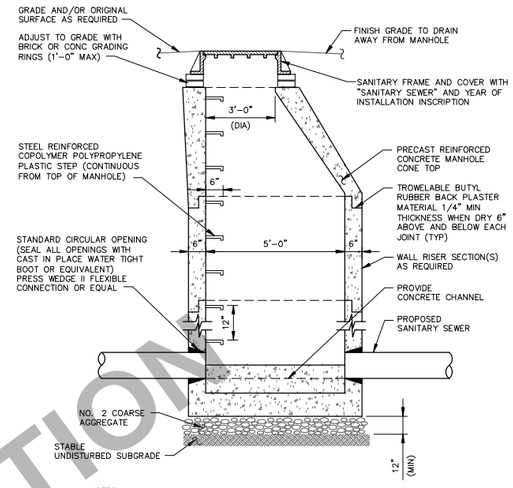
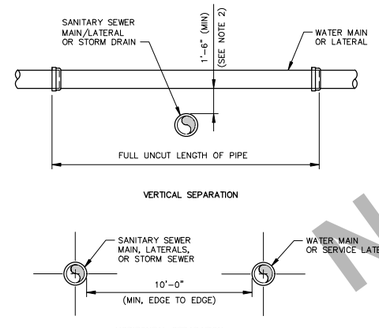
2 / C-341 UTILITY TRENCH
SCALE: NTS



NOTES:

1. CONSTRUCTION CONTRACTOR TO ORDER MANHOLE SECTIONS FROM MANUFACTURER TO MATCH REQUIRED ELEVATIONS AND INVERTS PER PLAN.
2. THE OUTSIDE FACES OF BUILT-IN-PLACE MANHOLES SHALL BE COATED WITH A BITUMINOUS WATERPROOFING MATERIAL.
3. SANITARY FRAME AND COVER SHALL CONFORM TO HEAVY-DUTY ROUND FLANGE NEENAH FOUNDRY MODEL 692. AVAILABLE MANUFACTURERS INCLUDE EAST JORDAN IRON WORKS.
4. BACKFILL WITH SELECT GRANULAR MATERIAL AROUND MANHOLE TO BE COMPACTED IN MAX 9" LIFTS.

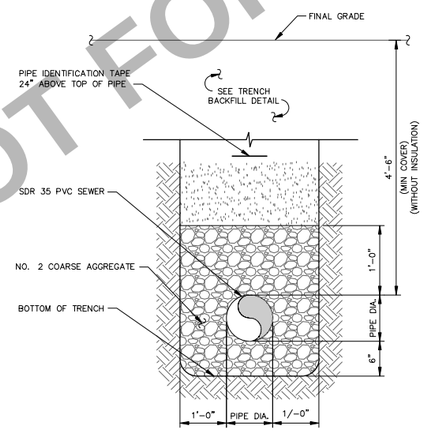
3 / C-341 SANITARY MANHOLE
SCALE: 1/2" = 1'-0"



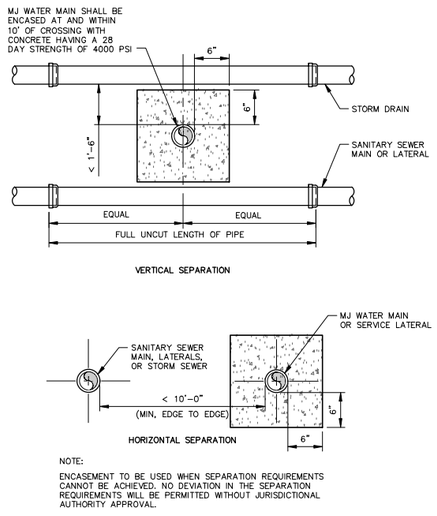
NOTES:

1. NO DEVIATION (EXCEPT AS SPECIFICALLY INDICATED ON THE PLANS) IN THE SEPARATION REQUIREMENTS WILL BE PERMITTED WITHOUT APPROVAL OF THE JURISDICTIONAL AUTHORITY.
2. WHERE WATER AND SANITARY OR STORM SEWER MAINS ARE LESS THAN 10' APART HORIZONTAL OR PROVIDE LESS THAN 18" SEPARATION BETWEEN PIPES, CONCRETE ENCASE WATER MAIN PER ENCASEMENT DETAIL.

4 / C-341 WATER/SEWER SEPARATION REQUIREMENTS
SCALE: NTS



5 / C-341 SEWER PIPE BEDDING
SCALE: 1" = 1'-0"



NOTE:
ENCASEMENT TO BE USED WHEN SEPARATION REQUIREMENTS CANNOT BE ACHIEVED. NO DEVIATION IN THE SEPARATION REQUIREMENTS WILL BE PERMITTED WITHOUT JURISDICTIONAL AUTHORITY APPROVAL.

6 / C-341 ENCASEMENT
SCALE: NTS

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CONTRACT:
CONSTRUCTION

TITLE:
PROVIDE TRANSITIONAL RESIDENCE, SOUTH CAMPUS CREEDMOOR PSYCHIATRIC CENTER

LOCATION:
80-45 WINCHESTER BLVD
QUEENS, NY

CLIENT:
OFFICE OF MENTAL HEALTH

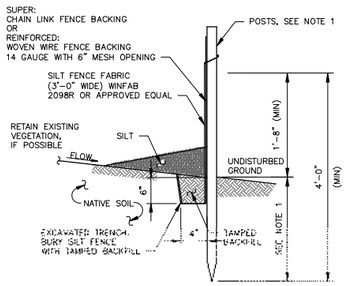
MARK	DATE	DESCRIPTION
	11/08/24	100% SUBMISSION

PROJECT NUMBER:	47688-C
DESIGNED BY:	ZK
DRAWN BY:	ECM
FIELD CHECK:	
APPROVED:	

SHEET TITLE:
UTILITY DETAILS

DRAWING NUMBER:
C-341

SHEET OF



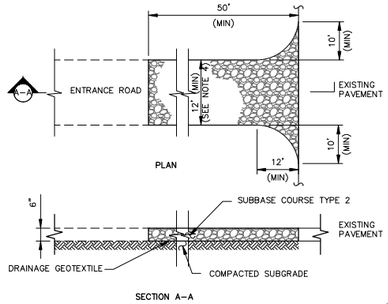
SLOPE	STEEPNESS	SLOPE LENGTH-FENCE LENGTH-FEET		
		STANDARD	REINFORCED	SUPER
<20%	<5:1	200/1500	NA	NA
20-50%	5:1 TO 2:1	125/1000	250/2000	500/3500
50-70%	2:1 TO 3:1	100/750	200/1500	400/3000
70-80%	3:1 TO 4:1	62/500	84/750	165/1500
80-90%	4:1 TO 5:1	45/250	70/500	120/500
>90%	>5:1	25/125	30/175	35/250

TABLE A

NOTES:

1. POST MATERIAL AND SPACING:
   A. STANDARD SILT FENCE – POSTS SHALL BE 2"X2" HARDWOOD OR "T" OR "U" SHAPED STEEL NOT LESS THAN 1.00 POUND PER LINEAR FOOT AND SPACED A MAXIMUM OF 4'-0" ON CENTER. POST EMBEDMENT = 1'-4" (MIN).
   B. REINFORCED SILT FENCE– POSTS SHALL BE 2"X2" HARDWOOD OR "T" OR "U" SHAPED STEEL NOT LESS THAN 1.00 POUND PER LINEAR FOOT AND SPACED A MAXIMUM OF 10'-0" ON CENTER. POST EMBEDMENT = 1'-4" (MIN).
   C. SUPER SILT FENCE – POSTS SHALL BE 2 ½" DIAMETER STEEL, DIRECT BURY, AND SPACED A MAXIMUM OF 10'-0" ON CENTER. POST EMBEDMENT = 3'-0" (MIN).
2. REINFORCEMENT SHALL BE FASTENED TO THE POSTS DEPENDENT ON THE POST MATERIAL AS FOLLOWS:
   A. HARDWOOD – WIRE TIES OR STAPLES
   B. STEEL – WIRE TIES
2. FILTER CLOTH TO BE FASTENED SECURELY TO FENCE WITH TIES SPACED EVERY 24" AT TOP AND MID-SECTION. UNREINFORCED SILT FENCE MUST BE FASTENED SECURELY TO ALL POSTS.
3. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVERLAPPED BY 6 INCHES AND FOLDED.
4. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN "BULGES" FORM IN SILT FENCE.
5. SILT FENCE TO BE MAINTAINED IN PLACE DURING CONSTRUCTION AND SOIL STABILIZATION PERIOD.
8. SILT FENCE SHALL BE INSTALLED PARALLEL TO CONTOURS TO ASSURE NO CONCENTRATION OF WATER.
7. PREFABRICATED UNITS TO MEET THE MINIMUM REQUIREMENTS SHOWN.
8. THE TYPE OF SILT FENCE SPECIFIED FOR EACH LOCATION ON THE PLAN SHALL NOT EXCEED THE MAXIMUM SLOPE LENGTH AND MAXIMUM FENCE LENGTH REQUIREMENTS SHOWN IN TABLE A.

1 C-350 SILT FENCE
SCALE: NTS

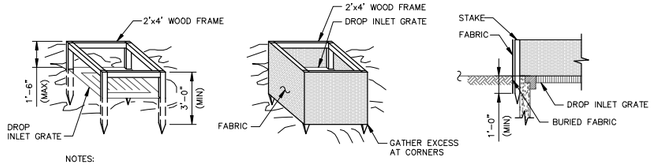


SECTION A-A

NOTES:

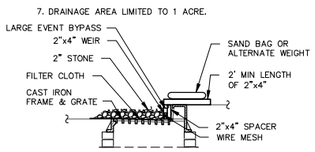
1. STONE SIZE – USE SUBBASE COURSE TYPE 2, OR RECLAIMED OR RECYCLED CONCRETE EQUIVALENT. FORGIEGN OBJECT DEBRIS SYSTEM (FODS) TRACKOUT CONTROL MAT MAY BE USED IN LIEU OF STONE IF MEETING ALL OTHER REQUIREMENTS LISTED.
2. LENGTH – NOT LESS THAN 50 FEET.
3. THICKNESS – NOT LESS THAN SIX INCHES.
4. WIDTH – 12 FOOT MINIMUM, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS. 24 FOOT IF SINGLE ENTRANCE TO SITE.
5. DRAINAGE GEOTEXTILE – 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 SHALL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRED PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED, OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY.
8. WASHING – WHEELS SHALL BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC RIGHTS-OF-WAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE AND WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.
9. PERIODIC INSPECTIONS AND NEEDED MAINTENANCE SHALL BE PROVIDED.

2 C-350 STABILIZED CONSTRUCTION ACCESS
SCALE: 3/8" = 1'-0"



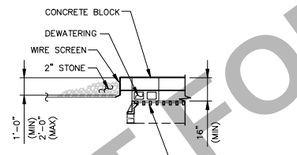
NOTES:

1. FILTER FABRIC SHALL HAVE AN EOS OF 40–85.
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"x4" 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'x4" WOOD FRAME SHALL BE COMPLETED AROUND THE CREST OF THE FABRIC FOR OVER FLOW STABILITY.
7. DRAINAGE AREA LIMITED TO 1 ACRE.



NOTES:

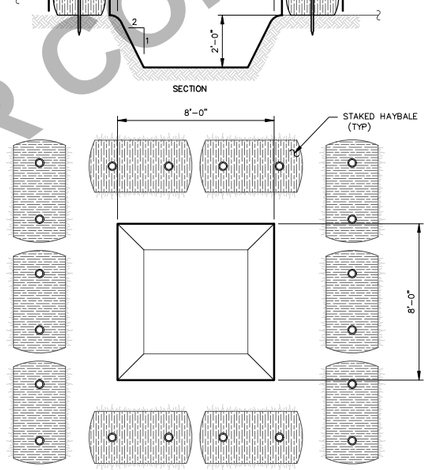
1. FILTER FABRIC SHALL HAVE AN EOS OF 40–85.
2. WIRE MESH SHALL BE BETWEEN THE GRATE AND FILTER FABRIC.
3. WOODEN FRAME SHALL BE CONSTRUCTED OF 2"x4" CONSTRUCTION GRADE LUMBER.
4. WIRE MESH ACROSS THROAT SHALL BE A CONTINUOUS PIECE 30" MIN WIDTH WITH A LENGTH OF 4' LONGER THAN THE THROAT. IT SHALL BE SHAPED AND SECURELY NAILED TO A 2"x4" WEIR.
5. THE WEIR SHALL BE SECURELY NAILED TO 2"x4" SPACERS 9" LONG SPACED NO MORE THAT 6' APART.
6. THE ASSEMBLY SHALL BE PLACED AGAINST THE INLET AND SECURED BY 2"x4" ANCHORS 2' LONG EXTENDING ACROSS THE TOP OF THE INLET AND HELD IN PLACE BY SAND BAGS OR ALTERNATE WEIGHTS.
7. DRAINAGE AREA LIMITED TO 1 ACRE.



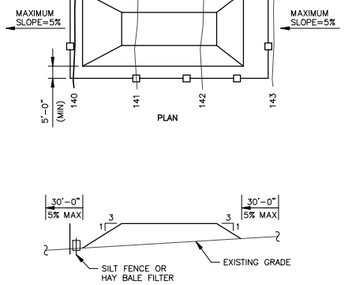
NOTES:

1. LAY ONE BLOCK ON EACH SIDE OF THE STRUCTURE ON ITS SIDE FOR DEWATERING. FOUNDATION SHALL BE 2" 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" DIA PLACED 2 INCHES BELOW THE TOP OF THE BLOCK ON A 2:1 SLOPE OR FLATTER.
4. FOR STONE STRUCTURES ONLY, A 1' THICK LAYER OF THE FILTER STONE WILL BE PLACED AGAINST THE 3" STONE AS SHOWN ON THE DRAWINGS.
5. DRAINAGE AREA LIMITED TO 1 ACRE.

3 C-350 CATCH BASIN PROTECTION
SCALE: 1/4" = 1'-0"



4 C-350 TEMPORARY CONCRETE WASH
SCALE: NTS



SECTION

NOTES:

1. PLACE STOCKPILES AT LOCATIONS AS SHOWN ON THE SOIL EROSION AND SEDIMENT CONTROL PLAN.
2. ALL SIDE SLOPES SHALL BE 3 TO 1 OR FLATTER.
3. STOCKPILE SURFACE SHALL SEALED WITH A ROLLER TO PREVENT SATURATION
4. STOCKPILE SHALL RECEIVE A VEGETATIVE COVER IN ACCORDANCE WITH MINIMUM STABILIZATION REQ.
5. SILT FENCE OR HAY BALE FILTER SHALL BE INSTALLED AS DETAILED HEREON.

5 C-350 SOIL STOCKPILE
SCALE: NTS

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LOCATION: 80-45 WINCHESTER BLVD QUEENS, NY

CLIENT: OFFICE OF MENTAL HEALTH

MARK	DATE	DESCRIPTION
	11/08/24	100% SUBMISSION

PROJECT NUMBER: 47688-C
DESIGNED BY: ZK
DRAWN BY: ECM
FIELD CHECK:
APPROVED:

SHEET TITLE: EROSION & SEDIMENT CONTROL DETAILS

DRAWING NUMBER: C-350

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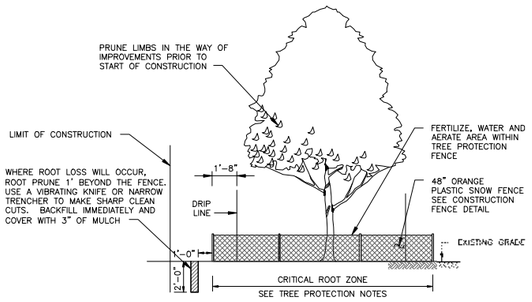
36x24 PLOT SHEET



TREE PROTECTION NOTES:

1. THE TREE PROTECTION AND PRESERVATION GUIDELINES ADOPTED PURSUANT TO THE LAND DEVELOPMENT REGULATIONS OF THE MUNICIPALITY WILL BE IMPLEMENTED IN ORDER TO PROTECT AND PRESERVE BOTH INDIVIDUAL SPECIMEN TREES AND BUFFER AREA WITH MANY TREES. STEPS THAT WILL BE TAKEN TO RESERVE AND PROTECT EXISTING TREES TO REMAIN ARE AS FOLLOWS:

   A. NO CONSTRUCTION EQUIPMENT SHALL BE PARKED UNDER THE TREE CANOPY.

   B. THERE WILL BE NO STOCKPILING OF EARTH UNDERNEATH THE TREES.

   C. TREES DESIGNATED TO BE PRESERVED SHALL BE MARKED CONSPICUOUSLY ON ALL SIDES AT A 5 TO 10 FOOT HEIGHT.

   D. THE TREE PROTECTION ZONE FOR TREES DESIGNATED TO BE PRESERVED WILL BE ESTABLISHED BY ONE OF THE FOLLOWING METHODS:

      i. ONE (1) FOOT RADIUS FROM TRUNK PER INCH DBH

      ii. DRIP LINE OF THE TREE CANOPY. THE METHOD CHOSEN SHOULD BE BASED ON PROVIDING THE MAXIMUM PROTECTION ZONE POSSIBLE. A BARRIER OF SNOW FENCE OR EQUAL IS TO BE PLACED AND MAINTAINED ONE YARD BEYOND THE ESTABLISHED TREE PROTECTION ZONE. IF IT IS AGREED THAT THE TREE PROTECTION ZONE OF A SELECTED TREE MUST BE VIOLATED, ONE OF THE FOLLOWING METHODS MUST BE EMPLOYED TO MITIGATE THE IMPACT: LIGHT TO HEAVY IMPACTS – MINIMUM OF EIGHT INCHES OF WOOD CHIPS INSTALLED IN THE AREAS TO BE PROTECTED. CHIPS SHALL BE REMOVED UPON COMPLETION OF WORK.

      iii. LIGHT IMPACTS ONLY – INSTALLATION OF 3/4 INCH OF PLYWOOD OR BOARDS, OR EQUAL OVER THE AREA TO BE PROTECTED.

   E. WHERE EXCAVATION FOR NEW CONSTRUCTION IS REQUIRED WITHIN TREE PROTECTION ZONES, HAND CLEAR AND EXCAVATE TO MINIMIZE DAMAGE TO ROOT SYSTEMS. USE NARROW–TINE SPADING FORKS AND COMB SOIL TO EXPOSE ROOTS.

   F. REDIRECT ROOTS IN BACKFILL AREAS WHERE POSSIBLE. IF ENCOUNTERING LARGE, MAIN LATERAL ROOTS, EXPOSE ROOTS BEYOND EXCAVATION LIMITS AS REQUIRED TO BEND AND REDIRECT THEM WITHOUT BRAKING. IF ENCOUNTERED IMMEDIATELY ADJACENT TO LOCATION OF NEW CONSTRUCTION AND REDIRECTION IS NOT PRACTICAL, CUT ROOTS APPROXIMATELY 3 INCHES BACK FROM NEW CONSTRUCTION AS FOLLOWS:

      i. ROOT PRUNING: PRUNE TREE ROOTS EXPOSED DURING GRADE LOWERING. DO NOT CUT MAIN LATERAL ROOTS OR TAPROOTS; CUT ONLY SMALLER ROOTS. CUT ROOTS WITH SHARP PRUNING INSTRUMENTS; DO NOT BREAK OR CHOP.

      ii. TREE PRUNING STANDARD: COMPLY WITH ANSI A300 (PART 1), "TREE, SHRUB, AND OTHER WOODY PLANT MAINTENANCE–STANDARD PRACTICES (PRUNING)."

   G. DO NOT ALLOW EXPOSED ROOTS TO DRY OUT BEFORE PLACING PERMANENT BACKFILL. PROVIDE TEMPORARY EARTH COVER OR PACK WITH PEAT MOSS AND WRAP WITH BURLAP. WATER AND MAINTAIN IN A MOIST CONDITION. TEMPORARILY SUPPORT AND PROTECT ROOTS FROM DAMAGE UNTIL THEY ARE PERMANENTLY RELOCATED AND COVERED.

2. SEPARATE PAYMENT WILL NOT BE MADE FOR THIS WORK.

1 C-351 TREE PROTECTION AND PRUNING

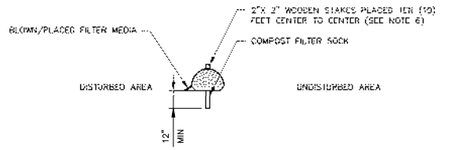
SCALE: NTS

COMPOST SOCK FABRIC MINIMUM SPECIFICATIONS

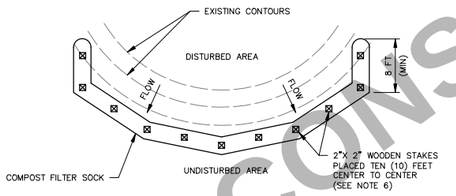
MATERIAL TYPE	3 MIL MESH	5 MIL MESH	4 MIL MESH	MULTIFILAMENT POLYPROPYLENE (MFPP)	HEAVY DUTY MULTIFILAMENT POLYPROPYLENE (HDMFPP)
MATERIAL CHARACTERISTICS	PHOTODEGRADABLE	PHOTODEGRADABLE	BIODEGRADABLE	PHOTODEGRADABLE	PHOTODEGRADABLE
SOCK DIAMETERS	12" 18"	12" 18" 24" 32"	12" 18" 24" 32"	12" 18" 24" 32"	12" 18" 24" 32"
MESH OPENINGS	3/8"	3/8"	3/8"	3/8"	3/8"
TENSILE STRENGTH	10#	36 PSI	36 PSI	44 PSI	200 PSI
ULTRAVIOLET STABILITY % ORIGINAL STRENGTH (ASTM G-155)	23% AT 1000 HR	23% AT 1000 HR	N/A	100% AT 1000 HR	100% AT 1000 HR
MINIMUM FUNCTIONAL LONGEVITY	6 MONTHS	9 MONTHS	6 MONTHS	1 YEAR	2 YEARS

COMPOST STANDARDS

ORGANIC MATTER CONTENT	25% - 100% (DRY WEIGHT)
ORGANIC PORTION	FIBROUS AND ELONGATED
PH	5.5 - 8.5
MOISTURE CONTENT	30% - 50%
PARTICLE SIZE	100% PASSING A 1" SCREEN AND 10% - 50% PASSING A 3/8" SCREEN
SOLUBLE SALT CONCENTRATION	5.0 DS/M (MMHOS/CM) MAXIMUM



SECTION VIEW



PLAN VIEW

NOTES:

1. CONTINUOUS CONTACT BETWEEN THE FILTER SOCK AND THE SOIL OR GROUND SHALL BE MAINTAINED.
2. PROPER ANCHORAGE SHALL BE PROVIDED TO PREVENT SHIFTING, OR SEPARATION OF SOCK FROM SURFACE.
3. COMPOST FILTER SOCKS SHALL BE PLACED ON THE CONTOUR WITH BOTH TERMINAL ENDS OF THE SOCK EXTENDED EIGHT (8) FEET UPSLOPE AT A 45 DEGREE ANGLE TO PREVENT BYPASS FLOW.
4. THE RATIO OF THE FLAT DIMENSION TO THE NOMINAL DIAMETER OF THE SOCK SHALL BE 1.5:1.
5. THE COMPOST INFILL MATERIAL SHALL BE WELL DECOMPOSED (MATURED AT A MINIMUM OF 3 MONTHS), WEED-FREE, ORGANIC MATTER. IT SHALL BE AEROBICALLY COMPOSED, POSSESS NO OBJECTIONABLE ODORS, SHALL CONTAIN LESS THAN ONE (1) PERCENT (BY DRY WEIGHT) OF MANMADE FOREIGN MATTER, AND SHALL BE IN ACCORDANCE WITH REGULATION NYSDEC 6 NYVRR PART 360.
6. SPACING MAY BE INCREASED TO ENHANCE SUPPORT STRUCTURE FOR FILTER SOCK AND AS DIRECTED BY THE QUALIFIED INSPECTOR.
7. TRAFFIC SHALL NOT BE PERMITTED TO TRAVERSE FILTER SOCKS. FILTER SOCK SHOULD BE REPLACED IMMEDIATELY IF DAMAGED BY VEHICLE TRAFFIC.
8. SEDIMENT SHALL BE REMOVED UPSTREAM OF FILTER SOCK WHEN IT REACHES HALF THE DEPTH OF THE FILTER SOCK.
9. LENGTH OF FILTER SOCK REQUIRED SHALL BE DETERMINED FROM TABLE BELOW BASED ON NOMINAL DIAMETER OF SOCK AND SLOPE OF TERRAIN.

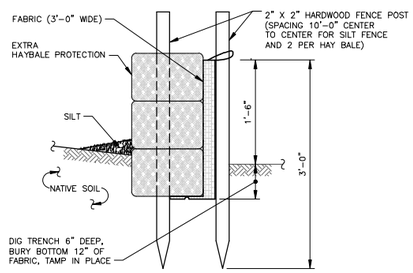
MAXIMUM ALLOWABLE SLOPE LENGTH (FEET) ABOVE COMPOST FILTER SOCK

NOMINAL DIAMETER	SLOPE (%)						
	0%	2	5	10	20	30	50
8"		225	200	150	50	20	N/A
12"		250	225	175	85	50	25
18"		275	250	150	70	55	45
24"		350	275	200	130	100	60
32"		450	325	275	150	120	75

*HIGH DIAMETER SHALL BE RESTRICTED TO A DRAINAGE AREA OF 0.25 ACRES

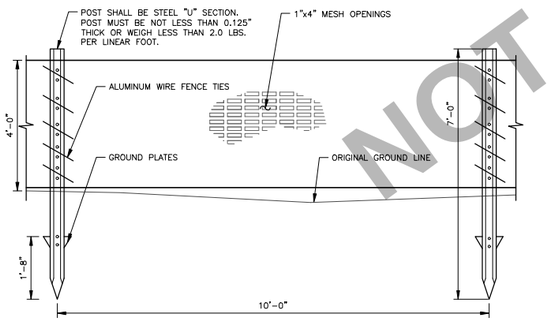
2 C-351 COMPOST FILTER SOCK

SCALE: NTS



3 C-351 SILT FENCE WITH STRAW BALE DIKE

SCALE: 1" = 1'-0"

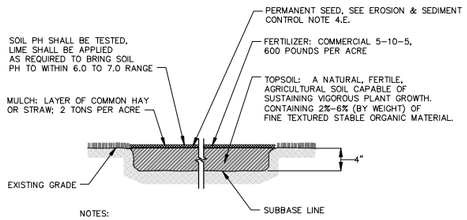


NOTES:

1. FENCING TO BE PLACED LINEARLY ALONG LIMIT OF CLEARING, AND AS SHOWN ON PLAN AND AS REQUIRED BY REFERRING DETAILS.
2. MESH COLOR TO BE BLAZE ORANGE.

4 C-351 CONSTRUCTION FENCE (PLASTIC)

SCALE: NTS



NOTES:

1. TOPSOIL, SEED, MULCH, AND FERTILIZE DISTURBED SOIL AREAS THAT WILL BE LEFT EXPOSED FOR 14 DAYS OR MORE.
2. SEED MIX IN RIGHT OF WAY TO BE A MIXTURE OF 30% KENTUCKY BLUE, 25% PERENNIAL RYE, 20% RED FESCUE, 25% PALMER RYE.

5 C-351 TOPSOIL, FERTILIZER, SEED & MULCH

SCALE: NTS

NOT FOR CONSTRUCTION

NEW YORK STATE Office of General Services

CONSULTANT

CERTIFICATE OF AUTHORIZATION 1127432

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PROJECT NUMBER:	47688-C
DESIGNED BY:	ZK
DRAWN BY:	ECM
FIELD CHECK:	
APPROVED:	

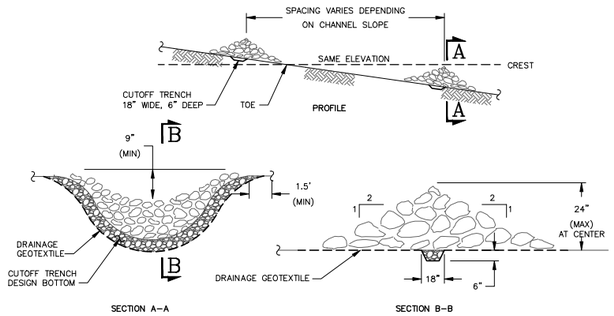
SHEET TITLE:

EROSION & SEDIMENT CONTROL DETAILS

DRAWING NUMBER: C-351

SHEET OF

Oct 31,2024 – 10:59am
F:\Mount Vernon\Vernon\12546\12546-01 OMH Creedmoor\Dwg\MT-CV-12546.01-350_DETAILS.dwg
36x24 PLOT SHEET

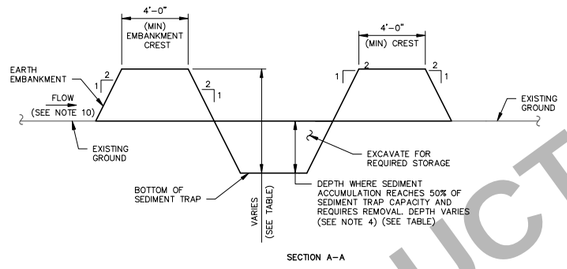


CONSTRUCTION SPECIFICATIONS:

1. STONE SHALL BE NYSDOT ITEM 620.03 STONE FILLING (LIGHT).
2. GEOTEXTILE FILTER FABRIC SHALL HAVE AN EOS OPENING OF 70.
3. STONE WILL BE PLACED ON A FILTER FABRIC FOUNDATION AT LOCATIONS SHOWN ON THE PLAN.
4. SET SPACING OF CHECK DAMS TO ASSURE THAT THE ELEVATIONS OF THE CREST OF THE DOWNSTREAM DAM IS AT THE SAME ELEVATION AS THE TOE OF THE UPSTREAM DAM.
5. EXTEND THE STONE A MINIMUM OF 1.5 FEET BEYOND THE DITCH BANKS TO PREVENT CUTTING AROUND THE DAM.
6. PROTECT THE CHANNEL DOWNSTREAM OF THE LOWEST CHECK DAM FROM SCOUR AND EROSION WITH STONE OR LINER AS APPROPRIATE UNLESS OTHERWISE INDICATED ON THE PLANS.
7. ENSURE THAT CHANNEL APPURTENANCES SUCH AS CULVERT ENTRANCES BELOW CHECK DAMS ARE NOT SUBJECT TO DAMAGE OR BLOCKAGE FROM DISPLACED STONES.

