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ARCHITECTS ENGINEERS PLANNERS

## NY ALFRED I, LLC. COMMUNITY SOLAR FARM STORMWATER POLLUTION PREVENTION PLAN

5568 Jericho Hill Road  
Town of Alfred  
Allegany County, New York  
August 2, 2021  
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# Appendix A

## Written Storm Water Pollution Prevention Plan





# Stormwater Pollution Prevention Plan (SWPPP)

## NY ALFRED I, LLC. COMMUNITY SOLAR FARM – DELAWARE RIVER SOLAR – TOWN OF ALFRED INSTRUCTIONS TO OWNER/OPERATOR/OPERATOR'S ENGINEER AND CONTRACTORS

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### Responsibilities for Compliance with Storm Water Discharge Permit Regulations at Construction Sites

#### Operator's Engineer's Responsibilities:

1. Prepare the SWPPP using good engineering practices, Best Management Practices, and in compliance with all federal, state and local permit requirements. This preparation shall also include providing a description of the Project as it relates to site ownership and development responsibilities. The Operator's Engineer shall also prepare the SWPPP Ledger for use in the implementation and documentation of the SWPPP at the Project during Construction Activities.
2. Prepare the NOI form for the Operator's signature and forward to Operator for signature; submit the signed form to the appropriate regulatory agency along with any required fees and attachments. SWPPP must be complete prior to NOI submittal.
3. Include a signed NOI in the SWPPP prepared for the Project.
4. Participate at the pre-construction meeting with Contractor and appropriate subcontractors, which should include a review with all parties of the requirements of the SWPPP, if requested by Operator.
5. Review Contractor's SWPPP records on a periodic basis to ensure compliance with requirements for reports and inspection and maintenance logs, if requested by Operator.
6. Certify to Operator the Contractor's compliance with SWPPP record keeping requirements, if requested by Operator.

#### Operator's Responsibilities:

1. Have an authorized corporate officer sign the NOI and SWPPP Certification Statement.
2. Schedule and conduct a SWPPP Pre-Construction Meeting with the Operator's Engineer, Contractor and appropriate subcontractors, which should include a review with all parties the requirements under the SWPPP.
3. Require the Contractor to implement fully the SWPPP prepared for the site by the Operator's Engineer.
4. Forward a copy of the original permit certificate received from the regulatory agency to the Owner (if different than the operator), the Municipality's Representative, the MS4 (if applicable and if different from the municipality), the Operator's Engineer and the Contractor for inclusion in the SWPPP Ledger and display at the Project.
5. Ensure (through periodic observations by Operator's Engineer) and document that the Contractor is implementing the controls, inspections, maintenance, record-keeping, and all other requirements of the SWPPP.
6. File an appropriately signed Notice of Termination ("NOT") form when site work construction is completed and stabilization is achieved in accordance with the General Permit.
7. Request and receive all SWPPP records from the Contractor and archive those records for a minimum of five (5) years after the NOT is filed.





#### Contractor's Responsibilities:

1. Sign the SWPPP Contractor's Certification Form in the SWPPP prepared for the Project (Appendix J).
2. Provide subcontractor training and require all subcontractors to sign the Subcontractor's Certification Form in the SWPPP prepared for the Project (Appendix K).
3. Identify a trained individual (i.e. *Trained Contractor*) who will be responsible for implementing the SWPPP and will be on-site during all soil disturbing activities.
4. Implement the Erosion and Sediment Control Plans, and other requirements of the SWPPP.
5. Provide *Trained Contractors*, and documentation of qualifications, for the controls implemented at the Project.
6. Conduct all necessary inspections at the required intervals and prepare and retain written documentation of those inspections and all other written documentation required by the Construction General Permit.
7. Keep a copy of the SWPPP, all NOI's, permit certificates, permit language, Materials Management Process (MMP), inspection records, and other required records on the Project.
8. Post in a prominent place at the Project entrance and inside the job trailer office wall those documents required to be posted under the terms of the Construction General Permit including, the NOI (Appendix D), Letter of Acknowledgement (Appendix E), etc.
9. Update and make changes to the SWPPP and supporting documents (such as the BMPs) as needed and with the approval of the Operator and the Operator's Engineer.
10. Prepare and sign a NOT form when site work construction is completed and stabilization is achieved in accordance with the General Permit.
11. Transfer the SWPPP documents, along with all NOI's, permit certificates, NOT's, and written records required by the Construction General Permit to the Operator for archiving.

#### Off-site borrow or fill locations

The General Permit applies to construction activities involving soil disturbances of one (1) or more acres. This may require off-site borrow, fill, and material storage sites to be permitted under the NOI and covered by the SWPPP for the construction site, only if the off-site sites are used solely for that one project. If an off-site borrow or fill location or material storage site is operated by a subcontractor for more than one project, the Operator of this multi-use site must obtain a separate NOI. The multi-use site must be covered under its own Project Permit. A Construction General Permit from a state, local, or appropriate governmental agency may have different requirements relating to off-site borrow or excess (waste) locations. The Operator's Engineer must determine any applicable permit requirements for off-site borrow or excess (waste) locations. The requirements must be incorporated into the SWPPP, where applicable. If a separate General Permit coverage is required for these activities, a copy of the coverage must be provided in the SWPPP.





## I. SCOPE

### A. PURPOSE:

1. Development and proper implementation of the New York State Department of Environmental Conservation (NYSDEC), State Pollutant Discharge Elimination System (SPDES) Construction General Permit governing stormwater discharges during construction and the National Pollutant Discharge Elimination System (NPDES) Construction General Permit governing storm water discharges during construction, and in accordance with Erosion and Sediment Control practices is critical. The Contractor's participation in this program is mandatory and its non-compliance is subject to various remedies, including without limitation, monetary set-offs, withholding payments; reimbursement for costs, expenses (including reasonable attorney's fees), fines and civil penalties incurred by the Operator. This section provides a descriptive explanation of the Storm Water Pollution Prevention Program and required Contractor participation.

### B. SPDES CONSTRUCTION GENERAL PERMIT FOR STORM WATER DISCHARGE FROM CONSTRUCTION SITES:

1. Regulations promulgated by the NYSDEC to regulate the discharge of storm water from Construction Activity on sites where one (1) or more acre of soil is disturbed. One of the ways to comply with these regulations for affected sites is to request coverage under the SPDES General Permit for Stormwater Discharges from Construction Activities (GP-0-20-001). In order to use the Construction General Permit, a Notice of Intent (NOI) form must be completed and mailed to the NYSDEC. Authorization to discharge stormwater under the General Permit will be effective when the owner or operator has satisfied all of the criteria listed in Part II, B of the SPDES General Permit for Construction Activity (GP-0-20-001).

### C. NOTICE OF INTENT:

1. The Operator will petition the NYSDEC for stormwater discharges during construction at this site to be covered by the SPDES General Permit for Stormwater Discharges from Construction Activity, GP-0-20-001, following completion of this SWPPP. An NOI form will be filed by the Operator. Authorization to discharge stormwater from Construction Activities is effective five (5) or (60) calendar days after the NYSDEC receives the complete NOI.

### D. RESPONSIBILITIES OF CONTRACTOR REGARDING THE CONSTRUCTION GENERAL PERMIT:

1. The Contractor shall manage the discharge of stormwater from the site in accordance with the NYSDEC General Permit for Stormwater Discharges from Construction Activities and the following provisions:
  - a) The Contractor shall be responsible for conducting the Storm Water Management practices in accordance with the permit.
  - b) The Contractor shall be responsible for providing *Trained Contractors* (See GP-0-20-001 for definition) to conduct the inspections required by the SWPPP.
  - c) The Contractor shall be responsible for any enforcement action taken or imposed by federal, state, or local agencies, including the cost of fines, construction delays, and remedial actions resulting from the Contractor's failure to comply with the permit provisions.





E. PRE-CONSTRUCTION MEETING:

1. A Pre-Construction SWPPP Meeting shall be mandatory and occur before any land disturbing activities are started. The Certification and Training Program have been developed to stress the importance of the following topics:
  - a) Erosion and sediment control for water quality protection
  - b) Implementation of Erosion and Sediment Control Plans
  - c) The importance to proper installation of erosion and sediment control measures
  - d) Regular inspection by Qualified Inspector of erosion and sediment control measures
  - e) Diligent maintenance to erosion and sediment control measures
  - f) Contemporaneous preparation of accurate and complete records regarding inspection and maintenance of erosion and sediment control measures
  - g) Record-keeping for inspections and maintenance activities

F. SWPPP CERTIFICATION REQUIREMENTS FOR THE CONTRACTOR AND SUBCONTRACTOR(S):

1. The SWPPP shall provide forms for both the Contractor and Subcontractor(s) identifying the Company Name, Business Address and Telephone Number along with the Responsible Person for the Contractor and all Subcontractors who will implement the measures identified in the SWPPP. The Contractor shall sign, the Contractor's Certification Statement (Appendix J) and all Subcontractors shall sign the Subcontractor's Certification Statement (Appendix K) verifying they have been instructed on how to comply with and fully understand the requirements of the NYSDEC and SWPPP. These certifications must be signed by a responsible corporate officer or other party meeting the "Signatory Requirements" in Part VII Section H & Part III.A.5. of the NYS DEC SPDES General Permit for Stormwater Runoff from Construction Activity (GP-0-20-001), on behalf of each entity, prior to the beginning of any Construction Activities and shall be filed in the Project's SWPPP.

G. SWPPP LOCATION REQUIREMENTS:

1. The SWPPP Ledger is meant to be a working document that shall be maintained at the site of the Construction Activities at all times throughout the Project, shall be readily available upon request by the Operator's personnel or NYSDEC or any other agency with regulatory authority over storm water issues, and shall be kept on-site until the site complies with the Final Stabilization section of this document. A copy of the General Permit (GP-0-20-001), NOI, NOI Acknowledgment Letter, SWPPP, and inspection reports shall be maintained at the construction site until all disturbed areas have achieved final stabilization and the Notice of Termination 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; that is accessible during normal working hours to an individual performing a compliance inspection.

H. SWPPP:

1. A minimum of two (2) copies of the SWPPP, in three (3) ring binders shall be provided by the Operator's Engineer. One (1) copy shall be provided for use by the General Contractor and one (1) copy shall be provided as an original.





- I. **INSPECTIONS AND RECORD-KEEPING:** Inspections are required per the General Permit GP-0-20-001 by a qualified inspector.
  1. **INSPECTOR QUALIFICATIONS:**
    - a) Inspections must be conducted by a "Qualified" Inspector. "Qualified" is defined as a person knowledgeable in the principles and practices of erosion and sediment controls who possesses the skills to assess conditions at the construction site that could impact storm water quality and to assess the effectiveness of any sediment and erosion control measures selected to control the quality of storm water discharges from the Construction Activity such as a licensed Professional Engineer, Certified Professional in Erosion and Sediment Control (CPESC), licensed Landscape Architect. It also means that someone working under the direct supervision of a licensed Professional Engineer, or Landscape Architect, provided that person has training in the principles and practices of erosion and sediment control. Training in the principles and practices of erosion and sediment control means that an individual performing the site inspection has received four (4) hours of training, 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 the current general permit issued. After receiving the initial training, an individual working under the direct supervision of a licensed Professional Engineer or licensed Landscape Architect shall receive four (4) hours of training every three (3) years. Inspections of post construction stormwater management practices that include structural components, such as a dam for impoundment, shall be performed by a licensed Professional Engineer.
  2. **RAINFALL MONITORING:**
    - a) A rain gage should be maintained on the site and a record of the rainfall amounts (in tenths of an inch) and dates shall be recorded every 24 hours on the Rain Log (Appendix R).
  3. **INSPECTOR RESPONSIBILITIES:**
    - a) The Qualified Inspector shall be trained in all the inspection and maintenance practices necessary for keeping the Erosion and Sediment Controls that are used onsite in good working order. They will also be trained in the completion of, initiation of actions required by, and the filing of the inspection forms. Documentation of Qualified Inspector training will be kept on site with the SWPPP.
  4. **INSPECTION PROCEDURES:**
    - a) Inspections must include all areas of the site disturbed by Construction Activities and areas used for storage of materials that are exposed to precipitation. Qualified Inspectors must look for evidence of, or the potential for, pollutants entering the storm water conveyance system. Erosion and Sediment Control measures identified in the SWPPP must be observed to ensure proper operation. Discharge locations must be inspected to ascertain whether Erosion and Sediment Control measures are effective in preventing significant impacts to Waters of the United States, where accessible. Where discharge locations are inaccessible, nearby downstream locations must be inspected to the extent that such inspections are practicable. Locations where vehicles enter or exit the site must be inspected for evidence of off-site tracking. The following inspection and maintenance practices will be used to maintain Erosion and Sediment Controls and stabilization measures:
      - (1) All control measures will be inspected at least at the frequency identified in this Section. The minimum inspection frequency shall be once every seven (7) calendar days.





- (2) All measures will be maintained in good working order; if repairs or other measures are found to be necessary, they will be initiated within 24 hours of report, and completed within 48 hours of report and documented with photos.
  - (3) Built up sediment will be removed from silt fence when it has reached 25% of the height of the fence.
  - (4) Silt fences will be inspected for depth of sediment, tears, etc., to see if the fabric is securely attached to the fence posts, and to see that the fence posts are securely in the ground.
  - (5) Temporary and permanent seeding and all other stabilization measures will be inspected for bare spots, washouts, and healthy growth.
  - (6) An Inspection Report (Appendix L) will be completed after each inspection. Copies of the report forms to be completed by the Qualified Inspector(s) are included in this SWPPP. These reports shall be provided to the Town of Alfred within 24 hours of completion.
  - (7) The Contractor's Superintendent will be responsible for selecting and training the individuals who will be responsible for these inspections, maintenance and repair activities, and filling out inspection and maintenance reports.
  - (8) Disturbed Areas and materials storage areas will be inspected for evidence of or potential for pollutants entering stormwater systems.
  - (9) Report to U.S. Environmental Protection Agency, or NYSDEC within 24 hours any noncompliance with the SWPPP that will endanger public health or the environment. Follow up with a written report within five (5) days of the noncompliance event. The following events require 24-hour reporting: a) any unanticipated bypass which exceeds any effluent limitation in the permit, b) any upset which exceeds any effluent limitation in the permit, and c) a violation of a maximum daily discharge limitation for any of the pollutants listed by the EPA in the permit to be reported within 24 hours. The written submission must contain a description of the non-compliance and its cause; the period of non-compliance, including exact dates and times, and if the non-compliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent recurrence of the non-compliance.
  - (10) Spills or Releases of Hazardous Substances or Oil in excess of reportable quantities (as established under 40 CFR Part 110, 40 CFR Part 117 or 40 CFR Part 302) must be reported.
5. MONITORING:
- a) Contractor shall be required to inspect daily per GP-0-20-001, Part IV.B.1.
6. THIRD PARTY INSPECTIONS:
- a) Where required or requested by the Operator, third party inspections by the design engineer shall be in addition to and shall not replace inspections by the Contractor (Qualified Inspector). The third-party inspector shall complete and sign any inspection report and include a copy of the report in the SWPPP following each inspection.
7. RECORDKEEPING:
- a) It is imperative that documentation of the inspection and maintenance of all erosion and sediment control measures as soon as possible after the inspection and/or maintenance is completed. The inspection reports identify any incidents of non-compliance with the permit conditions. Where a report does not identify any incidents of non-compliance, the report must





contain a certification that the Project is in compliance with the SWPPP and the Construction General Permit or other applicable State Permit. The report must be signed in accordance with the General Permit (GP-0-20-001). These records are used to prove that the required inspection and maintenance were performed and shall be placed in the SWPPP Ledger. In addition to inspection and maintenance reports, records should be kept of the Construction Activities that occur on the site. The Contractor shall retain copies of the SWPPP, all reports and data for a minimum of five (5) years after the project is complete in paper and CD format.

The forms found in this SWPPP shall be used by the Qualified Inspector(s) and/or the *Trained Contractor* (as applicable) to inventory and report the condition of each measure to assist in maintaining the erosion and sediment control measures in good working order. The following list identifies the required Inspection and Maintenance documentation and record keeping that must be maintained by the Contractor under this SWPPP:

- Appendix L: Inspection Report
- Appendix M: Stabilization Schedule Form
- Appendix N: Implementation Schedule Form
- Appendix O: Modification Log/Report
- Appendix P: Final Stabilization/NOT Checklist
- Appendix Q: Reportable Quantity Release Form
- Appendix R: Project Rainfall Log

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

#### 8. OTHER RECORD KEEPING REQUIREMENTS:

- a) The Contractor shall keep the following records related to Construction Activities at the site:
  - (1) Dates when major grading activities occur and the areas which were graded
  - (2) Dates and details concerning the installation of structural controls
  - (3) Dates when Construction Activities cease in an area
  - (4) Dates when stabilization measures are initiated
  - (5) Dates when an area is stabilized, either temporarily or permanently
  - (6) Dates of rainfall and the amount of rainfall
  - (7) Dates and descriptions of the character and amount of any spills of Hazardous Substances or Oil
  - (8) Records of reports filed with regulatory agencies if reportable quantities of Hazardous Substances or Oil spilled





- J. **SWPPP MODIFICATIONS:** The inspection report should also identify if any revisions to the SWPPP are warranted due to unexpected conditions. The SWPPP is meant to be a dynamic working guide that is to be kept current and amended whenever:
1. There is a change in design, construction, operation, or maintenance at the construction site that has or could have a significant effect on the discharge of pollutants to the Waters of the United States that has not been previously addressed in the SWPPP. In addition to modifying the SWPPP, the site map may also require an amendment.
  2. Inspections or investigations by site staff, or by local, state or federal officials, determine that the discharges the SWPPP is ineffective in eliminating or significantly minimizing pollutants in storm water discharges from the construction site. Modifications that are the result of an inspection must be initiated within 24 hours and completed within 48 hours.
  3. Based on the results of an inspection, it must be modified as necessary to include additional or modified BMPs designed to correct problems identified. Revisions to the SWPPP must be completed within seven (7) calendar days following the inspection.
  4. There is a release containing a Hazardous Substance or Oil in an amount equal or in excess of a reportable quantity established under either 40 CFR Part 110, 40 CFR Part 117 or 40 CFR Part 302 occurs during a 24-hour period. Revisions to the SWPPP must be completed within seven (7) calendar days of knowledge of the release.