1 C–352 STONE CHECK DAM

SCALE: NTS



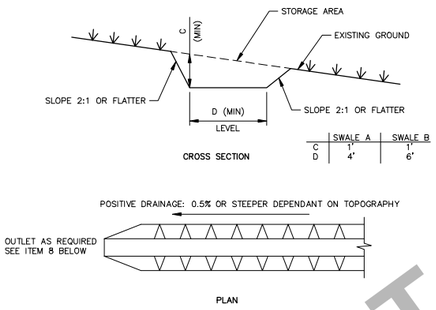
2 C–352 STONE OUTLET SEDIMENT TRAP (ST–II)

SCALE: NTS

PARAMETER	SEDIMENT TRAP
TRAP LENGTH	55 FT
TRAP WIDTH	30 FT
MAXIMUM DEPTH	5 FT
TRAP DEPTH AT 50% CAPACITY MAINTENANCE	3.2 FT
SEE PLAN FOR FOOTPRINT	

CONSTRUCTION SPECIFICATIONS:

1. AREA UNDER EMBANKMENT SHALL BE CLEARED, GRUBBED AND STRIPPED OF ANY VEGETATION AND ROOT MAT. THE POOL AREA SHALL BE CLEARED.
2. THE FILL MATERIAL FOR THE EMBANKMENT SHALL BE FREE OF ROCKS AND OTHER WOODY VEGETATION AS WELL AS OVER-SIZED STONES, ROCKS, ORGANIC MATERIAL OR OTHER OBJECTIONABLE MATERIAL. THE EMBANKMENT SHALL BE COMPACTED BY TRAVERSING WITH EQUIPMENT WHILE IT IS BEING CONSTRUCTED.
3. ALL CUT AND FILL SLOPES SHALL BE 2:1 OR FLATTER.
4. SEDIMENT SHALL BE REMOVED AND TRAP RESTORED TO ITS ORIGINAL DIMENSIONS WHEN THE SEDIMENT HAS ACCUMULATED TO 1/2 THE DESIGN DEPTH OF THE TRAP. IT SHALL BE PLACED ON SITE AND STABILIZED OR DISPOSED OF PROPERLY AS DIRECTED BY THE DIRECTOR'S REPRESENTATIVE.
5. THE STRUCTURE SHALL BE INSPECTED AFTER EACH RAIN AND REPAIRS MADE AS NEEDED.
6. CONSTRUCTION OPERATIONS SHALL BE CARRIED OUT IN SUCH A MANNER THAT EROSION AND SEDIMENT ARE CONTROLLED.
7. THE STRUCTURE SHALL BE REMOVED AND THE AREA STABILIZED WHEN THE DRAINAGE AREA HAS BEEN PROPERLY STABILIZED.
8. MAXIMUM DRAINAGE AREA 5 ACRES.
9. THE MINIMUM CAPACITY FOR THE SEDIMENT TRAP SHALL BE 4,667 CUBIC FEET. VOLUME OF SEDIMENT STORAGE REQUIRED SHALL BE 3,600 CUBIC FEET PER ACRE OF CONTRIBUTORY DRAINAGE.
10. OPENING IN EARTH EMBANKMENT SHALL BE MADE TO CAPTURE ALL UPSTREAM FLOW DISCHARGING TO SEDIMENT TRAP. CAPACITY SHALL NOT BE REDUCED TO ACCOMMODATE FLOW ENTERING SEDIMENT TRAP.
11. OBSERVED GROUNDWATER WAS NOT ENCOUNTERED DOWN TO ELEVATION 77 FEET (BOTTOM OF GROUNDWATER OBSERVATION WELLS). SEE GEOTECHNICAL REPORT FOR FULL DISCUSSION ON SUBSURFACE CONDITIONS.
12. ONCE TRAP HAS MET CAPACITY, DEWATERING OPERATIONS SHALL TAKE PLACE IN ACCORDANCE WITH NYSDEC STANDARDS. SEE DETAIL THIS SHEET FOR FURTHER GUIDANCE.



CONSTRUCTION SPECIFICATIONS:

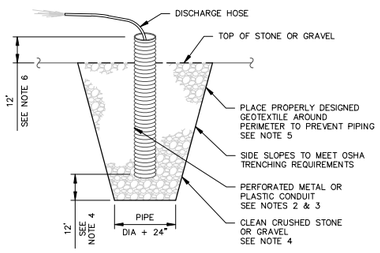
1. FOR DRAINAGE AREA LESS THAN 5 ACRES USE SWALE A FOR DRAINAGE AREAS GREATER THAN 5 ACRES AND LESS THAN 10 ACRES USE SWALE B.
2. DIVERTED RUNOFF FROM A DISTURBED AREA SHALL BE CONVEYED TO A SEDIMENT TRAPPING DEVICE.
3. DIVERTED RUNOFF FROM AN UNDISTURBED AREA SHALL OUTLET DIRECTLY INTO AN UNDISTURBED STABILIZED AREA AT NON-EROSIVE VELOCITY.
4. ALL TREES, BRUSH, STUMPS, OBSTRUCTIONS AND OTHER OBJECTIONABLE MATERIAL SHALL BE REMOVED AND DISPOSED OF SO AS NOT TO INTERFERE WITH THE PROPER FUNCTIONING OF THE SWALE.
5. THE SWALE SHALL BE EXCAVATED OR SHAPED TO LINE, GRADE, AND CROSS SECTION AS REQUIRED TO MEET THE CRITERIA SPECIFIED HEREIN AND BE FREE OF BANK PROJECTIONS OR OTHER IRREGULARITIES WHICH WILL IMPEDE NORMAL FLOW.
6. FILLS SHALL BE COMPACTED BY EARTH MOVING EQUIPMENT.
7. ALL EARTH REMOVED AND NOT NEEDED FOR CONSTRUCTION SHALL BE PLACED SO THAT IT WILL NOTE INTERFERE WITH THE FUNCTIONING OF THE SWALE.
8. STABILIZATION SHALL BE AS PER THE FLOW CHANNEL STABILIZATION CHART BELOW

TYPE OF TREATMENT	CHANNEL GRADE	SWALE A (5 AC OR LESS)	SWALE B (5 AC TO 10 AC)
1	0.5–3.0%	SEED AND STRAW MULCH	SEED AND STRAW MULCH
2	3.1–5.0%	SEED AND STRAW MULCH	SEED USING JUTE OR EXCELSIOR
3	5.1–8.0%	SEE WITH JUTE OR EXCELSIOR, SOD	LINED WITH 4"–8" RIP–RAP OR RECYCLED CONCRETE EQUIVALENT
4	8.1–20%	LINED WITH 4"–8" RIP–RAP	ENGINEERED DESIGN

9. PERIODIC INSPECTION AND REQUIRED MAINTENANCE MUST BE PROVIDED AFTER EACH RAIN EVENT.

3 C–352 TEMPORARY SWALE

SCALE: NTS



NOTES:

1. OVERALL SUMP PIT DIMENSIONS SHALL BE COMPATIBLE WITH ANTICIPATED SEEPAGE RATES AND PUMP SIZE TO BE USED.
2. THE STANDPIPE DIAMETER AND NUMBER OF PERFORATIONS SHALL BE COMPATIBLE WITH THE PUMP SIZE BEING USED.
3. PERFORATIONS IN THE STANDPIPE SHALL BE EITHER CIRCULAR OR SLOTS. PERFORATIONS SIZE SHALL NOT EXCEED 1/2" IN DIAMETER.
4. CRUSHED STONE OR GRAVEL SHALL BE NO. 2 COARSE AGGREGATE. CRUSHED STONE SHALL EXTEND A MINIMUM OF 12" BELOW THE BOTTOM OF THE STANDPIPE.
5. IF EXCESSIVE MOVEMENT OF FINE SOIL PARTICLES FROM THE SURROUNDING EXISTING SOILS IS ANTICIPATED, A PROPERLY DESIGNED GEOTEXTILE SHALL BE PLACED BETWEEN THE EXISTING SOILS AND THE CRUSHED STONE OR GRAVEL BACKFILL.
6. THE STANDPIPE SHALL EXTEND A MINIMUM OF 12" ABOVE THE SURROUNDING GROUND.
7. AT POINT OF DISCHARGE, INSTALL GEOTEXTILE FILTER BAG IN ACCORDANCE WITH REQUIREMENTS OUTLINED IN THE PROJECT SWPPP.

4 SHT–27 PUMP INTAKE PROTECTION

SCALE: NTS

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NEW YORK STATE Office of General Services

CONSULTANT

CERTIFICATE OF AUTHORIZATION 1127432

Architectural Resources

LAKHANI & JORDAN ENGINEERS, P.C.

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Tectonic

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CONTRACT: CONSTRUCTION

TITLE: **PROVIDE TRANSITIONAL RESIDENCE, SOUTH CAMPUS CREEDMOOR PSYCHIATRIC CENTER**

LOCATION: 80-45 WINCHESTER BLVD QUEENS, NY

CLIENT: OFFICE OF MENTAL HEALTH

MARK	DATE	DESCRIPTION
	11/08/24	100% SUBMISSION

PROJECT NUMBER: 47688-C

DESIGNED BY: ZK

DRAWN BY: ECM

FIELD CHECK:

APPROVED:

SHEET TITLE: EROSION & SEDIMENT CONTROL DETAILS

DRAWING NUMBER: C-352

SHEET OF

Nov. 01,2024 - 4:16pm
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36x24 PLOT SHEET

EROSION AND SEDIMENT CONTROL SEQUENCING

CONSTRUCTION SEQUENCING

1. A PRE-CONSTRUCTION MEETING WITH THE DIRECTOR'S REPRESENTATIVE, FACILITY REPRESENTATIVE, AND CONSTRUCTION CONTRACTOR PRESENT SHALL BE HELD TO REVIEW THE SWPPP, EROSION AND SEDIMENT CONTROLS PLANS, AND THE SEQUENCING.
2. CERTIFICATIONS OBTAINED FROM CONTRACTORS, SUBCONTRACTORS, AND ANY OTHERS PERFORMING SITE DISTURBANCES, INCLUDING UNDERGROUND UTILITY CONTRACTORS, BE SIGNED AND MAINTAINED ON SITE.
3. ALL EROSION CONTROL MEASURES WILL BE INSTALLED IN ACCORDANCE WITH THE NYS STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL, LATEST EDITION.
4. INSTALL PROVISIONS FOR PROTECTION OF EXISTING FACILITIES, WHERE INDICATED ON THE PLANS.
5. CHANGES TO THE EROSION AND SEDIMENT CONTROL SEQUENCING SHALL BE APPROVED BY THE DIRECTOR'S REPRESENTATIVE.
6. ACTIVE DISTURBANCE SHALL BE LIMITED TO LESS THAN 5 AC MAXIMUM AT ANY TIME WITHOUT TEMPORARY STABILIZATION. ALL NON-ACTIVE DISTURBANCE AREAS SHALL RECEIVE TEMPORARY OR PERMANENT STABILIZATION. NON-ACTIVE DISTURBED SOIL AREAS SHALL NOT REMAIN EXPOSED FOR LONGER THAN 14 DAYS WITHOUT BEING STABILIZED.
7. ANY BORROW OR WASTE PIT LOCATED ON OR OFF-SITE MUST IMMEDIATELY RECEIVE TEMPORARY STABILIZATION, SHALL NOT BE LEFT UNSTABILIZED, AND BE MAINTAINED PER THE REQUIREMENTS OF THE GENERAL CONSTRUCTION PERMIT.
8. DRAINAGE STRUCTURES AND PIPES SHALL BE INSTALLED ALONG WITH ENERGY DISSIPATERS.
9. INSTALL TEMPORARY CONSTRUCTION FENCE AROUND PERIMETER OF SITE AS SHOWN ON THE PLANS.
10. INSTALL STABILIZED CONSTRUCTION ENTRANCE, SILT FENCE, INLET PROTECTION, FIBER ROLLS, TREE PROTECTION, OBJECT PROTECTS, AS SHOWN ON THE PLANS, AND AS DIRECTED BY THE DIRECTOR'S REPRESENTATIVE, PRIOR TO GROUND DISTURBANCE ACTIVITIES.
11. INSTALL SEDIMENT TRAP AND TEMPORARY DIVERSION SWALE WITHIN LIMITS SHOWN ON THE PLANS. TEMPORARY DIVERSION SWALE SHALL DISCHARGE TO SEDIMENT TRAP. INSTALL CHECK DAMS ALONG SWALE IN ACCORDANCE WITH THE DETAIL AND AS DIRECTED BY THE DIRECTOR'S REPRESENTATIVE.
12. INSTALL DRAINAGE STRUCTURES AND PIPES WITHIN PARKING LOT AS SHOWN ON THE PLANS. REINSTALL INLET PROTECTION AS NECESSARY AND AS DIRECTED BY THE DIRECTOR'S REPRESENTATIVE.
13. CLEAR AND GRUB SITE, STOCKPILE TOPSOIL FOR REUSE, AND REMOVE OBJECTS AS INDICATED ON THE PLANS.
14. INSTALL WATER BYPASS AS SHOWN ON PLANS. INSTALLATION SHALL BE PERFORMED IN A MANOR TO MINIMIZE DOWNTIME OF WATER SERVICE TO THE FACILITY TO THE GREATEST EXTENT PRACTICAL.
15. FOOTINGS, CONCRETE PADS, AND UTILITIES SHALL BE CONSTRUCTED AS SHOWN ON PLANS.
16. CONSTRUCT CATCH BASIN, CURB AND SUBBASE WITHIN SITE LIMITS.
17. REMOVE SEDIMENT TRAP AND INSTALL SUBSURFACE STORAGE SYSTEM AS SHOWN ON PLAN. WORK UPSTREAM INSTALLING DRAINAGE LINES AND REMOVING TEMPORARY DIVERSION SWALE AND CHECK DAMS.
18. INSTALL NEW CURB AND PAVEMENT WITHIN EXISTING PARKING LOT AREA AS SHOWN ON PLANS. INSTALL NEW SIDEWALKS AS SHOWN ON THE PLANS.
19. BEGIN FINAL GRADING AND ESTABLISH TURF. ALL LANDSCAPE/GRASSED AREAS WILL BE SEEDED AND MULCHED IN A TWO STEP HYDRAULIC PROCESS TO PROMOTE GROWTH AS SOON AS POSSIBLE AND IN ACCORDANCE WITH NOTE 4 OF THE EROSION AND SEDIMENTATION CONTROL NOTES ON THIS SHEET. TO FACILITATE FINAL STABILIZATION INTERMEDIATE EROSION CONTROL MEASURES MAY BE REMOVED.
20. UPON PERMANENT STABILIZATION ALL TEMPORARY EROSION CONTROL MEASURES SHALL BE REMOVED. ALL CATCH BASINS AND DRAINAGE LINES ARE TO BE FLUSHED CLEAN OF ALL SILT AND SEDIMENT AFTER CONSTRUCTION IS COMPLETE. REMOVE ALL SILT AND SEDIMENT FROM SITE.
21. MILL AND OVERLAY EXISTING PAVEMENT AS SHOWN ON THE PLANS.
22. DIRECTOR'S REPRESENTATIVE TO REVIEW SITE AND DIRECT ANY CORRECTIVE ACTIONS DEEMED NECESSARY TO APPROVE FINAL STABILIZATION AND FACILITATE SPDES PERMIT CLOSEOUT.
23. CONSTRUCTION CONTRACTOR TO PROVIDE ASBUILT OF DRAINAGE NETWORK AND POST CONSTRUCTION STORMWATER CONTROLS TO DIRECTOR'S REPRESENTATIVE PRIOR TO SPDES PERMIT CLOSEOUT AND IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS.

EROSION CONTROL MAINTENANCE SCHEDULE

EROSION CONTROL MAINTENANCE SCHEDULE			
MEASURE	**INSPECTION FREQUENCY**	**PROBLEMS TO LOOK FOR**	**POTENTIAL REMEDIES**
AS SHOWN ON PLANS			
SILT FENCE	ONCE A WEEK AND AFTER EVERY RUNOFF EVENT	DAMAGED FABRIC	REPLACE DAMAGED FABRIC
		DAMAGED POSTS	REPLACE DAMAGED POSTS
		DAMAGE OF WIRE FOR REINFORCED SILT FENCE AND CHAIN LINK FENCE FOR SUPER SILT FENCE	REINSTALL ENTIRE WIRE BACKED SILT FENCE FOR REINFORCED SILT FENCE AND REINSTALL CHAIN LINK FENCE FOR SUPER SILT FENCE
		DAMAGED FASTENING OF SILT FENCE FABRIC TO POSTS	REFASTEN SILT FENCE FABRIC TO POSTS
		BULGES DEVELOPING IN SILT FENCE	REMOVE SEDIMENT AND REINSTALL SECTION OF SILT FENCE
		SILT FENCE SEDIMENT ACCUMULATION HAS REACHED 50% ITS CAPACITY	REMOVE SEDIMENT AND REINSTALL REPLACE SILT FENCE IF DAMAGED
STONE CHECK DAM	ONCE A WEEK AND AFTER EVERY RUNOFF EVENT	RUTTING OBSERVED IN CHANNEL BETWEEN CHECK DAMS	DECREASE SPACING AND INCREASE FREQUENCY OF CHECK DAMS, OR LINE CHANNEL WITH RIPRAP MATERIAL BETWEEN CHECK DAMS
		DAMAGE TO STRUCTURAL INTEGRITY OF MATERIAL USED FOR CHECK DAM	REINSTALL CHECK DAM MATERIAL, REPLACE DAMAGED SECTIONS
		CHECK DAM OVERLOADED WITH SEDIMENT	REPLACE CHECK DAM MATERIAL AND REINSTALL
		LOW POINT OF TOP OF CHECK DAM IS NOT AT CENTER OF CHANNEL	REINSTALL CHECK DAM MATERIAL TO MAKE CENTER OF CHANNEL LOWEST POINT
		DAMAGE TO CHECK DAM CAUSES OBSTRUCTION TO CULVERT OR OTHER DRAINAGE STRUCTURE	REINSTALL CHECK DAM IN ACCEPTABLE LOCATION AND CLEAR OBSTRUCTION OF DOWNSTREAM INLET
STABILIZED CONSTRUCTION ACCESS	ONCE A WEEK AND AFTER EVERY RUNOFF EVENT		INCREASE THICKNESS OF AGGREGATE MATERIAL, REMOVE SEDIMENT LOADED AGGREGATE AND REINSTALL NEW AGGREGATE. EXTEND LENGTH OF AGGREGATE MATERIAL AND INSTALL TIRE WASHING STATIONS NEAR
		TRACKING OF SEDIMENT OBSERVED ON PAVEMENT	REMOVE SEDIMENT AND REPLACE AGGREGATE
		DAMAGE TO FILTER CLOTH	REPLACE FILTER CLOTH
CONCRETE TRUCK WASHOUT	DAILY	DAMAGE TO FILTER CLOTH	REPLACE FILTER CLOTH
		RAINWATER FILLS WASHOUT PIT	DISCHARGE TO GRASS IF NO MIXING WITH CONCRETE OCCURS. TREAT AS CONCRETE IF MIXING OCCURS AND DISPOSE OF PROPERLY
		OVERLOADING OF WASHOUT PIT WITH CONCRETE	DISPOSE OF CONCRETE PROPERLY
		CONCRETE DISCARDED OUTSIDE OF WASHOUT PIT	PLACE CONCRETE AND ASSOCIATED SOIL IN WASHOUT PIT
STORM DRAIN INLET PROTECTION	ONCE A WEEK AND AFTER EVERY RUNOFF EVENT	DAMAGE TO MATERIAL USED FOR INLET PROTECTION	REPLACE MATERIAL USED FOR INLET PROTECTION
		INLET PROTECTION OVERLOADED WITH SEDIMENT	REMOVE SEDIMENT AND REPLACE MATERIAL IF NO LONGER FUNCTIONAL
		INLET ISN'T AT LOWEST POINT AND CAUSES PONDING	REGRADE SURROUNDING AREA OR RESET GRATE ELEVATION
COMPOST FILTER SOCK	ONCE A WEEK AND AFTER EVERY RUNOFF EVENT	ACCUMULATED SEDIMENT REACHES HALF THE HEIGHT OF THE SOCK	REMOVE SEDIMENT AND REPLACE MATERIAL IF NO LONGER FUNCTIONAL
		DAMAGED WOODEN STAKES	REPLACE WOODEN STAKES
		DAMAGED FILTER MATERIAL	REPLACE COMPOST FILTER SOCK
SEDIMENT TRAP	ONCE A WEEK AND AFTER EVERY RUNOFF EVENT	ACCUMULATED SEDIMENT REACHES HALF THE DEPTH OF THE TRAP AND FILLS 50% OF THE TRAP CAPACITY	REMOVE SEDIMENT FROM TRAP TO RESTORE TO INITIAL CAPACITY AND DISPOSE OF SEDIMENT PROPERLY
		EROSION/RUTTING IN SIDE SLOPES	REPAIR AND REGRADE SIDE SLOPES
		STONE IN OUTFLOW WEIR IS FOULED WITH SEDIMENT	REPLACE STONE IN WEIR
TEMPORARY DRAINAGE SWALE	ONCE A WEEK AND AFTER EVERY RUNOFF EVENT	OBSTRUCTION PREVENTING FLOW	REMOVE OBSTRUCTION
		EROSION/RUTTING IN SIDE SLOPES	REPAIR AND REGRADE SIDE SLOPES
POTENTIAL USE ONSITE			
STRAW BALE DIKE	ONCE A WEEK AND AFTER EVERY RUNOFF EVENT	STRAW BALE DIKE SEDIMENT ACCUMULATION HAS REACHED 50% ITS CAPACITY	REMOVE SEDIMENT AND REINSTALL. REPLACE HAY BALE IF EXCEESIVE DAMAGE OBSERVED
		DISCHARGE IS SEDIMENT-LADEN	REINSTALL STRAW BALE DIKE
		DAMAGE TO ANCHORING SYSTEM	REINSTALL REBAR ANCHORS
DEWATERING SUMP PIT	ONCE A WEEK AND AFTER EVERY RUNOFF EVENT	DAMAGED HOSE, PUMP, STANDPIPE, & FILTER (IF WARRANTED)	REPLACE COMPONENT OR REPAIR (EQUIPMENT ONLY)
FLOW DIFFUSER	ONCE A WEEK AND AFTER EVERY RUNOFF EVENT	ACCUMULATED SEDIMENT IN AGGREGATE	REPLACE MATERIAL IN AGGREGATE
LINED ROCK WATERWAY	ONCE A WEEK AND AFTER EVERY	VEGETATIVE ROOT UPLIFTING DAMAGES WATERWAY	REMOVE PLANTS AND ROOT STRUCTURE WITHIN LIMITS OF WATERWAY. REPAIR WATERWAY
WATER BAR	ONCE A WEEK AND AFTER EVERY RUNOFF EVENT	RUTTING OBSERVED AT BOTTOM OF WATER BAR	REGRADE WATER BAR ELEVATIONS
		VEHICULAR DAMAGE TO WATER BAR	REGRADE WATER BAR ELEVATIONS & ENSURE POSITIVE DRAINAGE
		ACCUMULATED SEDIMENT IN AGGREGATE (OUTLET AND CHANNEL)	REMOVE SEDIMENT AND REPLACE AGGREGATE
ANCHORED STABILIZATION MATTING	EVERY OTHER DAY AND AFTER RUNOFF EVENT	DAMAGED OR DISPLACED BLANKETS	REPAIR & REINSTALL BLANKETS. REPLACE IF DAMAGED
DEWATERING DEVICE	ONCE A WEEK AND AFTER EVERY RUNOFF EVENT	DAMAGED FILTER FABRIC	REPLACE FILTER FABRIC
		MALFUNCTIONING SKIMMER	REPAIR SKIMMER; REPLACE IF CANNOT BE REPAIRED
		SEDIMENT REACHES LEVEL MARKED ON SEDIMENT CLEANOUT STAKE	REMOVE SEDIMENT
GEOTEXTILE FILTER BAG	ONCE A WEEK AND AFTER EVERY RUNOFF EVENT	REDUCTION OF BAG FLOW AREA REDUCES 75% FROM INITIAL CAPACITY	REPLACE BAG
		DAMAGED BAG	REPLACE BAG
*WINTER STABILIZATION MEASURES SHALL BE APPLIED BETWEEN DATES OF 11/15 TO 4/1.			

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Architectural Resources

LAKHANI & JORDAN ENGINEERS, P.C.

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CONTRACT:
CONSTRUCTION

TITLE:
PROVIDE TRANSITIONAL RESIDENCE, SOUTH CAMPUS CREEDMOOR PSYCHIATRIC CENTER

LOCATION:
80-45 WINCHESTER BLVD
QUEENS, NY

AGENCY:
OFFICE OF MENTAL HEALTH

MARK	DATE	DESCRIPTION
	11/08/24	100% SUBMISSION

PROJECT NUMBER:	47688-C
DESIGNED BY:	ZK
DRAWN BY:	ECM
FIELD CHECK:	
APPROVED:	

SHEET TITLE:
EROSION & SEDIMENT CONTROL SEQUENCING & MAINTENANCE TABLE

DRAWING NUMBER:
C-353

SHEET OF

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APPENDIX M

OHM Creedmoor Proposed Building
Stormwater Management Maintenance Plan

Efficient and timely maintenance of the stormwater practices is necessary to ensure the proper function and longevity of the stormwater management system. The maintenance plan is an outline of the maintenance tasks and schedules. The maintenance is to be performed by the lease holder or their representative and contact information is presented below. Sample Maintenance Logs are attached.

Contact Information

Company Name: _____

Contact Name: _____

Address: _____

Phone: _____

1.1 GENERAL

- The maintenance plan must be evaluated for effectiveness at least annually and must be revised as needed.
- As-built plans shall be prepared and submitted by a NYS licensed land surveyor to the City Engineer to document all stormwater improvements at the end of construction.
- DEP rules require that Stormwater Maintenance Permits be renewed every 5 years. Permit renewal requires a certification from a qualified professional, depending on the type of professional that signed and sealed the original construction drawings. Permit renewal applications must be filled on the SWPTS.
- A record of when the inspection was performed, by whom and which structures should be kept. A sample inspection record is attached.
- See attached proprietary Maintenance Guidelines for additional information on specific practices.

1.2 HYDRODYNAMIC SEPARATORS

- Visual inspections should be performed to determine there are no blockages or obstructions in the inlet and separation screen.
- The inspection should also quantify the accumulation of hydrocarbons, trash, and sediment in the system.
- The system should be cleaned when the level of sediment has reached 75% of capacity in the isolated sump (approximately 1.5 ft of build up) or when an appreciable level of hydrocarbons and trash has accumulated.

1.3 UNDERGROUND STORMWATER VAULT

- Visual inspection should be performed to determine there are no blockages or obstructions in the inlet.
- Check overflow inlets for standing water.
- Vacuuming of the internal structures will be performed on an as needed basis if sediment and debris accumulation is observed.
- Vacuuming of the inlets sumps and hoods will be performed on an as needed basis if sediment and debris accumulation is observed.
- Sediment will be cleared from orifices to prevent clogging.

2.0 MAINTENANCE FREQUENCY

The frequencies in which maintenance items are performed on the OHM Creedmoor Site are outlined below. If the frequency appears insufficient based on the level of sediment build up or erosion, modifications should be made to the maintenance plan.

Maintenance Item	Frequency
Hydrodynamic Separator (HDS Units)	Bi-Annually (Spring & Fall) and after a 5-inch rainfall
Underground Stormwater Vault	Bi-Annually (Spring & Fall) and after a 5-inch rainfall

OHM Creedmoor Hydrodynamic Separator - Inspection Record

	Inspection Checklist	Y/N	Action Items
Date:	Blockages or Obstructions on screen or inlet?		
	Is there sediment or trash accumulated more than one foot in sump?		
Inspector Name:	Does the unit need to be cleaned out?		
	Floating hydrocarbons observed?		
	Inspection Checklist	**Y/N**	**Action Items**
Date:	Blockages or Obstructions on screen or inlet?		
	Is there sediment or trash accumulated more than one foot in sump?		
Inspector Name:	Does the unit need to be cleaned out?		
	Floating hydrocarbons observed?		
	Inspection Checklist	**Y/N**	**Action Items**
Date:	Blockages or Obstructions on screen or inlet?		
	Is there sediment or trash accumulated more than one foot in sump?		
Inspector Name:	Does the unit need to be cleaned out?		
	Floating hydrocarbons observed?		
	Inspection Checklist	**Y/N**	**Action Items**
Date:	Blockages or Obstructions on screen or inlet?		
	Is there sediment or trash accumulated more than one foot in sump?		
Inspector Name:	Does the unit need to be cleaned out?		
	Floating hydrocarbons observed?		
	Inspection Checklist	**Y/N**	**Action Items**
Date:	Blockages or Obstructions on screen or inlet?		
	Is there sediment or trash accumulated more than one foot in sump?		
Inspector Name:	Does the unit need to be cleaned out?		
	Floating hydrocarbons observed?		

OHM Creedmoor – Underground Stormwater Vault Inspection Record

	Inspection Checklist	Y/N	Action Items
Date:	Overflow inlets for standing water?		
	Debris or sediment build up in orifices?		
Inspector Name:	Is orifice and pipe clear?		
	Inspection Checklist	**Y/N**	**Action Items**
Date:	Overflow inlets for standing water?		
	Debris or sediment build up in orifices?		
Inspector Name:	Is orifice and pipe clear?		
	Inspection Checklist	**Y/N**	**Action Items**
Date:	Overflow inlets for standing water?		
	Debris or sediment build up in orifices?		
Inspector Name:	Is orifice and pipe clear?		
	Inspection Checklist	**Y/N**	**Action Items**
Date:	Overflow inlets for standing water?		
	Debris or sediment build up in orifices?		
Inspector Name:	Is orifice and pipe clear?		
	Inspection Checklist	**Y/N**	**Action Items**
Date:	Overflow inlets for standing water?		
	Debris or sediment build up in orifices?		
Inspector Name:	Is orifice and pipe clear?		

R-TANK® OPERATION, INSPECTION AND MAINTENANCE

Operation

Your R-Tank System has been designed to function in conjunction with the engineered drainage system on your site, the existing municipal infrastructure, and/or the existing soils and geography of the receiving watershed. Unless your site included certain unique and rare features, the operation of your R-Tank System will be driven by naturally occurring systems and will function autonomously. However, upholding a proper schedule of Inspection & Maintenance is critical to ensuring continued functionality and optimum performance of the system.

Inspection

Both the R-Tank and all stormwater pre-treatment features incorporated into your site must be inspected regularly. Inspections should be done every six months for the first year of operation, and at least yearly thereafter. Inspections may be required more frequently for pre-treatment systems. You should refer to the manufacturer requirements for the proper inspection schedule.

With the right equipment most inspections and measurements can be accomplished from the surface without physically entering any confined spaces. If your inspection does require confined space entry, you must follow all local, regional, and OSHA requirements.

All maintenance features of your system can be accessed through a covering at the surface. With the lid removed, you can visually inspect each component to identify sediment, trash, and other contaminants within the structure. Check you construction plans to identify the maintenance features engineered into your R-Tank system, which may include:

Upstream Pipes, Inlets, and Manholes

- Working from the structures adjacent the R-Tank toward those farther away, check for debris and sediment in both the structures and the pipes. Be sure to Include all structures that contain pre- treatment systems. Some structures may include a sump.

Maintenance Ports

- Located near the inlet and outlet connections and throughout the system, check sediment depth at each port.

Inspection Ports

- Less common, inspection ports are primarily located within the Treatment Row of an R-Tank System. These should be used to check for sediment deposits but are typically too small to access for backflushing.

Treatment Row

- On installations in 2018 or later, inlet pipes may connect to a row of modules with 12” diameter access holes running horizontally through the module that can be jet vacuumed. Check these rows for accumulation of sediment and debris.

All observations and measurements should be recorded on an Inspection Log kept on file. We’ve included a form you can use at the end of this guide.

Maintenance

For modules taller than 40” the R-Tank System should be back-flushed once sediment accumulation has reached 6”. For modules less than 40” tall, perform maintenance when sediment depths are greater than 15% of the total system height.

If your system includes a Treatment Row with linear access through the modules from the inlet pipe, backflush this area when sediment depths reach 6”.

BEFORE ANY MAINTENANCE IS PERFORMED ON YOUR SYSTEM -
PLUG THE OUTLET PIPE TO PREVENT CONTAMINATION OF THE DOWNSTREAM SYSTEMS.

Begin by cleaning all upstream structures, pipes, and pre-treatment systems containing sediment and/or debris. If your system includes a Treatment Row, this portion of the system should be cleaned with traditional jet-vac equipment. Add a centralizer to the jet for easiest access through the modules.

To back-flush the R-Tank, water is pumped into the system through the Maintenance Ports as rapidly as possible. The turbulent action of the water moving through the R-Tank will suspend sediments which may then be pumped out. If your system includes an Outlet Structure, this will be the ideal location to pump contaminated water out of the system. However, removal of back-flush water may be accomplished through the Maintenance Ports, as well.

For systems with large footprints that would require extensive volumes of water to properly flush the system, you should consider performing your maintenance within 24 hours of a rain event. Stormwater entering the system will aid in the suspension of sediments and reduce the volume of water required to properly flush the system.

STEP BY STEP INSTRUCTIONS FOR INSPECTION AND MAINTENANCE CAN BE FOUND ON THE NEXT PAGE, WITH A MAINTENANCE LOG ON THE LAST PAGE.

INSPECTION

1. Upstream Structures
    a. Remove cover
    b. Use flashlight to detect sediment deposits If present, measure sediment depth
    c. Inspect pipes connecting to R-Tank
        i. If inlet pipes connect to Treatment Row, check sediment depth within these modules
        ii. If access for measurement inside the Treatment Row is difficult, sediment depth can be estimated based on the coverage of the round, 12” opening of the module
    d. Inspect pre-treatment systems (if present)
    e. Record results on Maintenance Log
    f. Replace cover
    g. Repeat for ALL Manholes upstream of R-Tank until no sedimentation is observed and all pre- treatment systems have been checked
2. Maintenance Ports
    a. Remove cap
    b. Use flashlight to detect sediment deposits
    c. If present, measure sediment depth with stadia rod
    d. Record results on maintenance log
    e. Replace cap
    f. Repeat for ALL Maintenance Ports
3. Inspection Port
    a. Remove cap
    b. Use flashlight to detect sediment deposits
    c. If present, measure sediment depth with stadia rod
    d. Record results on Maintenance Log
    e. Replace cap

MAINTENANCE

1. Plug system outlet to prevent discharge of back-flush water
2. Vacuum all upstream structures, inlet pipes, and stormwater pre-treatment systems
3. If a Treatment Row is present, vacuum this row of modules
4. Determine best location to pump out back-flush water. Typically, the outlet structure will work best, but sometimes the Maintenance Ports must be used.
5. Remove cap from Maintenance Port and pump water as rapidly as possible into system through port to suspend sediments, pumping dirty water out of the system from the outlet or nearby Maintenance Port
6. Repeat at all Maintenance Ports until sediment levels are reduced to a satisfactory level
7. Sediment-laden water shall be disposed of per local regulations
8. Replace any remaining caps or covers and remove outlet plug
9. Record the back-flushing event in your Maintenance Log with any relevant specifics

R-Tank® Maintenance Log

Site Name:		Company:	
Location:		Contact:	
City and State:		Phone:	
System Owner:		Email:	

Date	Location	Sediment Depth	Observations / Notes	Initials

APPENDIX N

native soils ranged from approximately 12 to more than 144 bpf, indicating a medium dense to very dense condition. Split spoon refusal, which is defined as less than 6 inches of sampler penetration for 50 blows of the hammer, occurred in several samples, indicating the possible presence of large pieces of gravel and/or cobbles within the native soils. The native soils have USCS designation of SP-SM, SW-SM, SM, GP-GM, and GM.

6.3 Groundwater

Due to the introduction of drilling fluids during mud rotary drilling, accurate groundwater readings could not be obtained during advancement of the borings. To facilitate the measurement of the groundwater, a temporary groundwater observation well was installed in borings B-1 and B-5, as described in Section 4.0. Groundwater level readings were attempted on June 10 and August 7, 2024, which indicated dry conditions encountered to the bottom of both wells (elevation +77 feet).

To further estimate the groundwater depth at the site, we visited the US Geological Survey's (USGS) Long Island Depth to Water Viewer website (https://ny.water.usgs.gov/maps/li-dtw10/), which uses their wells distributed across Long Island and Geographical Information System mapping to estimate the depth to the groundwater table. The map on this website estimates that the groundwater was at an elevation of approximately +42 feet, in 2013, when the USGS stopped taking measurements within their Brooklyn wells.

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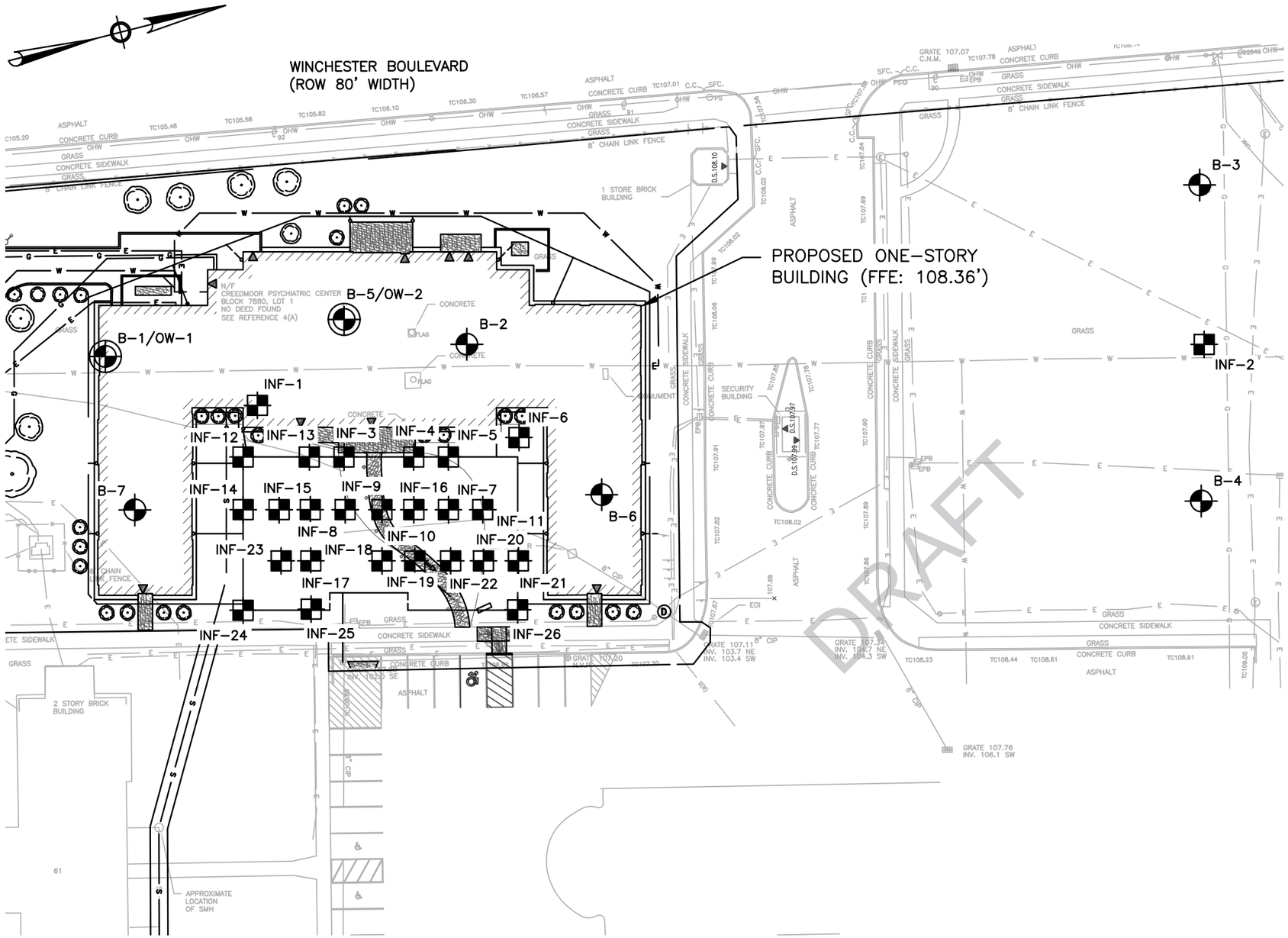
It is noted that groundwater levels fluctuate seasonally and with changing weather conditions. Consequently, groundwater should be anticipated to be encountered at other depths at other times.

6.4 Infiltration Testing

As noted previously, infiltration tests were advanced within the general footprints of the proposed building, bioretention basin, and previously proposed building site. It should be noted that SPT sampling was not performed within the infiltration test holes. The results of the infiltration testing are attached to this report, and provided in Appendix I.



LEGEND

B-7	APPROXIMATE BORING LOCATION
B-5/OW-2	APPROXIMATE GROUNDWATER OBSERVATION WELL LOCATION
INF-26	APPROXIMATE INFILTRATION TEST LOCATION

NOTES

1. PLAN BASED ON A DRAWING PROVIDED BY TECTONIC ENGINEERING, ENTITLED "SITE PLAN", DRAWING NUMBER C-101, DATED 07/03/24.
2. THE BORING, GROUNDWATER OBSERVATION WELL, AND INFILTRATION TEST LOCATIONS WERE FIELD LOCATED BY TECTONIC AND SHOULD BE CONSIDERED APPROXIMATE.

SITE

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0 1 2 3

ORIGINAL SIZE IN INCHES

Tectonic

PRACTICAL SOLUTIONS. EXCEPTIONAL SERVICE.

Tectonic Engineering Consultants, Geologists & Land Surveyors, D.P.C.
70 Pleasant Hill Road — Phone: (845) 534-5959
P.O. Box 37 — (800) 829-6531
Mountainville, NY 10953 — www.tectonicengineering.com

Project Contact Info
1279 Route 300
Newburgh, NY 12550 — Phone: (845) 567-6656

BORING, GROUNDWATER OBSERVATION WELL, AND INFILTRATION TEST LOCATION PLAN

OGS PROJECT NO. SE207
PROPOSED ONE-STORY BUILDING
OMH CREEDMOOR – NEW TRANSITIONAL LIVING RESIDENCE
80-45 WINCHESTER BOULEVARD
BELLEROSE MANOR, QUEENS, QUEENS COUNTY, NEW YORK

Date	Work Order	Drawing No.	Rev
08/08/2024	12546.02	FIGURE 1	0
Scale: 1" = 40'			

MONITORING WELL INSTALLATION LOG

PROJECT: OMH Creedmoor Transitional Living Residence W.O.#: 12546.02 WELL #: OW-1 BORING #: B-1

LOCATION: Queens, NY DATE INSTALLED: 5/3/2024

CONTRACTOR: Craig Geotechnical Drilling Co., Inc. TEC ENGINEER: Roland Lipscomb

DIRECT MEASUREMENTS: CASING TO PVC: 4" CASING TO GROUND: Flush

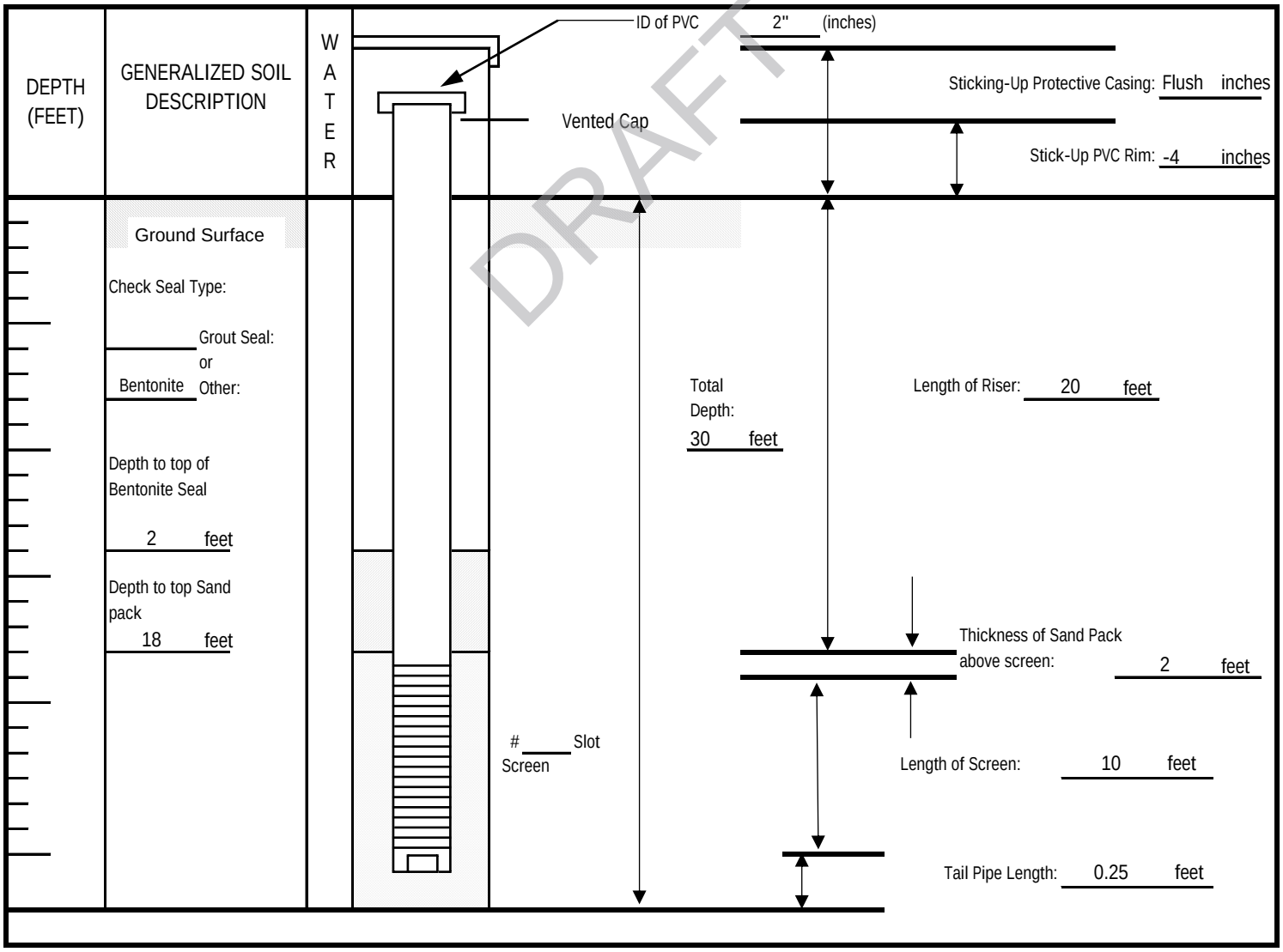
SURFACE ELEV.: +104.5 PVC ELEV.: +104.2 PROTECTIVE CASING: +104.5

GROUNDWATER: DATE: 6/10/24 TIME: 2:00 PM DEPTH: Dry ELEV.: N/A

DATE: 8/7/24 TIME: 1:20 PM DEPTH: Dry ELEV.: N/A

DEVELOPMENT: DATE: RATE AND VOL. REMOVED:

OBSERVATIONS:



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MONITORING WELL INSTALLATION LOG

PROJECT: OMH Creedmoor Transitional Living Residence W.O.#: 12546.02 WELL #: OW-2 BORING #: B-5

LOCATION: Queens, NY DATE INSTALLED: 7/22/2024

CONTRACTOR: Craig Geotechnical Drilling Co., Inc. TEC ENGINEER: Roland Lipscomb

DIRECT MEASUREMENTS: CASING TO PVC: 1" CASING TO GROUND: Flush

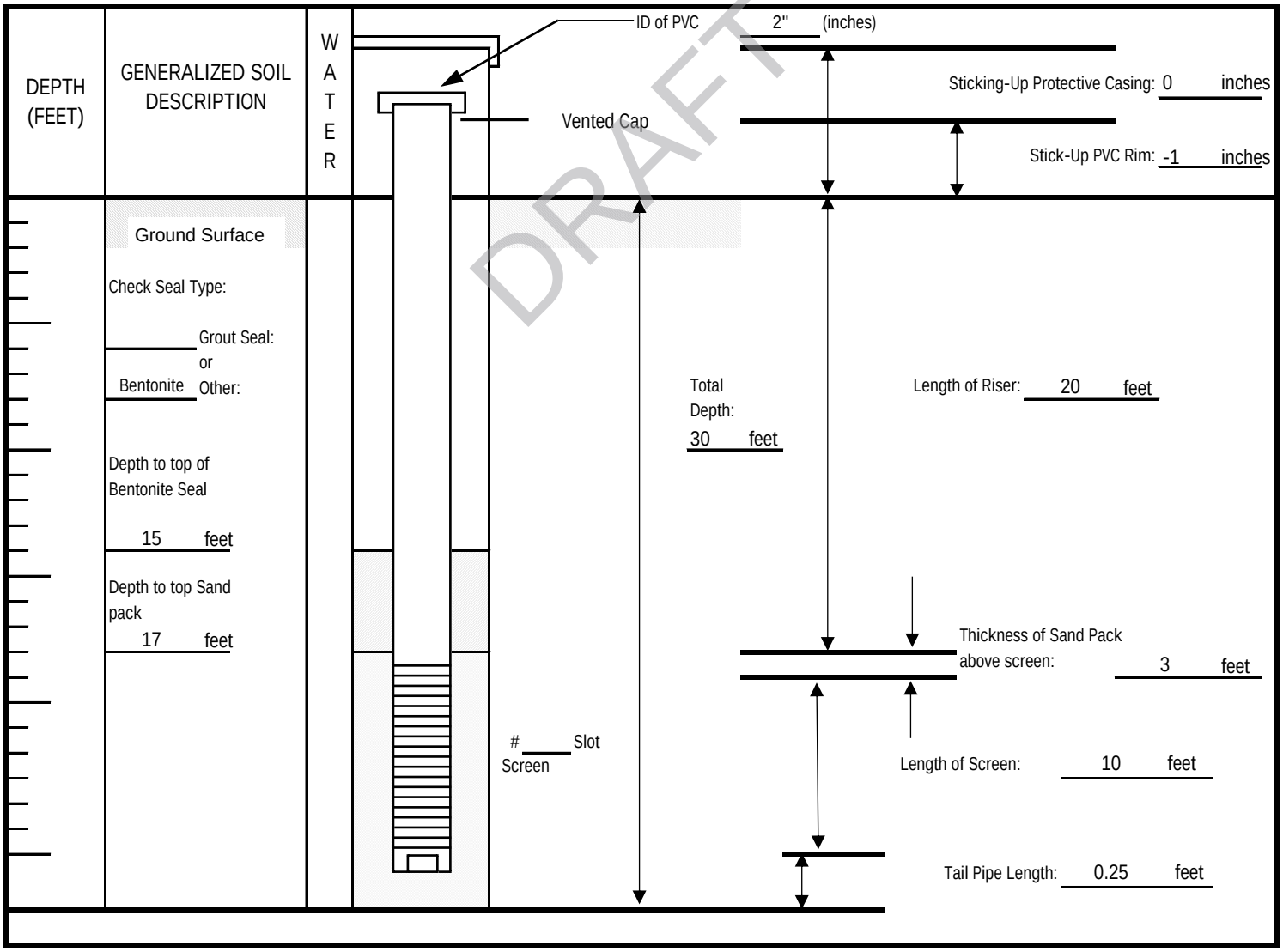
SURFACE ELEV.: +106.5 PVC ELEV.: +106.4 PROTECTIVE CASING: +106.5

GROUNDWATER: DATE: 8/7/2024 TIME: 1:30 PM DEPTH: Dry ELEV.: N/A

DATE: TIME: DEPTH: ELEV.:

DEVELOPMENT: DATE: RATE AND VOL. REMOVED:

OBSERVATIONS:



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1279 Route 300
Newburgh, NY 12550
(845) 567-6656

INFILTRATION TEST DATA

W.O. No.: 12546.02 Lot No.: Date: 5/3/2024

Client: Architectural Resources

Project: OMH Creedmoor Transitional Living Residence

Project Engineer: Chris Ferri

Inspector: Roland Lipscomb

Infiltration Test Location: (see reverse) See Boring, Groundwater Observation Well, and Infiltration Test Location Plan

Weather Conditions: Clear Temperature: 60

TEST HOLE No.	TEST HOLE DEPTH	TEST HOLE DIA.		INFILTRATION TEST RUNS Drop in water levels (inches) at 1-hour intervals*						STABLE RATE (in/hr)
INF-1	10'	4"	Well fully drained overnight	22"	24"	24"	24"	24"		41
			TIME 7:45 AM	8:45:00	9:45:00	10:45:00	11:33:00	12:08:00		
COMMENTS: * Water level dropped 2 feet prior to completion of 1 hour interval										
INF-2	10'	4"	Drained fully overnight	8"	9"	9"	9"			9
			TIME 7:55 AM	8:55:00	9:55:00	10:55:00	11:55:00			
COMMENTS:										

Sketch Requirements

(To Be Completed On Back of Sheet)

Indicate North

Indicate Nearest Roadway

Indicate Property Lines

Indicate Off-Sets from 2 Adjacent Property Lines

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1279 Route 300
Newburgh, NY 12550
(845) 567-6656

INFILTRATION TEST DATA

W.O. No.: 12546.02 Lot No.: Date: 7/12/2024

Client: Architectural Resources

Project: OMH Creedmoor Transitional Living Residence

Project Engineer: Chris Ferri

Inspector: Connor McCleary

Infiltration Test Location: (see reverse) See Boring, Groundwater Observation Well, and Infiltration Test Location Plan

Weather Conditions: Overcast / Rain Temperature: 75

TEST HOLE No.	TEST HOLE DEPTH	TEST HOLE DIA.		INFILTRATION TEST RUNS Drop in water levels (inches) at 1-hour intervals*						STABLE RATE (in/hr)
INF-3	15'	4"		6"	7"	8"	7"			7
			TIME 8:44 AM	9:44:00	10:44:00	11:44:00	12:44:00			
COMMENTS: The stable rate is recorded as the final observed reading.										
INF-4	5'	4"		18"	14"	14"	16"	16"		16
			TIME 7:45 AM	8:45:00	9:45:00	10:45:00	11:45:00	12:45:00		
COMMENTS: The stable rate is recorded as the final observed reading.										

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Sketch Requirements

(To Be Completed On Back of Sheet)

Indicate North

Indicate Nearest Roadway

Indicate Property Lines

Indicate Off-Sets from 2 Adjacent Property Lines

1279 Route 300
Newburgh, NY 12550
(845) 567-6656

INFILTRATION TEST DATA

W.O. No.: 12546.02 Lot No.: Date: 7/12/2024

Client: Architectural Resources

Project: OMH Creedmoor Transitional Living Residence

Project Engineer: Chris Ferri

Inspector: Connor McCleary

Infiltration Test Location: (see reverse) See Boring, Groundwater Observation Well, and Infiltration Test Location Plan

Weather Conditions: Overcast / Rain Temperature: 75

TEST HOLE No.	TEST HOLE DEPTH	TEST HOLE DIA.		INFILTRATION TEST RUNS Drop in water levels (inches) at 1-hour intervals*						STABLE RATE (in/hr)
INF-5	15'	4"		20"	17"	19"	18"			18
			TIME 8:52 AM	9:52:00	10:52:00	11:52:00	12:52:00			
COMMENTS: The stable rate is recorded as the final observed reading.										
INF-6	15'	4"		20"	19"	16"	15"			15
			TIME 8:53 AM	9:53:00	10:53:00	11:53:00	12:53:00			
COMMENTS: The stable rate is recorded as the final observed reading.										

Sketch Requirements

(To Be Completed On Back of Sheet)

Indicate North

Indicate Nearest Roadway

Indicate Property Lines

Indicate Off-Sets from 2 Adjacent Property Lines

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1279 Route 300
Newburgh, NY 12550
(845) 567-6656

INFILTRATION TEST DATA

W.O. No.: 12546.02 Lot No.: Date: 7/12/2024 & 7/16/2024

Client: Architectural Resources

Project: OMH Creedmoor Transitional Living Residence

Project Engineer: Chris Ferri

Inspector: Connor McCleary / Drew Bugna

Infiltration Test Location: (see reverse) See Boring, Groundwater Observation Well, and Infiltration Test Location Plan

Weather Conditions: Overcast / Rain Temperature: 75

TEST HOLE No.	TEST HOLE DEPTH	TEST HOLE DIA.		INFILTRATION TEST RUNS Drop in water levels (inches) at 1-hour intervals*						STABLE RATE (in/hr)
INF-7	5'	4"		22"	20"	18"	18"			18
			TIME 9:15 AM	10:15:00	11:15:00	12:15:00	13:15:00			
COMMENTS: The stable rate is recorded as the final observed reading.										
INF-8	15'	4"		18"	17"	18"	18"			18
			TIME 8:09 AM	9:09:00	10:09:00	11:09:00	12:09:00			
COMMENTS: The stable rate is recorded as the final observed reading.										

Sketch Requirements

(To Be Completed On Back of Sheet)

Indicate North

Indicate Nearest Roadway

Indicate Property Lines

Indicate Off-Sets from 2 Adjacent Property Lines

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Tectonic

1279 Route 300
Newburgh, NY 12550
(845) 567-6656

INFILTRATION TEST DATA

W.O. No.: 12546.02 Lot No.: Date: 7/16/2024

Client: Architectural Resources

Project: OMH Creedmoor Transitional Living Residence

Project Engineer: Chris Ferri

Inspector: Drew Bugna

Infiltration Test Location: (see reverse) See Boring, Groundwater Observation Well, and Infiltration Test Location Plan

Weather Conditions: Clear Temperature: 75-90

TEST HOLE No.	TEST HOLE DEPTH	TEST HOLE DIA.		INFILTRATION TEST RUNS Drop in water levels (inches) at 1-hour intervals*						STABLE RATE (in/hr)
INF-9	15'	4"		0"	0"	0"	0"			0
			TIME 8:10 AM	9:10:00	10:10:00	11:10:00	12:10:00			
COMMENTS: The stable rate is recorded as the final observed reading.										
INF-10	5'	4"		21"	8"	8"	7"			7
			TIME 8:14 AM	9:14:00	10:14:00	11:14:00	12:14:00			
COMMENTS: The stable rate is recorded as the final observed reading.										

Sketch Requirements

(To Be Completed On Back of Sheet)

Indicate North

Indicate Nearest Roadway

Indicate Property Lines

Indicate Off-Sets from 2 Adjacent Property Lines

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Tectonic

1279 Route 300
Newburgh, NY 12550
(845) 567-6656

INFILTRATION TEST DATA

W.O. No.: 12546.02 Lot No.: Date: 7/16/2024 & 7/17/2024

Client: Architectural Resources

Project: OMH Creedmoor Transitional Living Residence

Project Engineer: Chris Ferri

Inspector: Drew Bugna

Infiltration Test Location: (see reverse) See Boring, Groundwater Observation Well, and Infiltration Test Location Plan

Weather Conditions: Clear Temperature: 75-90

TEST HOLE No.	TEST HOLE DEPTH	TEST HOLE DIA.		INFILTRATION TEST RUNS Drop in water levels (inches) at 1-hour intervals*						STABLE RATE (in/hr)
INF-11	5'	4"		20"	20"	20"	19"			19
			TIME 8:20 AM	9:20:00	10:20:00	11:20:00	12:20:00			
COMMENTS: The stable rate is recorded as the final observed reading.										
INF-12	15'	4"		11"	11"	7"	7"	7"		7
			TIME 7:33 AM	8:33:00	9:33:00	10:33:00	11:33:00	12:33:00		
COMMENTS: The stable rate is recorded as the final observed reading.										

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Sketch Requirements

(To Be Completed On Back of Sheet)

Indicate North

Indicate Nearest Roadway

Indicate Property Lines

Indicate Off-Sets from 2 Adjacent Property Lines

1279 Route 300
Newburgh, NY 12550
(845) 567-6656

INFILTRATION TEST DATA

W.O. No.: 12546.02 Lot No.: Date: 7/17/2024

Client: Architectural Resources

Project: OMH Creedmoor Transitional Living Residence

Project Engineer: Chris Ferri

Inspector: Drew Bugna

Infiltration Test Location: (see reverse) See Boring, Groundwater Observation Well, and Infiltration Test Location Plan

Weather Conditions: Clear Temperature: 75-90

TEST HOLE No.	TEST HOLE DEPTH	TEST HOLE DIA.		INFILTRATION TEST RUNS Drop in water levels (inches) at 1-hour intervals*						STABLE RATE (in/hr)
INF-13	15'	4"		19"	18"	17"	16"			16
			TIME 7:37 AM	8:37:00	9:37:00	10:37:00	11:37:00			
COMMENTS: The stable rate is recorded as the final observed reading.										
INF-14	15'	4"		7"	6"	8"	9"			9
			TIME 7:41 AM	8:41:00	9:41:00	10:41:00	11:41:00			
COMMENTS: The stable rate is recorded as the final observed reading.										

DRAFT

Sketch Requirements

(To Be Completed On Back of Sheet)

Indicate North

Indicate Nearest Roadway

Indicate Property Lines

Indicate Off-Sets from 2 Adjacent Property Lines

1279 Route 300
Newburgh, NY 12550
(845) 567-6656

INFILTRATION TEST DATA

W.O. No.: 12546.02 Lot No.: Date: 7/17/2024

Client: Architectural Resources

Project: OMH Creedmoor Transitional Living Residence

Project Engineer: Chris Ferri

Inspector: Drew Bugna

Infiltration Test Location: (see reverse) See Boring, Groundwater Observation Well, and Infiltration Test Location Plan

Weather Conditions: Clear Temperature: 75-90

TEST HOLE No.	TEST HOLE DEPTH	TEST HOLE DIA.		INFILTRATION TEST RUNS Drop in water levels (inches) at 1-hour intervals*						STABLE RATE (in/hr)
INF-15	15'	4"		24"	24"	24"	24"			24
			TIME 7:44 AM	8:44:00	9:44:00	10:44:00	11:44:00			
COMMENTS: The stable rate is recorded as the final observed reading.										
INF-16	5'	4"		17"	13"	13"	14"			14
			TIME 7:52 AM	8:52:00	9:52:00	10:52:00	11:52:00			
COMMENTS: The stable rate is recorded as the final observed reading.										

Sketch Requirements

(To Be Completed On Back of Sheet)

Indicate North

Indicate Nearest Roadway

Indicate Property Lines

Indicate Off-Sets from 2 Adjacent Property Lines

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1279 Route 300
Newburgh, NY 12550
(845) 567-6656

INFILTRATION TEST DATA

W.O. No.: 12546.02 Lot No.: Date: 7/18/2024

Client: Architectural Resources

Project: OMH Creedmoor Transitional Living Residence

Project Engineer: Chris Ferri

Inspector: Connor McCleary

Infiltration Test Location: (see reverse) See Boring, Groundwater Observation Well, and Infiltration Test Location Plan

Weather Conditions: Clear Temperature: 75-90

TEST HOLE No.	TEST HOLE DEPTH	TEST HOLE DIA.		INFILTRATION TEST RUNS Drop in water levels (inches) at 1-hour intervals*						STABLE RATE (in/hr)
INF-17	15'	4"		3"	3.5"	3"	3"			3
			TIME 7:36 AM	8:36:00	9:36:00	10:36:00	11:36:00			
COMMENTS: The stable rate is recorded as the final observed reading.										
INF-18	15'	4"		3"	3"	3"	2.5"			2.5
			TIME 7:33 AM	8:33:00	9:33:00	10:33:00	11:33:00			
COMMENTS: The stable rate is recorded as the final observed reading.										