Any such changes to the SWPPP must be made in writing on the Modification Log/Report (Appendix O) within seven (7) days of the date such modification or amendment is made. Changes must also be drawn on the Progress Drawing.

- K. **FINAL STABILIZATION AND TERMINATION OF PERMIT COVERAGE:** A site can be considered finally stabilized when all soil disturbing activities have been completed and:
1. A uniform perennial vegetative cover with a density of 80% for the unpaved areas and areas not covered by permanent structures has been established or equivalent permanent stabilization measures have been established.
  2. The facility no longer discharges storm water associated with Construction Activities.
  3. A Notice of Termination (NOT) form filed by the Operator(s) with the NYSDEC. The NOT must be submitted within thirty (30) days of final stabilization.

The Operator's Project Manager must provide a completed copy of the NOT to the Contractor for inclusion in the SWPPP. This filing terminates coverage under the Construction General Permit and terminates the Contractor's responsibility to implement the SWPPP, but the requirements of the SWPPP, including periodic inspections, must be continued until the NOT is filed. Upon achieving this milestone, the Contractor shall also submit "Final Stabilization/NOT Checklist" (Appendix P).





## II. PROJECT NAME AND LOCATION

NY Alfred I, LLC. Community Solar Farm  
Town of Alfred  
Allegany County  
42.239939 N, 77.788411 W

A general location map (Appendix B) with enough detail to identify the location of the construction site, direction of storm water flow, the receiving waters within one (1) mile of the site, surface waters and Wetlands, storm water discharge locations and other areas as required by *NYSDEC* is included in Appendix B.

## III. OPERATOR'S NAME AND ADDRESS

Delaware River Solar, LLC.  
And its Affiliate:  
NY Alfred I, LLC.  
Peter Dolgos  
140 East 45<sup>th</sup> Street, Suite 32B-1  
New York, New York 10017

## IV. PROJECT DESCRIPTION

This SWPPP is for the NY Alfred I, LLC. Community Solar Farm installation for NY Alfred I, LLC. in the Town of Alfred, Allegany County, New York. The entire property is approximately 162.1 acres, but the proposed development will have a lease area of 31± acres. This SWPPP addresses all of the proposed work to be done at the new NY Alfred I, LLC. Community Solar Farm (Appendix C).

The total project disturbance area will not exceed 5.0 acres at any one time. The approximate start of construction is Fall 2021 with an expected end of construction by Spring 2022. General soil disturbing activities will include:

- Construction of entrance driveway
- Installation of solar racking
- Panel installation
- Trenching for wiring of panels
- Finalization of connection to the grid
- Vegetation clearing and grubbing
- Final grading





## V. EXISTING SITE CONDITIONS

The project site tributary area is approximately 95.674 acres. The topography of the project site ranges from elevations of 1,894 feet to 2,100 feet. The site has slopes ranging from 0.1% to 74.5%. The project site consists of an active agricultural field, forested habitat, pasturelands, several existing buildings, and an unpaved agricultural road. The site drains to several existing streams and wetlands within and along the property.

## VI. NAME OF RECEIVING WATERS

The site discharges to existing onsite and offsite streams and wetlands.

## VII. DESCRIPTION OF SOILS

Soil Types within the Subject Area

Symbol	Soil Name	Hydrologic Soil Group
11C	Ischua channery silt loam, 8 to 15 percent slopes	C/D
11D	Ischua channery silt loam, 15 to 25 percent slopes	C/D
11E	Ischua channery silt loam, 25 to 35 percent slopes	C/D
16B	Almond silt loam, 3 to 8 percent slopes	D
60C	Napoli silt loam, 8 to 15 percent slopes	D
73B	Gretor channery silt loam, 3 to 8 percent slopes	C/D
73C	Gretor channery silt loam, 8 to 15 percent slopes	C/D

More information pertaining soils can be found in the Soil Map included in the Site and Soils mapping (Appendix B) section of this report.





## VIII. EROSION AND SEDIMENT CONTROLS

- A. The project will utilize temporary and permanent erosion and sediment control practices to prevent sediment from leaving the project area. A list of the practices anticipated are as follows:

Temporary Structural					
	BMP	Notes		BMP	Notes
<input type="checkbox"/>	Inlet Protection		<input type="checkbox"/>	Brush Barrier	
<input checked="" type="checkbox"/>	Outlet Protection		<input type="checkbox"/>	Temporary Stream Crossing	
<input type="checkbox"/>	Perimeter Protection		<input type="checkbox"/>	Pipe Slope Drain	
<input checked="" type="checkbox"/>	Stabilized Construction Entrance/Exit		<input type="checkbox"/>	Wind Fence	
<input type="checkbox"/>	Stone Staging Area		<input type="checkbox"/>	Temporary Diversion Channels	
<input type="checkbox"/>	Temporary Sediment Basin		<input type="checkbox"/>	Temporary Diversion Berms	
<input type="checkbox"/>	Temporary Gravel and Riprap Sediment Trap		<input type="checkbox"/>	Other	
<input type="checkbox"/>	Temporary Rock Dam Sediment Trap		<input type="checkbox"/>	Other	
<input type="checkbox"/>	Check Dam		<input type="checkbox"/>	Other	
<input checked="" type="checkbox"/>	Sediment Fence	Silt Sock	<input type="checkbox"/>	Other	
<input checked="" type="checkbox"/>	Temporary Seeding		<input type="checkbox"/>	Other	
<input checked="" type="checkbox"/>	Temporary Mulching		<input type="checkbox"/>	Other	
<input checked="" type="checkbox"/>	Rolled Erosion Control Product (RECP)		<input type="checkbox"/>	Other	
<input type="checkbox"/>	Slope Tracking (Soil Roughening)		<input type="checkbox"/>	Other	
<input type="checkbox"/>	Watering to Minimize Wind Erosion		<input type="checkbox"/>	Other	
Permanent Stabilization					
	BMP	Notes		BMP	Notes
<input checked="" type="checkbox"/>	RECP (3 horizontal to 1 vertical)		<input type="checkbox"/>	Vegetation Protection	
<input checked="" type="checkbox"/>	Permanent Seeding		<input type="checkbox"/>	Sod	
<input type="checkbox"/>	Permanent Planting (vegetative landscaping)		<input type="checkbox"/>	Other	
<input type="checkbox"/>	Mulching		<input type="checkbox"/>	Other	





Permanent Structural					
	BMP	Notes		BMP	Notes
<input type="checkbox"/>	Outlet Protection		<input type="checkbox"/>	Gradient Terrace	
<input type="checkbox"/>	Storm Drainage System		<input type="checkbox"/>	Stormwater Retention Pond	
<input type="checkbox"/>	Curb		<input type="checkbox"/>	Stormwater Filtration	
<input type="checkbox"/>	Stormwater Pond		<input type="checkbox"/>	Bio Retention Basin	
<input type="checkbox"/>	Stormwater Infiltration		<input type="checkbox"/>	Vortsentry VS70	
<input type="checkbox"/>	Bio Swale		<input checked="" type="checkbox"/>	Other	Level Spreaders
<input checked="" type="checkbox"/>	Pervious pavement		<input checked="" type="checkbox"/>	Other	Grass Filter Strip
<input type="checkbox"/>	Stormwater Channel		<input type="checkbox"/>	Other	
<input type="checkbox"/>	Retaining Wall		<input type="checkbox"/>	Other	

#### B. Sequence of Major Construction Activities

The Contractor will be responsible for implementing the following Erosion and Sediment Control and Storm Water Management control measures. The Contractor may designate these tasks to certain subcontractors as he sees fit, but the ultimate responsibility for implementing these controls and ensuring their proper functioning remains with the Contractor. The order of activities will be as follows (refer to the General Notes sheet of the Erosion and Sedimentation Control Plans(s) and Details (Appendix C)):

##### Construction Sequence

1. Pre-construction meeting held to include project manager, operator's engineer, town representative, contractor, and sub-contractors prior to land disturbing activities.
2. Construct construction entrance/exit at locations designated on plans.
3. Install perimeter silt sock.
4. Have a Qualified Professional conduct an assessment of the site prior to the commencement of construction.
5. Begin clearing and grubbing operations. clearing and grubbing shall be done only in areas where earthwork will be performed and only in areas where construction is planned to commence within 14 days after clearing and grubbing. No more than 5 acres will be disturbed at any one given time.
6. Strip topsoil and stockpile in a location acceptable to construction manager. When stockpile is complete, install perimeter silt fence, seed surface with 100% perennial ryegrass mixture at a rate of 2-4 lbs. per 1000 Sq. Ft. Apply 90-100 lbs. per 1000 Sq. Ft. of mulch.
7. Commence earthwork cut and fills. The work shall be progressed to allow a reasonable transfer of cut and fill earth for rough grading and earth moving. The Contractor will be given some latitude to vary from the following schedule in order to meet the field conditions encountered. Contractor shall review variations to SWPPP with Design Engineer and Qualified Professional prior to implementation. No more than 5 acres will be disturbed at any one given time.





8. Install temporary construction road (see sheet C015 of the Erosion and Sedimentation Control Plans(s) and Details (Appendix C)), as needed, and immediately stabilize with crushed stone (or equivalent) to prevent erosion as soon as practicable.
9. Stabilize all areas as soon as practicable, idle in excess of 7 days and in which construction will not recommence within 14 days.
10. Install perimeter fence, solar panels, utilities, and appurtenances. Trench excavation/backfill areas should be stabilized progressively at the end of each workday with seed and straw mulch at a rate of 100% perennial rye grass at 2-4 lbs./1000 SF mulched at 90-100 lbs./1000 SF.
11. Stabilize all areas idle in excess of 7 days in which construction will not recommence within 14 days.
12. Remove temporary construction exit(s) and perimeter silt sock once site has achieved 80% uniform stabilization.
13. Remove temporary construction road and construct the proposed limited-use pervious gravel driveway (see sheet C009 and C012 of the Erosion and Sedimentation Control Plans(s) and Details (Appendix C)). The sub-grade material where the driveway is to be installed shall be decompacted per NYSDEC's "deep-ripping and decompaction" manual, dated April 2008. Contractor shall avoid frequent heavy traffic on the limited-use pervious gravel.

#### D. Storm Water Management

NY Alfred I, LLC. will be responsible for all maintenance of the stormwater management facilities associated with the project.

According to the definition set forth in the SPDES General Permit, altering the hydrology from Pre to Post-Development conditions means that "the post-development peak flow rates has increased by more than 5% of the pre-development condition for the design storm of interest". The proposed solar farm project is considered as "Land clearing and grading for the purposes of creating vegetated open space, excluding projects that alter hydrology from pre to post-development" in Appendix B of the General Permit. The project will not alter the site's hydrology from Pre to Post-Development conditions and is therefore classified as a construction activity that requires the preparation of a SWPPP that only includes erosion and sediment controls. Detailed information is included in the Stormwater Management Report (Appendix T).

The gravel driveway on-site is designed using a limited use pervious gravel section approved by the NYSDEC, which classifies as a pervious surface. However, the project does propose the construction of a concrete equipment pad, which identifies as an impervious surface. Therefore, a grass filter strip is proposed in this SWPPP to provide water quality treatment for the affected area. In addition, level spreaders will be installed along the downslope edge of each row of solar panels to maintain sheet flow and to reduce possible erosion and runoff throughout the project site.

#### E. Post Construction Stormwater BMP Operation and Maintenance Plan

An Operations and Maintenance Plan is included to address the inspection, operation and maintenance of all post construction BMPs identified in this plan. The Contractor is responsible for proper installation, maintenance and functioning of all best management practices shown on the drawings until final stabilization is achieved. The Owner shall be responsible for the continued maintenance of the best management practices.





## I. OTHER CONTROLS

### A. Off-Site Vehicle Tracking

1. Dump trucks hauling material from the construction site will be covered with a tarpaulin. The job Contractor's Superintendent will be responsible for seeing that these procedures are followed.
2. Rock construction entrance to be installed as site conditions warrant or at the request of the engineer or inspector.

### B. Excavation Spoil Materials

1. Excavation spoil materials may be generated during excavations including, but not limited to roadway and utilities installation. These materials must be properly managed to prevent them from contributing to storm water discharges. The materials generated from the development of this Project will be managed by the following method: Stockpiled on-site, the general site contractor to specify location and provide erosion control for excavated spoil materials or the material shall be hauled off-site and disposed of in an appropriate manner.

### C. Dust Control

1. Minimizing wind erosion and controlling dust will be accomplished by one or more of the following methods
  - a) Covering 30% or more of the soil surface with a non-erodible material.
  - b) Roughening the soil to produce ridges perpendicular to the prevailing wind. Ridges should be about six (6) inches in height.
  - c) Frequent watering of excavation and fill areas.
  - d) Providing gravel or paving at entrance/exit drives, parking areas and transit paths.

### D. Equipment Service Area

1. The Contractor shall identify an area on the Erosion and Sediment Control Plan for equipment cleaning, maintenance and repair. This area shall be protected by a temporary perimeter berm preventing all surface runoff from leaving the area, or equivalent measure, and shall be located no closer than 100' from any Waters of the United States or state, and shall be located no closer than 50' from any storm inlet. External washing of trucks and other construction vehicles must be confined to this area. No engine degreasing or asphalt equipment or tool washing is permitted.

### E. Material Stockpiles

1. Stormwater runoff to and from material stockpiles shall be controlled to prevent materials from creating a diversion of surface water to disturbed soils or from entering the surface water. Topsoil stockpiles shall be surrounded with perimeter sediment control measures such as silt fence and be covered with non-erosive material as soon as practicable but no longer than 14 days after completion of the pile. Non-erosive material may include temporary seeding with straw mulch and tackifier, mulch, or other material providing suitable cover.

### F. Masonry Mixing Area

1. Non-stormwater discharges into storm drainage systems or waterways containing slurries from concrete or mortar mixing operations shall not be permitted. Masonry mixing areas shall be located a minimum distance of 100 linear feet from drainage ways, inlets and surface waters and all storm water runoff from these areas shall be contained by a berm or other measures. Run-on water to these areas will be diverted to prevent mixing of clean water and water contaminated with concrete slurry.





## II. COMPLIANCE WITH OTHER STATE AND LOCAL REGULATIONS

- A. At a minimum, the Contractor will obtain copies of any and all local and state regulations which are applicable to Storm Water Management, Erosion and Sediment Control, and pollution minimization at this Project and will comply fully with such regulations. The Contractor will submit written evidence of such compliance if requested by the Operator or any agent of a regulatory body. The Contractor will comply with all conditions of the *NYSDEC* General Permit for Stormwater Discharges from Construction Activities including the conditions related to maintaining the SWPPP and evidence of compliance with the SWPPP at the Project and allowing regulatory personnel access to the Project and to records in order to determine compliance. The Contractor shall also comply with any additional or more stringent requirements imposed by the permit issued by an approved state storm water program, or with permits issued, or requirements imposed by the Town to which the Project discharges storm water. Requirements with which the Contractor must comply include installation of post-construction measures required by the State, County, or City.

## III. MATERIALS MANAGEMENT PLAN

### A. Progress Drawing

1. A Progress Drawing consisting of a print of the Erosion and Sediment Control Plans shall be posted inside the job trailer wall. The Progress Drawing will be used to record the locations of the Job Trailer, Sanitary Waste Facilities, Solid Waste Facilities, Fuel Storage Area, Equipment Service Area, and Concrete Washout Pit. Any time any of these facilities are relocated on the site, a new location will be noted on the Progress Drawing and a Modification Log/Report (Appendix O) will be prepared.

### B. Materials Covered

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

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

### C. Materials Management Practices

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

#### 1. Good Housekeeping

The following good housekeeping practices will be followed onsite during construction:

- a) An effort will be made to store only enough products required to do the job.
- b) All materials stored onsite will be stored in a neat, orderly manner and, if possible, under a roof or in a containment area. At a minimum, all containers will be stored with their lids on when not in use. Drip pans shall be provided under all dispensers.