Sketch Requirements

(To Be Completed On Back of Sheet)

Indicate North

Indicate Nearest Roadway

Indicate Property Lines

Indicate Off-Sets from 2 Adjacent Property Lines

DRAFT

Tectonic

1279 Route 300
Newburgh, NY 12550
(845) 567-6656

INFILTRATION TEST DATA

W.O. No.: 12546.02 Lot No.: Date: 7/18/2024

Client: Architectural Resources

Project: OMH Creedmoor Transitional Living Residence

Project Engineer: Chris Ferri

Inspector: Connor McCleary

Infiltration Test Location: (see reverse) See Boring, Groundwater Observation Well, and Infiltration Test Location Plan

Weather Conditions: Clear Temperature: 75-90

TEST HOLE No.	TEST HOLE DEPTH	TEST HOLE DIA.		INFILTRATION TEST RUNS Drop in water levels (inches) at 1-hour intervals*						STABLE RATE (in/hr)
INF-19	15'	4"		6"	5"	5"	5"			5
			TIME 7:31 AM	8:31:00	9:31:00	10:31:00	11:31:00			
COMMENTS: The stable rate is recorded as the final observed reading.										
INF-20	5'	4"		15"	14"	15"	15"			15
			TIME 7:28 AM	8:28:00	9:28:00	10:28:00	11:28:00			
COMMENTS: The stable rate is recorded as the final observed reading.										

Sketch Requirements

(To Be Completed On Back of Sheet)

Indicate North

Indicate Nearest Roadway

Indicate Property Lines

Indicate Off-Sets from 2 Adjacent Property Lines

DRAFT

Tectonic

1279 Route 300
Newburgh, NY 12550
(845) 567-6656

INFILTRATION TEST DATA

W.O. No.: 12546.02 Lot No.: Date: 7/18/2024 & 7/19/2024

Client: Architectural Resources

Project: OMH Creedmoor Transitional Living Residence

Project Engineer: Chris Ferri

Inspector: Connor McCleary / Nicolas Watson

Infiltration Test Location: (see reverse) See Boring, Groundwater Observation Well, and Infiltration Test Location Plan

Weather Conditions: Clear Temperature: 75-90

TEST HOLE No.	TEST HOLE DEPTH	TEST HOLE DIA.		INFILTRATION TEST RUNS Drop in water levels (inches) at 1-hour intervals*						STABLE RATE (in/hr)
INF-21	15'	4"		3"	2"	2"	2"			2
			TIME 7:25 AM	8:25:00	9:25:00	10:25:00	11:25:00			
COMMENTS: The stable rate is recorded as the final observed reading.										
INF-22	5'	4"		24"	17.5"	17"	14"	14"		14
			TIME 7:45 AM	8:45:00	9:45:00	10:45:00	11:45:00	12:45:00		
COMMENTS: The stable rate is recorded as the final observed reading.										

Sketch Requirements

(To Be Completed On Back of Sheet)

Indicate North

Indicate Nearest Roadway

Indicate Property Lines

Indicate Off-Sets from 2 Adjacent Property Lines

DRAFT

Tectonic

1279 Route 300
Newburgh, NY 12550
(845) 567-6656

INFILTRATION TEST DATA

W.O. No.: 12546.02 Lot No.: Date: 7/19/2024

Client: Architectural Resources

Project: OMH Creedmoor Transitional Living Residence

Project Engineer: Chris Ferri

Inspector: Nicolas Watson

Infiltration Test Location: (see reverse) See Boring, Groundwater Observation Well, and Infiltration Test Location Plan

Weather Conditions: Clear Temperature: 75-90

TEST HOLE No.	TEST HOLE DEPTH	TEST HOLE DIA.		INFILTRATION TEST RUNS Drop in water levels (inches) at 1-hour intervals*						STABLE RATE (in/hr)
INF-23	15'	4"		9"	7"	9"	7"			7
			TIME 7:49 AM	8:49:00	9:49:00	10:49:00	11:49:00			
COMMENTS: The stable rate is recorded as the final observed reading.										
INF-24	15'	4"		2"	2.5"	5.5"	3.5"	3"		3
			TIME 7:51 AM	8:51:00	9:51:00	10:51:00	11:51:00	12:45:00		
COMMENTS: The stable rate is recorded as the final observed reading.										

Sketch Requirements

(To Be Completed On Back of Sheet)

Indicate North

Indicate Nearest Roadway

Indicate Property Lines

Indicate Off-Sets from 2 Adjacent Property Lines

DRAFT

Tectonic

1279 Route 300
Newburgh, NY 12550
(845) 567-6656

INFILTRATION TEST DATA

W.O. No.: 12546.02 Lot No.: Date: 7/19/2024

Client: Architectural Resources

Project: OMH Creedmoor Transitional Living Residence

Project Engineer: Chris Ferri

Inspector: Nicolas Watson

Infiltration Test Location: (see reverse) See Boring, Groundwater Observation Well, and Infiltration Test Location Plan

Weather Conditions: Clear Temperature: 75-90

TEST HOLE No.	TEST HOLE DEPTH	TEST HOLE DIA.		INFILTRATION TEST RUNS Drop in water levels (inches) at 1-hour intervals*						STABLE RATE (in/hr)
INF-25	15'	4"		1"	2"	2"	2"			2
			TIME 7:54 AM	8:54:00	9:54:00	10:54:00	11:54:00			
COMMENTS: The stable rate is recorded as the final observed reading.										
INF-26	15'	4"		1"	2"	1"	1"			1
			TIME 7:57 AM	8:57:00	9:57:00	10:57:00	11:57:00			
COMMENTS: The stable rate is recorded as the final observed reading.										

DRAFT

Sketch Requirements

(To Be Completed On Back of Sheet)

Indicate North

Indicate Nearest Roadway

Indicate Property Lines

Indicate Off-Sets from 2 Adjacent Property Lines

Our Story

For the past 30 years, Tectonic has delivered quality professional services in a timely and cost effective manner by pooling its talented staff into project teams that think, act, and perform as one integral unit. By carefully listening and collaborating with its clients, the firm is able to identify the key issues and assure stakeholder objectives are met in the final deliverables. Through innovating and adopting technological advances, the firm is able to generate unique solutions to improve our nation's deteriorating infrastructure and build safe sustainable communities.

As the world evolves, and its challenges grow more complex, Tectonic continues to innovate and provide the practical solutions and exceptional customer service its clients have trusted since its founding.

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GENERAL NOTES

A. SITE CONDITIONS

1. UNLESS OTHERWISE NOTED ELSEWHERE ON PLANS OR IN THE PROJECT SPECIFICATIONS, ALL WORK SHALL BE PERFORMED BY THE CONSTRUCTION CONTRACTOR.
2. EXISTING CONDITIONS ARE BASED ON A SURVEY ENTITLED "PARTIAL TOPOGRAPHIC SURVEY" BY TECTONIC ENGINEERING CONSULTANTS, GEOLOGISTS & LAND SURVEYORS, D.P.C. DATED 4/12/2024, LAST REVISED 10/02/2024.
3. ALL ELEVATIONS SHOWN ARE FINISHED GRADE ELEVATIONS UNLESS OTHERWISE NOTED.
4. ALL INFORMATION SHOWN OR NOTED FOR EXISTING FACILITIES, GRADES, ROADWAYS, AND MATERIALS IS APPROXIMATE AND THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR CHECKING ALL INFORMATION WHICH MAY AFFECT THEIR WORK.
5. TEST PITS SHALL BE PERFORMED BY THE CONSTRUCTION CONTRACTOR AT ALL PIPE CROSSINGS AND AS DIRECTED BY THE DIRECTOR'S REPRESENTATIVE.
6. THE CONSTRUCTION CONTRACTOR IS RESPONSIBLE FOR THE PROVISION OF ALL MATERIALS, LABOR AND INSTALLATION OF ALL ITEMS OF CONSTRUCTION FOR THE SUCCESSFUL COMPLETION AND OPERATION OF THE PROJECT SATISFACTORY TO THE OWNER AND THEIR REPRESENTATIVE IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
7. THE CONSTRUCTION CONTRACTOR SHALL PROVIDE THEIR OWN LAYOUT AND STAKEOUT OF ALL PROPOSED IMPROVEMENTS. OFFSET LINES WITH STAKES SHALL BE SET AT APPROPRIATE INTERVALS TO FACILITATE CONSTRUCTION. CUT SHEETS SHALL BE SUBMITTED FOR APPROVAL TO THE DIRECTOR'S REPRESENTATIVE AND TO THE WORK CREWS IN THE TIME IDENTIFIED IN THE PROJECT SPECIFICATIONS PRIOR TO CONSTRUCTION.
8. THE CONSTRUCTION CONTRACTOR SHALL VERIFY ALL BENCHMARKS PRIOR TO THE START OF CONSTRUCTION.
9. THE CONSTRUCTION CONTRACTOR SHALL PROTECT ALL BENCH MARKS AND MONUMENTS FROM DAMAGE AND SHALL ESTABLISH OFFSET POINTS FOR THEIR WORK.
10. THE CONSTRUCTION CONTRACTOR SHALL BE RESPONSIBLE FOR SITE SECURITY THROUGHOUT THE DURATION OF THE PROJECT AND SHALL PROVIDE AND MAINTAIN SAFETY AND SECURITY FENCING, MEASURES, AND PERSONNEL AS DIRECTED BY THE DIRECTOR'S REPRESENTATIVE.
11. ATTENTION IS DIRECTED TO THE SAFETY REQUIREMENTS AS OUTLINED IN THE GENERAL CONDITIONS OF THE CONSTRUCTION SPECIFICATIONS. THE OWNER, ARCHITECT, AND ENGINEER SHALL ASSUME NO RESPONSIBILITY AND/OR LIABILITY FOR THE SAFETY OF THE WORKERS WHERE THE WORK IS BEING PERFORMED.
12. THE CONSTRUCTION CONTRACTOR SHALL COMPLY WITH ALL FEDERAL, STATE, AND LOCAL LAWS AND ALL CODES, ORDINANCES, RULES AND REGULATIONS OF HEALTH, PUBLIC OR OTHER AUTHORITIES CONTROLLING OR LIMITING THE METHODS, MATERIAL TO BE USED, OR THE ACTIONS OF THOSE EMPLOYED IN WORK OF THIS KIND. ALL WORK, LABOR OR MATERIAL NECESSARY TO COMPLY WITH THESE LAWS, CODES, ORDINANCES, RULES AND REGULATIONS SHALL BE PERFORMED AND FURNISHED BY THE CONSTRUCTION CONTRACTOR.
13. THE CONSTRUCTION CONTRACTOR SHALL PROCURE AND PAY FOR ALL NECESSARY PERMITS AND LICENSES REQUIRED TO CARRY OUT THEIR WORK IN FULL ACCORDANCE WITH REQUIREMENTS OF ALL REGULATIONS AND AUTHORITIES HAVING JURISDICTION.
14. THE SUBJECT PROPERTY DOES NOT FALL WITHIN THE 100 YEAR FLOOD ZONE AS PER THE NATIONAL FLOOD INSURANCE RATE MAP.

B. SOIL EROSION, SEDIMENT, AND DUST CONTROL

1. THE CONSTRUCTION CONTRACTOR SHALL TAKE ALL NECESSARY MEASURES TO MAINTAIN DUST CONTROL AS REQUIRED OR DIRECTED BY THE ENGINEER AND/OR THE DIRECTOR'S REPRESENTATIVE. ALL VEHICLES SHALL BE CLEAN AND ALL ROADWAYS SHALL BE MAINTAINED FREE OF CONSTRUCTION DEBRIS AND SOIL.
2. ALL SEDIMENT AND SOIL EROSION CONTROLS PRACTICES ARE TO BE INSTALLED IN CONFORMANCE WITH STATE AND LOCAL STANDARDS PRIOR TO ANY MAJOR SOIL DISTURBANCES. ALL WORK SHALL BE COMPLETED IN PROPER SEQUENCE AND MAINTAINED UNTIL PERMANENT PROTECTION IS ESTABLISHED.
3. THE EROSION & SEDIMENT CONTROL PLAN, DETAILS, SEQUENCING, AND MAINTENANCE TABLE ON VARIOUS SHEETS INCLUDES ADDITIONAL NOTES WHICH SHALL BE ADHERED TO BY THE CONSTRUCTION CONTRACTOR.
4. THE STORM WATER POLLUTION PREVENTION PLAN (SWPPP) AND NYSDEC SPDES PERMIT ARE A PART OF THE CONTRACT DOCUMENTS AND ASSIST THE OWNER WITH COMPLIANCE WITH GP 0-20-001. THE NYCDEP STORMWATER CONSTRUCTIONS PERMITS AND NYCDEP STORMWATER MAINTENANCE PERMITS ARE ALSO PART OF THE CONTRACT DOCUMENTS AND ASSIST THE OWNER WITH COMPLIANCE WITH TITLE 15, CHAPTER 19.1. OF THE RULES OF THE CITY OF NEW YORK.

C. UTILITIES

1. AVAILABLE INFORMATION AS TO THE LOCATION OF EXISTING UTILITIES HAS BEEN COLLECTED FROM VARIOUS SOURCES. THE RESULTS OF SUCH INVESTIGATIONS, AS MAY BE SHOWN ON THE CONSTRUCTION CONTRACT DRAWINGS, ARE NOT GUARANTEED AS TO ACCURACY OR COMPLETENESS. ALL EXISTING UTILITIES ARE SHOWN FOR INFORMATION ONLY. THE CONSTRUCTION CONTRACTOR SHALL CONTACT THE NEW YORK 881 SHOWN BELOW, IT IS THE CONSTRUCTION CONTRACTOR'S RESPONSIBILITY TO LOCATE, IDENTIFY AND PROTECT UTILITIES WITHIN THE PROJECT LIMITS. THE CONSTRUCTION CONTRACTOR SHALL DIG TEST PITS TO LOCATE UTILITIES WITHIN THE PROJECT LIMITS.
2. NEW YORK 811, DIAL 811 OR PHONE # 1(800)272-4480.
3. THE CONSTRUCTION CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES TEN (10) DAYS PRIOR TO CONSTRUCTION, OF THEIR ANTICIPATED START DATE.
4. THE CONSTRUCTION CONTRACTOR SHALL CONTACT THE UTILITY COMPANIES TO DETERMINE THEIR SCHEDULE FOR PERFORMING UTILITY RELOCATION AND INSTALLATION WORK AND THEY SHALL SCHEDULE THEIR WORK ACCORDINGLY SO AS NOT TO INTERFERE WITH THE WORK OF THE UTILITY COMPANIES.
5. THE CONSTRUCTION CONTRACTOR SHALL NOTIFY THE UTILITY COMPANIES AT LEAST 72 HOURS IN ADVANCE OF ANY WORK ON THEIR FACILITIES.
6. THE CONSTRUCTION CONTRACTOR SHALL BE RESPONSIBLE TO COORDINATE ALL REQUIRED UTILITY CONNECTIONS WITH THE RESPECTIVE UTILITY COMPANY.
7. ALL TRENCHES SHALL BE BACK FILLED WITHOUT DELAY. OPEN TRENCHES SHALL BE KEPT TO A MINIMUM. OPEN TRENCHES SHALL BE TEMPORARILY SUPPORTED AND STEEL PLATED WHEN WORK IS NOT IN PROGRESS. NO EXCAVATION AREAS SHALL REMAIN OPEN OVERNIGHT. THE CONSTRUCTION CONTRACTOR IS SOLELY RESPONSIBLE FOR THE DESIGN AND INSTALLATION OF STEEL PLATES THAT ARE CAPABLE OF SAFELY SUPPORTING THE LOADS THEY WILL BE SUBJECTED TO.
8. ANY DAMAGE TO UTILITIES SHALL BE THE SOLE RESPONSIBILITY OF THE CONSTRUCTION CONTRACTOR, AND ALL COST FOR REPAIRS SHALL BE BORNE BY THE CONSTRUCTION CONTRACTOR.
9. THE CONSTRUCTION CONTRACTOR SHALL BE RESPONSIBLE FOR COSTS INCURRED IN TEMPORARY SUPPORT OF UTILITY POLES NEAR EXCAVATION THAT DO NOT REQUIRE RELOCATION. IT SHALL BE THE CONSTRUCTION CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE APPROPRIATE UTILITY COMPANY FOR UTILITY POLE RELOCATION.
10. FIRE HYDRANTS SHALL BE RELOCATED BY THE CONSTRUCTION CONTRACTOR.
11. ALL PROPOSED WATER SERVICES SHALL BE LOCATED A MINIMUM SEPARATION DISTANCE OF 10 HORIZONTAL FEET AND 1.5 VERTICAL FEET FROM ALL SANITARY SEWER FACILITIES. A MINIMUM 4.5 FEET OF COVER SHALL BE PROVIDED OVER ALL WATER.
12. ALL EXCAVATIONS MADE TO REMOVE EXISTING UNDERGROUND UTILITIES/STRUCTURES, INSTALL NEW UNDERGROUND UTILITIES/STRUCTURES, WITHIN FIVE (5) FEET OUTSIDE OF THE BUILDING, OR WITHIN ROADWAYS SHALL BE BACKFILLED IN ACCORDANCE WITH THE PLAN DETAILS AND SPECIFICATIONS AND UNDER THE SUPERVISION OF THE DIRECTOR'S REPRESENTATIVE.
13. UNDERGROUND IMPROVEMENTS IF ANY AND NOT VISIBLE AT THE TIME OF THE SURVEY, HAVE NOT BEEN LOCATED IN THE FIELD OR SHOWN HEREON. TO THE BEST OF OUR BELIEF, UNDERGROUND IMPROVEMENTS FROM AVAILABLE DOCUMENTATION HAVE BEEN SHOWN.

D. PEDESTRIAN AND TRAFFIC FLOW

1. THE CONSTRUCTION CONTRACTOR MUST PROVIDE A MEANS OF SAFE INGRESS AND EGRESS AT ALL TIMES TO THE PUBLIC OUTSIDE OF THE BUILDING, STARTING FIVE (5) FEET FROM THE POINT OF EACH EXIT. THIS SHALL INCLUDE RIGHTS OF WAYS AS WELL AS INDIVIDUAL RESIDENCES AND/OR BUSINESSES WITHIN THE PROJECT AREA.
2. THE CONSTRUCTION CONTRACTOR IS REQUIRED TO ENSURE THE SAFE, ORDERLY AND EXPEDITIOUS FLOW OF TRAFFIC AT ALL TIMES. SAID TRAFFIC FLOW IS TO BE MAINTAINED IN ACCORDANCE WITH RECOGNIZED TRAFFIC CONTROL STANDARDS AND IS ENSURED, BUT NOT LIMITED TO, THROUGH THE USE OF A FLAGGER, SIGNING, BARRICADES, FLASHING LIGHTS, CONES, BARRELS, ETC. AS APPROVED BY THE DIRECTOR'S REPRESENTATIVE. A MEETING WITH THE FACILITY REPRESENTATIVE, THE DIRECTOR'S REPRESENTATIVE, AND CONSTRUCTION CONTRACTOR SHALL OCCUR PRIOR TO THE START OF ANY GROUND DISTURBANCE ACTIVITIES. ALL MAINTENANCE AND PROTECTION OF TRAFFIC PLANS REQUIRED TO FACILITATE CONSTRUCTION SHALL BE PROVIDED BY THE CONSTRUCTION CONTRACTOR AND BE REVIEWED AND APPROVED BY THE DIRECTOR'S REPRESENTATIVE. THIS SHALL BE THE SOLE RESPONSIBILITY OF THE CONSTRUCTION CONTRACTOR TO FURNISH AND INSTALL ALL TRAFFIC CONTROL DEVICES.
3. A FLAGGER SHALL BE EMPLOYED BY THE CONSTRUCTION CONTRACTOR FOR THE PROTECTION OF ANY EQUIPMENT ENTERING, LEAVING OR CROSSING ACTIVE TRAFFIC LANES, OR AS MAY BE REQUIRED FOR THE ROUTING OF ANY TRAFFIC AROUND OR THROUGH THE CONSTRUCTION.
4. DURING THE WINTER MONTHS, THE CONSTRUCTION CONTRACTOR SHALL BE RESPONSIBLE FOR SNOW REMOVAL AND THE COMPLETE MAINTENANCE OF EXISTING ROADWAYS UTILIZED FOR CONSTRUCTION PURPOSES BY ALL TRADES. THE ROADWAYS SHALL BE KEPT FREE OF ALL OBSTRUCTIONS AND KEPT IN A SMOOTH RIDING CONDITION AT ALL TIMES. ALL POT HOLES, WASHOUTS, CAVE-INS, ETC., DEVELOPING DURING THIS PERIOD SHALL BE PROPERLY FILLED IN WITH MATERIAL BY METHOD APPROVED BY THE DIRECTOR'S REPRESENTATIVE.
5. BEFORE BEGINNING WORK ON ANY STAGE OF THE PROJECT, THE CONSTRUCTION CONTRACTOR SHALL FURNISH AND INSTALL ALL SPECIFIED WARNING SIGNS, BARRICADES, LIGHTS, AND OTHER DEVICES AS SHOWN ON THE CONTRACT PLANS, OR DEEMED NECESSARY, IN THE OPINION OF THE DIRECTOR'S REPRESENTATIVE, TO PROTECT THE PUBLIC DURING THAT PHASE OF OPERATIONS.
6. ALL NECESSARY REGULATORY AND WARNING SIGNS SHALL BE IN ACCORDANCE WITH THE FHWA MUTCD (LATEST EDITION) WITH THE NYS SUPPLEMENT, LATEST EDITION, AND STANDARD HIGHWAY SIGNS, (LATEST EDITION) AND SHALL BE SUPPLIED AND INSTALLED BY THE CONSTRUCTION CONTRACTOR. WHEN SUCH SIGNS ARE NO LONGER REQUIRED, THE CONSTRUCTION CONTRACTOR SHALL IMMEDIATELY AND CAREFULLY REMOVE AND STORE THEM ON THE PROJECT SITE AT LOCATIONS APPROVED BY THE OWNER'S REPRESENTATIVE UNTIL THEY ARE REUSED ON THE PROJECT OR REMOVED BY THE CONSTRUCTION CONTRACTOR.
7. DURING CONSTRUCTION, ALL EXISTING ROADS AND RAMPS SHALL REMAIN OPEN AND BE PROPERLY MAINTAINED TO ACCOMMODATE EMERGENCY VEHICLES AT ALL TIMES.

E. CONSTRUCTION

1. EXISTING ASPHALT PAVEMENT SHALL BE SAWCUT AND REMOVED IN SUCH A MANNER SO AS NOT TO TEAR, BULGE, DAMAGE, OR DISPLACE ADJACENT PAVEMENT. EDGES SHALL BE CLEAN AND VERTICAL, ALL CUTS SHALL BE PARALLEL OR PERPENDICULAR TO THE DIRECTION OF TRAFFIC.
2. ALL ADJACENT CONCRETE AND BUILDING SURFACES SHALL BE PROTECTED WHEN TACK COAT AND/OR PRIME COAT IS APPLIED. TRAFFIC IS PROHIBITED UNTIL FULLY CURED.
3. WHERE UNSTABLE SUBGRADE IS ENCOUNTERED DURING THE COURSE OF CONSTRUCTION, THE CONSTRUCTION CONTRACTOR SHALL EXCAVATE THE COMPLETE EXTENT OF THE FAILED AREA AS DIRECTED BY THE DIRECTOR'S REPRESENTATIVE. THE CONSTRUCTION CONTRACTOR SHALL REPLACE THE UNSUITABLE SOILS WITH EMBANKMENT FILL, COMPACT THE AREA IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS, AND PROOF ROLL THE AREA TO THE SATISFACTION OF THE DIRECTOR'S REPRESENTATIVE.
4. WHERE UNSTABLE OR WEAK AREAS OF PAVEMENT ARE ENCOUNTERED DURING THE COURSE OF CONSTRUCTION, THE CONSTRUCTION CONTRACTOR SHALL EXCAVATE THE COMPLETE EXTENT OF THE FAILED AREA AS DIRECTED BY THE DIRECTOR'S REPRESENTATIVE. THE CONSTRUCTION CONTRACTOR SHALL REPLACE THE FAILED PAVEMENT WITH HMA BASE COURSE.
5. ONCE THE CONSTRUCTION CONTRACTOR HAS COMMENCED CONSTRUCTION, THE WORK SHALL CONTINUE ON A DAILY BASIS WITHOUT INTERRUPTION UNTIL ALL OF THE WORK HAS BEEN COMPLETED.
6. MAILBOXES, STREET SIGNS, OR TRAFFIC SIGNS REMOVED FOR CONSTRUCTION PURPOSES MUST BE REPLACED BY THE CONSTRUCTION CONTRACTOR WITHIN 24 HOURS.
7. ALL NEW SURFACE CONCRETE SHALL BE PROTECTED FROM DE-ICING SALTS FOR AT LEAST 60 DAYS AFTER THE POUR DATE.
8. ALL UNUSED SIGNS, SIGN POSTS, STORM SEWER CASTINGS AND GRATES REMOVED DURING CONSTRUCTION AND NOT REPLACED ELSEWHERE ON THIS PROJECT SHALL BECOME THE PROPERTY OF THE DIRECTOR. IF THE DIRECTOR'S REPRESENTATIVE DECLINES OWNERSHIP OF THE MATERIALS, THE CONSTRUCTION CONTRACTOR SHALL REMOVE THE MATERIALS FROM THE SITE AT NO ADDITIONAL COST TO THE DIRECTOR.
9. DEPRESSED CURBING SHALL BE CONSTRUCTED AT ALL WALKWAY CROSSINGS. DEPRESSED CURBS FOR HANDICAP ACCESS SHALL BE FLUSH WITH PAVEMENT. ALL HANDICAP ACCESS FACILITIES SHALL COMPLY WITH CURRENT A.D.A. REGULATIONS AND NEW YORK STATE BUILDING CODE, CHAPTER 11.
10. THE CONSTRUCTION CONTRACTOR SHALL MAINTAIN SUFFICIENT COVER (TEMPORARY AND PERMANENT) OVER ALL PIPES DURING THE CONSTRUCTION OF THE PROJECT IN ACCORDANCE WITH THE MANUFACTURER'S REQUIREMENTS.
11. WHERE CONCRETE PIPE IS PROPOSED, ALL PIPE SHALL BE CLASS III WITH O-RING GASKETS, UNLESS OTHERWISE INDICATED.

F. SITE CLEARING AND GRADING

1. SITE CLEARING SHALL INCLUDE, BUT IS NOT LIMITED TO, THE REMOVAL OF ALL DEBRIS, RUBBLE, FENCES, TREES, EXISTING UTILITIES, EXISTING STRUCTURES, FOUNDATIONS, SUBSURFACE STRUCTURES, UNSUITABLE MATERIALS, EXISTING HARDSCAPE AND PAVEMENT, THE COORDINATION OF THE RELOCATION OF EXISTING UTILITIES, GRUBBING, ETC. AND ALL OTHER WORK REQUIRED TO COMPLETE THE PROJECT FOR WHICH THERE IS NO SPECIFIC PAY ITEM OR CALLOUT.
2. ALL DEMOLITION ACTIVITIES TO BE IN ACCORDANCE WITH ALL JURISDICTIONAL AUTHORITIES INCLUDING BUT NOT LIMITED TO COUNTY RULES AND REGULATIONS, THE MUNICIPAL ORDINANCE, NYSDEC RULES AND REGULATIONS, AND NEW YORK STATE BUILDING CODE.
3. THE CONSTRUCTION CONTRACTOR SHALL BE RESPONSIBLE FOR THE DISPOSAL OF ALL UNUSABLE MATERIALS EXCAVATED OF WHATEVER NATURE AT HIS OWN EXPENSE. THE DIRECTOR IS NOT OBLIGATED TO SUPPLY A DISPOSAL SITE. THE CONSTRUCTION CONTRACTOR MUST NOT DEPOSIT THE EXCESS MATERIALS WITHIN THE MUNICIPALITY LIMITS WITHOUT EXPRESS PERMISSION OF THE MUNICIPALITY. MATERIALS MUST BE DISPOSED OF IN ACCORDANCE WITH APPROVED NYSDEC METHODS AND MEANS.
4. ANY EXISTING AND NEW CONSTRUCTION DEBRIS SHALL BE REMOVED FROM THE SITE AND LAWFULLY DISPOSED. CONSTRUCTION CONTRACTOR SHALL PROVIDE DUMPING MANIFESTS UPON REQUEST.
5. EXISTING ONSITE SUITABLE SOIL SHALL BE EXCAVATED, TRANSPORTED, SPREAD, GRADED, AND COMPACTED AS REQUIRED BY THE PROPOSED GRADES. ALL EARTHWORK OPERATIONS INVOLVING ONSITE SOILS SHALL BE COMPLETED PRIOR TO IMPORTING ANY OFFSITE MATERIALS. ALL IMPORTED FILL REQUIRED TO ACHIEVE THE PROPOSED GRADES SHALL BE INCLUDED IN THE PROPOSAL. IMPORTED SOIL SHALL BE FREE OF WASTE OR HAZARDOUS MATERIAL AND SHALL COMPLY WITH THE REQUIREMENTS OF THE PROJECT SPECIFICATIONS.
6. NO MATERIALS SHALL BE REMOVED FROM THE SITE FOR DISPOSAL WITHOUT THE PERMISSION OF THE DIRECTOR'S REPRESENTATIVE.
7. ALL AREAS UNDERGOING REGRADING SHOULD BE SLOPED TO PROVIDE POSITIVE DRAINAGE AWAY FROM STRUCTURES AND BUILDINGS.
8. NO TOPSOIL IS TO BE REMOVED FROM THE PROJECT SITE. TOPSOIL SHALL BE STRIPPED SEPARATELY, STOCKPILED, AND PROTECTED
9. THE CONSTRUCTION CONTRACTOR SHALL EXERCISE PARTICULAR CARE, ESPECIALLY AT INTERSECTIONS AND GUTTER LINES, IN THE PLACING OF PAVEMENT TO PROVIDE POSITIVE DRAINAGE. ANY AREAS WHERE WATER IS IMPOUNDED SHALL BE CORRECTED BY THE CONSTRUCTION CONTRACTOR.
10. NO MATERIAL SHALL BE PLACED OR ANY DISTURBANCE PERMITTED BEYOND THE PROJECT PROPERTY LINE OR RIGHT OF WAY WITHOUT THE WRITTEN PERMISSION OF THE PROPERTY OWNER DIRECTLY INVOLVED.
11. ALL PRIVATE AND PUBLIC PROPERTY THAT MAY BE DISTURBED OR DAMAGED BY ANY CONSTRUCTION ACTIVITY SHALL BE RELOCATED, RESTORED, REPAIRED AND/OR REPLACED BY THE CONSTRUCTION CONTRACTOR AT NO COST TO EITHER THE OWNER OR THE OWNER OF THE PROPERTY. THERE WILL BE NO SEPARATE PAYMENT FOR THIS WORK OR MATERIALS.
12. ALL EARTHWORK SHALL BE PERFORMED IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE GEOTECHNICAL REPORT FOR THE PROJECT.
13. PROOF ROLLING OF THE SUBBASE AND SUBGRADE SHALL BE PERFORMED IN THE PRESENCE OF THE DIRECTOR'S REPRESENTATIVE AND FOUND TO BE ACCEPTABLE PRIOR TO PAVING. THE SUBGRADE SHALL BE FIRM AND UNYIELDING PRIOR TO PLACEMENT OF SUBBASE. PERFORM ALL TESTING AND INSPECTIONS TO ENSURE COMPLIANT COMPACTION.

ABBREVIATIONS

AH., BK.	AHEAD, BACK	P.G.L.	PROFILE GRADE LINE
B.C.T.	BARRIER CURB TRANSITION	L.O.D.	LIMIT OF DISTURBANCE
B , B.L.	BASELINE	P, P.L.	PROPERTY LINE, PROFILE LINE
B.M.	BENCHMARK	PK	PARKER KAYLON MASONRY NAIL
BFP	BACKFLOW PREVENTOR	PCC	POINT OF COMPOUND CURVATURE
BIT., BITUM.	BITUMINOUS	POC, P.O.C.	POINT ON CURVE
BLDG.	BUILDING	POL, P.O.L.	POINT ON LINE
C , C.L.	CENTERLINE	POT, P.O.T.	POINT ON TANGENT
C.I.P.	CAST IRON PIPE	PRC, P.R.C.	POINT OF REVERSE CURVE
CDS	CONTINUOUS DEFLECTION SEPARATION	PROP	PROPOSED
CLF	CHAIN LINK FENCE	PT, P.T.	POINT OF TANGENCY
C.M.P.	CORRUGATED METAL PIPE	PVC, P.V.C.	POLYVINYL CHLORIDE PIPE
C.O.	CLEANOUT		POINT OF VERTICAL CURVATURE
CONC.	CONCRETE	PVI, P.V.I.	POINT OF VERTICAL INTERSECTION
CULV.	CULVERT	PVT, P.V.T	POINT OF VERTICAL TANGENCY, PAVEMENT
D, DIA.	DIAMETER	R	RADIUS
D.C.	DROP CURB	RCCP, R.C.C.P.	REINFORCED CONCRETE CULVERT PIPE
DE	DITCH EXCAVATION	RCP, R.C.P.	REINFORCED CONCRETE PIPE
DEP., DP	DEPRESSED CURB	RMC, R.M.C.	RIGID METALLIC CONDUIT
DH	DRILL HOLE	RNMC, R.N.M.C.	RIGID NON-METALLIC CONDUIT
DMH	DRAINAGE MANHOLE	ROW, R.O.W.	RIGHT OF WAY
DOT	DEPARTMENT OF TRANSPORTATION	R.R.	RAILROAD
D.S.	DOWNSTREAM	RTE., RT.	ROUTE
DWY	DRIVEWAY	S	SOUTH
E	EAST	SAN.	SANITARY
E.B, W.B	EASTBOUND, WESTBOUND	SDWK.	SIDEWALK
N.B, S.B.,	NORTHBOUND, SOUTHBOUND	SHLD.	SHOULDER
EL, ELEV.	ELEVATION	SMH	SANITARY MANHOLE
EXIST., EX.	EXISTING	S.L.	SURVEY LINE
FI	FIELD INLET	S.O.D.	SUBBASE OUTLET DRAIN
GR, GRT	GRATE	STY.	STORY
HDPE	HIGH DENSITY POLYETHYLENE	T	TANGENT
HDS	HYDRODYNAMIC SEPARATOR	TBA	TO BE ABANDONED
HMA	HOT MIX ASPHALT	TBR	TO BE REMOVED
HT.	HEIGHT	TEL.	TELEPHONE
H.W.	HEADWALL	TEMP.	TEMPORARY
HYD.	HYDRANT	THK., TH.	THICK
INV	INVERT	TYP, (TYP)	TYPICAL
IP	IRON PIN	U.D.	UNDERDRAIN
J.B.	JUNCTION BOX	UP, U.P.	UTILITY POLE
LF	LINEAR FOOT	U.S.	UPSTREAM
L.T., RT.,	LEFT, RIGHT	VAR.	VARIABLE, VARIES
LOP	LIMIT OF PAVEMENT (PAVING)	V.C.T.	VERTICAL CURB TRANSITION
LOM	LIMIT OF MILLING	W	WEST
M.B.	MAILBOX	W.C.V.C.	WHITE CONCRETE VERTICAL CURB
M.P.	MILE POST	WM	WATER METER
MAX, MAX,	MAXIMUM	X-SECT	CROSS SECTION
MIN, MIN.	MINIMUM	XS	CROSS SECTION
N	NORTH	T.O.S.	TOE OF SLOPE
N.I.C.	NOT IN CONTRACT		
NO.	NUMBER		
N.T.S.	NOT TO SCALE		
PAVT	PAVEMENT		
PERF.	PERFORATED		

LIST OF CIVIL DRAWINGS

C-100	GENERAL NOTES & LEGEND
C-101	REMOVALS PLAN
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C-105	UTILITY PLAN
C-106	EROSION & SEDIMENT CONTROL PLAN
C-201	WATER PROFILES
C-202	SANITARY PROFILE
C-203	DRAINAGE PROFILES
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C-311	SITE DETAILS
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C-351	EROSION & SEDIMENT CONTROL DETAILS
C-352	EROSION & SEDIMENT CONTROL DETAILS
C-353	EROSION & SEDIMENT CONTROL SEQUENCING, & MAINTENANCE TABLE

LEGEND

PROPERTY LINE	EXISTING WATER VALVE
ADJOINING PROPERTY LINE	EXISTING GAS VALVE
EXISTING INDEX CONTOUR LINE	EXISTING HYDRANT
EXISTING CONTOUR LINE	EXISTING SIGN
EXISTING CHAIN LINK FENCE	EXISTING LIGHT POST
EXISTING CURB LINE	EXISTING FLAG POLE
EXISTING EDGE OF CONCRETE	EXISTING PEDESTRIAN SIGNAL
EXISTING EDGE OF PAVEMENT	EXISTING ELECTRIC PULLBOX
EXISTING PAINTED TRAFFIC LINES	EXISTING BEECH TREE W/SIZE
EXISTING CABLE (BY MARKOUT)	EXISTING ELM TREE W/SIZE
EXISTING ELECTRIC (BY MARKOUT)	EXISTING MAPLE TREE W/SIZE
EXISTING GAS (BY MARKOUT)	EXISTING OAK TREE W/SIZE
EXISTING OVERHEAD WIRES	EXISTING PINE TREE W/SIZE
EXISTING STORM SEWER (BY MARKOUT)	EXISTING SYCAMORE TREE W/SIZE
EXISTING WATER (BY MARKOUT)	EXISTING STUMP W/SIZE
EXISTING UNKNOWN UTILITY (BY MARKOUT)	EXISTING MAGNOLIA W/SIZE
EXISTING ELECTRIC (UNDERGROUND) (RECORD)	EXISTING JUNIPER W/SIZE
EXISTING STRUCTURE	EXISTING CAN NOT MEASURE
EXISTING BOTTOM/TOP OF CURB ELEVATION	EXISTING CAST IRON PIPE
EXISTING DOOR SILL ELEVATION	EXISTING CONCRETE CURB
EXISTING SPOT ELEVATION	EXISTING END OF INFORMATION
EXISTING BOLLARD	EXISTING NO VISIBLE PIPE
EXISTING GATEPOST	EXISTING STEEL FACED CURB
EXISTING GUY ANCHOR	EXISTING LEGAL GRADE
EXISTING UTILITY POLE	EXISTING CATCH BASIN
CONTOUR LINE	EXISTING CURB INLET
INDEX CONTOUR LINE	EXISTING FIELD INLET (ROUND)
TEMPORARY CONSTRUCTION FENCE	EXISTING MANHOLE (ELECTRIC)
STORM PIPE ≤ 12"	
STORM PIPE > 12"	
SILT FENCE	
LIMIT OF DISTURBANCE	
SAWCUT LINE	
DECORATIVE FENCE	
FIBER ROLL	
ITEM TO BE REMOVED	
CONCRETE SIDEWALK	
SPOT ELEVATION	
DRAINAGE MANHOLE	
SANITARY MANHOLE	
CATCH BASIN	
SIGN	
THRUST BLOCK	
TREE PROTECTION	
INLET PROTECTION	
STABILIZED CONSTRUCTION	
CONCRETE WASHOUT	

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CERTIFICATE OF AUTHORIZATION: 1127432

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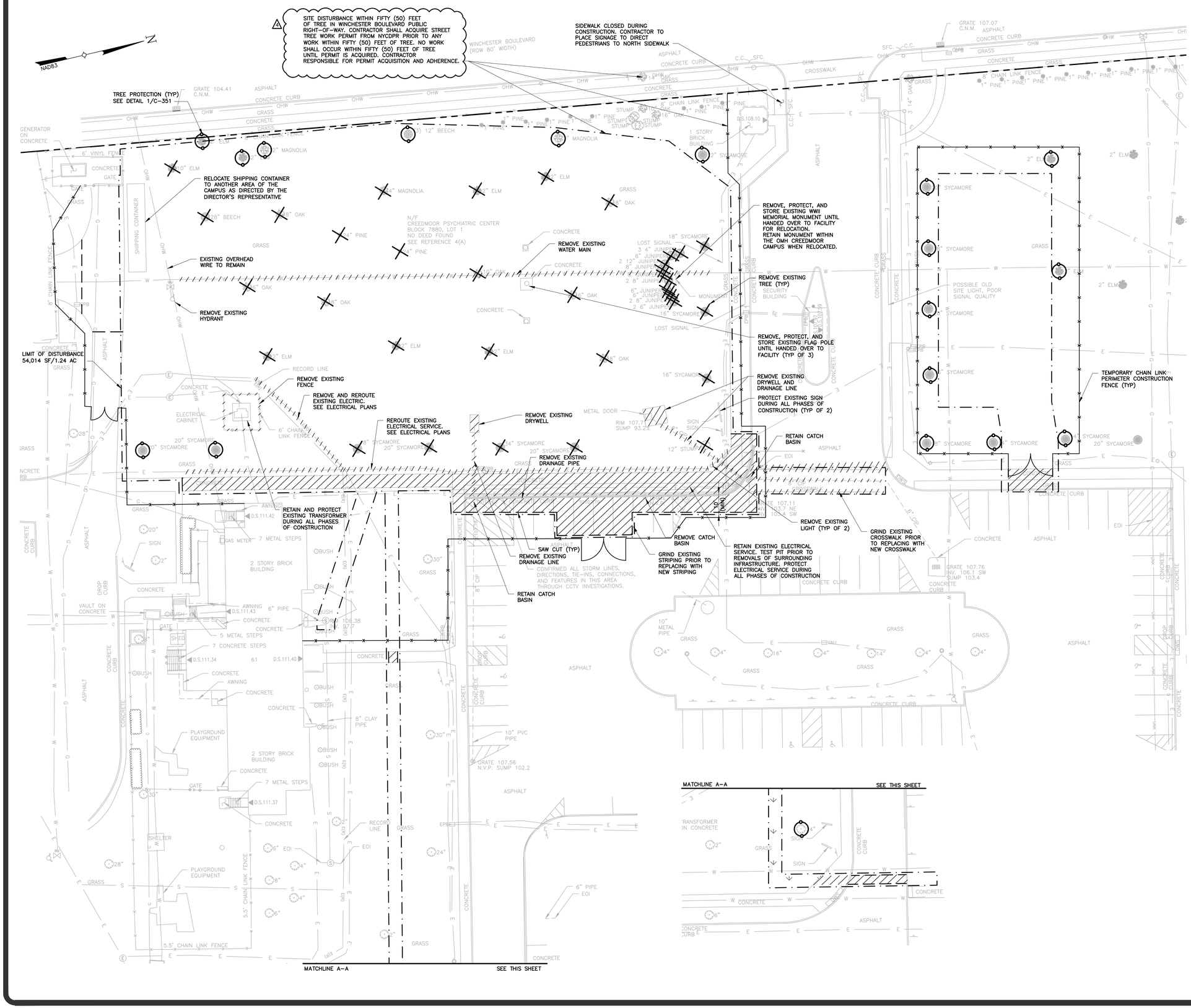

Jun 16,2026 - 10:34am
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CONTRACT:

CONSTRUCTION

TITLE:

PROVIDE TRANSITIONAL RESIDENCE, SOUTH CAMPUS CREEDMOOR PSYCHIATRIC CENTER

LOCATION:

80-45 WINCHESTER BLVD
QUEENS, NY

CLIENT:

OFFICE OF MENTAL HEALTH

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	10/17/2025	BID DOCUMENTS

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PROJECT NUMBER:	47688-C
DESIGNED BY:	ZK
DRAWN BY:	ECM
FIELD CHECK:	
APPROVED:	

SHEET TITLE:

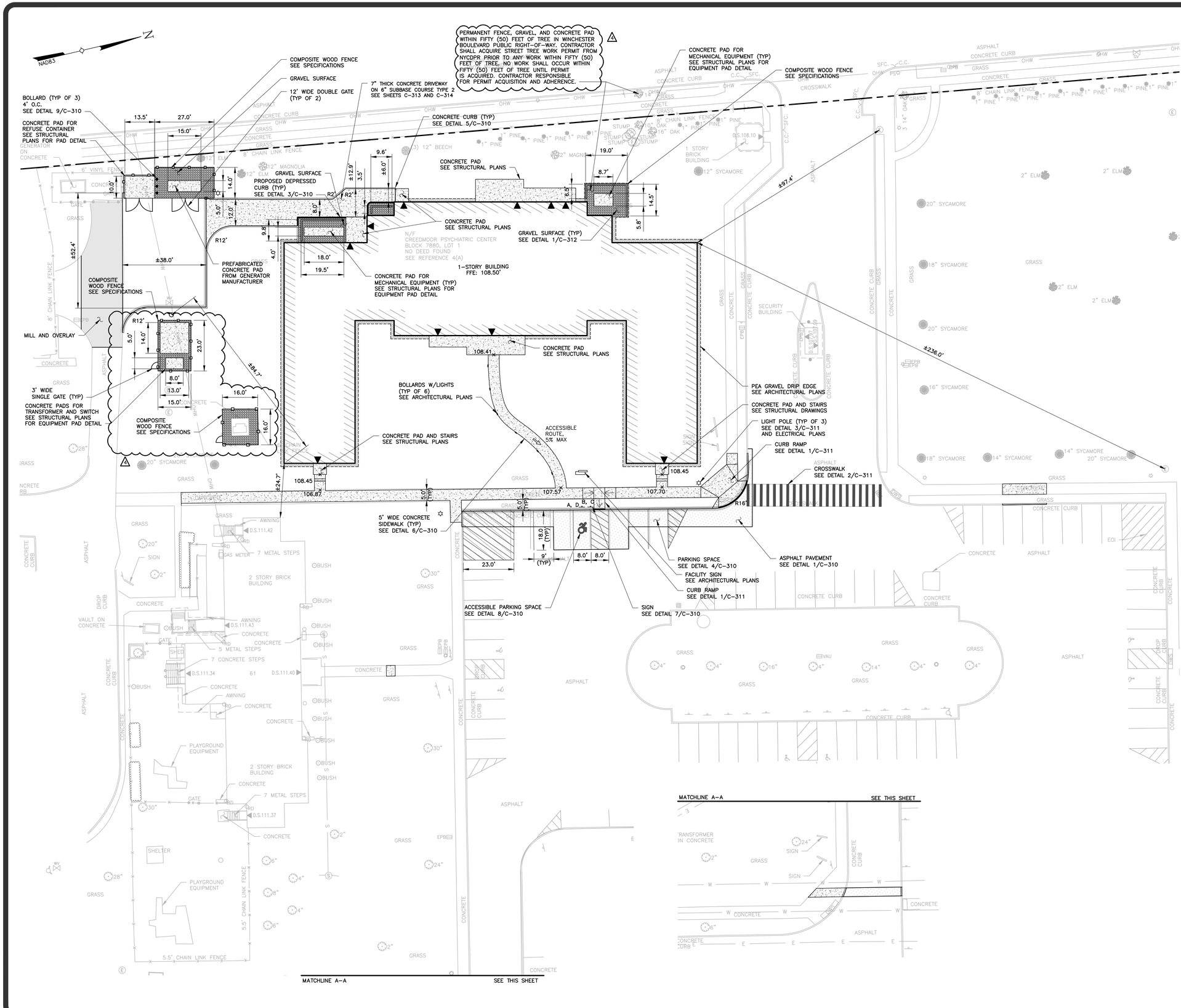
REMOVALS PLAN

DRAWING NUMBER:

C-101

SHEET OF

0 10' 20' 40'
1" = 20'



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CONTRACT:
CONSTRUCTION

TITLE:
PROVIDE TRANSITIONAL RESIDENCE, SOUTH CAMPUS CREEDMOOR PSYCHIATRIC CENTER

LOCATION:
80-45 WINCHESTER BLVD
QUEENS, NY

CLIENT:
OFFICE OF MENTAL HEALTH

MARK	DATE	DESCRIPTION
4	06/17/2026	ADDENDUM #4
3	06/12/2026	ADDENDUM #3
	10/17/2025	BID DOCUMENTS

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0 10' 20' 40'
1" = 20'

PROJECT NUMBER:	47688-C
DESIGNED BY:	ZK
DRAWN BY:	ECM
FIELD CHECK:	
APPROVED:	

SHEET TITLE:
SITE PLAN

DRAWING NUMBER:
C-102

SHEET OF

Jun 16,2026 - 3:14pm
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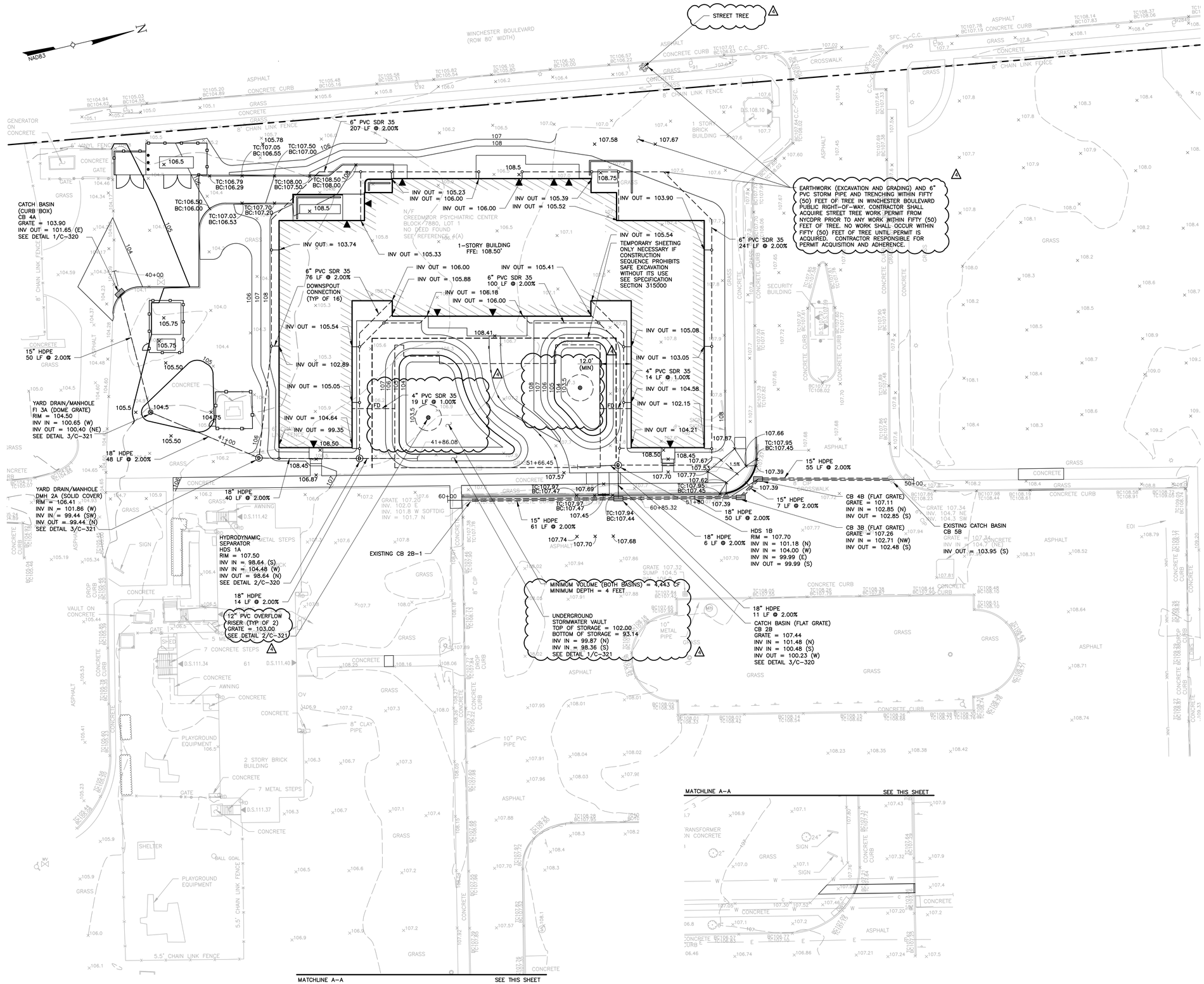
36x24 PLOT SHEET



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CONTRACT:

CONSTRUCTION

TITLE:

PROVIDE TRANSITIONAL RESIDENCE, SOUTH CAMPUS CREEDMOOR PSYCHIATRIC CENTER

LOCATION:

80-45 WINCHESTER BLVD QUEENS, NY

CLIENT:

OFFICE OF MENTAL HEALTH

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MARK	DATE	DESCRIPTION
	10/17/2025	BID DOCUMENTS
4	06/19/2026	ADDENDUM #4

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PROJECT NUMBER:	47688-C
DESIGNED BY:	ZK
DRAWN BY:	ECM
FIELD CHECK:	
APPROVED:	

SHEET TITLE:

GRADING & DRAINAGE PLAN

DRAWING NUMBER:

C-103

SHEET OF

0 10' 20' 40'

1" = 20'

Jun 16,2026 – 3:26pm
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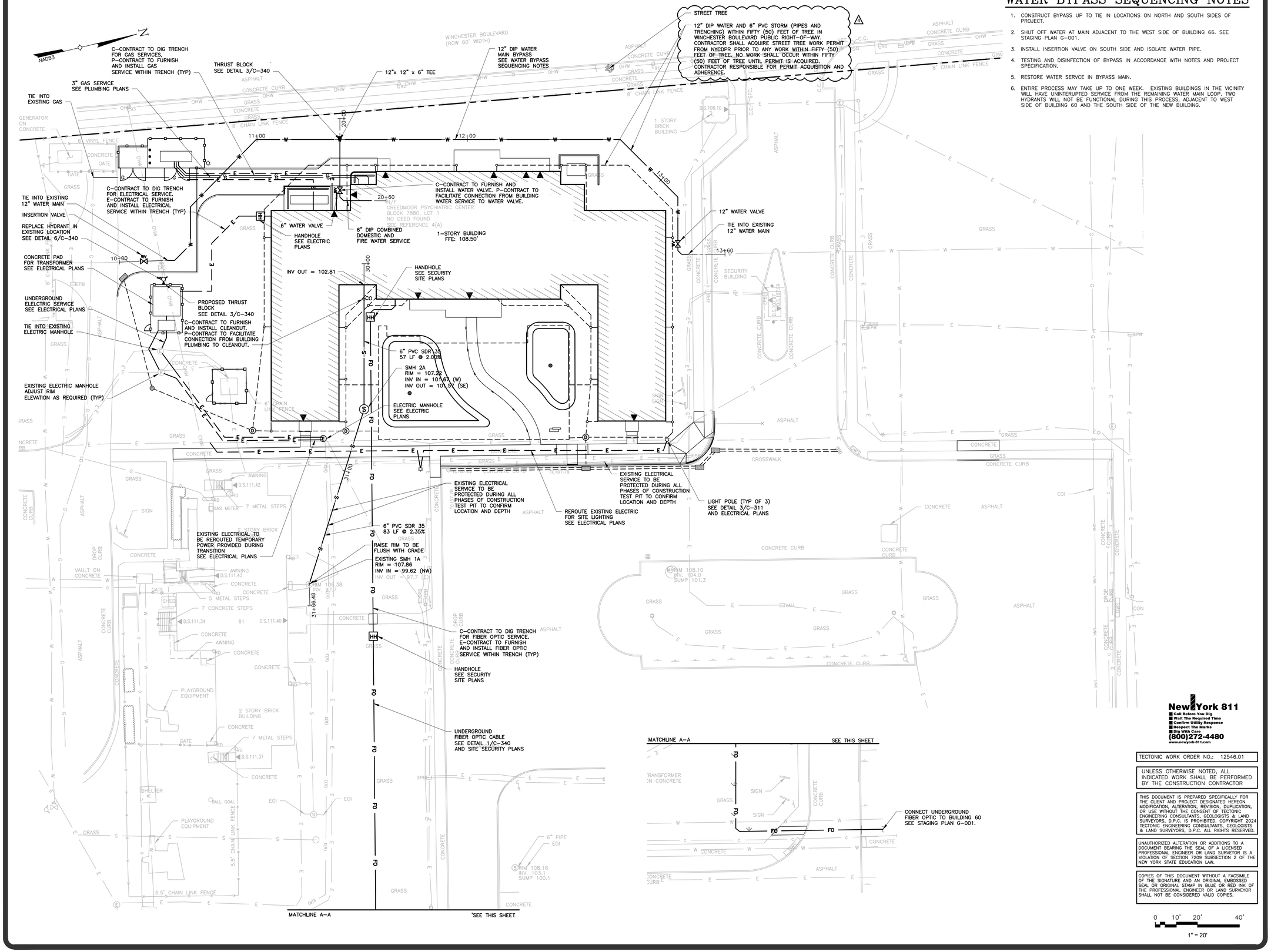
WATER BYPASS SEQUENCING NOTES

1. CONSTRUCT BYPASS UP TO TIE IN LOCATIONS ON NORTH AND SOUTH SIDES OF PROJECT.
2. SHUT OFF WATER AT MAIN ADJACENT TO THE WEST SIDE OF BUILDING 66. SEE STAGING PLAN G-001.
3. INSTALL INSERTION VALVE ON SOUTH SIDE AND ISOLATE WATER PIPE.
4. TESTING AND DISINFECTION OF BYPASS IN ACCORDANCE WITH NOTES AND PROJECT SPECIFICATION.
5. RESTORE WATER SERVCE IN BYPASS MAIN.
6. ENTIRE PROCESS MAY TAKE UP TO ONE WEEK. EXISTING BUILDINGS IN THE VICINITY WILL HAVE UNINTERUPTED SERVICE FROM THE REMAINING WATER MAIN LOOP. TWO HYDRANTS WILL NOT BE FUNCTIONAL DURING THIS PROCESS, ADJACENT TO WEST SIDE OF BUILDING 60 AND THE SOUTH SIDE OF THE NEW BUILDING.



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CONTRACT:

CONSTRUCTION

TITLE:

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LOCATION:

80-45 WINCHESTER BLVD
QUEENS, NY

CLIENT:

OFFICE OF MENTAL HEALTH

MARK	DATE	DESCRIPTION
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3	06/12/2026	ADDENDUM #3
	10/17/2025	BID DOCUMENTS

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DESIGNED BY:	ZK
DRAWN BY:	ECM
FIELD CHECK:	
APPROVED:	

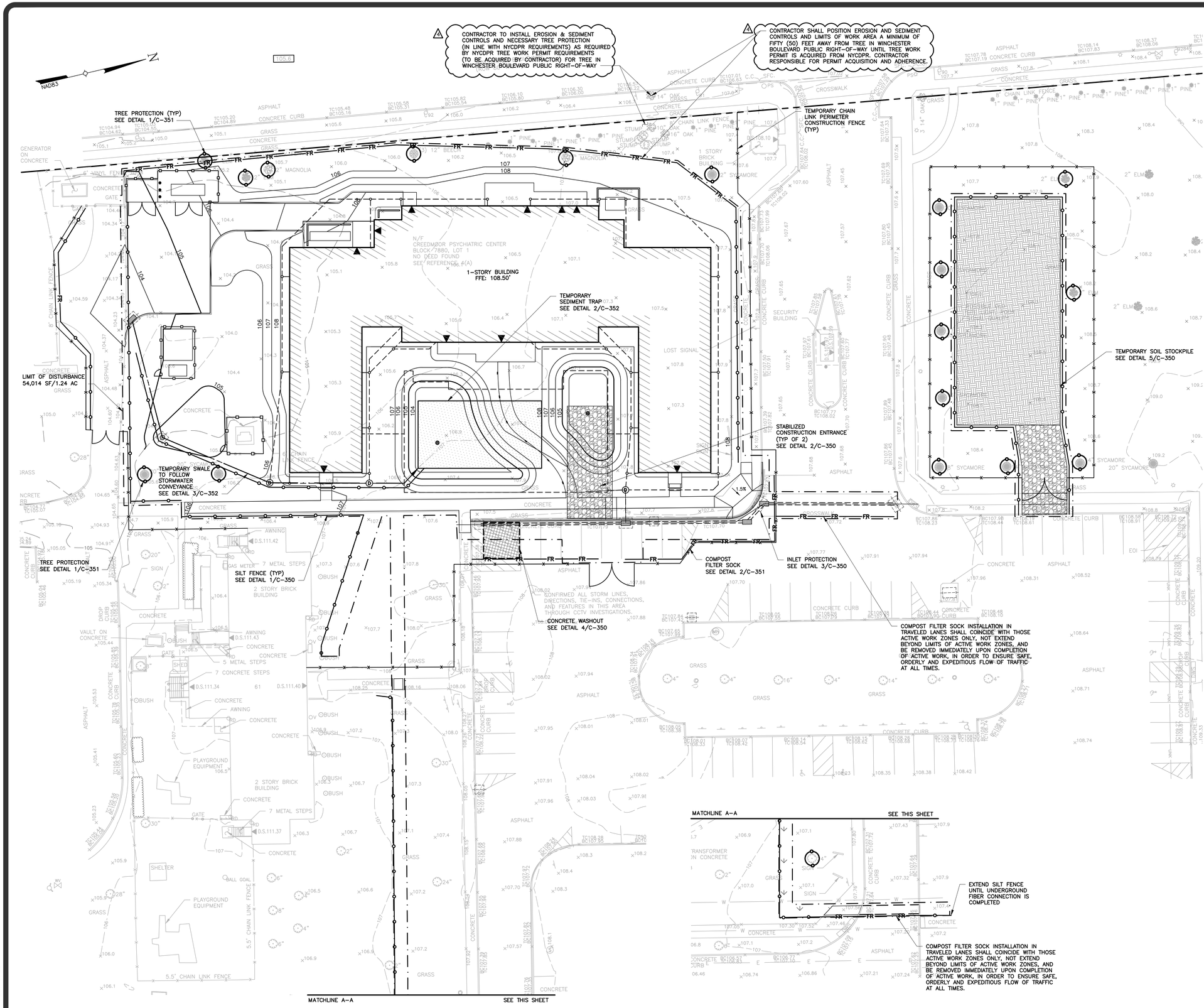
SHEET TITLE:

UTILITY PLAN

DRAWING NUMBER:

C-105

SHEET OF



NOTE

ONCE ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES HAVE BEEN REMOVED, RE-ESTABLISH TURF IN ACCORDANCE WITH DETAIL 5/C-351 AND THE PROJECT SPECIFICATIONS.