- c) Products will be kept in their original containers with the original manufacturer's label in legible condition.
- d) Substances will not be mixed with one another unless recommended by the manufacturer.
- e) Whenever possible, all of a product will be used up before disposing of the container.
- f) Manufacturer's recommendations for proper use and disposal will be followed.
- g) The Contractor's Superintendent will be responsible for daily inspections to ensure proper use and disposal of materials.

## 2. Hazardous Substances

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

- a) Products will be kept in original containers with the original labels in legible condition.
- b) Original labels and SDS's will be procured and used for each product.
- c) If surplus product must be disposed manufacturer's and local/state/federal required methods for proper disposal must be followed.

## 3. Hazardous Waste

It is imperative that all Hazardous Waste be properly identified and handled in accordance with all applicable Hazardous Waste Standards, including the storage, transport and disposal of the Hazardous Wastes. There are significant penalties for the improper handling of Hazardous Wastes. It is important that the Site Superintendent seeks appropriate assistance in making the determination of whether a substance or material is a Hazardous Waste. For example, Hazardous Waste may include certain Hazardous Substances, as well as pesticides, paints, paint solvents, cleaning solvents, pesticides, contaminated soils, and other materials, substances or chemicals that have been discarded (or are to be discarded) as being out-of-date, contaminated, or otherwise unusable, and can include the containers for those substances; other materials and substances can also be or become Hazardous Wastes, however. The Contractor's Superintendent is also responsible for ensuring that all site personnel are instructed as to these Hazardous Waste requirements and also that the requirements are being followed.

## 4. Product Specific Practices

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

### a) Petroleum Products

- (1) All onsite vehicles will be monitored for leaks and receive regular preventative maintenance to reduce the chance of leakage. Petroleum products will be stored in tightly sealed containers which are clearly labeled. Petroleum storage tanks shall be located at minimum 100 linear feet from drainage ways, inlets and surface waters. Maximum total aggregate above ground storage capacity (for the total permit area) shall not exceed 1,320 gallons (which includes both bulk and equipment operational storage volumes in fuel tanks 55





gallons and greater). Total aggregate petroleum storage exceeding 1,320 gallons shall require preparation, certification (using a Professional Engineer or providing a Self-Certified SPCC Plan if applicable) and implementation of a Spill Prevention Control and Countermeasures (SPCC) Plan. The SPCC Plan must be prepared and fully implemented prior to the commencement of work. The SPCC Plan, if needed, will be furnished by the Contractor. Any petroleum storage tanks stored onsite will be located within a containment area that is designed with an impervious surface between the tank and the ground. The secondary containment must be designed to provide a containment volume that is equal to 110% of the volume of the largest tank. Any mobile petroleum tank shall be parked in a vehicular service area surrounded by a berm that provides a containment volume that is equal to 110% of the volume of the largest tank. Containment must provide sufficient volume to contain expected precipitation and 110% volume of the largest tank. Accumulated rainwater or spills from containment areas are to be promptly pumped into a containment device and disposed of properly by a licensed Hazardous Waste transporter. Drip pans shall be provided for all dispensers. Any asphalt substances used onsite will be applied according to the manufacturer's recommendations. The location of any fuel tanks and/or equipment storage areas must be identified on the PROGRESS DRAWING by the Contractor once the locations have been determined.

b) Fertilizers

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

c) Paints, Paint Solvents, and Cleaning Solvents

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

d) Concrete Wastes

- (1) Concrete trucks will be allowed to wash out or discharge surplus concrete or drum wash water on the site, but only in specifically designated diked and impervious washouts which have been prepared to prevent contact between the concrete wash and storm water. Waste generated from concrete wash water shall not be allowed to flow into drainage ways, inlets, receiving waters or highway right of ways, or any location other than the designated concrete washout. Waste concrete may be poured into forms to make riprap or other useful concrete products. Proper signage designating the "Concrete Washout" shall be placed near the facility. Concrete Washouts shall be located at minimum 100 linear feet from drainage ways, inlets and surface waters.
- (2) The hardened residue from the concrete wash out areas will be disposed of in the same manner as other non-hazardous construction waste materials or may be broken up and used on site as deemed appropriate by the Contractor. Maintenance of the washout is to include removal of hardened concrete. The Facility shall have sufficient volume to contain all the concrete waste resulting from washout and a minimum freeboard of 12 inches. Facility shall not be filled beyond 95% capacity and shall be cleaned out once 75% full unless a new facility is constructed. The Contractor's Superintendent will be responsible for seeing that these procedures are followed.





- (3) Saw-cut Portland Cement Concrete (PCC) slurry shall not be allowed to enter storm drains or Watercourses. Saw-cut residue should not be left on the surface of pavement or be allowed to flow over and off pavement. Residue from saw-cutting and grinding shall be collected by vacuum and disposed of in the concrete washout facility.
  - (4) The Project may require the use of multiple concrete wash out areas. These concrete wash out areas are to be made available to all trades and subcontractors working on the Project. The Contractor may designate certain wash out areas for particular trades or subcontractors, but the Contractor is responsible for the management of all concrete washout areas on the Project. All concrete wash out areas will be located in an area where the likelihood of the area contributing to storm water discharges is negligible. If required, additional BMPs must be implemented to prevent concrete wastes from contributing to storm water discharges. The location of concrete wash out area(s) must be identified on the PROGRESS DRAWING by the Contractor once the locations have been determined.
- e) Solid and Construction Wastes
- (1) All waste materials will be collected and stored in an appropriately covered container and/or securely contained metal dumpster rented from a local waste management company which must be a licensed solid waste management company. The dumpster will comply with all local and state solid waste management regulations.
  - (2) All trash and construction debris from the site will be deposited in the dumpster. The dumpster will be emptied a minimum of once per week or more often if necessary. Once building construction has commenced, the dumpster will be emptied a minimum of once per week or when 95% full, or more often if necessary, to prevent over-flow and the trash will be hauled to a landfill. No construction waste materials will be buried on site. All personnel will be instructed regarding the correct procedures for waste disposal.
  - (3) All waste dumpsters and roll-off containers will be located in an area where the likelihood of the containers contributing to storm water discharges is negligible. Solid waste containers shall be located no less than 50 feet from any storm inlet, drainage way, or surface water. If required, additional BMPs must be implemented, such as gravel bags, wattles, dikes, berms, and fences around the base to prevent wastes from contributing to storm water discharges. The location of waste dumpsters and roll-off containers must be identified on the PROGRESS DRAWING by the Contractor once the locations have been determined.
- f) Sanitary Wastes
- (1) A minimum of one portable sanitary unit will be provided for every ten (10) workers on the site. All sanitary waste will be collected from the portable units a minimum of one time per week by a licensed portable facility provider in complete compliance with local and state regulations.
  - (2) All sanitary waste units will be located in an area where the likelihood of the unit contributing to storm water discharges is negligible. Additional containment BMPs must be implemented, such as gravel bags or specially designed plastic skid containers around the base, to prevent wastes from contributing to storm water discharges. The location of sanitary waste units must be identified on the PROGRESS DRAWING by the contractor once the locations have been determined.





g) Contaminated Soils

- (1) Any contaminated soils (resulting from spills of Hazardous Substances or Oil or discovered during the course of construction) which may result from Construction Activities will be contained and cleaned up in accordance with applicable state and federal regulations. Contaminated soils not resulting from Construction Activities, or which pre-existed Construction Activities, but which are discovered by virtue of Construction Activities, should be reported in the same manner as spills, but with sufficient information to indicate that the discovery of an existing condition is being reported. If there is a release that occurs by virtue of the discovery of existing contamination, this should be reported as a spill, if it otherwise meets the requirements for a reportable spill.

D. Spill Prevention and Response Procedures

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

1. In order to prevent or minimize the potential for a spill of Hazardous Substances or Oil to come into contact with storm water, the following steps will be implemented:
  - a) All Hazardous Substances or Oil (such as pesticides, petroleum products, fertilizers, detergents, construction chemicals, acids, paints, paint solvents, cleaning solvents, additives for soil stabilization, concrete curing compounds and additives, etc.) will be stored in a secure location, with their lids on, preferably under cover, when not in use.
  - b) The minimum practical quantity of all such materials will be kept at the Project.
  - c) A spill control and containment kit (containing, for example, absorbent materials, acid neutralizing powder, brooms, dust pans, mops, rags, gloves, goggles, plastic and metal trash containers, etc.) will be provided at the storage site.
  - d) Manufacturer's recommended methods for spill cleanup will be clearly posted and site personnel will be trained regarding these procedures and the location of the information and cleanup supplies.
  - e) It is the Contractor's responsibility to ensure that all Hazardous Waste discovered or generated at the Project site is disposed of properly by a licensed hazardous material disposal company. The Contractor is responsible for not exceeding Hazardous Waste storage requirements mandated by the EPA or state and local authority.
2. In the event of a spill of Hazardous Substances or Oil, the following procedures must be followed:
  - a) All measures must be taken to contain and abate the spill and to prevent the discharge of the Hazardous Substance or Oil to storm water or off-site. (The spill area must be kept well ventilated and personnel must wear appropriate protective clothing to prevent injury from contact with the Hazardous Substances.





- b) If the release is equal to or in excess of a reportable quantity, the SWPPP must be modified within seven (7) calendar days of knowledge of the discharge to provide a description of the release, the circumstances leading to the release, and the date of the release. The SWPPP must identify measures to prevent the recurrence of such releases and to respond to such releases. The form in Appendix 15 must be completed in accordance with this requirement.

#### IV. CONTROL OF NON-STORM WATER DISCHARGES

- A. Certain types of discharges are allowable under the NYSDEC General Permit for Stormwater Discharges from Construction Activities, and it is the intent of this SWPPP to allow such discharges. These types of discharges will be allowed under the conditions that no pollutants will be allowed to come in contact with the water prior to or after its discharge. The control measures which have been outlined previously in this SWPPP will be strictly followed to ensure that no contamination of these non-storm water discharges takes place. The following non-storm water discharges are allowed by the NYSDEC and may occur at the Project:
  - 1. Discharges from fire-fighting activities;
  - 2. Fire hydrant flushings;
  - 3. Waters used to wash vehicles where detergents are not used;
  - 4. Water used to control dust;
  - 5. Potable water including uncontaminated water line flushings;
  - 6. Routine external building wash down that does not use detergents;
  - 7. Pavement wash waters where spills or leaks of toxic or hazardous materials have not occurred (unless all spilled material has been removed) and where detergents are not used;
  - 8. Uncontaminated air conditioning or compressor condensate;
  - 9. Uncontaminated ground water or spring water;
  - 10. Foundation or footing drains where flows are not contaminated with process materials such as solvents;
  - 11. Uncontaminated excavation dewatering;
  - 12. Landscape irrigation

#### V. HISTORICAL PROPERTIES

- A. A review of potential adverse impact to cultural, historic and archaeological resources was conducted. There are no places or properties which are listed or would be eligible for listing on the State or National Register of Historic Places that will be impacted by this construction. The New York State Historic Preservation Office response letter indicating no effect can be found in Appendix U.





VI. INDUSTRIAL ACTIVITIES

- A. There are no discharges planned from industrial activities as part of this project.

VII. ENHANCED PHOSPHORUS REMOVAL STANDARDS

- A. This project is not required to provide enhanced phosphorus removal practices.





## Appendix B

# Site and Soils Mapping





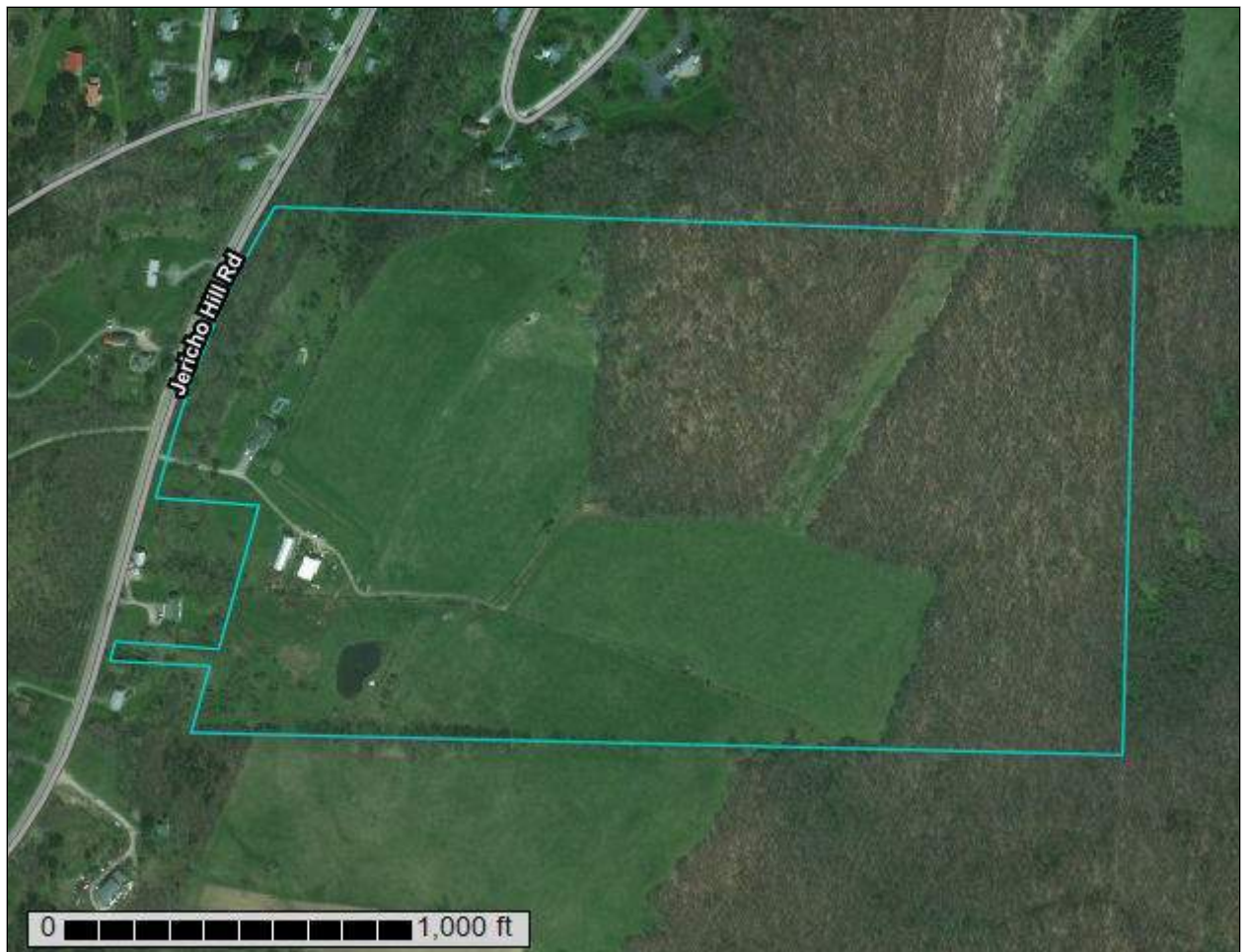
United States  
Department of  
Agriculture

**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 **Allegany County Area, New York**





# Preface

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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](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

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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



## Custom Soil Resource Report

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.



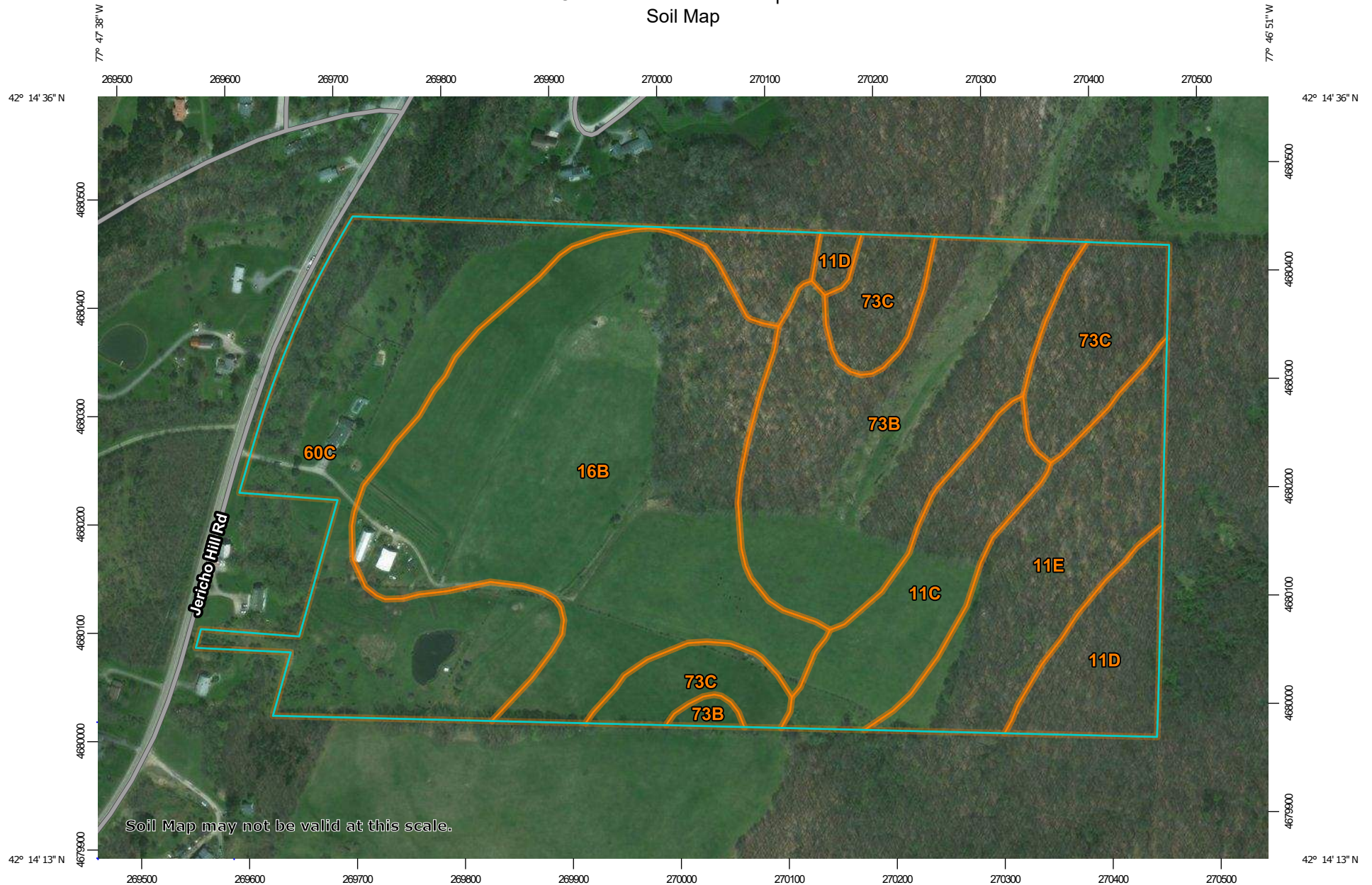
# Soil Map

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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: 1:4,960 if printed on A landscape (11" x 8.5") sheet.

0 50 100 200 300 Meters

0 200 400 800 1200 Feet

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 18N WGS84




# Custom Soil Resource Report

## 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 1:24,000.

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: Allegany County Area, New York  
Survey Area Data: Version 26, Jun 11, 2020

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

Date(s) aerial images were photographed: Aug 31, 2012—May 8, 2016

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
11C	Ischua channery silt loam, 8 to 15 percent slopes	6.2	6.8%
11D	Ischua channery silt loam, 15 to 25 percent slopes	4.4	4.8%
11E	Ischua channery silt loam, 25 to 35 percent slopes	8.7	9.4%
16B	Almond silt loam, 3 to 8 percent slopes	28.4	31.0%
60C	Napoli silt loam, 8 to 15 percent slopes	20.0	21.8%
73B	Gretor channery silt loam, 3 to 8 percent slopes	15.2	16.5%
73C	Gretor channery silt loam, 8 to 15 percent slopes	8.9	9.7%
<b>Totals for Area of Interest</b>		<b>91.8</b>	<b>100.0%</b>

## 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.



## **Allegany County Area, New York**

### **11C—Ischua channery silt loam, 8 to 15 percent slopes**

#### **Map Unit Setting**

*National map unit symbol:* b1wm

*Elevation:* 1,800 to 2,500 feet

*Mean annual precipitation:* 33 to 43 inches

*Mean annual air temperature:* 41 to 45 degrees F

*Frost-free period:* 106 to 139 days

*Farmland classification:* Farmland of statewide importance

#### **Map Unit Composition**

*Ischua and similar soils:* 90 percent

*Minor components:* 10 percent

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

#### **Description of Ischua**

##### **Setting**

*Landform:* Hills, ridges

*Landform position (two-dimensional):* Summit

*Landform position (three-dimensional):* Crest

*Down-slope shape:* Concave

*Across-slope shape:* Convex

*Parent material:* Loamy till derived from siltstone, shale, and sandstone

##### **Typical profile**

*H1 - 0 to 6 inches:* channery silt loam

*H2 - 6 to 23 inches:* channery silt loam

*H3 - 23 to 28 inches:* channery silty clay loam

*R - 28 to 38 inches:* bedrock

##### **Properties and qualities**

*Slope:* 8 to 15 percent

*Depth to restrictive feature:* 20 to 40 inches to lithic bedrock

*Drainage class:* Moderately well drained

*Capacity of the most limiting layer to transmit water (Ksat):* Very low to moderately high (0.00 to 0.20 in/hr)

*Depth to water table:* About 18 to 24 inches

*Frequency of flooding:* None

*Frequency of ponding:* None

*Available water capacity:* Low (about 4.9 inches)

##### **Interpretive groups**

*Land capability classification (irrigated):* None specified

*Land capability classification (nonirrigated):* 3e

*Hydrologic Soil Group:* C/D

*Hydric soil rating:* No

#### **Minor Components**

##### **Mongaup**

*Percent of map unit:* 4 percent

*Landform:* Hills

*Landform position (two-dimensional):* Shoulder



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*Landform position (three-dimensional):* Crest

*Down-slope shape:* Convex

*Across-slope shape:* Convex

*Hydric soil rating:* No

### **Hornellsville**

*Percent of map unit:* 3 percent

*Landform:* Hills, ridges

*Landform position (two-dimensional):* Footslope

*Landform position (three-dimensional):* Base slope

*Down-slope shape:* Concave

*Across-slope shape:* Linear

*Hydric soil rating:* No

### **Salamanca**

*Percent of map unit:* 3 percent

*Landform:* Hills, ridges

*Landform position (two-dimensional):* Summit

*Landform position (three-dimensional):* Crest

*Down-slope shape:* Concave

*Across-slope shape:* Convex

*Hydric soil rating:* No

## **11D—Ischua channery silt loam, 15 to 25 percent slopes**

### **Map Unit Setting**

*National map unit symbol:* b1wn

*Elevation:* 1,800 to 2,500 feet

*Mean annual precipitation:* 33 to 43 inches

*Mean annual air temperature:* 41 to 45 degrees F

*Frost-free period:* 106 to 139 days

*Farmland classification:* Not prime farmland

### **Map Unit Composition**

*Ischua and similar soils:* 90 percent

*Minor components:* 10 percent

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

### **Description of Ischua**

#### **Setting**

*Landform:* Ridges, hills

*Landform position (two-dimensional):* Summit

*Landform position (three-dimensional):* Side slope

*Down-slope shape:* Concave

*Across-slope shape:* Convex

*Parent material:* Loamy till derived from siltstone, shale, and sandstone

#### **Typical profile**

*H1 - 0 to 6 inches:* channery silt loam

*H2 - 6 to 23 inches:* channery silt loam



## Custom Soil Resource Report

*H3 - 23 to 28 inches:* channery silty clay loam

*R - 28 to 38 inches:* bedrock

### Properties and qualities

*Slope:* 15 to 25 percent

*Depth to restrictive feature:* 20 to 40 inches to lithic bedrock

*Drainage class:* Moderately well drained

*Capacity of the most limiting layer to transmit water (Ksat):* Very low to moderately high (0.00 to 0.20 in/hr)

*Depth to water table:* About 18 to 24 inches

*Frequency of flooding:* None

*Frequency of ponding:* None

*Available water capacity:* Low (about 4.9 inches)

### Interpretive groups

*Land capability classification (irrigated):* None specified

*Land capability classification (nonirrigated):* 4e

*Hydrologic Soil Group:* C/D

*Hydric soil rating:* No

### Minor Components

#### Mongaup

*Percent of map unit:* 4 percent

*Landform:* Hills

*Landform position (two-dimensional):* Backslope

*Landform position (three-dimensional):* Side slope

*Down-slope shape:* Convex

*Across-slope shape:* Convex

*Hydric soil rating:* No

#### Hornellsville

*Percent of map unit:* 3 percent

*Landform:* Hills, ridges

*Landform position (two-dimensional):* Footslope

*Landform position (three-dimensional):* Base slope

*Down-slope shape:* Concave

*Across-slope shape:* Linear

*Hydric soil rating:* No

#### Salamanca

*Percent of map unit:* 3 percent

*Landform:* Hills, ridges

*Landform position (two-dimensional):* Summit

*Landform position (three-dimensional):* Side slope

*Down-slope shape:* Concave

*Across-slope shape:* Convex

*Hydric soil rating:* No



## 11E—Ischua channery silt loam, 25 to 35 percent slopes

### Map Unit Setting

*National map unit symbol:* b1wp  
*Elevation:* 1,800 to 2,500 feet  
*Mean annual precipitation:* 33 to 43 inches  
*Mean annual air temperature:* 41 to 45 degrees F  
*Frost-free period:* 106 to 139 days  
*Farmland classification:* Not prime farmland

### Map Unit Composition

*Ischua and similar soils:* 90 percent  
*Minor components:* 10 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

### Description of Ischua

#### Setting

*Landform:* Hills, ridges  
*Landform position (two-dimensional):* Summit  
*Landform position (three-dimensional):* Side slope  
*Down-slope shape:* Concave  
*Across-slope shape:* Convex  
*Parent material:* Loamy till derived from siltstone, shale, and sandstone

#### Typical profile

*H1 - 0 to 6 inches:* channery silt loam  
*H2 - 6 to 23 inches:* channery silt loam  
*H3 - 23 to 28 inches:* channery silty clay loam  
*R - 28 to 38 inches:* bedrock

#### Properties and qualities

*Slope:* 25 to 35 percent  
*Depth to restrictive feature:* 20 to 40 inches to lithic bedrock  
*Drainage class:* Moderately well drained  
*Capacity of the most limiting layer to transmit water (Ksat):* Very low to moderately high (0.00 to 0.20 in/hr)  
*Depth to water table:* About 18 to 24 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Available water capacity:* Low (about 4.9 inches)

#### Interpretive groups

*Land capability classification (irrigated):* None specified  
*Land capability classification (nonirrigated):* 6e  
*Hydrologic Soil Group:* C/D  
*Hydric soil rating:* No



**Minor Components**

**Mongaup**

*Percent of map unit:* 4 percent  
*Landform:* Hills  
*Landform position (two-dimensional):* Backslope  
*Landform position (three-dimensional):* Side slope  
*Down-slope shape:* Convex  
*Across-slope shape:* Convex  
*Hydric soil rating:* No

**Salamanca**

*Percent of map unit:* 3 percent  
*Landform:* Hills, ridges  
*Landform position (two-dimensional):* Summit  
*Landform position (three-dimensional):* Side slope  
*Down-slope shape:* Concave  
*Across-slope shape:* Convex  
*Hydric soil rating:* No

**Hornellsville**

*Percent of map unit:* 3 percent  
*Landform:* Ridges, hills  
*Landform position (two-dimensional):* Footslope  
*Landform position (three-dimensional):* Base slope  
*Down-slope shape:* Concave  
*Across-slope shape:* Linear  
*Hydric soil rating:* No

**16B—Almond silt loam, 3 to 8 percent slopes**

**Map Unit Setting**

*National map unit symbol:* 2wn2f  
*Elevation:* 1,390 to 3,610 feet  
*Mean annual precipitation:* 32 to 70 inches  
*Mean annual air temperature:* 39 to 48 degrees F  
*Frost-free period:* 110 to 155 days  
*Farmland classification:* Farmland of statewide importance

**Map Unit Composition**

*Almond and similar soils:* 80 percent  
*Minor components:* 20 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

**Description of Almond**

**Setting**

*Landform:* Hills  
*Landform position (two-dimensional):* Footslope, summit  
*Landform position (three-dimensional):* Base slope, interfluve



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*Down-slope shape:* Concave  
*Across-slope shape:* Linear  
*Parent material:* Till

### Typical profile

*Ap - 0 to 8 inches:* silt loam  
*Bw1 - 8 to 16 inches:* silt loam  
*Bw2 - 16 to 30 inches:* channery silt loam  
*BC - 30 to 34 inches:* channery silty clay loam  
*C - 34 to 72 inches:* channery silt loam

### Properties and qualities

*Slope:* 3 to 8 percent  
*Depth to restrictive feature:* More than 80 inches  
*Drainage class:* Somewhat poorly drained  
*Capacity of the most limiting layer to transmit water (Ksat):* Very low to moderately low (0.00 to 0.14 in/hr)  
*Depth to water table:* About 6 to 18 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Maximum salinity:* Nonsaline (0.0 to 1.9 mmhos/cm)  
*Available water capacity:* High (about 10.4 inches)

### Interpretive groups

*Land capability classification (irrigated):* None specified  
*Land capability classification (nonirrigated):* 3w  
*Hydrologic Soil Group:* D  
*Ecological site:* F140XY010NY - Frigid Moist Till Uplands  
*Hydric soil rating:* No

### Minor Components

#### Gretor

*Percent of map unit:* 5 percent  
*Landform:* Hills  
*Landform position (two-dimensional):* Shoulder, backslope  
*Landform position (three-dimensional):* Crest, nose slope  
*Down-slope shape:* Convex  
*Across-slope shape:* Linear  
*Hydric soil rating:* No

#### Salamanca

*Percent of map unit:* 5 percent  
*Landform:* Hills, mountains  
*Landform position (two-dimensional):* Backslope, shoulder  
*Landform position (three-dimensional):* Mountainflank, interflue, side slope  
*Down-slope shape:* Linear  
*Across-slope shape:* Linear  
*Hydric soil rating:* No

#### Ontusia

*Percent of map unit:* 5 percent  
*Landform:* Hills, mountains  
*Landform position (two-dimensional):* Footslope, summit  
*Landform position (three-dimensional):* Mountainbase, base slope, interflue  
*Down-slope shape:* Concave  
*Across-slope shape:* Linear



*Hydric soil rating:* No

**Norchip**

*Percent of map unit:* 5 percent

*Landform:* Depressions

*Landform position (two-dimensional):* Toeslope

*Landform position (three-dimensional):* Base slope

*Down-slope shape:* Concave

*Across-slope shape:* Concave

*Hydric soil rating:* Yes

**60C—Napoli silt loam, 8 to 15 percent slopes**

**Map Unit Setting**

*National map unit symbol:* b23b

*Elevation:* 1,800 to 2,500 feet

*Mean annual precipitation:* 33 to 43 inches

*Mean annual air temperature:* 41 to 45 degrees F

*Frost-free period:* 106 to 139 days

*Farmland classification:* Farmland of statewide importance

**Map Unit Composition**

*Napoli and similar soils:* 95 percent

*Minor components:* 5 percent

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

**Description of Napoli**

**Setting**

*Landform:* Ridges, hills

*Landform position (two-dimensional):* Footslope

*Landform position (three-dimensional):* Base slope

*Down-slope shape:* Concave

*Across-slope shape:* Linear

*Parent material:* Loamy till derived from siltstone, shale, and sandstone

**Typical profile**

*H1 - 0 to 9 inches:* silt loam

*H2 - 9 to 23 inches:* silty clay loam

*H3 - 23 to 46 inches:* channery silty clay loam

*H4 - 46 to 72 inches:* channery silty clay loam

**Properties and qualities**

*Slope:* 8 to 15 percent

*Depth to restrictive feature:* 12 to 27 inches to fragipan

*Drainage class:* Somewhat poorly drained

*Capacity of the most limiting layer to transmit water (Ksat):* Moderately low to moderately high (0.06 to 0.60 in/hr)

*Depth to water table:* About 10 to 18 inches

*Frequency of flooding:* None

*Frequency of ponding:* None



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*Available water capacity:* Low (about 4.2 inches)

### Interpretive groups

*Land capability classification (irrigated):* None specified

*Land capability classification (nonirrigated):* 3e

*Hydrologic Soil Group:* D

*Ecological site:* F140XY007NY - Frigid Moist Dense Till

*Hydric soil rating:* No

### Minor Components

#### Norchip

*Percent of map unit:* 5 percent

*Landform:* Depressions

*Landform position (two-dimensional):* Toeslope

*Landform position (three-dimensional):* Base slope

*Down-slope shape:* Concave

*Across-slope shape:* Concave

*Hydric soil rating:* Yes

## 73B—Gretor channery silt loam, 3 to 8 percent slopes

### Map Unit Setting

*National map unit symbol:* b24j

*Elevation:* 1,800 to 2,500 feet

*Mean annual precipitation:* 33 to 43 inches

*Mean annual air temperature:* 41 to 45 degrees F

*Frost-free period:* 106 to 139 days

*Farmland classification:* Prime farmland if drained

### Map Unit Composition

*Gretor and similar soils:* 94 percent

*Minor components:* 6 percent

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

### Description of Gretor

#### Setting

*Landform:* Hills

*Landform position (two-dimensional):* Footslope, summit

*Landform position (three-dimensional):* Base slope

*Down-slope shape:* Concave

*Across-slope shape:* Linear

*Parent material:* Loamy till derived from sandstone, siltstone, and shale

#### Typical profile

*H1 - 0 to 8 inches:* channery silt loam

*H2 - 8 to 21 inches:* channery silt loam

*H3 - 21 to 25 inches:* channery silty clay loam

*R - 25 to 35 inches:* bedrock



**Properties and qualities**

*Slope:* 3 to 8 percent

*Depth to restrictive feature:* 20 to 40 inches to lithic bedrock

*Drainage class:* Somewhat poorly drained

*Capacity of the most limiting layer to transmit water (Ksat):* Very low to moderately high (0.00 to 0.20 in/hr)