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CONTRACT:
CONSTRUCTION

TITLE:
PROVIDE TRANSITIONAL RESIDENCE, SOUTH CAMPUS CREEDMOOR PSYCHIATRIC CENTER

LOCATION:
80-45 WINCHESTER BLVD
QUEENS, NY

CLIENT:
OFFICE OF MENTAL HEALTH

MARK	DATE	DESCRIPTION
4	06/19/2026	ADDENDUM #4
	10/17/2025	BID DOCUMENTS

PROJECT NUMBER:	47688-C
DESIGNED BY:	ZK
DRAWN BY:	ECM
FIELD CHECK:	
APPROVED:	

SHEET TITLE:

EROSION & SEDIMENT CONTROL PLAN

DRAWING NUMBER:
C-106

SHEET OF

Jun 16,2026 - 10:34am
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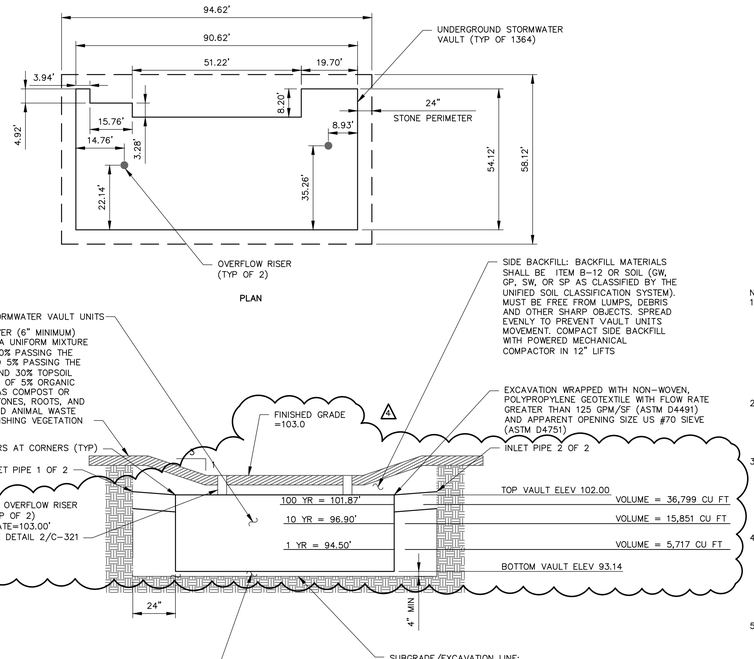
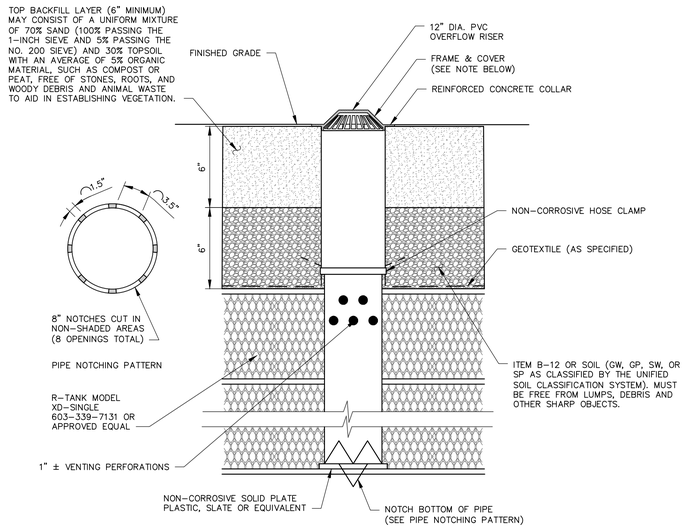
36x24 PLOT SHEET



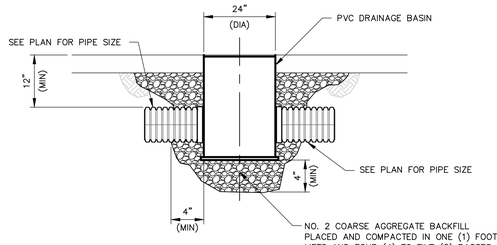
NOTES:
1. FOLLOWING PLACEMENT OF SIDE BACKFILL, A UNIFORM 12" LIFT OF THE FREELY DRAINING MATERIAL SHALL BE OVER THE VAULT UNITS AND LIGHTLY COMPACTED USING A WALK-BEHIND TRENCH ROLLER. ALTERNATELY, A ROLLER (MAXIMUM GROSS VEHICLE WEIGHT OF 6 TONS) MAY BE USED. ROLLER MUST REMAIN IN STATIC MODE UNTIL A MINIMUM OF 24" OF COVER HAS BEEN PLACED OVER THE MODULES. SHEEP FOOT ROLLERS SHOULD NOT BE USED.
2. ONLY LOW PRESSURE TIRE OR TRACK VEHICLES (LESS THAN 7 PSI AND OPERATING WEIGHT OF LESS THAN 20,000LBS) SHALL BE OPERATED OVER THE UNDERGROUND STORMWATER VAULT SYSTEM DURING CONSTRUCTION.
3. DUMP TRUCKS AND PANS SHALL NOT BE OPERATED WITHIN THE VAULT UNITS AT ANY TIME. WHERE NECESSARY, THE HEAVY EQUIPMENT SHOULD UNLOAD IN AN AREA ADJACENT TO THE UNDERGROUND STORMWATER VAULT SYSTEM AND THE MATERIAL SHOULD BE MOVED OVER THE SYSTEM WITH TRACKED EQUIPMENT.
4. ENSURE THAT ALL UNRELATED CONSTRUCTION TRAFFIC IS KEPT AWAY FROM THE LIMITS OF EXCAVATION UNTIL THE PROJECT IS COMPLETE AND FINAL SURFACE MATERIALS ARE IN PLACE. NO NON-INSTALLATION RELATED LOADING SHOULD BE ALLOWED OVER THE VAULT UNITS UNTIL THE FINAL DESIGN SECTION HAS BEEN CONSTRUCTED (INCLUDING PAVEMENT).
5. UNDERGROUND STORMWATER VAULT UNITS MANUFACTURED BY ACF ENVIRONMENTAL, MODEL XD-SINGLE 603-339-7131 OR APPROVED EQUAL. SEE UNDERGROUND STORMWATER VAULT INSTALLATION GUIDE OR CONTACT LOCAL FERGUSON REPRESENTATIVE FOR ADDITIONAL INFORMATION.
6. OBSERVED GROUNDWATER WAS NOT ENCOUNTERED DOWN TO ELEVATION 77 FEET (BOTTOM OF GROUNDWATER OBSERVATION WELLS). SEE GEOTECHNICAL REPORT FOR FULL DISCUSSION ON SUBSURFACE CONDITIONS.

1 C-321 UNDERGROUND STORMWATER VAULT SYSTEM LAYOUT
SCALE: NOT TO SCALE



NOTE:
FRAME AND COVER SHALL CONFORM TO NEENAH FOUNDRY MODEL R-4340-H. AVAILABLE MANUFACTURERS INCLUDE US FOUNDRY, EAST JORDAN IRON WORKS, OR APPROVED EQUAL.

2 C-321 OVERFLOW RISER
SCALE: NTS



NOTES:
1. BASIN SHALL BE MANUFACTURED BY ADS, OR APPROVED EQUAL.
2. GRATE/LID SHALL BE DUCTILE IRON, DROP-IN TYPE, COMPATIBLE WITH THE BASIN. PROVIDE ADA COMPLIANT DOME GRATE OR SOLID LID WHERE INDICATED ON THE PLANS

3 C-321 YARD DRAIN/MANHOLE
SCALE: NTS

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- Wait The Required Time
- Confirm Utility Response
- Respect The Marks
- Dig With Care

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TECTONIC WORK ORDER NO.: 12546.01

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Jun 16,2026 - 3:29pm
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36x24 PLOT SHEET

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CONSULTANT

CERTIFICATE OF AUTHORIZATION: 1127432

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STATE OF NEW YORK · LOUIS JOSEPH PERLO · 098829 · LICENSED PROFESSIONAL ENGINEER

WE HEREBY AFFIRM THAT TO THE BEST OF OUR KNOWLEDGE, BELIEF, AND PROFESSIONAL JUDGEMENT, THESE PLANS AND SPECIFICATIONS ARE IN COMPLIANCE WITH THE 2020 ENERGY CONSERVATION CONSTRUCTION CODE OF NEW YORK STATE AND THE 2020 NEW YORK STATE UNIFORM BUILDING CODE.

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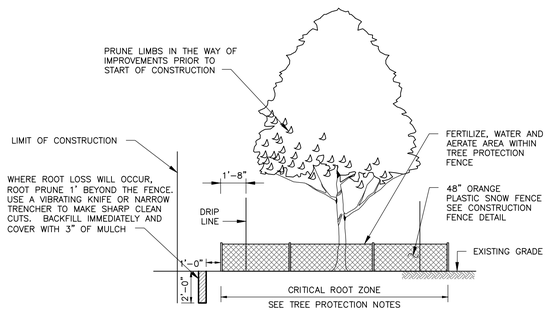
APPROVED:	

SHEET TITLE:
DRAINAGE DETAILS

DRAWING NUMBER:
C-321

SHEET OF



TREE PROTECTION NOTES:

1. THE TREE PROTECTION AND PRESERVATION GUIDELINES ADOPTED PURSUANT TO THE LAND DEVELOPMENT REGULATIONS OF THE MUNICIPALITY WILL BE IMPLEMENTED IN ORDER TO PROTECT AND PRESERVE BOTH INDIVIDUAL SPECIMEN TREES AND BUFFER AREA WITH MANY TREES. STEPS THAT WILL BE TAKEN TO RESERVE AND PROTECT EXISTING TREES TO REMAIN ARE AS FOLLOWS:

A. NO CONSTRUCTION EQUIPMENT SHALL BE PARKED UNDER THE TREE CANOPY.

B. THERE WILL BE NO STOCKPILING OF EARTH UNDERNEATH THE TREES.

C. TREES DESIGNATED TO BE PRESERVED SHALL BE MARKED CONSPICUOUSLY ON ALL SIDES AT A 5 TO 10 FOOT HEIGHT.

D. THE TREE PROTECTION ZONE FOR TREES DESIGNATED TO BE PRESERVED WILL BE ESTABLISHED BY ONE OF THE FOLLOWING METHODS:

i. ONE (1) FOOT RADIUS FROM TRUNK PER INCH DBH

ii. DRIP LINE OF THE TREE CANOPY. THE METHOD CHOSEN SHOULD BE BASED ON PROVIDING THE MAXIMUM PROTECTION ZONE POSSIBLE. A BARRIER OF SNOW FENCE OR EQUAL IS TO BE PLACED AND MAINTAINED ONE YARD BEYOND THE ESTABLISHED TREE PROTECTION ZONE. IF IT IS AGREED THAT THE TREE PROTECTION ZONE OF A SELECTED TREE MUST BE VIOLATED, ONE OF THE FOLLOWING METHODS MUST BE EMPLOYED TO MITIGATE THE IMPACT: LIGHT TO HEAVY IMPACTS – MINIMUM OF EIGHT INCHES OF WOOD CHIPS INSTALLED IN THE AREAS TO BE PROTECTED. CHIPS SHALL BE REMOVED UPON COMPLETION OF WORK.

iii. LIGHT IMPACTS ONLY – INSTALLATION OF 3/4 INCH OF PLYWOOD OR BOARDS, OR EQUAL OVER THE AREA TO BE PROTECTED.

E. WHERE EXCAVATION FOR NEW CONSTRUCTION IS REQUIRED WITHIN TREE PROTECTION ZONES, HAND CLEAR AND EXCAVATE TO MINIMIZE DAMAGE TO ROOT SYSTEMS. USE NARROW-TINE SPADING FORKS AND COMB SOIL TO EXPOSE ROOTS.

F. REDIRECT ROOTS IN BACKFILL AREAS WHERE POSSIBLE. IF ENCOUNTERING LARGE, MAIN LATERAL ROOTS, EXPOSE ROOTS BEYOND EXCAVATION LIMITS AS REQUIRED TO BEND AND REDIRECT THEM WITHOUT BRAKING. IF ENCOUNTERED IMMEDIATELY ADJACENT TO LOCATION OF NEW CONSTRUCTION AND REDIRECTION IS NOT PRACTICAL, CUT ROOTS APPROXIMATELY 3 INCHES BACK FROM NEW CONSTRUCTION AS FOLLOWS:

i. ROOT PRUNING: PRUNE TREE ROOTS EXPOSED DURING GRADE LOWERING. DO NOT CUT MAIN LATERAL ROOTS OR TAPROOTS; CUT ONLY SMALLER ROOTS. CUT ROOTS WITH SHARP PRUNING INSTRUMENTS; DO NOT BREAK OR CHOP.

ii. TREE PRUNING STANDARD: COMPLY WITH ANSI A300 (PART 1), "TREE, SHRUB, AND OTHER WOODY PLANT MAINTENANCE-STANDARD PRACTICES (PRUNING)."

G. DO NOT ALLOW EXPOSED ROOTS TO DRY OUT BEFORE PLACING PERMANENT BACKFILL. PROVIDE TEMPORARY EARTH COVER OR PACK WITH PEAT MOSS AND WRAP WITH BURLAP. WATER AND MAINTAIN IN A MOIST CONDITION. TEMPORARILY SUPPORT AND PROTECT ROOTS FROM DAMAGE UNTIL THEY ARE PERMANENTLY RELOCATED AND COVERED.

2. SEPARATE PAYMENT WILL NOT BE MADE FOR THIS WORK.

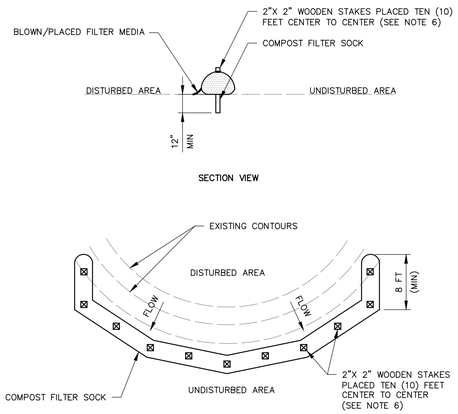
4 3. DETAIL SHALL NOT BE USED FOR TREE IN WINCHESTER BOULDEVARD PUBLIC RIGHT-OF-WAY. CONTRACTOR SHALL INSTALL TREE PROTECTION (FOLLOWING NYCDPR STANDARDS) AND IN COMFORANCE WITH NYCDPR TREE WORK PERMIT (TO BE ACQUIRED BY CONTRACTOR).

1 C-351 TREE PROTECTION AND PRUNING

SCALE: NTS

COMPOST SOCK FABRIC MINIMUM SPECIFICATIONS					
MATERIAL TYPE	3 MIL HDPE	5 MIL HDPE	5 MIL HDPE	MULTI-FILAMENT POLYPROPYLENE (MFPP)	HEAVY DUTY MULTI-FILAMENT POLYPROPYLENE (HDMFPP)
MATERIAL CHARACTERISTICS	PHOTODEGRADABLE	PHOTODEGRADABLE	BIODEGRADABLE	PHOTODEGRADABLE	PHOTODEGRADABLE
SOCK DIAMETERS	12" 18"	12" 18" 24" 32"	12" 18" 24" 32"	12" 18" 24" 32"	12" 18" 24" 32"
MESH OPENING	3/8"	3/8"	3/8"	3/8"	3/8"
TENSILE STRENGTH	N/A	26 PSI	26 PSI	44 PSI	202 PSI
ULTRAVIOLET STABILITY % ORIGINAL STRENGTH (ASTM G-155)	23% AT 1000 HR.	23% AT 1000 HR.	N/A	100% AT 1000 HR.	100% AT 100 HR.
MINIMUM FUNCTIONAL LONGEVITY	6 MONTHS	9 MONTHS	6 MONTHS	1 YEAR	2 YEARS

COMPOST STANDARDS	
ORGANIC MATTER CONTENT	25% - 100% (DRY WEIGHT)
ORGANIC PORTION	FIBROUS AND ELONGATED
PH	6.0 - 8.0
MOISTURE CONTENT	30% - 60%
PARTICLE SIZE	100% PASSING A 1" SCREEN AND 10% - 50% PASSING A 3/8" SCREEN
SOLUBLE SALT CONCENTRATION	5.0 DS/M (MMHOS/CM) MAXIMUM



NOTES:

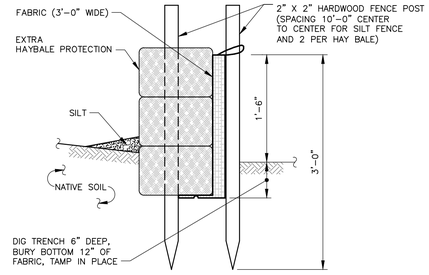
1. CONTINUOUS CONTACT BETWEEN THE FILTER SOCK AND THE SOIL, OR GROUND SHALL BE MAINTAINED.
2. PROPER ANCHORAGE SHALL BE PROVIDED TO PREVENT SHIFTING, OR SEPARATION OF SOCK FROM SURFACE.
3. COMPOST FILTER SOCKS SHALL BE PLACED ON THE CONTOUR WITH BOTH TERMINAL ENDS OF THE SOCK EXTENDED EIGHT (8) FEET UPSLOPE AT A 45 DEGREE ANGLE TO PREVENT BYPASS FLOW.
4. THE RATIO OF THE FLAT DIMENSION TO THE NOMINAL DIAMETER OF THE SOCK SHALL BE 1.5:1.
5. THE COMPOST INFILL MATERIAL SHALL BE WELL DECOMPOSED (MATURED AT A MINIMUM OF 3 MONTHS), WEED-FREE, ORGANIC MATTER. IT SHALL BE AEROBICALLY COMPOSED, POSSESS NO OBJECTIONABLE ODORS, SHALL CONTAIN LESS THAN ONE (1) PERCENT (BY DRY WEIGHT) OF MANMADE FOREIGN MATTER, AND SHALL BE IN ACCORDANCE WITH REGULATION NYSDEC 6 NYCRR PART 360, AND NYC STORMWATER MANUAL.
6. SPACING MAY BE INCREASED TO ENHANCE SUPPORT STRUCTURE FOR FILTER SOCK AND AS DIRECTED BY THE QUALIFIED INSPECTOR.
7. TRAFFIC SHALL NOT BE PERMITTED TO TRAVERSE FILTER SOCKS. FILTER SOCK SHOULD BE REPLACED IMMEDIATELY IF DAMAGED BY VEHICLE TRAFFIC.
8. SEDIMENT SHALL BE REMOVED UPSTREAM OF FILTER SOCK WHEN IT REACHES HALF THE DEPTH OF THE FILTER SOCK.
9. LENGTH OF FILTER SOCK REQUIRED SHALL BE DETERMINED FROM TABLE BELOW BASED ON NOMINAL DIAMETER OF SOCK AND SLOPE OF TERRAIN:

MAXIMUM ALLOWABLE SLOPE LENGTH (FEET) ABOVE COMPOST FILTER SOCK							
NOMINAL DIAMETER (IN)	SLOPE (%)						
	2	5	10	20	25	33	50
8*	225	200	100	50	20	N/A	N/A
12	250	225	125	65	50	40	25
18	275	250	150	70	55	45	30
24	350	275	200	130	100	60	35
32	450	325	275	150	120	75	50

*8-INCH DIAMETER SHALL BE RESTRICTED TO A DRAINAGE AREA OF 0.25 ACRES

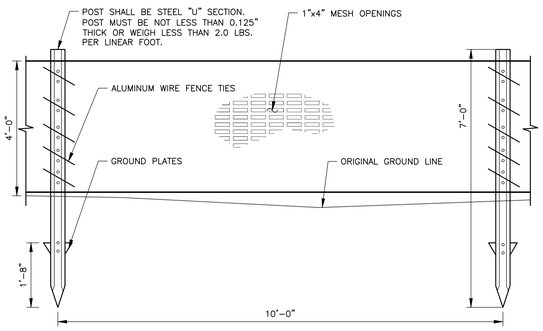
2 C-351 COMPOST FILTER SOCK

SCALE: NTS



3 C-351 SILT FENCE WITH STRAW BALE DIKE

SCALE: 1" = 1'-0"

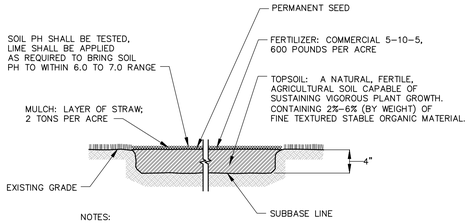


NOTES:

1. FENCING TO BE PLACED LINEARLY ALONG LIMIT OF CLEARING, AND AS SHOWN ON PLAN AND AS REQUIRED BY REFERRING DETAILS.
2. MESH COLOR TO BE BLAZE ORANGE.

4 C-351 CONSTRUCTION FENCE (PLASTIC)

SCALE: NTS



NOTES:

1. TOPSOIL, SEED, MULCH, AND FERTILIZE DISTURBED SOIL AREAS THAT WILL BE LEFT EXPOSED FOR 14 DAYS OR MORE.
2. SEED MIX TO BE A MIXTURE OF 55% KENTUCKY BLUE, 20% PERENNIAL RYE, 25% CHEWINGS FESCUE.

5 C-351 TOPSOIL, FERTILIZER, SEED & MULCH

SCALE: NTS

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CERTIFICATE OF AUTHORIZATION: 1127432

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DRAWN BY: ECM
FIELD CHECK:
APPROVED:

SHEET TITLE:
EROSION & SEDIMENT CONTROL DETAILS

DRAWING NUMBER:
C-351

SHEET OF

Jun 16,2026 - 3:31pm
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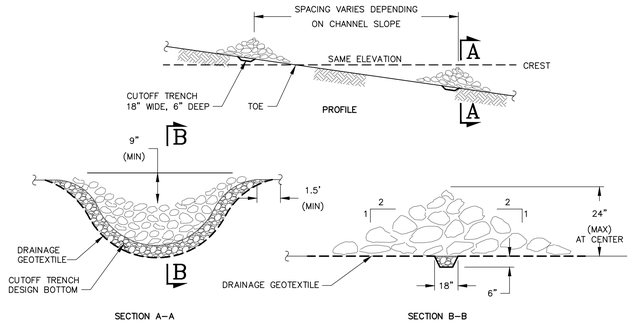
36x24 PLOT SHEET



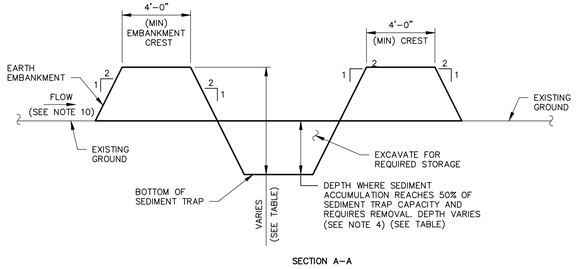
CONSTRUCTION SPECIFICATIONS:

1. CHECK DAM STONE SHALL BE NYSDOT ITEM 620.03 STONE FILLING (LIGHT). CUTOFF TRENCH STONE SHALL BE NYSDOT ITEM 620.03 RIPRAP BEDDING MATERIAL TYPE 1.
2. GEOTEXTILE FILTER FABRIC SHALL HAVE AN EOS OPENING OF 70.
3. STONE WILL BE PLACED ON A FILTER FABRIC FOUNDATION AT LOCATIONS SHOWN ON THE PLAN.
4. SET SPACING OF CHECK DAMS TO ASSURE THAT THE ELEVATIONS OF THE CREST OF THE DOWNSTREAM DAM IS AT THE SAME ELEVATION AS THE TOE OF THE UPSTREAM DAM.
5. EXTEND THE STONE A MINIMUM OF 1.5 FEET BEYOND THE DITCH BANKS TO PREVENT CUTTING AROUND THE DAM.
6. PROTECT THE CHANNEL DOWNSTREAM OF THE LOWEST CHECK DAM FROM SCOUR AND EROSION WITH STONE OR LINER AS APPROPRIATE UNLESS OTHERWISE INDICATED ON THE PLANS.
7. ENSURE THAT CHANNEL APPURTENANCES SUCH AS CULVERT ENTRANCES BELOW CHECK DAMS ARE NOT SUBJECT TO DAMAGE OR BLOCKAGE FROM DISPLACED STONES.

1 C-352 STONE CHECK DAM

SCALE: NTS

PARAMETER	SEDIMENT TRAP
TRAP LENGTH	55 FT
TRAP WIDTH	30 FT
MAXIMUM DEPTH	5 FT
TRAP DEPTH AT 50% CAPACITY MAINTENANCE	3.2 FT
SEE PLAN FOR FOOTPRINT.	



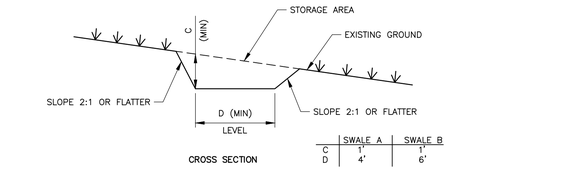
SECTION A–A

CONSTRUCTION SPECIFICATIONS:

1. AREA UNDER EMBANKMENT SHALL BE CLEARED, GRUBBED AND STRIPPED OF ANY VEGETATION AND ROOT MAT. THE POOL AREA SHALL BE CLEARED.
2. THE FILL MATERIAL FOR THE EMBANKMENT SHALL BE FREE OF ROOTS AND OTHER WOODY VEGETATION AS WELL AS OVER–SIZED STONES, ROCKS, ORGANIC MATERIAL OR OTHER OBJECTIONABLE MATERIAL. THE EMBANKMENT SHALL BE COMPACTED BY TRAVERSING WITH EQUIPMENT WHILE IT IS BEING CONSTRUCTED.
3. ALL CUT AND FILL SLOPES SHALL BE 2:1 OR FLATTER.
4. SEDIMENT SHALL BE REMOVED AND TRAP RESTORED TO ITS ORIGINAL DIMENSIONS WHEN THE SEDIMENT HAS ACCUMULATED TO 1/2 THE DESIGN DEPTH OF THE TRAP. IT SHALL BE PLACED ON SITE AND STABILIZED OR DISPOSED OF PROPERLY AS DIRECTED BY THE DIRECTOR'S REPRESENTATIVE.
5. THE STRUCTURE SHALL BE INSPECTED AFTER EACH RAIN AND REPAIRS MADE AS NEEDED.
6. CONSTRUCTION OPERATIONS SHALL BE CARRIED OUT IN SUCH A MANNER THAT EROSION AND SEDIMENT ARE CONTROLLED.
7. THE STRUCTURE SHALL BE REMOVED AND THE AREA STABILIZED WHEN THE DRAINAGE AREA HAS BEEN PROPERLY STABILIZED.
8. MAXIMUM DRAINAGE AREA 5 ACRES.
9. THE MINIMUM CAPACITY FOR THE SEDIMENT TRAP SHALL BE 4,667 CUBIC FEET. VOLUME OF SEDIMENT STORAGE REQUIRED SHALL BE 3,600 CUBIC FEET PER ACRE OF CONTRIBUTORY DRAINAGE.
10. OPENING IN EARTH EMBANKMENT SHALL BE MADE TO CAPTURE ALL UPSTREAM FLOW DISCHARGING TO SEDIMENT TRAP. CAPACITY SHALL NOT BE REDUCED TO ACCOMMODATE FLOW ENTERING SEDIMENT TRAP.
11. OBSERVED GROUNDWATER WAS NOT ENCOUNTERED DOWN TO ELEVATION 77 FEET (BOTTOM OF GROUNDWATER OBSERVATION WELLS). SEE GEOTECHNICAL REPORT FOR FULL DISCUSSION ON SUBSURFACE CONDITIONS.
12. ONCE TRAP HAS MET CAPACITY, DEWATERING OPERATIONS SHALL TAKE PLACE IN ACCORDANCE WITH NYSDEC STANDARDS, AND NYC STORMWATER MANUAL. SEE DETAIL 4/C–352 ON THIS SHEET FOR FURTHER GUIDANCE.

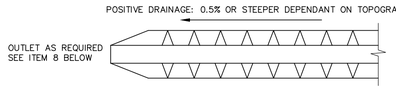
2 C-352 STONE OUTLET SEDIMENT TRAP (ST–II)

SCALE: NTS



CROSS SECTION

	SWALE A	SWALE B
C	1'	1'
D	4'	6'



PLAN

CONSTRUCTION SPECIFICATIONS:

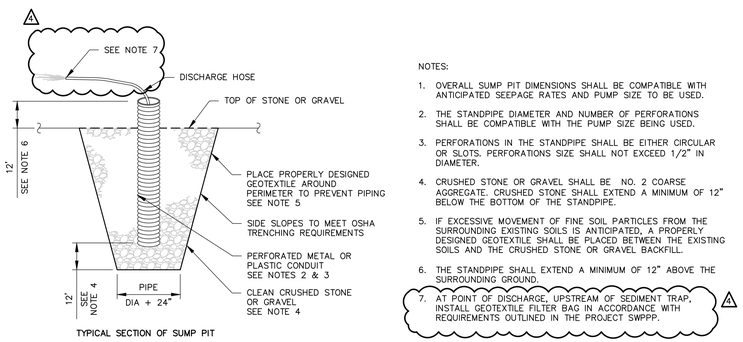
1. FOR DRAINAGE AREA LESS THAN 5 ACRES USE SWALE A FOR DRAINAGE AREAS GREATER THAN 5 ACRES AND LESS THAN 10 ACRES USE SWALE B.
2. DIVERTED RUNOFF FROM A DISTURBED AREA SHALL BE CONVEYED TO A SEDIMENT TRAPPING DEVICE.
3. DIVERTED RUNOFF FROM AN UNDISTURBED AREA SHALL OUTLET DIRECTLY INTO AN UNDISTURBED STABILIZED AREA AT NON–EROSIVE VELOCITY.
4. ALL TREES, BRUSH, STUMPS, OBSTRUCTIONS AND OTHER OBJECTIONABLE MATERIAL SHALL BE REMOVED AND DISPOSED OF SO AS NOT TO INTERFERE WITH THE PROPER FUNCTIONING OF THE SWALE.
5. THE SWALE SHALL BE EXCAVATED OR SHAPED TO LINE, GRADE, AND CROSS SECTION AS REQUIRED TO MEET THE CRITERIA SPECIFIED HEREIN AND BE FREE OF BANK PROJECTIONS OR OTHER IRREGULARITIES WHICH WILL IMPEDE NORMAL FLOW.
6. FILLS SHALL BE COMPACTED BY EARTH MOVING EQUIPMENT.
7. ALL EARTH REMOVED AND NOT NEEDED FOR CONSTRUCTION SHALL BE PLACED SO THAT IT WILL NOT INTERFERE WITH THE FUNCTIONING OF THE SWALE.
8. STABILIZATION SHALL BE AS PER THE FLOW CHANNEL STABILIZATION CHART BELOW

TYPE OF TREATMENT	CHANNEL GRADE	SWALE A (5 AC OR LESS)	SWALE B (5 AC TO 10 AC)
1	0.5–3.0%	SEED AND STRAW MULCH	SEED AND STRAW MULCH
2	3.1–5.0%	SEED AND STRAW MULCH	SEED USING JUTE OR EXCELSIOR
3	5.1–8.0%	SEE WITH JUTE OR EXCELSIOR, SOD	LINED WITH 4"–8" RIP–RAP OR RECYCLED CONCRETE EQUIVALENT
4	8.1–20%	LINED WITH 4"–8" RIP–RAP	ENGINEERED DESIGN

9. PERIODIC INSPECTION AND REQUIRED MAINTENANCE MUST BE PROVIDED AFTER EACH RAIN EVENT.

3 C-352 TEMPORARY SWALE

SCALE: NTS



TYPICAL SECTION OF SUMP PIT

NOTES:

1. OVERALL SUMP PIT DIMENSIONS SHALL BE COMPATIBLE WITH ANTICIPATED SEEPAGE RATES AND PUMP SIZE TO BE USED.
2. THE STANDPIPE DIAMETER AND NUMBER OF PERFORATIONS SHALL BE COMPATIBLE WITH THE PUMP SIZE BEING USED.
3. PERFORATIONS IN THE STANDPIPE SHALL BE EITHER CIRCULAR OR SLOTS. PERFORATIONS SIZE SHALL NOT EXCEED 1/2" IN DIAMETER.
4. CRUSHED STONE OR GRAVEL SHALL BE NO. 2 COARSE AGGREGATE. CRUSHED STONE SHALL EXTEND A MINIMUM OF 12" BELOW THE BOTTOM OF THE STANDPIPE.
5. IF EXCESSIVE MOVEMENT OF FINE SOIL PARTICLES FROM THE SURROUNDING EXISTING SOILS IS ANTICIPATED, A PROPERLY DESIGNED GEOTEXTILE SHALL BE PLACED BETWEEN THE EXISTING SOILS AND THE CRUSHED STONE OR GRAVEL BACKFILL.
6. THE STANDPIPE SHALL EXTEND A MINIMUM OF 12" ABOVE THE SURROUNDING GROUND.
7. AT POINT OF DISCHARGE, UPSTREAM OF SEDIMENT TRAP, INSTALL GEOTEXTILE FILTER BAG IN ACCORDANCE WITH REQUIREMENTS OUTLINED IN THE PROJECT SWPPP.