*Depth to water table:* About 10 to 18 inches

*Frequency of flooding:* None

*Frequency of ponding:* None

*Available water capacity:* Low (about 3.9 inches)

**Interpretive groups**

*Land capability classification (irrigated):* None specified

*Land capability classification (nonirrigated):* 3w

*Hydrologic Soil Group:* C/D

*Hydric soil rating:* No

**Minor Components**

**Almond**

*Percent of map unit:* 3 percent

*Landform:* Hills

*Landform position (two-dimensional):* Footslope, summit

*Landform position (three-dimensional):* Base slope

*Down-slope shape:* Concave

*Across-slope shape:* Linear

*Hydric soil rating:* No

**Norchip**

*Percent of map unit:* 3 percent

*Landform:* Depressions

*Landform position (two-dimensional):* Toeslope

*Landform position (three-dimensional):* Base slope

*Down-slope shape:* Concave

*Across-slope shape:* Concave

*Hydric soil rating:* Yes

**73C—Gretor channery silt loam, 8 to 15 percent slopes**

**Map Unit Setting**

*National map unit symbol:* bp1v

*Elevation:* 1,800 to 2,500 feet

*Mean annual precipitation:* 33 to 43 inches

*Mean annual air temperature:* 41 to 45 degrees F

*Frost-free period:* 106 to 139 days

*Farmland classification:* Farmland of statewide importance

**Map Unit Composition**

*Gretor and similar soils:* 94 percent

*Minor components:* 6 percent



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

### Description of Gretor

#### Setting

*Landform:* Hills

*Landform position (two-dimensional):* Footslope

*Landform position (three-dimensional):* Base slope

*Down-slope shape:* Concave

*Across-slope shape:* Linear

*Parent material:* Loamy till derived from sandstone, siltstone, and shale

#### Typical profile

*H1 - 0 to 8 inches:* channery silt loam

*H2 - 8 to 21 inches:* channery silt loam

*H3 - 21 to 25 inches:* channery silty clay loam

*R - 25 to 35 inches:* bedrock

#### Properties and qualities

*Slope:* 8 to 15 percent

*Depth to restrictive feature:* 20 to 40 inches to lithic bedrock

*Drainage class:* Somewhat poorly drained

*Capacity of the most limiting layer to transmit water (Ksat):* Very low to moderately high (0.00 to 0.20 in/hr)

*Depth to water table:* About 10 to 18 inches

*Frequency of flooding:* None

*Frequency of ponding:* None

*Available water capacity:* Low (about 3.9 inches)

#### Interpretive groups

*Land capability classification (irrigated):* None specified

*Land capability classification (nonirrigated):* 3e

*Hydrologic Soil Group:* C/D

*Hydric soil rating:* No

### Minor Components

#### Norchip

*Percent of map unit:* 3 percent

*Landform:* Depressions

*Landform position (two-dimensional):* Toeslope

*Landform position (three-dimensional):* Base slope

*Down-slope shape:* Concave

*Across-slope shape:* Concave

*Hydric soil rating:* Yes

#### Almond

*Percent of map unit:* 3 percent

*Landform:* Hills

*Landform position (two-dimensional):* Footslope

*Landform position (three-dimensional):* Base slope

*Down-slope shape:* Concave

*Across-slope shape:* Linear

*Hydric soil rating:* No







# **Soil Information for All Uses**

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## **Soil Properties and Qualities**

The Soil Properties and Qualities section includes various soil properties and qualities displayed as thematic maps with a summary table for the soil map units in the selected area of interest. A single value or rating for each map unit is generated by aggregating the interpretive ratings of individual map unit components. This aggregation process is defined for each property or quality.

## **Soil Qualities and Features**

Soil qualities are behavior and performance attributes that are not directly measured, but are inferred from observations of dynamic conditions and from soil properties. Example soil qualities include natural drainage, and frost action. Soil features are attributes that are not directly part of the soil. Example soil features include slope and depth to restrictive layer. These features can greatly impact the use and management of the soil.

## **Hydrologic Soil Group**

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.



## Custom Soil Resource Report

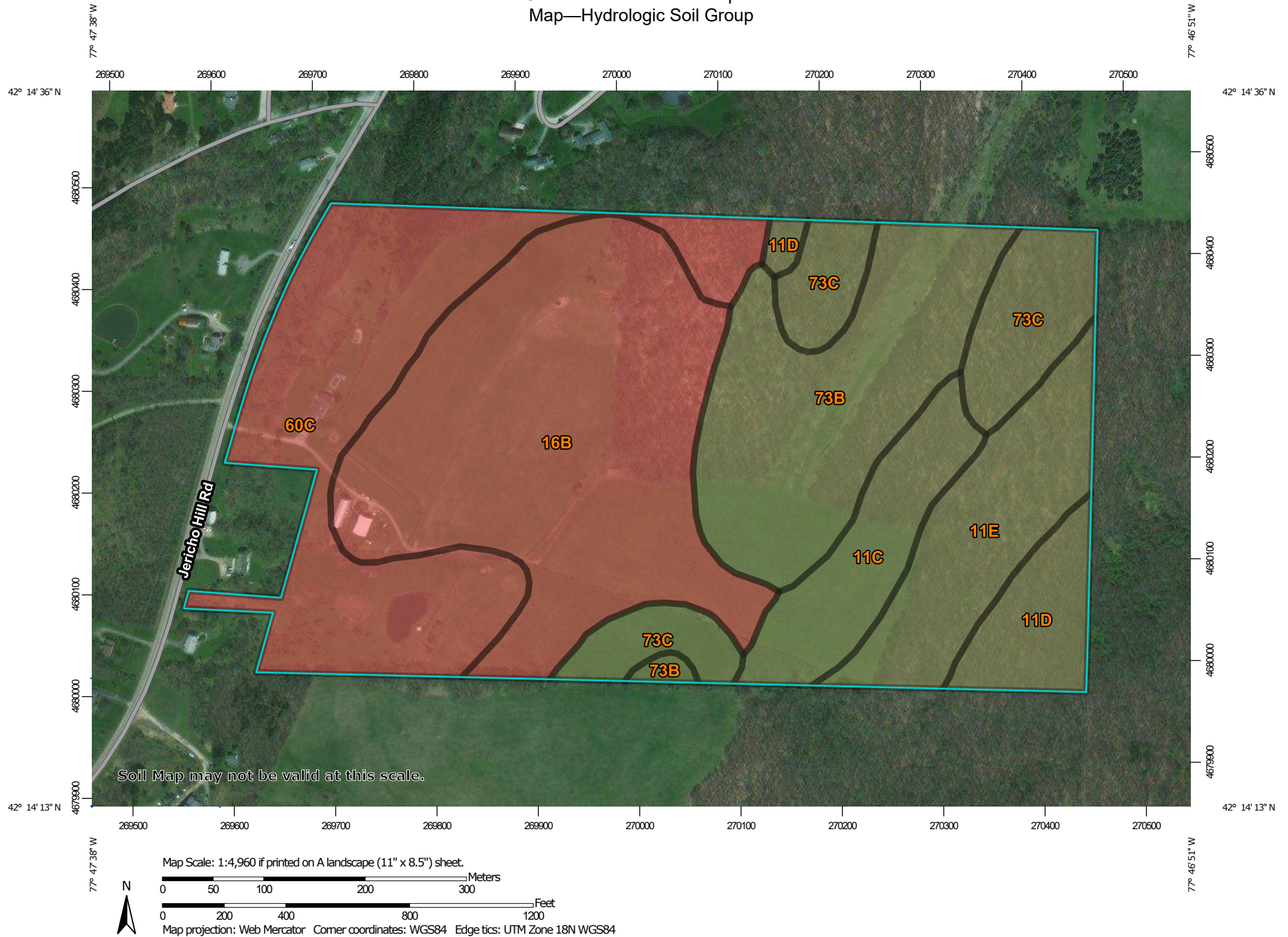
Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.



# Custom Soil Resource Report Map—Hydrologic Soil Group





## Custom Soil Resource Report







### MAP LEGEND

#### Area of Interest (AOI)









Area of Interest (AOI)

#### Soils

##### Soil Rating Polygons





	A
	A/D
	B
	B/D
	C
	C/D
	D
	Not rated or not available

##### Soil Rating Lines


	A
	A/D
	B
	B/D
	C
	C/D
	D
	Not rated or not available

##### Soil Rating Points






	A
	A/D
	B
	B/D

	C
	C/D
	D
	Not rated or not available


#### Water Features

 Streams and Canals

#### Transportation

	Rails
	Interstate Highways
	US Routes
	Major Roads
	Local Roads

#### Background

 Aerial Photography

### MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

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: Allegany County Area, New York  
Survey Area Data: Version 26, Jun 11, 2020

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

Date(s) aerial images were photographed: Aug 31, 2012—May 8, 2016

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.



**Table—Hydrologic Soil Group**

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
11C	Ischua channery silt loam, 8 to 15 percent slopes	C/D	6.2	6.8%
11D	Ischua channery silt loam, 15 to 25 percent slopes	C/D	4.4	4.8%
11E	Ischua channery silt loam, 25 to 35 percent slopes	C/D	8.7	9.4%
16B	Almond silt loam, 3 to 8 percent slopes	D	28.4	31.0%
60C	Napoli silt loam, 8 to 15 percent slopes	D	20.0	21.8%
73B	Gretor channery silt loam, 3 to 8 percent slopes	C/D	15.2	16.5%
73C	Gretor channery silt loam, 8 to 15 percent slopes	C/D	8.9	9.7%
<b>Totals for Area of Interest</b>			<b>91.8</b>	<b>100.0%</b>

**Rating Options—Hydrologic Soil Group***Aggregation Method:* Dominant Condition*Component Percent Cutoff:* None Specified*Tie-break Rule:* Higher



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- United States Department of Agriculture, Natural Resources Conservation Service. National range and pasture handbook. <http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/landuse/rangepasture/?cid=stelpdb1043084>



## Custom Soil Resource Report

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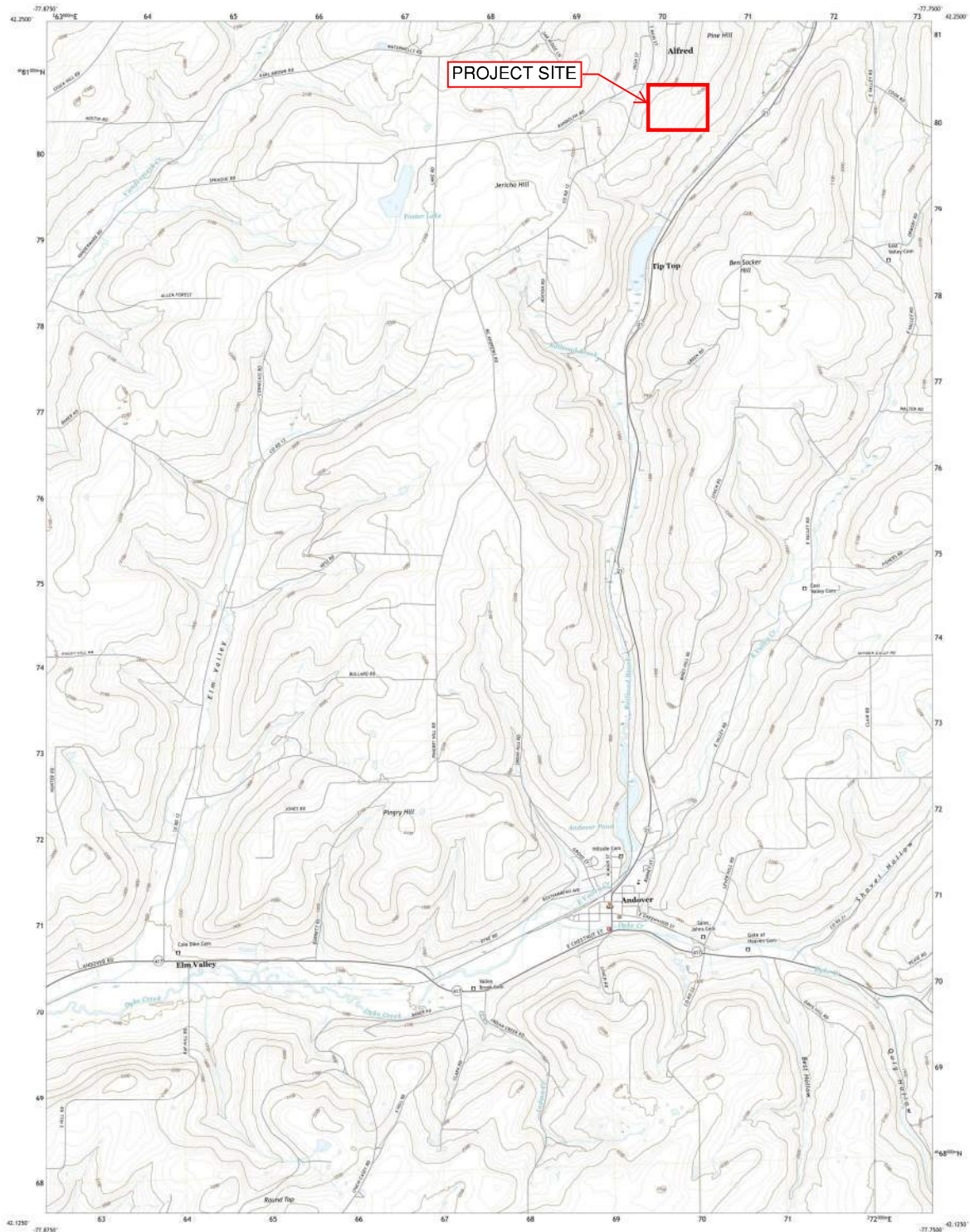




U.S. DEPARTMENT OF THE INTERIOR  
U.S. GEOLOGICAL SURVEY

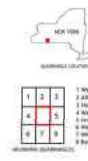
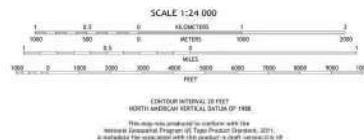


ANDOVER QUADRANGLE  
NEW YORK - ALLEGANY COUNTY  
7.5-MINUTE SERIES



Produced by the United States Geological Survey  
North American Datum of 1983 (NAD83)  
World Geodetic System of 1984 (WGS84) Horizontal and  
Vertical datum transformations used, June 1987  
This map is not a legal document. Boundaries may be  
generated for this map scale. Property rights within government  
jurisdiction may not be shown. Please permission before  
entering private lands.

Map Date: 10/01/2017  
Map Scale: 1:24,000  
Map Projection: UTM  
Map Datum: NAD83  
Map Spheroid: WGS84  
Map Datum: NAD83  
Map Spheroid: WGS84  
Map Datum: NAD83  
Map Spheroid: WGS84



ANDOVER, NY  
2019







## Appendix C

# Erosion and Sedimentation Control Plan(s) and Details





280 East Broad Street // Suite 200 // Rochester, NY 14604  
585.232.5135 / 585.232.4652 fax  
[www.bergmannpc.com](http://www.bergmannpc.com)

OWNER: JUSTIN, ALLISON, & BONNIE SNYDER  
APPLICANT: DELAWARE RIVER SOLAR, LLC.  
AND ITS AFFILIATE:  
NY ALFRED I, LLC.

5568 JERICHO HILL ROAD  
ALFRED, NY 14803

NY ALFRED I, LLC.  
COMMUNITY SOLAR  
FARM PROJECT  
PRELIMINARY SITE PLAN

PROJECT CONTACT LIST

<p><u>OWNER:</u> - JUSTIN, ALLISON, &amp; BONNIE SNYDER - 5568 JERICHO HILL ROAD ALFRED, NY 14803</p> <p><u>APPLICANT:</u> - DELAWARE RIVER SOLAR, LLC. AND ITS AFFILIATE: NY ALFRED I, LLC. - 140 EAST 45TH STREET SUITE 32B-1 NEW YORK, NY 10017 - CONTACT: PETER DOLGOS - PHONE: 646.998.6495</p> <p><u>STRUCTURAL ENGINEER:</u> - TBD</p>	<p><u>ARCHITECT:</u> - TBD</p> <p><u>MECHANICAL ENGINEER:</u> - TBD</p> <p><u>CIVIL ENGINEER:</u> - BERGMANN - 280 EAST BROAD STREET SUITE 200 ROCHESTER, NY 14604 - CONTACT: DAVID PLANTE - PHONE: 585.498.7877</p>	<p><u>ELECTRICAL ENGINEER:</u> - TBD</p>
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DRAWING INDEX

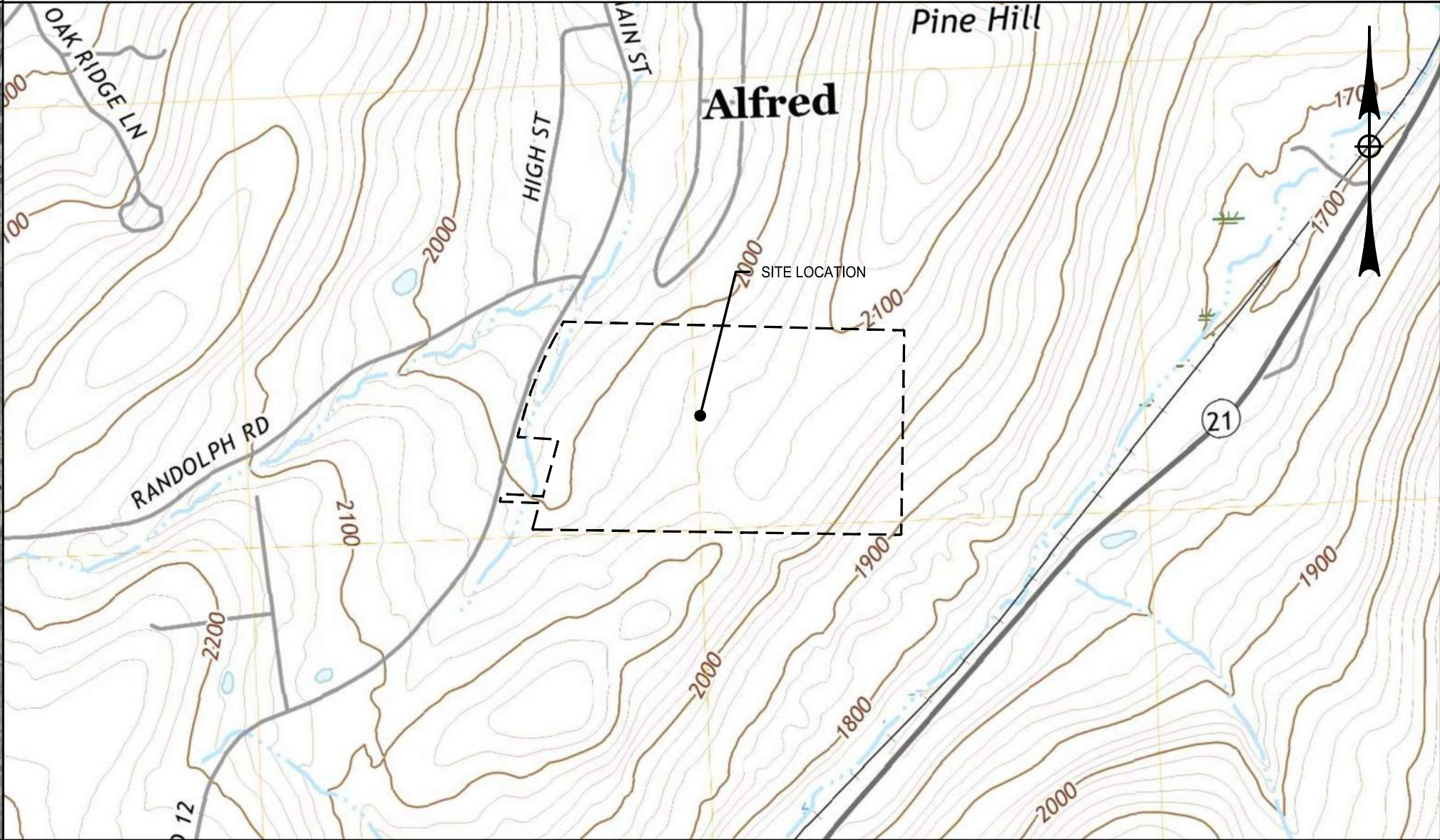
C002	COVER SHEET
C001	GENERAL NOTES
C002	SPECIFICATION NOTES
C003	AREA PARCEL PLAN
C004	EXISTING CONDITIONS PLAN
C005	SITE PLAN
C006	OVERALL GRADING PLAN
C007 - C008	GRADING & EROSION CONTROL PLAN
C009	GRADING PLAN DETAILS
C010	LANDSCAPE PLAN
C011 - C017	DETAILS I - DETAILS VII

DATE	DESCRIPTION
07/01/2021	REVISED PER TOWN COMMENTS
09/03/2021	REVISED PER TOWN COMMENTS
10/11/2021	REVISED PER TOWN COMMENTS
11/03/2021	REVISED PER TOWN COMMENTS
12/03/2021	REVISED PER TOWN COMMENTS

PROJECT LOCATION MAP: 1" - 1000'



PROJECT TOPOGRAPHIC MAP: 1" - 1000'



PRELIMINARY  
05/28/21  
012773.46



SEQUENCE OF CONSTRUCTION:

- PRE-CONSTRUCTION MEETING HELD TO INCLUDE PROJECT MANAGER, OPERATOR'S ENGINEER, CONTRACTOR, AND SUB-CONTRACTORS PRIOR TO LAND DISTURBING ACTIVITIES.
- CONSTRUCT CONSTRUCTION ENTRANCE/EXIT AT LOCATIONS DESIGNATED ON PLANS.
- INSTALL PERIMETER SILT SOCK.
- HAVE A QUALIFIED PROFESSIONAL CONDUCT AN ASSESSMENT OF THE SITE PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.
- BEGIN CLEARING AND GRUBBING OPERATIONS. CLEARING AND GRUBBING SHALL BE DONE ONLY IN AREAS WHERE EARTHWORK WILL BE PERFORMED AND ONLY IN AREAS WHERE CONSTRUCTION IS PLANNED TO COMMENCE WITHIN 14 DAYS AFTER CLEARING AND GRUBBING. NO MORE THAN 5 ACRES WILL BE DISTURBED AT ANY ONE GIVEN TIME.
- STRIP TOPSOIL AND STOCKPILE IN A LOCATION ACCEPTABLE TO CONSTRUCTION MANAGER. WHEN STOCKPILE IS COMPLETE, INSTALL PERIMETER SILT FENCE, SEED SURFACE WITH 100% PERENNIAL RYEGRASS MIXTURE AT A RATE OF 2-4 LBS. PER 1000 SF. APPLY 90-100 LBS PER 1000 SF OF MULCH.
- COMMENCE EARTHWORK CUT AND FILLS. THE WORK SHALL BE PROGRESSED TO ALLOW A REASONABLE TRANSFER OF CUT AND FILL EARTH FOR ROUGH GRADING AND EARTH MOVING. THE CONTRACTOR WILL BE GIVEN SOME LATITUDE TO VARY FROM THE FOLLOWING SCHEDULE IN ORDER TO MEET THE FIELD CONDITIONS ENCOUNTERED. CONTRACTOR SHALL REVIEW VARIATIONS TO SWPPP WITH DESIGN ENGINEER AND QUALIFIED PROFESSIONAL PRIOR TO IMPLEMENTATION. NO MORE THAN 5 ACRES WILL BE DISTURBED AT ANY ONE GIVEN TIME.
- INSTALL TEMPORARY CONSTRUCTION ROAD (SEE SHEET C015 FOR DETAIL), AS NEEDED, AND IMMEDIATELY STABILIZE WITH CRUSHED STONE (OR EQUIVALENT) TO PREVENT EROSION AS SOON AS PRACTICABLE.
- STABILIZE ALL AREAS AS SOON AS PRACTICABLE, IDLE IN EXCESS OF 7 DAYS AND IN WHICH CONSTRUCTION WILL NO RECOMMENCE WITHIN 14 DAYS.
- INSTALL PERIMETER FENCE, SOLAR PANELS, UTILITIES, AND APPURTENANCES. TRENCH EXCAVATION/BACKFILL AREAS SHOULD BE STABILIZED PROGRESSIVELY AT THE END OF EACH WORKDAY WITH SEED AND STRAW MULCH AT A RATE OF 100% PERENNIAL RYE GRASS AT 2-4 LBS./1000 SF MULCHED AT 90-100 LBS./1000 SF.
- STABILIZE ALL AREAS IDLE IN EXCESS OF 7 DAYS IN WHICH CONSTRUCTION WILL NOT RECOMMENCE WITHIN 14 DAYS.
- REMOVE TEMPORARY CONSTRUCTION EXIT(S) AND PERMETER SILT SOCK ONCE THE SITE HAS REACHED 80% UNIFORM STABILIZATION.
- REMOVE TEMPORARY CONSTRUCTION ROAD AND CONSTRUCT THE PROPOSED LIMITED-USE PERVIOUS GRAVEL DRIVEWAY (SEE SHEET C009 AND C012 FOR DETAIL). THE SUB-GRADE MATERIAL WHERE THE DRIVEWAY IS TO BE INSTALLED SHALL BE DECOMPACTED PER NYSDEC'S "DEEP-RIPPING AND DECOMPACTION" MANUAL, DATED APRIL 2008. CONTRACTOR SHALL AVOID FREQUENT HEAVY TRAFFIC ON THE LIMITED-USE PERVIOUS GRAVEL.

GENERAL NOTES:

- THE UNDERGROUND STRUCTURES AND UTILITIES SHOWN ON THIS MAP HAVE BEEN PLOTTED FROM AVAILABLE SURVEYS AND RECORD MAPS. THEY ARE NOT CERTIFIED TO THE ACCURACY OF THEIR LOCATION AND/OR COMPLETENESS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE LOCATION AND EXTENT OF ALL UNDERGROUND STRUCTURES AND UTILITIES PRIOR TO ANY DIGGING OR CONSTRUCTION ACTIVITIES IN THEIR VICINITY. THE CONTRACTOR SHALL HAVE ALL EXISTING UTILITIES FIELD STAKED BEFORE STARTING WORK BY CALLING 1-800-962-7962.
- THE CONTRACTOR SHALL PERFORM ALL WORK IN COMPLIANCE WITH TITLE 29 OF FEDERAL REGULATIONS, PART 1926, SAFETY AND HEALTH REGULATIONS FOR CONSTRUCTION (OSHA).
- HIGHWAY DRAINAGE ALONG ALL ROADS AND PRIVATE DRIVES SHALL BE KEPT CLEAN OF MUD, DEBRIS ETC. AT ALL TIMES.
- THE CONTRACTOR SHALL CONSULT THE DESIGN ENGINEER BEFORE DEVIATING FROM THESE PLANS.
- IN ALL TRENCH EXCAVATIONS, CONTRACTOR MUST LAY THE TRENCH SIDE SLOPES BACK TO A SAFE SLOPE, USE A TRENCH SHIELD OR PROVIDE SHEETING AND BRACING.
- IF SUSPICIOUS AND/OR HAZARDOUS MATERIAL IS ENCOUNTERED DURING DEMOLITION/CONSTRUCTION, ALL WORK SHALL STOP AND THE ALLEGANY COUNTY DEPARTMENT OF HEALTH AND THE NEW YORK STATE DEPARTMENT OF CONSERVATION SHALL BE NOTIFIED IMMEDIATELY. WORK SHALL NOT RESUME UNTIL THE DEVELOPER HAS OUTLINED APPROPRIATE ACTION FOR DEALING WITH THE WASTE MATERIAL AND THE DEVELOPMENT PLANS ARE MODIFIED AS MAY BE NECESSARY.
- EXCAVATED WASTE MATERIAL REMOVED FROM THE SITE SHALL BE PLACED AT A LOCATION ACCEPTABLE TO THE NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION.
- AREAS DISTURBED OR DAMAGED AS PART OF THIS PROJECTS CONSTRUCTION THAT ARE OUTSIDE OF THE PRIMARY WORK AREA SHALL BE RESTORED, AT THE CONTRACTORS EXPENSE, TO THE SATISFACTION OF THE OWNER'S REPRESENTATIVE.
- UNLESS COVERED BY THE CONTRACT SPECIFICATIONS OR AS NOTED ON THE PLANS, ALL WORK SHALL CONFORM TO THE NEW YORK STATE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS DATED MAY 1, 2008 AND ANY SUBSEQUENT APPENDICES.

WASTE/HAZARDOUS MATERIAL PRACTICES:

- WHENEVER POSSIBLE COVERED TRASH CONTAINERS SHOULD BE USED.
- DAILY SITE CLEANUP IS REQUIRED TO REDUCE DEBRIS AND POLLUTANTS IN THE ENVIRONMENT.
- CONTRACTOR SHALL PROVIDE A SAFE STORAGE SPACE FOR ALL PAINTS, STAINS AND SOLVENTS INSIDE A COVERED STORAGE AREA.
- ALL FUELS, OILS, AND GREASE MUST BE KEPT IN CONTAINERS AT ALL TIMES.

EROSION & SEDIMENT CONTROL NOTES:

- INSTALL EROSION CONTROL MEASURES AS INDICATED ON THE PLAN PRIOR TO THE START OF ANY EXCAVATION WORK. EROSION CONTROL MEASURES WILL BE IMPLEMENTED IN ACCORDANCE WITH THE NEW YORK STATE GUIDELINES FOR URBAN EROSION SEDIMENT CONTROL MANUAL, NEW YORK STATE HEALTH DEPARTMENT, AND THE GOVERNING MUNICIPAL REQUIREMENTS.
- REMOVE AND STOCKPILE TOPSOIL AS DIRECTED BY THE CONSTRUCTION MANAGER REPLACE TOPSOIL TO A MINIMUM 4" DEPTH WITH TOPSOIL OR AMENDED SOIL. ALL DISTURBED AREAS TO BE SEEDED TO PROMOTE VEGETATION AS SOON AS PRACTICABLE.
- IF THE SEASONS PROHIBITS TEMPORARY SEEDING, THE DISTURBED AREAS WILL BE MULCHED WITH STRAW HAY OR EQUIVALENT AND ANCHORED IN ACCORDANCE WITH THE "STANDARDS", NETTING OR LIQUID MULCH BINDER.
- CONTRACTOR SHALL BE RESPONSIBLE FOR THE MAINTENANCE AND REMOVAL OF TEMPORARY SEDIMENTATION CONTROLS. EROSION CONTROL MEASURES SHALL NOT BE REMOVED BEFORE 80% UNIFORM VEGETATION HAS BEEN ACHIEVED.
- ALL EROSION CONTROL MEASURES ARE TO BE REPLACED WHENEVER THEY BECOME CLOGGED OR INOPERABLE AND SHALL BE REPLACED AT A MINIMUM OF EVERY 3 MONTHS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORATION OF TOPSOIL OR AMENDED TO ALL DISTURBED AREAS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN EROSION CONTROL MEASURES AT ALL TIMES.
- THE CONTRACTOR SHALL DESIGNATE A MEMBER OF HIS/HER FIRM TO BE RESPONSIBLE TO MONITOR EROSION CONTROL, EROSION CONTROL STRUCTURES, TREE PROTECTION AND PRESERVATION THROUGHOUT CONSTRUCTION.
- ALL DISTURBED AREAS SHALL BE FINISH GRADED TO PROMOTE VEGETATION ON ALL EXPOSED AREAS AS SOON AS PRACTICABLE. STABILIZATION PRACTICES (TEMPORARY/PERMANENT SEEDING, MULCHING, GEOTEXTILES, ETC.) MUST BE IMPLEMENTED WITHIN SEVEN (7) DAYS WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED, AND NOT EXPECTED TO RESUME WITHIN FOURTEEN (14) DAYS.
- PAVED ROADWAYS MUST BE KEPT CLEAN AT ALL TIMES. ALL CONSTRUCTION DEBRIS AND SEDIMENT SPOILS, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHT-OF-WAYS MUST BE REMOVED IMMEDIATELY.
- DUST SHALL BE CONTROLLED BY WATERING.
- ADJOINING PROPERTY SHALL BE PROTECTED FROM EXCAVATION AND FILLING OPERATIONS ON THE PROPOSED SITE.
- SLOPE TRACKING SHALL BE IMPLEMENTED ON ALL SLOPE 1 ON 3 OR GREATER AT THE END OF EACH WORK DAY AND PRIOR TO FINAL SLOPE GRADING AND STABILIZATION.