4 C-352 PUMP INTAKE PROTECTION

SCALE: NTS

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CONSULTANT

CERTIFICATE OF AUTHORIZATION: 1127432

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STATE OF NEW YORK · LUIS JOSEPH PRIETO · 098829 · LICENSED PROFESSIONAL ENGINEER

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CONTRACT:
CONSTRUCTION

TITLE:
PROVIDE TRANSITIONAL RESIDENCE, SOUTH CAMPUS CREEDMOOR PSYCHIATRIC CENTER

LOCATION:
80-45 WINCHESTER BLVD
QUEENS, NY

CLIENT:
OFFICE OF MENTAL HEALTH

MARK	DATE	DESCRIPTION
4	06/19/2026	ADDENDUM #4
	10/17/2025	BID DOCUMENTS

PROJECT NUMBER:	47688-C
DESIGNED BY:	ZK
DRAWN BY:	ECM
FIELD CHECK:	
APPROVED:	

SHEET TITLE:

EROSION & SEDIMENT CONTROL DETAILS

DRAWING NUMBER:
C-352

SHEET OF

Jun 16,2026 – 3:34pm
F:\Mountainville\Civ\12546\12546-01 OMH Creedmoor\Dwg\MT-CV-12546O1-350_DETAILS.dwg

36x24 PLOT SHEET

EROSION AND SEDIMENT CONTROL SEQUENCING

CONSTRUCTION SEQUENCING

1. A PRE-CONSTRUCTION MEETING WITH THE DIRECTOR'S REPRESENTATIVE, FACILITY REPRESENTATIVE, AND CONSTRUCTION CONTRACTOR PRESENT SHALL BE HELD TO REVIEW THE SWPPP, EROSION AND SEDIMENT CONTROLS PLANS, AND THE SEQUENCING.
2. CERTIFICATIONS OBTAINED FROM CONTRACTORS, SUBCONTRACTORS, AND ANY OTHERS PERFORMING SITE DISTURBANCES, INCLUDING UNDERGROUND UTILITY CONTRACTORS, BE SIGNED AND MAINTAINED ON SITE.
3. ALL EROSION CONTROL MEASURES WILL BE INSTALLED IN ACCORDANCE WITH THE NYS STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL, LATEST EDITION, AND NYC STORMWATER MANUAL.
4. INSTALL PROVISIONS FOR PROTECTION OF EXISTING FACILITIES, WHERE INDICATED ON THE PLANS.
5. CHANGES TO THE EROSION AND SEDIMENT CONTROL SEQUENCING SHALL BE APPROVED BY THE DIRECTOR'S REPRESENTATIVE.
6. ACTIVE DISTURBANCE SHALL BE LIMITED TO LESS THAN 5 AC MAXIMUM AT ANY TIME WITHOUT TEMPORARY STABILIZATION. ALL NON-ACTIVE DISTURBANCE AREAS SHALL RECEIVE TEMPORARY OR PERMANENT STABILIZATION. NON-ACTIVE DISTURBED SOIL AREAS SHALL NOT REMAIN EXPOSED FOR LONGER THAN 14 DAYS WITHOUT BEING STABILIZED.
7. ANY BORROW OR WASTE PIT LOCATED ON OR OFF-SITE MUST IMMEDIATELY RECEIVE TEMPORARY STABILIZATION, SHALL NOT BE LEFT UNSTABILIZED, AND BE MAINTAINED PER THE REQUIREMENTS OF THE GENERAL CONSTRUCTION PERMIT.
8. DRAINAGE STRUCTURES AND PIPES SHALL BE INSTALLED ALONG WITH ENERGY DISSIPATERS.
9. INSTALL TEMPORARY CONSTRUCTION FENCE AROUND PERIMETER OF SITE AS SHOWN ON THE PLANS.
10. INSTALL STABILIZED CONSTRUCTION ENTRANCE, SILT FENCE, INLET PROTECTION, FIBER ROLLS, TREE PROTECTION, OBJECT PROTECTS, AS SHOWN ON THE PLANS, AND AS DIRECTED BY THE DIRECTOR'S REPRESENTATIVE, PRIOR TO GROUND DISTURBANCE ACTIVITIES.
11. INSTALL SEDIMENT TRAP AND TEMPORARY DIVERSION SWALE WITHIN LIMITS SHOWN ON THE PLANS. TEMPORARY DIVERSION SWALE SHALL DISCHARGE TO SEDIMENT TRAP. INSTALL CHECK DAMS ALONG SWALE IN ACCORDANCE WITH THE DETAIL AND AS DIRECTED BY THE DIRECTOR'S REPRESENTATIVE.
12. INSTALL DRAINAGE STRUCTURES AND PIPES WITHIN PARKING LOT AS SHOWN ON THE PLANS. REINSTALL INLET PROTECTION AS NECESSARY AND AS DIRECTED BY THE DIRECTOR'S REPRESENTATIVE.
13. CLEAR AND GRUB SITE, STOCKPILE TOPSOIL FOR REUSE, AND REMOVE OBJECTS AS INDICATED ON THE PLANS.
14. INSTALL WATER BYPASS AS SHOWN ON PLANS. INSTALLATION SHALL BE PERFORMED IN A MANOR TO MINIMIZE DOWNTIME OF WATER SERVICE TO THE FACILITY TO THE GREATEST EXTENT PRACTICAL.
15. FOOTINGS, CONCRETE PADS, AND UTILITIES SHALL BE CONSTRUCTED AS SHOWN ON PLANS.
16. CONSTRUCT CATCH BASIN, CURB AND SUBBASE WITHIN SITE LIMITS.
17. REMOVE SEDIMENT TRAP AND INSTALL SUBSURFACE STORAGE SYSTEM AS SHOWN ON PLAN. WORK UPSTREAM INSTALLING DRAINAGE LINES AND REMOVING TEMPORARY DIVERSION SWALE AND CHECK DAMS.
18. INSTALL NEW CURB AND PAVEMENT WITHIN EXISTING PARKING LOT AREA AS SHOWN ON PLANS. INSTALL NEW SIDEWALKS AS SHOWN ON THE PLANS.
19. BEGIN FINAL GRADING AND ESTABLISH TURF. ALL LANDSCAPE/GRASSED AREAS WILL BE SEEDED AND MULCHED IN A TWO STEP HYDRAULIC PROCESS TO PROMOTE GROWTH AS SOON AS POSSIBLE AND IN ACCORDANCE WITH NOTE 4 OF THE EROSION AND SEDIMENTATION CONTROL NOTES ON THIS SHEET. TO FACILITATE FINAL STABILIZATION INTERMEDIATE EROSION CONTROL MEASURES MAY BE REMOVED.
20. UPON PERMANENT STABILIZATION ALL TEMPORARY EROSION CONTROL MEASURES SHALL BE REMOVED. ALL CATCH BASINS AND DRAINAGE LINES ARE TO BE FLUSHED CLEAN OF ALL SILT AND SEDIMENT AFTER CONSTRUCTION IS COMPLETE. REMOVE ALL SILT AND SEDIMENT FROM SITE.
21. MILL AND OVERLAY EXISTING PAVEMENT AS SHOWN ON THE PLANS.
22. DIRECTOR'S REPRESENTATIVE TO REVIEW SITE AND DIRECT ANY CORRECTIVE ACTIONS DEEMED NECESSARY TO APPROVE FINAL STABILIZATION AND FACILITATE SPDES PERMIT CLOSEOUT.
23. CONSTRUCTION CONTRACTOR TO PROVIDE ASBUILT OF DRAINAGE NETWORK AND POST CONSTRUCTION STORMWATER CONTROLS TO DIRECTOR'S REPRESENTATIVE PRIOR TO SPDES PERMIT CLOSEOUT AND IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS.

EROSION CONTROL MAINTENANCE SCHEDULE

EROSION CONTROL MAINTENANCE SCHEDULE			
MEASURE	**INSPECTION FREQUENCY**	**PROBLEMS TO LOOK FOR**	**POTENTIAL REMEDIES**
AS SHOWN ON PLANS			
SILT FENCE	ONCE A WEEK AND AFTER EVERY RUNOFF EVENT	DAMAGED FABRIC	REPLACE DAMAGED FABRIC
		DAMAGED POSTS	REPLACE DAMAGED POSTS
		DAMAGE OF WIRE FOR REINFORCED SILT FENCE AND CHAIN LINK FENCE FOR SUPER SILT FENCE	REINSTALL ENTIRE WIRE BACKED SILT FENCE FOR REINFORCED SILT FENCE AND REINSTALL CHAIN LINK FENCE FOR SUPER SILT FENCE
		DAMAGED FASTENING OF SILT FENCE FABRIC TO POSTS	REFASTEN SILT FENCE FABRIC TO POSTS
		BULGES DEVELOPING IN SILT FENCE	REMOVE SEDIMENT AND REINSTALL SECTION OF SILT FENCE
		SILT FENCE SEDIMENT ACCUMULATION HAS REACHED 50% ITS CAPACITY	REMOVE SEDIMENT AND REINSTALL. REPLACE SILT FENCE IF DAMAGED
STONE CHECK DAM	ONCE A WEEK AND AFTER EVERY RUNOFF EVENT	RUTTING OBSERVED IN CHANNEL BETWEEN CHECK DAMS	DECREASE SPACING AND INCREASE FREQUENCY OF CHECK DAMS, OR LINE CHANNEL WITH RIPRAP MATERIAL BETWEEN CHECK DAMS
		DAMAGE TO STRUCTURAL INTEGRITY OF MATERIAL USED FOR CHECK DAM	REINSTALL CHECK DAM MATERIAL. REPLACE DAMAGED SECTIONS
		CHECK DAM OVERLOADED WITH SEDIMENT	REPLACE CHECK DAM MATERIAL AND REINSTALL
		LOW POINT OF TOP OF CHECK DAM IS NOT AT CENTER OF CHANNEL	REINSTALL CHECK DAM MATERIAL TO MAKE CENTER OF CHANNEL LOWEST POINT
		DAMAGE TO CHECK DAM CAUSES OBSTRUCTION TO CULVERT OR OTHER DRAINAGE STRUCTURE	REINSTALL CHECK DAM IN ACCEPTABLE LOCATION AND CLEAR OBSTRUCTION OF DOWNSTREAM INLET
STABILIZED CONSTRUCTION ACCESS	ONCE A WEEK AND AFTER EVERY RUNOFF EVENT	TRACKING OF SEDIMENT OBSERVED ON PAVEMENT	INCREASE THICKNESS OF AGGREGATE MATERIAL. REMOVE SEDIMENT LOADED AGGREGATE AND REINSTALL NEW AGGREGATE. EXTEND LENGTH OF AGGREGATE MATERIAL AND INSTALL TIRE WASHING STATIONS NEAR
		DAMAGE TO FILTER CLOTH	REPLACE FILTER CLOTH
CONCRETE TRUCK WASHOUT	DAILY	DAMAGE TO FILTER CLOTH	REPLACE FILTER CLOTH
		RAINWATER FILLS WASHOUT PIT	DISCHARGE TO GRASS IF NO MIXING WITH CONCRETE OCCURS. TREAT AS CONCRETE IF MIXING OCCURS AND DISPOSE OF PROPERLY
		OVERLOADING OF WASHOUT PIT WITH CONCRETE	DISPOSE OF CONCRETE PROPERLY
		CONCRETE DISCARDED OUTSIDE OF WASHOUT PIT	PLACE CONCRETE AND ASSOCIATED SOIL IN WASHOUT PIT
STORM DRAIN INLET PROTECTION	ONCE A WEEK AND AFTER EVERY RUNOFF EVENT	DAMAGE TO MATERIAL USED FOR INLET PROTECTION	REPLACE MATERIAL USED FOR INLET PROTECTION
		INLET PROTECTION OVERLOADED WITH SEDIMENT	REMOVE SEDIMENT AND REPLACE MATERIAL IF NO LONGER FUNCTIONAL
		INLET ISN'T AT LOWEST POINT AND CAUSES PONDING	REGRADE SURROUNDING AREA OR RESET GRATE ELEVATION
COMPOST FILTER SOCK	ONCE A WEEK AND AFTER EVERY RUNOFF EVENT	ACCUMULATED SEDIMENT REACHES HALF THE HEIGHT OF THE SOCK	REMOVE SEDIMENT AND REPLACE MATERIAL IF NO LONGER FUNCTIONAL
		DAMAGED WOODEN STAKES	REPLACE WOODEN STAKES
		DAMAGED FILTER MATERIAL	REPLACE COMPOST FILTER SOCK
SEDIMENT TRAP	ONCE A WEEK AND AFTER EVERY RUNOFF EVENT	ACCUMULATED SEDIMENT REACHES HALF THE DEPTH OF THE TRAP AND FILLS 50% OF THE TRAP CAPACITY	REMOVE SEDIMENT FROM TRAP TO RESTORE TO INITIAL CAPACITY AND DISPOSE OF SEDIMENT PROPERLY
		EROSION/RUTTING IN SIDE SLOPES	REPAIR AND REGRADE SIDE SLOPES
		STONE IN OUTFLOW WEIR IS FOULED WITH SEDIMENT	REPLACE STONE IN WEIR
TEMPORARY DRAINAGE SWALE	ONCE A WEEK AND AFTER EVERY RUNOFF EVENT	OBSTRUCTION PREVENTING FLOW EROSION/RUTTING IN SIDE SLOPES	REMOVE OBSTRUCTION REPAIR AND REGRADE SIDE SLOPES
POTENTIAL USE ONSITE			
STRAW BALE DIKE	ONCE A WEEK AND AFTER EVERY RUNOFF EVENT	STRAW BALE DIKE SEDIMENT ACCUMULATION HAS REACHED 50% ITS CAPACITY	REMOVE SEDIMENT AND REINSTALL. REPLACE HAY BALE IF EXCEESIVE DAMAGE OBSERVED
		DISCHARGE IS SEDIMENT-LADEN	REINSTALL STRAW BALE DIKE
		DAMAGE TO ANCHORING SYSTEM	RENSTALL REBAR ANCHORS
DEWATERING SUMP PIT	ONCE A WEEK AND AFTER EVERY RUNOFF EVENT	DAMAGED HOSE, PUMP, STANDPIPE, & FILTER (IF WARRANTED)	REPLACE COMPONENT OR REPAIR (EQUIPMENT ONLY)
FLOW DIFFUSER	ONCE A WEEK AND AFTER EVERY RUNOFF EVENT	ACCUMULATED SEDIMENT IN AGGREGATE	REPLACE MATERIAL IN AGGREGATE
LINED ROCK WATERWAY	ONCE A WEEK AND AFTER EVERY	VEGETATIVE ROOT UPLIFTING DAMAGES WATERWAY	REMOVE PLANTS AND ROOT STRUCTURE WIRTHIN LIMITS OF WATERWAY. REPAIR WATERWAY
WATER BAR	ONCE A WEEK AND AFTER EVERY RUNOFF EVENT	RUTTING OBSERVED AT BOTTOM OF WATER BAR	REGRADE WATER BAR ELEVATIONS
		VEHICULAR DAMAGE TO WATER BAR	REGRADE WATER BAR ELEVATIONS & ENSURE POSITIVE DRAINAGE
		ACCUMULATED SEDIMENT IN AGGREGATE (OUTLET AND CHANNEL)	REMOVE SEDIMENT AND REPLACE AGGREGATE
ANCHORED STABILIZATION MATTING	EVERY OTHER DAY AND AFTER RUNOFF EVENT	DAMAGED OR DISPLACED BLANKETS	REPAIR & REINSTALL BLANKETS. REPLACE IF DAMAGED
DEWATERING DEVICE	ONCE A WEEK AND AFTER EVERY RUNOFF EVENT	DAMAGED FILTER FABRIC	REPLACE FILTER FABRIC
		MALFUNCTIONING SKIMMER	REPAIR SKIMMER; REPLACE IF CANNOT BE REPAIRED
		SEDIMENT REACHES LEVEL MARKED ON SEDIMENT CLEANOUT STAKE	REMOVE SEDIMENT
GEOTEXTILE FILTER BAG	ONCE A WEEK AND AFTER EVERY RUNOFF EVENT	REDUCTION OF BAG FLOW AREA REDUCES 75% FROM INITIAL CAPACITY	REPLACE BAG
		DAMAGED BAG	REPLACE BAG
*WINTER STABILIZATION MEASURES SHALL BE APPLIED BETWEEN DATES OF 11/15 TO 4/1.			

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NEW YORK STATE Office of General Services

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CONTRACT: CONSTRUCTION

TITLE: **PROVIDE TRANSITIONAL RESIDENCE, SOUTH CAMPUS CREEDMOOR PSYCHIATRIC CENTER**

LOCATION: 80-45 WINCHESTER BLVD QUEENS, NY

CLIENT: OFFICE OF MENTAL HEALTH

MARK	DATE	DESCRIPTION
4	06/19/2026	ADDENDUM #4
	10/17/2025	BID DOCUMENTS

PROJECT NUMBER:	47688-C
DESIGNED BY:	ZK
DRAWN BY:	ECM
FIELD CHECK:	
APPROVED:	

SHEET TITLE: EROSION & SEDIMENT CONTROL SEQUENCING & MAINTENANCE TABLE

DRAWING NUMBER: C-353

SHEET OF

Jun 16,2026 - 8:33am
\\Tectonic\TecPL\PL\FileDrop\Civil\12546-01\To Civil\0-15-26\MT-CV-12546O1-350_DETAILS.dwg

36x24 PLOT SHEET

ELECTRICAL SYMBOLS LIST

SYMBOL	DESCRIPTION
	DEVICES
	20A, 2P, 3 WIRE, 125V, DUPLEX RECEPTACLE, TAMPER RESISTANT, FLUSH WALL MOUNTED, NEMA 5-20R, (U.O.N.).
(1,3)	20A, 2P, 3 WIRE, 125V, DOUBLE DUPLEX RECEPTACLE (QUAD), TAMPER RESISTANT, FLUSH WALL MOUNTED, NEMA 5-20R, (U.O.N.). (INDICATES CIRCUIT FOR PC, INDICATES CIRCUIT FOR CONVENIENCE RECEPTACLE).
GFI	20A, 2P, 3 WIRE, 125V, GFI (GROUND FAULT) TYPE DUPLEX RECEPTACLE, TAMPER RESISTANT, FLUSH WALL MOUNTED, NEMA 5-20R, (U.O.N.)
	20A, 2P, 3 WIRE, 125V, GROUNDED DUPLEX RECEPTACLE, COMMERCIAL GRADE FLUSH WALL MOUNTED, NEMA 5-20R, TAMPER RESISTANT WITH ARC AND GROUND FAULT INTERUPTION, (U.O.N).
	30A, 2P, 3 WIRE, 250V GROUNDED SIMPLEX RECEPTACLE, FLUSH WALL MOUNTED NEMA L14-30R. CONTRACTOR SHALL COORDINATE WITH EQUIPMENT. 3
R,C	FLUSH WALL MOUNTED, 250V, GROUNDED SINGLE RECEPTACLE. 'R' INDICATES 50A, 3P, 4 WIRE FOR RANGE NEMA L15-50 'C' INDICATES 40A, 2P, 3 WIRE FOR COFFEE MAKER NEMA L9-50
▼	FLUSH WALL MOUNTED, DATA OUTLET- 1" CONDUIT TO 6" ABOVE NEAREST HUNG CEILING WITH DRAG LINE AND TERMINATE WITH INSULATED BUSHING. PROVIDE CAT6 CABLE TO DATA CLOSET (C-106C) WITH SLACK AT EACH END.
	CAMERA - 3/4" CONDUIT WITH CAT6 CABLES AND DRAG LINE FOR CABLING FROM SECURITY CLOSET C-102.
	3/4" CONDUIT WITH CAT6A CABLE AND DRAG LINE FOR CABLING FROM DATA CLOSET (C-106C) TO WIRELESS ACCESS POINTS. EACH TERMINATION POINT TO HAVE ADDITIONAL 10 FEET OF SLACK CABLE .
	POWER
	SURFACE MOUNTED PANELBOARD
	FLUSH MOUNTED PANELBOARD
	MOTOR, PROVIDE 100A UNFUSED DISCONNECT SWITCH, U.O.N.
	MOTOR
	100A UNFUSED DISCONNECT SWITCH OR HIGHER MATCH TO EQUIPMENT OVER-CURRENT PROTECTION SIZE, U.O.N.
	100A FUSED DISCONNECT SWITCH OR HIGHER MATCH TO EQUIPMENT OVER-CURRENT PROTECTION SIZE, U.O.N.
	COMBINATION STARTER AND DISCONNECT SWITCH
	MOTOR STARTER
	UNIT HEATER, PROVIDE MANUAL SWITCH WITH THERMAL OVERLOAD PROTECTION
MD	MOTORIZED DAMPER. PROVIDE 120V POWER AND MANUAL SWITCH WITH THERMAL OVERLOAD FOR MEANS OF DISCONNECT.
CUH	CABINET UNIT HEATER. PROVIDE 120V POWER AND MANUAL SWITCH WITH THERMAL OVERLOAD FOR MEANS OF DISCONNECT.
E L N	ATS DENOTES AUTOMATIC TRANSFER SWITCH
T	POWER TRANSFORMER
	CIRCUIT BREAKER
	FUSIBLE SWITCH
	UNFUSED SWITCH
EPM	ELECTRONIC POWER METER/MONITORING WITH CT'S, PT'S FUSING AS MANUFACTURED BY EATON MODEL IQ260 OR APPROVED EQUAL
ECM	ELECTRONIC CIRCUIT METER/MONITORING WITH CT'S, PT'S FUSING AS MANUFACTURED BY EATON MODEL PXM2000 OR APPROVED EQUAL
GCP	GENERATOR CONTROL PANEL
	GROUND (EARTH)
	AC UNIT
	1-CIRCUIT HOMERUN
	2-CIRCUIT HOMERUN
	3-CIRCUIT HOMERUN

ELECTRICAL SYMBOLS LIST

SYMBOL	DESCRIPTION
	LIGHTING
EM F1	RECESSED FLUSH LENS
EM F2	RECESSED 4" ROUND DOWN LIGHT
F3	RECESSED RING LIGHT
EM F4	CEILING LIGHT
F5	SUSPENDED LED PENDANT
EM F6.1	OPAL ACRYLIC
F6.2	OPAL ACRYLIC
F7	INNER CONVEX LENS
F8	MIRROR LIGHT
EM EF1	RECESSED ROUND DOWN LIGHT
EF2	PERIMETER LIGHTING EXTERIOR WALL PACK
EF3	OUTDOOR WALL SCONCE
EF4	SURFACE LIGHT POST
EF5	BOLLARD
EF6	WALL MOUNTED EXTERIOR
EF7	CEILING MOUNTED LIGHT
EF8	WALL WASH SIGNAGE LIGHT
EM	WALL MOUNTED EMERGENCY LIGHT FIXTURE
EM	INTERIOR WALL MOUNTED EXIT LIGHT

REFER TO LIGHT FIXTURE SCHEDULE ON DWG E-004.00

	RACEWAYS
HD	FLUSH WALL MOUNTED JUNCTION BOX "HD" - INDICATES HAND DRYER 'PAF' - PLUMBING AUTOMATIC FLUSHOMETER & FAUCET
	CONDUIT RUN CONCEALED
	CONDUIT RUN IN SLAB OR AS INDICATED
	LOW VOLTAGE AND CONTROL WIRING RUN CONCEALED IN CONDUIT
	DIRECT EQUIPMENT CONNECTION EXTENDED FROM JUNCTION BOX OR DISC. SWITCH
	CONTROLS
S	LOW VOLTAGE LIGHTING CONTROL (OVER-RIDE) SWITCH - REFER TO LIGHTING CONTROL DETAILS.
$	20A, 120/277V, 1P FLUSH WALL MOUNTED TOGGLE SWITCH, HEAVY DUTY, WITH WALL PLATE, LOWER CASE LETTER IDENTIFIES OUTLET(S) CONTROLLED BY THAT SWITCH. -'3' DENOTES THREE-WAY SWITCH.
$ TH	MANUAL SWITCH WITH THERMAL OVERLOAD 20A, 120 OR 208V, 1P EQUIPMENT MOUNTED LOCKABLE KEY SWITCH, HEAVY DUTY, PILOT LIGHT, WITH WALL PLATE
	LOW VOLTAGE LIGHTING CONTROL (OVER-RIDE) SWITCH FOR EXTERIOR & CORRIDOR LIGHTING.
OS Za	CEILING MOUNTED OCCUPANCY SENSOR, REFER TO SPECIFICATION FOR TYPE AND MODEL. SUFFIX "Z" INDICATES ZONED AND LOWER CASE LETTER IDENTIFIES THE ZONE.
VS	CEILING MOUNTED VACANCY SENSOR, REFER TO SPECIFICATION FOR TYPE AND MODEL.
PC	WALL MOUNTED LOW VOLTAGE PHOTOCELL SENSOR

BRANCH CIRCUIT NOTES

1. CIRCUIT NUMBERS ARE FOR REFERENCE ONLY AND INDICATE THE OUTLETS REQUIRED TO BE CONNECTED TO DESIGNATED CIRCUITS.
2. THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING AND PROVIDING THE ACTUAL NUMBER OF CONDUCTORS REQUIRED FOR ALL BRANCH CIRCUIT WIRING TO SERVE THE INTENDED FUNCTION.
3. THE CONTRACTOR IS RESPONSIBLE FOR PROPERLY BALANCING LOADS ON ALL THREE PHASES ON EACH BOARD (PANEL, DISTRIBUTION, AND SWITCHBOARD).
4. BRANCH CIRCUIT WIRING SHALL BE #10 MINIMUM (#8 MINIMUM FOR LENGTH OVER 110').
5. "E" CONTRACTOR SHALL NOT RUN MORE THAN THREE CIRCUITS IN A HOME RUN.PROVIDE DEDICATED NEUTRAL FOR EACH CIRCUIT

ELECTRICAL ABBREVIATIONS

A	AMPERE(S)
AC	ALTERNATING CURRENT
AFF	ABOVE FINISHED FLOOR
AWG	AMERICAN WIRE GAUGE
BLDG	BUILDING
BMS	BUILDING MANAGEMENT SYSTEM
BW	BUSWAY
C	CONDUIT
CKT	CIRCUIT
CKT BKR/CB	CIRCUIT BREAKER
CLG	CEILING
COND	CONDUCTOR
DISC	DISCONNECT
DP	DISTRIBUTION POWER PANEL (BOARD)
DWG	DRAWING
EC	ELECTRICAL CONTRACTOR
ELEV	ELEVATOR
ELECT	ELECTRICAL
EM	EMERGENCY
F	FUSE
FACP	FIRE ALARM CONTROL PANEL
FCO	FUSED CUTOUT
FDR	FEEDER
FL	FLOOR
FLUOR	FLUORESCENT
FS	FUSIBLE SWITCH
FT	FEET OR FOOT
HP	HORSEPOWER
IG	ISOLATED GROUND
JB	JUNCTION BOX
Kcm	THOUSAND CIRCULAR MIL(S)
kVA	KILOVOLT AMPERE(S)
kWhr	KILOWATTS (S) HOUR (S)
kW	KILOWATT(S)
LP	LIGHTING PANEL
LSI	LONG TIME,SHORT TIME AND INSTANTANEOUS SETTING
LTG	LIGHTING
MIN	MINIMUM
MISC	MISCELLANEOUS
MLO	MAIN LUGS ONLY
MTD	MOUNTED
MTG	MOUNTING
NF	NON-FUSE
NL	NIGHT LIGHT
NTS	NOT TO SCALE
P	POLE
PB	PULL BOX
PF	POWER FACTOR
PMCS	POWER MONITORING AND CONTROL SYSTEM
ø	PHASE
PNL	PANEL (PANELBOARD)
POE	POINT OF ENTRY
PP	POWER PANEL
PWR	POWER
R	RECESSED
SW	SWITCH
SWBD	SWITCHBOARD
SYM	SYMMETRICAL
TEL	TELEPHONE
TYP	TYPICAL
UON	UNLESS OTHERWISE NOTED
UG	UNDERGROUND
V	VOLT(S)
VA	VOLTAMP(S)
VAV	VARIABLE AIR VOLUME
VFD	VARIABLE FREQUENCY DRIVE
W	WATT(S)
WP	WEATHERPROOF