SITE STABILIZATION:

- WHEN FINAL GRADE IS ACHIEVED DURING NON-GERMINATING MONTHS, THE AREA SHOULD BE MULCHED UNTIL THE BEGINNING OF THE NEXT PLANTING SEASON.
- MULCHES SHOULD BE APPLIED AT THE RATES SHOWN IN THE MULCH APPLICATION RATES TABLE. VERY LITTLE BARE GROUND SHOULD BE VISIBLE THROUGH THE MULCH.
- STRAW AND HAY MULCH SHOULD BE ANCHORED OR TACKIFIED IMMEDIATELY AFTER APPLICATION TO PREVENT BEING WINDBLOWN. A TRACTOR-DRAWN IMPLEMENT MAY BE USED TO "CRIMP" THE STRAW OR HAY INTO THE SOIL - ABOUT 3 INCHES. THIS METHOD SHOULD BE LIMITED TO SLOPES NO STEEPER THAN 3H:1V. THE MACHINERY SHOULD BE OPERATED ALONG THE CONTOUR. NOTE: CRIMPING OF HAY OR STRAW BY RUNNING OVER IT WITH TRACKED MACHINERY IS NOT RECOMMENDED.
- BEFORE SEEDING IS APPLIED THE CONTRACTOR SHALL SPREAD SOIL TO PREVENT PONDING AND CONFIRM THAT SOIL WILL SUSTAIN THE SEED GERMINATION AND ESTABLISHMENT OF VEGETATION.
- GRADED AREAS SHOULD BE SCARIFIED OR OTHERWISE LOOSENEED TO A DEPTH OF 3 TO 5 INCHES TO PERMIT BONDING OF THE TOPSOIL TO THE SURFACE AREAS AND TO PROVIDE A ROUGHENED SURFACE TO PREVENT TOPSOIL FROM SLIDING DOWN SLOPE. COMPACTED SOILS SHOULD BE SCARIFIED TO A DEPTH OF 6 TO 12 INCHES, ALONG CONTOUR WHEREVER POSSIBLE, PRIOR TO SEEDING.
- TOPSOIL OR AMENDED SOIL SHOULD BE UNIFORMLY DISTRIBUTED ACROSS THE DISTURBED AREA TO A MINIMUM DEPTH OF 6 INCHES. SPREADING SHOULD BE DONE IN SUCH A MANNER THAT SODDING OR SEEDING CAN PROCEED WITH A MINIMUM OF ADDITIONAL PREPARATION OR TILLAGE. IRREGULARITIES IN THE SURFACE RESULTING FROM TOPSOIL PLACEMENT SHOULD BE CORRECTED IN ORDER TO PREVENT FORMATION OF DEPRESSIONS.
- TOPSOIL SHOULD NOT BE PLACED WHILE THE TOPSOIL OR SUBSOIL IS IN A FROZEN OR MUDDY CONDITION. WHEN THE SUBSOIL IS EXCESSIVELY WET, OR IN A CONDITION THAT MAY OTHERWISE BE DETRIMENTAL TO PROPER GRADING AND SEEDBED PREPARATION.
- WHEN USED AS A MULCH REPLACEMENT, THE APPLICATION RATE (THICKNESS) OF THE COMPOST SHOULD BE  $\frac{1}{2}$ " TO  $\frac{3}{4}$ ". COMPOST SHOULD BE PLACED EVENLY AND SHOULD PROVIDE 100% SOIL COVERAGE. NO SOIL SHOULD BE VISIBLE.
- POLYMERIC AND GUM TACKIFIERS MIXED AND APPLIED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS MAY BE USED TO TACK MULCH. AVOID APPLICATION DURING RAIN AND ON WINDY DAYS. A 24-HOUR CURING PERIOD AND A SOIL TEMPERATURE HIGHER THAN 45° F ARE TYPICALLY REQUIRED. APPLICATION SHOULD GENERALLY BE HEAVIEST AT EDGES OF SEEDED AREAS AND AT CRESTS OF RIDGES AND BANKS TO PREVENT LOSS BY WIND. THE REMAINDER OF THE AREA SHOULD HAVE BINDER APPLIED UNIFORMLY. BINDERS MAY BE APPLIED AFTER MULCH IS SPREAD OR SPRAYED INTO THE MULCH AS IT IS BEING BLOWN ONTO THE SOIL. APPLYING STRAW AND BINDER TOGETHER IS GENERALLY MORE EFFECTIVE.
- SYNTHETIC BINDERS, OR CHEMICAL BINDERS, MAY BE USED AS RECOMMENDED BY THE MANUFACTURER TO ANCHOR MULCH PROVIDED SUFFICIENT DOCUMENTATION IS PROVIDED TO SHOW THEY ARE NON-TOXIC TO NATIVE PLANT AND ANIMAL SPECIES.
- MULCH ON SLOPES OF 8% OR STEEPER SHOULD BE HELD IN PLACE WITH NETTING. LIGHTWEIGHT PLASTIC, FIBER, OR PAPER NETS MAY BE STAPLED OVER THE MULCH ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.
- SHREDDED PAPER HYDROMULCH SHOULD NOT BE USED ON SLOPES STEEPER THAN 5%. WOOD FIBER HYDROMULCH MAY BE APPLIED ON STEEPER SLOPES PROVIDED A TACKIFIER IS USED. THE APPLICATION RATE FOR ANY HYDROMULCH SHOULD BE 2,000 LB/ACRE AT A MINIMUM.
- LIME, FERTILIZER, SEED, AND MULCH DISTURBED AREAS PER THE EROSION AND SEDIMENT CONTROL PLANS. IN AREAS OF STEEP SLOPES OR OBVIOUS AREAS WHERE POTENTIAL EROSION MAY OCCUR, AN EROSION CONTROL MAT OR FLEXIBLE GROWTH MEDIUM (FGM) SHALL BE USED. FGM SHALL BE APPLIED PER MANUFACTURER SPECIFICATIONS.
- ONCE A SECTION OF THE ALIGNMENT HAS BEEN STABILIZED, NO CONSTRUCTION TRAFFIC SHALL OCCUR TO REMOVE ANY BMPS UNTIL THE SECTION HAS ACHIEVED 80% PERENNIAL VEGETATIVE COVER. AN AREA SHALL BE CONSIDERED TO HAVE ACHIEVED FINAL STABILIZATION WHEN IT HAS A MINIMUM 80% PERENNIAL VEGETATIVE COVER OR OTHER PERMANENT NONVEGETATIVE COVER WITH A DENSITY SUFFICIENT TO RESIST ACCELERATED EROSION AND SUBSURFACE CHARACTERISTICS SUFFICIENT TO RESIST SLIDING OR OTHER MOVEMENTS.

STORMWATER POLLUTION PREVENTION PLAN NOTES:

- THE CONTRACTOR SHALL PROVIDE A QUALIFIED INSPECTOR TO INSPECT THE PROJECT AT THE END OF EACH WORK WEEK AND PROVIDE A REPORT AT LEAST ONCE PER WEEK.
- EROSION CONTROL MEASURES WILL BE IMPLEMENTED IN ACCORDANCE WITH THE NEW YORK STATE GUIDELINES FOR URBAN EROSION SEDIMENT CONTROL MANUAL, ALLEGANY COUNTY HEALTH DEPARTMENT, AND THE TOWN OF ALFRED REQUIREMENTS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING THE BEST MANAGEMENT PRACTICES (BMP'S) UNTIL GROUND COVER IS ESTABLISHED.
- REMOVE AND STOCKPILE TOPSOIL AS DIRECTED BY THE CONSTRUCTION MANAGER. REPLACE TOPSOIL TO A MINIMUM 4" DEPTH. ALL DISTURBED AREAS TO BE HYDROSEEDD AS DIRECTED BY THE CONSTRUCTION MANAGER TO PROMOTE VEGETATION AS SOON AS PRACTICABLE.
- IF THE SEASONS PROHIBIT TEMPORARY SEEDING, THE DISTURBED AREAS WILL BE MULCHED WITH STRAW HAY OR EQUIVALENT AND ANCHORED IN ACCORDANCE WITH THE "STANDARDS", NETTING OR LIQUID MULCH BINDER.
- CONTRACTOR SHALL BE RESPONSIBLE FOR THE MAINTENANCE AND REMOVAL OF TEMPORARY SEDIMENTATION CONTROLS. EROSION CONTROL MEASURES SHALL NOT BE REMOVED BEFORE 80% UNIFORM VEGETATION HAS BEEN ACHIEVED.
- ALL EROSION CONTROL MEASURES ARE TO BE REPLACED WHENEVER THEY BECOME CLOGGED OR INOPERABLE AND SHALL BE REPLACED WHEN THEY HAVE REACHED THE DESIGN LIFE INDICATED IN THE NYS GUIDELINES FOR URBAN EROSION SEDIMENT CONTROL DESIGN MANUAL OR EVERY THREE MONTHS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORATION OF TOPSOIL TO ALL DISTURBED AREAS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN EROSION CONTROL MEASURES AT ALL TIMES.
- THE CONTRACTOR SHALL DESIGNATE A MEMBER OF HIS/HER FIRM TO BE RESPONSIBLE TO MONITOR EROSION CONTROL AND EROSION CONTROL STRUCTURES THROUGHOUT CONSTRUCTION.
- ALL DISTURBED AREAS SHALL BE FINISH GRADED TO PROMOTE VEGETATION ON ALL EXPOSED AREAS AS SOON AS PRACTICABLE. STABILIZATION PRACTICES (TEMPORARY/PERMANENT SEEDING, MULCHING, GEOTEXTILES, ETC.) MUST BE IMPLEMENTED WITHIN SEVEN (7) DAYS WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED, AND NOT EXPECTED TO RESUME WITHIN FOURTEEN (14) DAYS.
- PAVED ROADWAYS MUST BE KEPT CLEAN AT ALL TIMES. ALL CONSTRUCTION DEBRIS AND SEDIMENT SPOILS, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHT-OF-WAYS MUST BE REMOVED IMMEDIATELY.
- DUST SHALL BE CONTROLLED BY WATERING.
- ADJOINING PROPERTIES SHALL BE PROTECTED FROM EXCAVATION AND FILLING OPERATIONS ON THE PROPOSED SITE.
- EROSION CONTROL MEASURES SHOULD BE RELOCATED INWARD AS PERIMETER SLOPE CONSTRUCTION PROGRESSES AND RECONSTRUCTED TO NYS STANDARDS & SPECIFICATION AT THE END OF EACH DAY.
- PERIMETER AREAS SHALL BE TEMPORARILY STABILIZED WITH SEED AND MULCH PROGRESSIVELY AT MINIMUM AT THE END OF EACH WEEK WITH 100% PERENNIAL RYEGRASS MIX AT A RATE OF 2-4 LBS PER 1000 SF AND MULCH 90-100 LBS PER 1000 SF OF WEED FREE STRAW.
- SLOPE TRACKING SHALL BE IMPLEMENTED ON ALL SLOPE 1 ON 3 OR GREATER AT THE END OF EACH WORK DAY AND PRIOR TO FINAL SLOPE GRADING AND STABILIZATION.

TABLE 1. NY ALFRED I, LLC. COMMUNITY SOLAR FARM: WETLAND IMPACTS

WETLAND TYPE	JURISDICTION	WETLAND AREA (SQ. FT./AC)	AREA OF IMPACT (SQ. FT./AC)	
			TEMPORARY	PERMANENT
BERGMANN DELINEATED WETLAND 1A - PFO	USACE	2,927 SQ. FT./ 0.067 AC	0 SQ. FT./ 0 AC	0 SQ. FT./ 0 AC
BERGMANN DELINEATED WETLAND 1B - PFO	USACE	5,711 SQ. FT./ 0.13 AC	0 SQ. FT./ 0 AC	0 SQ. FT./ 0 AC
TOTAL	---	8,638 SQ. FT./ 0.19 AC	0 SQ. FT./ 0 AC	0 SQ. FT./ 0 AC

NOTES:

- PFO - PALUSTRINE FORESTED

TABLE 2. NY ALFRED I, LLC. COMMUNITY SOLAR FARM: STREAM 1 IMPACTS

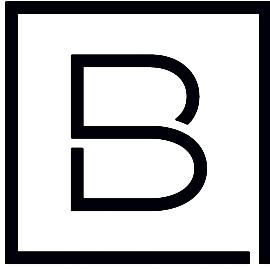
LINEAR FEET OF IMPACT (FT.)		AREA OF IMPACT (SQ. FT.)	
TEMPORARY	PERMANENT	TEMPORARY	PERMANENT
76	0	151	0

TABLE 3. NY ALFRED I, LLC. COMMUNITY SOLAR FARM: STREAM 2 IMPACTS

LINEAR FEET OF IMPACT (FT.)		AREA OF IMPACT (SQ. FT.)	
TEMPORARY	PERMANENT	TEMPORARY	PERMANENT
27	0	54	0

TABLE 4. NY ALFRED I, LLC. COMMUNITY SOLAR FARM: STREAM 3 IMPACTS

LINEAR FEET OF IMPACT (FT.)		AREA OF IMPACT (SQ. FT.)	
TEMPORARY	PERMANENT	TEMPORARY	PERMANENT
0	0	0	0



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**NY ALFRED I, LLC.**

**COMMUNITY SOLAR  
FARM PROJECT**

5568 JERICHO HILL ROAD  
ALFRED, NY 14803

Date Revised	Description
07/01/2021	REVISED PER TOWN COMMENTS
09/03/2021	REVISED PER TOWN COMMENTS
10/11/2021	REVISED PER TOWN COMMENTS
11/03/2021	REVISED PER TOWN COMMENTS
12/03/2021	REVISED PER TOWN COMMENTS

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Project Manager	Discipline Lead
<b>DJP</b>	<b>DJP</b>
Designer	Reviewer
<b>JL</b>	<b>ECR</b>
Date Issued	Project Number
<b>05/28/2021</b>	<b>12773.46</b>

Sheet Name

**GENERAL NOTES**

Drawing Number

**C001**



SOW SUMMARY:

- 1. THE PROJECT CONSISTS IN THE INSTALLATION OF A SOLAR PROJECT SYSTEM. THE SOLAR PROJECT SYSTEM WILL OPERATE WITH CRYSTALLINE MODULES INSTALLED ON GROUND MOUNT FIXED TILT RACKING SYSTEM. PV DIRECT CURRENT POWER WILL BE TURNED TO AC POWER BY MEANS OF GRID TIES INVERTER.
- 2. INVERTER OUTPUT TO BE STEPPED TO UTILITY VOLTAGE VIA CUSTOMER OWNED TRANSFORMER AT EQUIPMENT PAD.

RACKING SYSTEM ISSUES:





- 1. PV MODULES WILL BE SUPPORTED BY A FIXED STRUCTURE.
- 2. THE FIXED STRUCTURE SHALL MEET THE DEAD LOAD, WIND LOAD AND SEISMIC STANDARDS. STRUCTURAL STABILITY AND THE MEANS OF ATTACHMENT WILL BE CERTIFIED BY A LICENSED ENGINEER.
- 3. SEE RACKING DRAWINGS FOR MORE DETAILS AND SPECIFICATIONS.




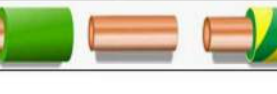


SIGNS AND LABELING:







- 1. ACCORDING TO NEC ARTICLE 690.56, GRID-TIED SYSTEMS ARE REQUIRED TO HAVE PERMANENT PLAQUES OR DIRECTIONS.
- 2. THE AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI) Z535 SERIES AND OSHA STANDARD 1910.145 OFFER THE LABELING GUIDELINES FOR A PV SYSTEM.
- 3. REQUIRED SAFETY SIGNS AND LABELS SHALL BE ETCHED PLAQUES PERMANENTLY ATTACHED BY ADHESIVE, OR OTHER MECHANICAL MEANS. LABELS SHALL COMPLY WITH ARTICLE 690 OF THE NEC OR OTHER APPLICABLE STATE AND LOCAL CODES. SEE LABELS AND MARKING DRAWINGS FOR MORE INFORMATION.
- 4. ALL INTERACTIVE SYSTEM POINTS OF INTERCONNECTION WITH OTHER SOURCES SHALL BE MARKED AT AN ACCESSIBLE LOCATION AT THE DISCONNECTION MEANS.
- 5. A PERMANENT ETCHED PLAQUE OR DIRECTORY SHALL BE PROVIDED IDENTIFYING THE LOCATION OF THE SERVICE DISCONNECTION MEANS AND THE PHOTOVOLTAIC SYSTEM DISCONNECTION MEANS, IF NOT LOCATED AT THE SAME LOCATION.
- 6. ALL REQUIRED EQUIPMENT SHALL BE NRTL LISTED AND LABEL ACCORDINGLY.