GENERAL NOTES

1. THE GENERAL NOTES APPLY TO ALL DRAWINGS UNDER THIS CONTRACT. REFER TO INDIVIDUAL DRAWINGS FOR ADDITIONAL NOTES.
2. DRAWINGS ARE DIAGRAMMATIC AND INDICATE GENERAL ARRANGEMENT OF SYSTEMS AND WORK. FOLLOW DRAWINGS IN LAYING OUT WORK AND CHECK DRAWINGS OF OTHER TRADES TO VERIFY SPACE CONDITIONS. MAINTAIN HEADROOM AND SPACE CONDITIONS CONSISTENT WITH PROJECT CRITERIA.
3. EXACT LOCATION OF LIGHTING FIXTURES SHALL BE IN ACCORDANCE WITH ARCHITECTURAL REFLECTED CEILING PLAN OR AS DIRECTED BY THE ARCHITECT.
4. COORDINATE ALL CEILING WORK WITH CEILING TRADE AND DETERMINE CEILING TYPE PRIOR TO THE PURCHASING AND INSTALLATION OF LIGHTING FIXTURES, EXIT LIGHTS, OCCUPANCY SENSORS, OR ANY OTHER CEILING MOUNTED ELECTRICAL ELEMENTS, ALSO COORDINATE ALL ELECTRICAL WORK WITH LOCATION OF DIFFUSERS AND SPRINKLERS AND OTHER MECHANICAL WORK.
5. LOCATIONS OF OUTLETS AND SWITCHES IN FINISHED ROOMS SHALL BE VERIFIED WITH ARCHITECT IN FIELD AND ARCHITECTURAL DRAWINGS OF INTERIOR DETAILS AND FINISHES. IN CENTERING OUTLETS AND LOCATING BOXES AND OUTLETS, ALLOW FOR OVERHEAD PIPES, DUCTS AND MECHANICAL EQUIPMENT, VARIATIONS IN FIREPROOFING AND PLASTERING, WINDOW AND DOOR TRIMS, PANELING, SUSPENDED CEILINGS AND THE LIKE. CORRECT ANY INACCURACY RESULTING FROM FAILURE TO DO SO WITHOUT ANY ADDITIONAL EXPENSE TO THE STATE.
6. JUNCTION AND PULL BOXES SHALL GENERALLY BE CONCEALED IN FINISHED SPACES. WHERE NECESSARY, CONDUITS SHALL BE REROUTED OR OTHER ARRANGEMENTS MADE FOR CONCEALMENT. PULL BOXES SHALL BE PROVIDED AS INDICATED AND WHEREVER NECESSARY TO FACILITATE PULLING OF WIRE AND COORDINATE LOCATIONS WITH OTHER TRADES. COVERS OF JUNCTION AND PULL BOXES SHALL BE ACCESSIBLE. FOR EMPTY RACEWAY RUNS, PULL BOXES SHALL BE PROVIDED EVERY 100 FEET AND AS INDICATED OR NECESSARY.
7. BOXES SHALL BE SET SQUARE AND TRUE WITH BUILDING FINISH. WALL AND SWITCH OUTLETS SHALL BE ERECTED IN ADVANCE OF FURRING AND FIREPROOFING. BOXES SHALL BE SECURED TO BUILDING STRUCTURE BY ADJUSTABLE STRAP IRONS.
8. ALL REQUIRED ACCESS DOOR LOCATIONS SHALL BE FURNISHED UNDER THE ELECTRICAL SECTION AND INSTALLED UNDER "C" CONTRACTOR, ALL ACCESS DOORS SHALL BE REVIEWED BY THE ARCHITECT PRIOR TO INSTALLATION. REFER TO ARCHITECTURAL SPECIFICATIONS FOR ACCESS COVER TYPES.
9. NO ELECTRICAL RACEWAYS SHALL BE INSTALLED WITHIN 3 INCHES OF STEAM OR HOT WATER PIPES, OR APPLIANCES, EXCEPT FOR CROSSING WHERE RACEWAYS SHALL BE AT LEAST 1 INCH FROM PIPE COVER.
10. SUFFICIENTLY LONG WIRE SLACK SHALL BE LEFT IN RUNS TO PERMIT MAKING PROPER FINAL CONNECTIONS. ALL EMPTY CONDUITS SHALL BE PROVIDED WITH #12 AWG STEEL DRAG WIRES.
11. THE ELECTRICAL CONTRACTOR SHALL NOT INSTALL MORE THAN THE NUMBER OF CIRCUITS SHOWN IN ANY HOMERUN CIRCUIT.
12. REFER TO MECHANICAL (HVAC, PLUMBING AND FIRE PROTECTION) DRAWINGS FOR EXACT LOCATION OF ALL THE EQUIPMENT (AC UNITS, FANS, PUMPS, STARTER, ETC). CONTRACTOR SHALL PROVIDE ISOLATING MEANS FOR ALL MOTORS AS PER NEW YORK STATE ELECTRIC CODE AND NEC. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE THE DISCONNECT MEANS.
13. ALL RACEWAY AND WIRING SHALL BE ROUTED IN AN ORGANIZED AND NEAT MANNER.
14. SUBMIT DIMENSIONED LAYOUTS OF ALL ELECTRIC EQUIPMENT WITH EQUIPMENT SUBMITTALS.
15. SUBMIT COORDINATED SHOP DRAWINGS FOR ALL CONDUIT & RACEWAY ROUTING FOR APPROVAL PRIOR TO INSTALLATION. SHOP DRAWINGS SHALL BE SUBMITTED WITH HVAC, FIRE PROTECTION, AND GENERAL CONSTRUCTION FULLY COORDINATED AND DIMENSIONED.
16. THE ROUTING AND LOCATION OF CONDUIT RUNS ARE GENERALLY NOT DIMENSIONAL ON THE DRAWINGS BUT SHALL BE DETERMINED IN THE FIELD TO SUIT THE LOCATIONS OF EQUIPMENT, TO CONFORM TO STRUCTURAL AND ARCHITECTURAL FEATURES AND TO AVOID INTERFERENCES.
17. PROVIDE ALL CORE DRILLING AS REQUIRED. SUBMIT CORE DRILLING METHOD TO DIRECTOR'S REPRESENTATIVE FOR APPROVAL AND OBTAIN APPROVAL PRIOR TO CORE DRILLING.
18. ALL RACEWAYS AND ASSOCIATED ELECTRICAL EQUIPMENT SHALL BE ROUTED CONCEALED EXCEPT IN UNFINISHED AREAS.
19. ALL ELECTRICAL DEVICES EXPOSED TO VIEW SHALL BE LOCATED AS PER ARCHITECT'S DRAWINGS AND/OR DIRECTION.
20. PROVIDE ALL RACEWAYS, AND OUTLET BOXES AS SHOWN ON CONTRACT DRAWINGS.
21. ALL BIDDERS ARE REQUIRED TO REFER TO ARCHITECTURAL, STRUCTURAL, MECHANICAL, PLUMBING, FIRE PROTECTION, ETC DRAWINGS, FOR FULL INTEGRATION INTO ARCHITECTURAL DESIGN. BIDDERS ARE TO IMMEDIATELY CALL TO THE ARCHITECT'S ATTENTION ANY DISCREPANCIES IN QUANTITIES, TYPES AND SCOPE FOR ALL DISCIPLINES/TRADES.
22. REFER TO ARCHITECTURAL REFLECTED CEILING PLAN FOR EXIT LIGHT MOUNTING TYPES AND EXACT LOCATIONS.
23. SYMBOLS AND LEGENDS SHOWN ON THIS DRAWING ARE FOR ELECTRICAL DRAWINGS ONLY. SEE ARCHITECTURAL DRAWINGS AND TRADE DRAWINGS FOR RESPECTIVE SYMBOLS AND LEGENDS.
24. ALL EXTERIOR WIRING FOR ALL SYSTEMS SHALL BE RUN IN RIGID GALVANIZED STEEL CONDUIT. 4
25. ALL WORK SHALL BE PERFORMED PER SPECIFICATIONS, NEW YORK STATE ELECTRIC CODE, NEC, AND NYS BUILDING CODE.
26. PROVIDE 36" WIDE BY 3/8" THICK INSULATION FLOOR MAT IN FRONT OF ALL THE ELECTRICAL EQUIPMENT.
27. PROVIDE 6" HIGH CONCRETE HOUSE KEEPING PAD FOR ALL THE FLOOR MOUNTED ELECTRICAL EQUIPMENT (SWITCHBOARDS, DISTRIBUTION BOARDS, STARTERS, CONTROLLERS, VFD, ETC.) AND ATTACH PAD TO FLOOR AND EQUIPMENT. PAD SHALL EXTEND MINIMUM 2" IN FRONT AND ON BOTH SIDES. FOR CONDUITS PASSING THRU FLOOR, PROVIDE 6" HIGH CONCRETE PAD AND 2" AROUND EACH CONDUIT. 4
28. EXACT LOCATION AND MOUNTING OF LIGHTING FIXTURES IN MECHANICAL AREAS SHALL BE COORDINATED WITH THE MECHANICAL TRADES TO AVOID CONFLICT WITH PIPING, DUCTS AND EQUIPMENT. IN GENERAL, THE FINAL LOCATION OF LIGHTING FIXTURES SHALL BE GOVERNED BY THE NEED FOR TASK LIGHTING IN THE VICINITY OF PANELBOARDS, MOTOR CONTROLS, CONTROL AND INSTRUMENT PANELS AND GAUGES.
29. HORIZONTAL OR CROSS RUNS IN PARTITIONS OR WALLS ARE NOT PERMITTED.
30. ALL WORK SHOWN IS NEW UNLESS OTHERWISE NOTED.
31. ALL OUTDOOR DEVICES AND EQUIPMENT SHALL BE WEATHER PROOF (NEMA 3R).
32. PROVIDE CROWN BOXES ABOVE SWITCHBOARDS AND DISTRIBUTION BOARDS AS REQUIRED TO REDUCE OVER SIZED FEEDERS.
33. PROVIDE LUGS IN THE SWITCHBOARDS, PANEL BOARDS, SERVICE SWITCHES, ETC. TO CONNECT NUMBER OF CONDUCTORS INDICATED ON SCHEDULES, ONE-LINE DIAGRAM, AND RISER DIAGRAM.
34. PROVIDE LIGHTING FOOT CANDLE CALCULATION FOR ALL THE AREAS.
35. CONTRACTOR IS RESPONSIBLE FOR ALL THE WORK SHOW ON THE DRAWINGS AND SPECIFICATIONS SUCH AS EXCAVATION, BACKFILLING, CONCRETE ENCASED DUCT BANK, CONCRETE PADS, MANHOLES, DEMOLITION OF EXISTING 15KV FEEDERS, NEW 15KV FEEDERS, TEMPORARY POWER, ETC. 4

NEW YORK STATE | Office of General Services

CONSULTANT:

CERTIFICATE OF AUTHORIZATION: 0021274

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STATE OF NEW YORK · HASNAD LAKHANI · LICENSED PROFESSIONAL ENGINEER · No. 93006

REGISTRATION EXPIRES: 12/31/2026

WE HEREBY AFFIRM THAT TO THE BEST OF OUR KNOWLEDGE, BELIEF, AND PROFESSIONAL JUDGEMENT, THESE PLANS AND SPECIFICATIONS ARE IN COMPLIANCE WITH THE 2020 ENERGY CONSERVATION CONSTRUCTION CODE OF NEW YORK STATE AND THE 2020 NEW YORK STATE UNIFORM BUILDING CODE.

CONTRACT: ELECTRICAL

TITLE: **PROVIDE TRANSITIONAL RESIDENCE, SOUTH CAMPUS CREEDMOOR PSYCHIATRIC CENTER**

LOCATION: 80-45 WINCHESTER BLVD QUEENS, NY

CLIENT: OFFICE OF MENTAL HEALTH

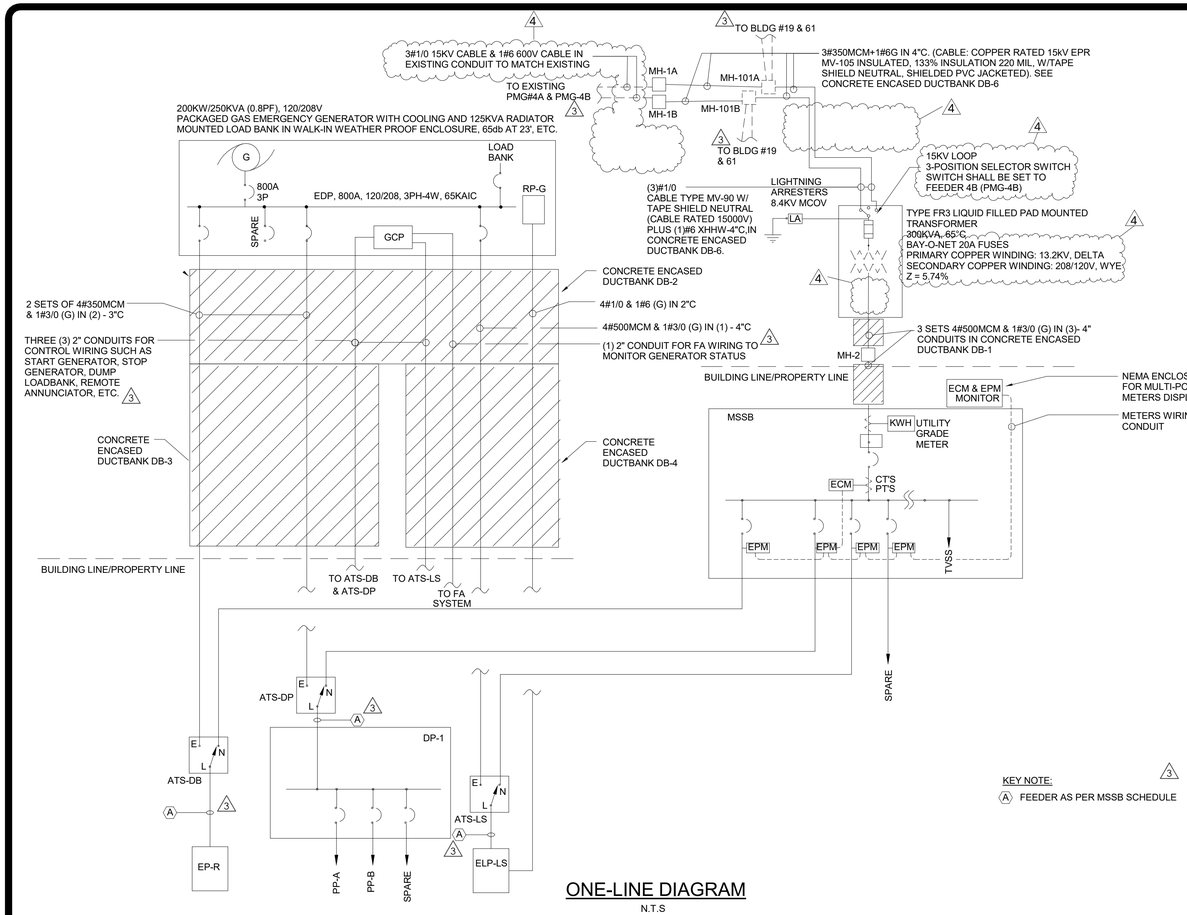
MARK	DATE	DESCRIPTION
4	06/19/2026	Addendum #4
3	06/12/2026	Addendum #3
	07/16/2025	BID DOCUMENTS

PROJECT NUMBER:	47688-E
DESIGNED BY:	AS
DRAWN BY:	AK
FIELD CHECK:	
APPROVED:	

SHEET TITLE: ELECTRICAL SYMBOL LIST, ABBREVIATIONS AND NOTES

DRAWING NUMBER: E-001

SHEET OF



ONE-LINE DIAGRAM

N.T.S

KEY NOTE:

(A) FEEDER AS PER MSSB SCHEDULE

MAIN SERVICE SWITCHBOARD SCHEDULE (MSSB)

DISTRIBUTION PANEL	CKT. NO.	SERVES	KVA / HP	OVERCURRENT PROTECTION					WIRE				RACEWAY		REMARKS
				POLE	FRAME	SENSOR SETTING	TRIP	PROTECTION	QTY	SIZE	QTY	GRD./IG	QTY	SIZE	
MSSB 120/208V, 3Ø, 4W+G 800A BUS, 800A MCB SENSOR SETTING: 800A, TRIP SETTING: 1.0, OCP: 800A, SERVICE RATED 100% CB AIC: 100,000A WITH INTEGRAL BUS MOUNTED SPD	1	EP-R	112	3	400	400	0.75	300	4	500MCM	1	#3/0	1	4"	VIA AUTOMATIC TRANSFER SWITCH
	2	ELP-LS	7	3	225	225	1.0	225	4	350MCM	1	#1/0	1	3"	VIA AUTOMATIC TRANSFER SWITCH
	3	DP-1	108	3	400	400	0.75	300	4	500MCM	1	#3/0	1	4"	VIA AUTOMATIC TRANSFER SWITCH
	4	SPARE		3	225	225	1.0	225							
	5														
	6														
		MSSB CONNECTED LOAD: 227 KVA MSSB DEMAND LOAD: 200 KVA													

EMERGENCY DISTRIBUTION PANEL (EDP)

DISTRIBUTION PANEL	CKT. NO.	SERVES	KVA / HP	OVERCURRENT PROTECTION					WIRE				RACEWAY		REMARKS
				POLE	FRAME	SENSOR SETTING	TRIP	PROTECTION	QTY	SIZE	QTY	GRD./IG	QTY	SIZE	
EDP 120/208V, 3Ø, 4W+G 800A BUS, 800A MCB SENSOR SETTING: 800A, TRIP SETTING: .85, OCP: 680A, SERVICE RATED 100% CB AIC: 100,000A WITH INTEGRAL BUS MOUNTED SPD ALL CIRCUIT BREAKERS INDIVIDUALLY MOUNTED, ELECTRONIC TYPE, 100% RATED	1	EP-R	112	3	400	400	0.75	300	SEE ONE-LINE FOR FEEDER SIZE (3)						VIA AUTOMATIC TRANSFER SWITCH
	2	ELP-LS	7	3	225	225	1.0	225							VIA AUTOMATIC TRANSFER SWITCH
	3	DP-1	108	3	400	400	0.75	300							VIA AUTOMATIC TRANSFER SWITCH
	4	SPARE		3	225	225	1.0	400							
	5	LOAD BANK		3	400	400	1.0	225	4	500MCM	1	#3/0	1	4"	
	6														
		EDP CONNECTED LOAD: 227 KVA EDP DEMAND LOAD: 200 KVA													

ALL CIRCUIT BREAKERS IN MSSB & EDP SHALL BE ADJUSTABLE (LSI) AND 100% RATED.

ENTIRE BUILDING ON EMERGENCY (ALL LOADS)

1	PANEL EP-R (MAJOR HVAC & PLBG EQUIPMENT LOADS)	=	112.0 KVA
2	PANEL PP-A (RECEPTACLES, LIGHTING, AC UNITS FOR SOUTH WING)	=	62.0 KVA
3	PANEL PP-B (RECEPTACLES, LIGHTING, AC UNITS FOR NORTH WING)	=	46.0 KVA
4	PANEL ELP-LS (LIFE SAFETY LOADS - LIGHTING, FIRE ALARM)	=	7.0 KVA
	TOTAL GENERATOR CALCULATED CONNECTED LOAD	=	227.0 KVA
	POWER FACTOR	=	181.6 KW (0.8PF)
	RECOMMENDED GENERATOR SIZE		200 KW

ATS SCHEDULE (120/208 VOLT SYSTEM)

120/208V, 3 PHASE , 4 WIRE, U.O.N. RATED: 65,000 AIC MINIMUM

DESIG.	RATING	TRANSFER TO EMERGENCY IN (SECONDS)	RETURN TO NORMAL IN (MINUTES)	COOL OFF TIME IN (MINUTES)	REMARKS
ATS-LS	260A, 3P (NO SWITCHED NEUTRAL)	0	15	5	LIFE SAFTEY
ATS-DB	400A, 3P (NO SWITCHED NEUTRAL)	10	15	5	STANDBY
ATS-DP	400A, 3P (NO SWITCHED NEUTRAL)	10	15	5	STANDBY

1. ATS SHALL BE OPEN TRANSITION TYPE AND ASCO 7000 SERIES OR APPROVED EQUAL (3)
2. PROVIDE IN PHASE MONITOR FOR ALL ATS.
3. PROVIDE ALL ACCESSORIES AND RELAYS IN AUTOMATIC TRANSFER SWITCHES TO INTERFACE WITH GENERATOR, FIRE ALARM SYSTEM, AND HAVC SYSTEMS.
   A) ONE DRY CONTACT SIGNALING TRANSFER TO EM POWER.
   B) ONE DRY CONTACT SIGNALING RETURN TO NORMAL POWER.
   C) ONE DRY CONTACT SIGNALING LOADBANK DUMP.
   D) ONE DRY CONTACT SIGNALING RELAY SWITCHING PANEL FOR EMEGENCY POWER.

DISTRIBUTION PANEL DP-1

DISTRIBUTION PANEL	CKT. NO.	SERVES	KVA / HP	OVERCURRENT PROTECTION				WIRE				RACEWAY		REMARKS
				POLE	FRAME	TRIP		QTY	SIZE	QTY	GRD./IG	QTY	SIZE	
DP-1 120/208V, 3Ø, 4W+G 400A MAIN CB (3) AIC: 65,000A WITH INTEGRAL BUS MOUNTED SPD	1	PP-A	62	3	225	225		4	250MCM	1	#2	1	3"	
	2	PP-B	46	3	225	225		8	250MCM	2	#4/0	2	3"	
	3	SPARE		3	100	100								
	4													
	5													
	6													
		DP-1 CONNECTED LOAD: 108 KVA												

Branch Panel: EP-R

Location: ELEC/DATA ROOM
Supply From: ATS-DB
Mounting: Surface
Enclosure: Type 1

Volts: 120/208 Wye
Phases: 3
Wires: 4

A.I.C. Rating: 65000
Mains Type: 400 A MAIN CB (3)
Mains Rating: 400 A

Notes:

CKT	Circuit Description	Trip	Poles	A		B		C		Poles	Trip	Circuit Description	CKT
1	CUH-A	20 A	1	500 VA	915 VA					2	20 A	HWP-2 (3#10 & 1#10(G) IN 3/4"C)	2
3	HWP-1 (3#10 & 1#10(G) IN 3/4"C)	20 A	2			915 VA	915 VA						4
5								915 VA	40 VA	1	20 A	MD	6
7	HWP-3 (3#10 & 1#10(G) IN 3/4"C)	20 A	2	915 VA	500 VA					1	20 A	Junction Box for wall mounted rack	8
9						915 VA	1080 VA			1	20 A	B-1 & B-2	10
11	For Life Safety Panel	20 A	1					500 VA	1144 VA	2	20 A	ACCU-5B (3#10 & 1#10(G) IN 3/4"C)	12
13	ACCU-5A (3#10 & 1#10(G) IN 3/4"C)	20 A	2	1144 VA	1144 VA								14
15						1144 VA	500 VA			1	20 A	BMS PANEL	16
17	CONTROL PANEL	20 A	1					500 VA	500 VA	1	20 A	BOILER MASTER CONTROL...	18
19	EDH-1 (4#10 & 1#10(G) IN 3/4"C)	30 A	3	2000 VA	2998 VA					3	40 A	EDH-2 (4#8 & 1#10(G) IN 1"C)	20
21						2000 VA	2998 VA						22
23	**							2000 VA	2998 VA				24
25	Junction Box for Dry pipe valve	20 A	1	900 VA	1350 VA					1	20 A	EF-4 & EF-5, MD	26
27	For UH-A	20 A	1			168 VA	600 VA			3	20 A	ERV-1 (4#10 & 1#10(G) IN 3/4"C)	28
29	ERV-2 (4#10 & 1#10(G) IN 3/4"C)	20 A	3					1200 VA	600 VA				30
31				1200 VA	600 VA								32
33						1200 VA	600 VA						34
35	EDH-3 (4#10 & 1#10(G) IN 3/4"C)	30 A	3					2333 VA	600 VA	3	20 A	ERV-3 (4#10 & 1#10(G) IN 3/4"C)	36
37				2333 VA	600 VA								38
39						2333 VA	500 VA			1	20 A	Receptacle For Wall mounted Rack	40
41	MD	20 A	1					30 VA	400 VA	1	20 A	CUH-A	42
43	ACCU-1 (4#6 & 1#8(G) IN 1'-1/4"C)	50 A	3	3960 VA	3960 VA					3	50 A	ACCU-2 (4#6 & 1#8(G) IN 1-1/4"C)	44
45						3960 VA	3960 VA						46
47								3960 VA	3960 VA				48
49	ACCU-4 (4#6 & 1#8(G) IN 1-1/4"C)	50 A	3	3960 VA	5280 VA					3	70 A	ACCU-3 (4#2 & 1#8(G) IN 1-1/2"C)	50
51						3960 VA	5280 VA						52
53								3960 VA	5280 VA				54
55	BC-1 & 2 (3#10 & 1#10(G) IN 3/4"C)	20 A	2	1000 VA	1000 VA					2	20 A	BC-3 & 4 (3#10 & 1#10(G) IN 3/4"C)	56
57						1000 VA	1000 VA						58
59	EUH-A (3#10 & 1#10(G) IN 3/4"C)	20 A	2					1500 VA	960 VA	1	20 A	For PAS Panel	60
61				1500 VA	1200 VA					1	20 A	For IT Rack	62
63	For IT Rack	20 A	1			1200 VA	1200 VA			1	20 A	For IT Rack	64
65	HWP-4 (3#10 & 1#10(G) IN 3/4"C)	20 A	2					915 VA	0 VA	1	20 A	Spare	66
67				915 VA	0 VA					1	20 A	Spare	68
69	Spare	20 A	1			0 VA	0 VA			1	20 A	Spare	70
71	Spare	20 A	1					0 VA	0 VA	1	20 A	Spare	72
73	Space	--	1	--	--					1	--	Space	74
75	Space	--	1			--	--			1	--	Space	76
77	Space	--	1					--	--	1	--	Space	78
79	Space	--	1	--	--					1	--	Space	80
81	Space	--	1			--	--			1	--	Space	82
83	Space	--	1					--	--	1	--	Space	84
		Total Load:		39874 VA		37395 VA		34295 VA					
		Total Amps:		336 A		316 A		286 A					

Legend:
** Lockable circtuit breaker

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Power	111563 VA	80.00%	89251 VA		
				Total Conn. Load:	111563 VA
				Total Est. Demand:	89251 VA
				Total Conn.:	310 A
				Total Est. Demand:	248 A

NOTES:

1. REFER TO DWG. E-001 FOR SYMBOL LIST, ABBREVIATIONS AND NOTES.
2. REFER TO DWG. E-003 FOR ELECTRICAL SCHEDULES.
3. REFER TO DWGS. E-004, E-005 AND E-006 FOR ELECTRICAL DETAILS AND LIGHT FIXTURE SCHEDULES.
4. REFER TO DWG. E-007 FOR ELECTRICAL SITE PLAN.

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CONSULTANT:

CERTIFICATE OF AUTHORIZATION: 0021274

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LICENSED PROFESSIONAL ENGINEER — STATE OF NEW YORK — HASNAD LAKHANI — No. 53206

REGISTRATION EXPIRES: 12/31/2026

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TITLE: **PROVIDE TRANSITIONAL RESIDENCE, SOUTH CAMPUS CREEDMOOR PSYCHIATRIC CENTER**

LOCATION: 80-45 WINCHESTER BLVD QUEENS, NY

CLIENT: OFFICE OF MENTAL HEALTH

MARK	DATE	DESCRIPTION
4	06/19/2026	Addendum #4
3	06/12/2026	Addendum #3
	07/16/2025	BID DOCUMENTS

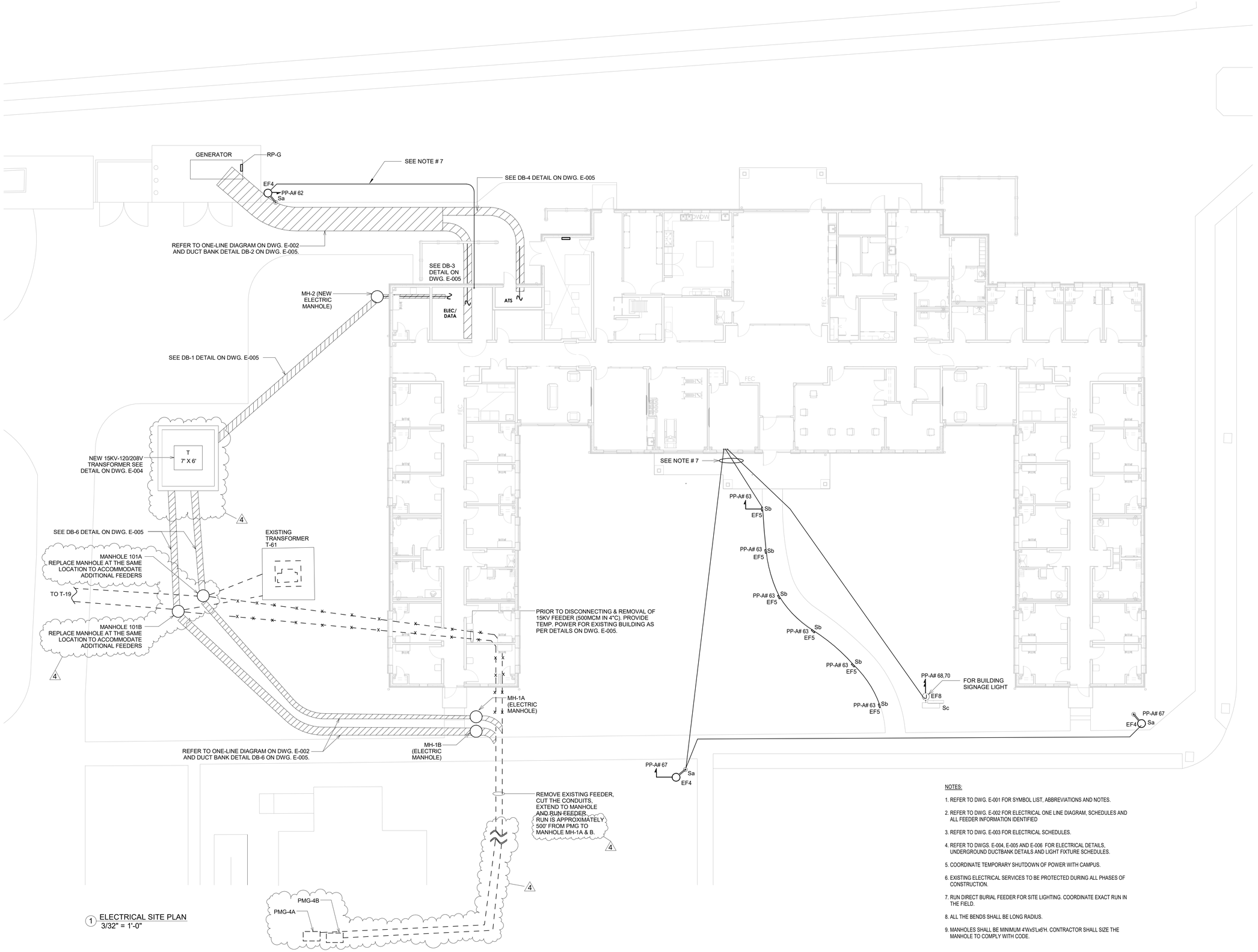
PROJECT NUMBER: 47688-E

DESIGNED BY: AS
DRAWN BY: AK
FIELD CHECK:
APPROVED:

SHEET TITLE: ELECTRICAL ONE LINE DIAGRAM AND SCHEDULES

DRAWING NUMBER: E-002

SHEET OF



1 ELECTRICAL SITE PLAN
3/32" = 1'-0"

NOTES:

1. REFER TO DWG. E-001 FOR SYMBOL LIST, ABBREVIATIONS AND NOTES.
2. REFER TO DWG. E-002 FOR ELECTRICAL ONE LINE DIAGRAM, SCHEDULES AND ALL FEEDER INFORMATION IDENTIFIED
3. REFER TO DWG. E-003 FOR ELECTRICAL SCHEDULES.
4. REFER TO DWGS. E-004, E-005 AND E-006 FOR ELECTRICAL DETAILS, UNDERGROUND DUCTBANK DETAILS AND LIGHT FIXTURE SCHEDULES.
5. COORDINATE TEMPORARY SHUTDOWN OF POWER WITH CAMPUS.
6. EXISTING ELECTRICAL SERVICES TO BE PROTECTED DURING ALL PHASES OF CONSTRUCTION.
7. RUN DIRECT BURIAL FEEDER FOR SITE LIGHTING. COORDINATE EXACT RUN IN THE FIELD.
8. ALL THE BENDS SHALL BE LONG RADIUS.
9. MANHOLES SHALL BE MINIMUM 4'Wx5'Lx6'H. CONTRACTOR SHALL SIZE THE MANHOLE TO COMPLY WITH CODE.

NEW YORK STATE | Office of General Services

CONSULTANT:

CERTIFICATE OF AUTHORIZATION: 0021274

Architectural Resources

LAKHANI & JORDAN ENGINEERS, P.C.

SPRING LINE DESIGN
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WARNING:

THE ALTERATION OF THIS MATERIAL IN ANY WAY, UNLESS DONE UNDER THE DIRECTION OF A COMPARABLE PROFESSIONAL, I.E. ARCHITECT FOR AN ARCHITECT, ENGINEER FOR AN ENGINEER OR LANDSCAPE ARCHITECT FOR A LANDSCAPE ARCHITECT, IS A VIOLATION OF THE NEW YORK STATE EDUCATION LAW AND/OR REGULATIONS AND IS A CLASS 'A' MISDEMEANOR.

LICENSED PROFESSIONAL ENGINEER
STATE OF NEW YORK
HASNAD LAKHANI
No. 83206

REGISTRATION EXPIRES: 12/31/2026

WE HEREBY AFFIRM THAT TO THE BEST OF OUR KNOWLEDGE, BELIEF, AND PROFESSIONAL JUDGEMENT, THESE PLANS AND SPECIFICATIONS ARE IN COMPLIANCE WITH THE 2020 ENERGY CONSERVATION CONSTRUCTION CODE OF NEW YORK STATE AND THE 2020 NEW YORK STATE UNIFORM BUILDING CODE.

CONTRACT:
ELECTRICAL

TITLE:
PROVIDE TRANSITIONAL RESIDENCE, SOUTH CAMPUS CREEDMOOR PSYCHIATRIC CENTER

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DRAWN BY: AK

FIELD CHECK:

APPROVED:

SHEET TITLE:
ELECTRICAL SITE PLAN

DRAWING NUMBER:
E-007

SHEET OF