WIRING SPECIFICATIONS:

- 1. ALL WIRING DESIGN AND INSTALLATION PROCEDURES SHALL BE NATIONAL ELECTRIC CODE COMPLIANT, LOCAL STATE CODES, AND OTHER APPLICABLE LOCAL CODES.
- 2. ALL WIRING OF A PV SYSTEM SHOULD BE DONE BY A PROFESSIONAL ELECTRICIAN WHO KNOWS HOW TO INSTALL THE VARIOUS WIRING METHODS ALLOWED TO USE WITH A PV SYSTEM.
- 3. ALL CONDUCTORS SHALL BE COPPER OR ALUMINUM INSULATED SINGLE CONDUCTOR, SUNLIGHT-RESISTANT, DIRECT BURIAL PHOTOVOLTAIC WIRE WET OR DRY, FOR INTERCONNECTION WIRING OR GROUNDED AND UNGROUNDED PHOTOVOLTAIC POWER SYSTEMS AS DESCRIBED IN SECTION 690.31(A) AND OTHER APPLICABLE PARTS OF THE NATIONAL ELECTRICAL CODE (NEC), NFPA 70.
- 4. WIRING SHALL MEET ALL THE INDUSTRY COMPLIANCES, TESTS AND EPA AND OSHA REGULATIONS.
- 5. EXPOSED PV SOLAR MODULE WIRING WILL BE PV WIRE OR APPROVED EQUIVALENT, 90 DEGREE C, WET RATED AND UV RESISTANT.
- 6. DC WIRING SHALL BE FLAME-RETARDANT CROSS-LINKED POLYETHYLENE (XLPE).
- 7. ALL EXPOSED CABLES, SUCH AS MODULE LEADS SHALL, BE SECURED BY CORROSION AND SUNLIGHT RESISTANT MECHANICAL MEANS APPROPRIATE FOR THE SITE CONDITIONS. THE USE OF PLASTIC ZIP TIES IS NOT AN APPROVED METHOD SUPPORT OR ATTACH WIRE TO A STRUCTURE.
- 8. WIRING COLOR SPECIFICATIONS:

DC CONDUCTORS	
POLE/LINE	COLOR CODE
POSITIVE	
NEGATIVE	
EARTH	 

AC CONDUCTORS 120/208 V	
POLE/LINE	COLOR CODE
L1	
L2	
L3	
NEUTRAL	
EARTH	 

AC CONDUCTORS 277/480 V	
POLE/LINE	COLOR CODE
L1	
L2	
L3	
NEUTRAL	
EARTH	 

DISCONNECTING MANNERS:

- 1. DISCONNECTION OF ALL CURRENT CARRYING CONDUCTORS OF THE PHOTOVOLTAIC POWER SOURCE FROM ALL OTHER EXISTING CONDUCTORS SHALL BE POSSIBLE.
- 2. GROUND-MOUNTED PV ARRAYS WITH NOT MORE THAN TWO PARALLELED SOURCE CIRCUITS AND WITH ALL DC SOURCE AND DC OUTPUT CIRCUITS ISOLATED FROM BUILDINGS SHALL BE PERMITTED WITHOUT GROUND-FAULT PROTECTION.
- 3. WHERE A CIRCUIT GROUNDING CONNECTION IS NOT DESIGNED TO BE AUTOMATICALLY INTERRUPTED AS PART OF THE GROUND-FAULT PROTECTION SYSTEM REQUIRED BY SECTION 690.5, A SWITCH OR CIRCUIT BREAKER USED AS A DISCONNECTING MEANS SHALL NOT HAVE A POLE IN THE GROUNDED CONDUCTOR.
- 4. THE GROUNDED CONDUCTOR MAY HAVE A BOLTED OR TERMINAL DISCONNECTING MEANS TO ALLOW MAINTENANCE OR TROUBLESHOOTING BY QUALIFIED PERSONNEL.
- 5. UNLESS DISCONNECT IS SERVICING A LINE-SIDE TAP, THE DISCONNECTING MEANS SHALL NOT BE REQUIRED TO BE SUITABLE AS SERVICE EQUIPMENT AND SHALL BE RATED IN ACCORDANCE WITH SECTION 690.17.
- 6. OCPD EQUIPMENT FOR PHOTOVOLTAIC DC CIRCUITS ARE OVER CURRENT DEVICES SUCH AS FUSES OR CIRCUIT BREAKERS.
- 7. MEANS SHALL BE PROVIDED TO DISCONNECT EQUIPMENT SUCH AS INVERTERS AND THE LIKE FROM ALL UNGROUNDED CONDUCTORS OF ALL SOURCES. IF THE EQUIPMENT IS ENERGIZED FROM MORE THAN ONE SOURCE, THE DISCONNECTING MEANS SHALL BE GROUPED AND IDENTIFIED.
- 8. A SINGLE DISCONNECTING MEANS SHALL BE PERMITTED FOR THE COMBINED AC OUTPUT OF ONE OR MORE INVERTERS IN AN INTERACTIVE SYSTEM - PROVIDED EACH INVERTER ASSOCIATED WITH THE DISCONNECT HAS ITS OWN INTERNAL AC DISCONNECT.
- 9. ALL DISCONNECTS AND COMBINERS SHALL BE SECURED FROM UNAUTHORIZED AND UNQUALIFIED PERSONNEL BY EITHER LOCK OR LOCATION.

EQUIPMENT LISTINGS:

- 1. ELECTRICAL EQUIPMENT USED IN THE PV SYSTEM SHALL BE LISTED BY A RECOGNIZED NRTL. ELECTRICAL COMPONENTS AND MATERIALS SHALL BE LISTED FOR ITS PURPOSE AND PROPERLY INSTALLED.
- 2. EQUIPMENT SHALL ACHIEVE THE NEMA 3R OR HIGHER VALUE.

SYSTEM INTERCONNECTION REQUIREMENTS:

- 1. THIS PROPOSED PV SYSTEM WILL OPERATE IN PARALLEL WITH THE UTILITY SERVICE PROVIDER POWER DISTRIBUTION CIRCUIT LINES.
- 2. THIS PV SYSTEM WILL CONNECT WITH THE EXISTING ELECTRICAL SYSTEM AT ONE LOCATION SPECIFIED BY THE LOCAL UTILITY NAMED POINT OF COMMON COUPLING (PCC).
- 3. INTERCONNECTION IS UTILITY DIRECT TIE IN AT PONE ADJACENT TO THE SOLAR ARRAY.
- 4. PERMISSION TO OPERATE THE SYSTEM IS NOT AUTHORIZED UNTIL THE FINAL INSPECTIONS AND APPROVALS ARE OBTAINED FROM THE LOCAL AUTHORITY HAVING JURISDICTION (AHJ) AND THE LOCAL UTILITY SERVICE PROVIDER (NYSEG).
- 5. ALL SOURCE CIRCUITS SHALL HAVE INDIVIDUAL SOURCE CIRCUIT PROTECTION FOR TESTING AND ISOLATION.
- 6. PV STRING HOME RUNS SHALL BE LABELED ON BOTH ENDS, AT ARRAY, BETWEEN ARRAY AND PARALLEL HARNESS AND AT COMBINER. COMBINER OUTPUT CONDUCTORS SHALL BE LABELED AT BOTH ENDS, AT COMBINER AND AT DISCONNECT.
- 7. PV SOURCE CIRCUITS AND PV OUTPUT CIRCUITS SHALL NOT BE CONTAINED IN THE SAME RACEWAY CABLE TRAY, CABLE, OUTLET BOX, JUNCTION BOX, OR SIMILAR FITTING AS FEEDERS OR BRANCH CIRCUITS OF OTHER SYSTEMS UNLESS THE CONDUCTORS OF THE DIFFERENT SYSTEMS ARE SEPARATED BY A PARTITION OR ARE CONNECTED TOGETHER.
- 8. PVC CONDUIT INSTALLED IN DIRECT SUNLIGHT SHALL BE MARKED AS UV RESISTANT. SCH 80 WILL BE USED FOR ABOVE GROUND PVC CONDUIT.
- 9. LONG STRAIGHT EXPOSED CONDUIT RUNS, 100 FEET OR MORE, SHALL HAVE EXPANSION FITTINGS INSTALLED PER NEC 300.7(B). EXPANSION FITTINGS SHALL ALSO BE USED WHEN CONDUIT SPANS AN EXPANSION JOINT.
- 10. FUSES AND WIRES SUBJECT TO TRANSFORMER INRUSH CURRENT SHALL BE SIZED ACCORDINGLY.
- 11. WHEN TRANSITIONING UNDERGROUND PVC CONDUIT TO ABOVE GROUND RMC, IMC OR EMT CONDUIT, USE 20 MIL PIPE WRAP TAPE HALF-LAPPED FROM 6" PAST TRANSITION POINT ON PVC TO 6" ABOVE GROUND CONDUIT. AN EXPANSION JOINT SHALL BE USED IN THE TRANSITION TO ABOVE GROUND CONDUIT WHERE REQUIRED BY THE NEC 300.5(J).
- 12. ANY METAL SHAVINGS RESULTING FROM SITE WORK SHALL BE CLEANED FROM ENCLOSURE INTERIORS. TOP SURFACES OF ENCLOSURE, ROOF SURFACE, AND ANY ADDITIONAL AREAS WHERE OXIDATION OR CONDUCTIVE METAL SHAVINGS MAY CAUSE RUST, ELECTRICAL SHORT CIRCUIT OR OTHER DAMAGE.
- 13. WHEN TRANSITIONING FROM FREE AIR TO CONDUCTORS IN CONDUIT A LISTED FITTING SHALL BE USED TO PREVENT THE ENTRY OF MOISTURE.
- 14. ALL COPPER TERMINATION AC AND DC SHALL HAVE KOPR-SHIELD APPLIE. IN CASE OF ALUMINUM TERMINATION, ALMA-SHIELD (OR SIMILAR) SHALL BE USED.
- 15. INSULATION RESISTANCE TESTING WILL BE PERFORMED AT 1500 VDC FOR DC CIRCUITS IN 1500 VDC SYSTEMS. A MINIMUM OF 1 MEGOHMS RESISTANCE TO GROUND IS REQUIRED.
- 16. BENDS SHALL NOT DAMAGE THE RACEWAY OR SIGNIFICANTLY CHANGE THE INTERNAL DIAMETER OF RACEWAY.
- 17. SUPPORT CONDUCTORS IN VERTICAL CONDUITS IN ACCORDANCE WITH THE REQUIREMENT OF NEC 300.19.
- 18. CONNECTORS TO BE TORQUED PER DEVICE LISTING, OR MANUFACTURERS RECOMMENDATIONS. CONNECTORS ARE TO BE MARKED WITH PREEMINENT MARKING PAINT, AFTER TORQUING.
- 19. SPLICES/CONNECTORS AND PARALLEL HARNESS SHALL BE INSULATED AND WILL REQUIRE PROJECT ENGINEER APPROVAL.
- 20. NRTL LISTED ELECTRICAL TAPE ALONE IS NOT SUITABLE AS THE ONLY INSULATION MEANS. FOLLOW MANUFACTURERS INSTRUCTIONS FOR INSTALLATION, AND APPLICATION OF INSULATING PRODUCT.
- 21. ALL LV AC WIRING SHALL BE TYPE XHHW-2 RATED AT 90 DEGREES C. THIS NOTE WILL BE SUPERCEDED BY ANY INVERTER SPECIFICATIONS REQUIRING LV AC WIRE TO MEET HIGHER VOLTAGE OR INSULATION STANDARDS.
- 22. USE MYERS (OR EQUIVALENT) HUB LISTED TO PROVIDE MOISTURE PROTECTION FOR CONDUIT ENTRANCES IN ALL APPLICABLE DAMP OR WET LOCATIONS AS REQUIRED BY NEC 314.15.
- 23. PROTECT WIRE FROM SHARP EDGES WITH UV RATED SPIRAL WRAP, EDGEGUARD, OR SPLIT LOOM.
- 24. MODULE LEAD CONNECTORS SHALL BE INSTALLED SUCH THAT THEY ARE EASILY ACCESSIBLE AND PROTECTED FROM EXPOSURE TO DIRECT SUNLIGHT OR RAIN. THEY SHALL NOT BE INSTALLED WITHIN TUBING, CONDUIT OR MODULE GAPS.
- 25. MV WIRING SHALL BE ALUMINUM. VOLTAGE RATING SHALL BE EQUAL OR HIGHER THAN THE OPERATING VOLTAGE OF THE CIRCUIT LINE. NEC, UL, IEEE AND OTHER COMPLIANCES ARE NEEDED. AT LEAST RATED 90" FOR CONTINUOUS OPERATION AND SUNLIGHT RESISTANT. PRIMARY DISTRIBUTION CABLES ARE SUITABLE FOR USE ABOVE GROUND IN OPEN AIR, IN CABLE TRAY, IN CONDUIT IN AIR, AND EITHER DIRECTLY BURIED OR IN DUCT.
- 26. MV WIRING GROUND CONDUCTOR (IF NEEDED) SHALL BE SIZED ACCORDING TO PHASE CONDUCTORS.

INVERTER NOTES:

- 1. OPEN SKID PLATFORM INTEGRATES ALL THE COMPONENTS IN A COMPACT OUTDOOR ASSEMBLY.
- 2. RECOMBINER BOX CONFIGURATION AND FUSES DEPENDS ON THE DC OUTPUT CIRCUITS PARAMETERS.
- 3. CONDUITS AND CONDUCTORS: ALL INTERCONNECT WIRING AND POWER CONDUCTORS INTERFACING THE UNIT MUST BE IN ACCORDANCE WITH THE NEC, ANSI/NFPA 70 AND ANY APPLICABLE LOCAL CODES. LARGE GAUGE WIRE MUST CONFORM TO THE MINIMUM BEND RADIUS SPECIFIED IN THE NEC, ARTICLE 300.34, NINTH EDITION.
- 4. KEEP ALL WIRE BUNDLES AWAY FROM ANY SHARP EDGES TO AVOID DAMAGE TO WIRE INSULATION. ALL CONDUCTORS SHOULD BE RATED FOR 90 DEGREE C MINIMUM.
- 5. FOR OUTDOOR INSTALLATIONS, ALL INTERCONNECT CONDUITS AND FITTINGS MUST BE NEMA-4 RATED AS REQUIRED BY THE NEC. FOR WIRE GAUGE, BOLT SIZE, AND TORQUE VALUES FOR THE DC & AC TERMINALS, SEE THE INSTALLATION MANUAL.
- 6. OPERATOR INTERFACE CONTROLS: OPERATOR INTERFACE CONTROLS ARE LOCATED ON THE FRONT OF THE MAIN INVERTER ENCLOSURE. CONSULT THE OPERATIONS AND MAINTENANCE MANUAL FOR INSTRUCTION AND CODE REFERENCES.
- 7. INVERTER COMES WITH INTERNAL AC DISCONNECTING UNIT AND A DC DISCONNECTING UNIT. THESE DISCONNECT SWITCHES ARE TO BE USED FOR ISOLATING THE SOLAR ARRAY PANELS FROM THE UNIT FOR MAINTENANCE PURPOSES.
- 8. INVERTERS ARE EQUIPPED WITH ANTIISLANDING CIRCUITRY. THE ANTIISLANDING TRIP TIME IS LESS THAN TWO (2) SECONDS AS PER UL 1741 STANDARDS. THE INVERTER UNIT WILL AUTOMATICALLY SHUT DOWN WHEN LOSS OF GRID POWER IS DETECTED.
- 9. THE MV PADMOUNT TRANSFORMER INCLUDES MV SWITCHGEAR ENCLOSURE FOR THE MV OUTPUT TO UTILITY.
- 10. THE PV SYSTEM SHOULD BE SOLIDLY SYSTEM-GROUNDED. TO ACHIEVE THAT THE NEGATIVE CONDUCTOR IS GROUNDED VIA THE GFDI IN THE PV INVERTER DC ENTRANCE. PHOTOVOLTAIC INVERTERS SHALL BE EQUIPPED WITH DC GROUND FAULT PROTECTION TO REDUCE FIRE HAZARDS.

GROUNDING SPECIFICATIONS:

- 1. GROUNDING METHOD: A GROUND RING THROUGH TRENCH THE SYSTEM, IN DIRECT CONTACT WITH THE EARTH, CONSISTING OF AT LEAST 328 FT. OF BARE COPPER CONDUCTOR NOT SMALLER THAN 1/0 AWG. SEE ELECTRICAL DIAGRAM AND ELECTRICAL DETAILS FOR MORE GROUNDING INFORMATION.
- 2. EARTH RESISTANCE VALUE DEPENDS ON THE SURFACE RESISTIVITY AND THE GROUNDING METHOD USED. THE FINAL VALUE CHECK ON SITE MUST BE <5 OHMS.
- 3. SYSTEM TO BE BONDED AND GROUNDED IN ACCORDANCE WITH ARTICLES 250 AND 690 OF NEC.
- 4. EQUIPMENT GROUNDING CONDUCTORS (EGC) SMALLER THAN #4 AWG SHALL BE BARE OR HAVE CONTINUOUS GREEN INSULATION. EGC'S LARGER THAN OR EQUAL TO #4 AWG SHALL BE MARKED AS EGC (GREEN) WHEREVER ACCESSIBLE.
- 5. EQUIPMENT GROUNDING CONDUCTORS (EGC) SHALL BE SIZED ACCORDING TO 250.122.
- 6. AC AND DC GROUNDING CIRCUIT SHALL BE REFERENCED TO THE SAME POINT.
- 7. EQUIPMENT GROUNDING CONDUCTORS AND SYSTEM GROUNDING CONDUCTORS WILL HAVE THE SHORTEST DISTANCE TO GROUND AS POSSIBLE AND A MINIMUM NUMBER OF TURNS.
- 8. NON-CURRENT CARRYING METAL PARTS SHALL BE CHECKED FOR PROPER GROUNDING; NOTING THAT TERMINAL LUGS BOLTED ON AN ENCLOSURE'S FINISHED SURFACE MAY BE INSULATED BECAUSE OF PAINT/FINISH. PAINT/FINISH AT POINT OF CONTACT SHALL BE PROPERLY REMOVED.

GROUNDING SPECIFICATIONS (CONTINUED):

- 9. RACKING COMPONENTS AND STRUCTURAL SUPPORTS MUST BE ELECTRICALLY BONDED TOGETHER BY AN ACCEPTABLE MEANS FOR UL 2703 COMPLIANCE. MODULES SHALL BE BONDED TO A LOCATION APPROVED BY THE MANUFACTURER WITH A MEANS OF BONDING LISTED FOR THIS PURPOSE. IT WILL BE ACCORDING TO RACKING MANUFACTURER BEST PRACTICES.
- 10. THE CONNECTION TO THE MODULE OR PANEL OF THIS PROPOSED SOLAR ELECTRIC SYSTEM SHALL BE SO ARRANGED THAT REMOVAL OF A MODULE OR A PANEL FROM THE PHOTOVOLTAIC SOURCE CIRCUIT DOES NOT INTERRUPT A GROUNDED CONDUCTOR TO ANOTHER PHOTOVOLTAIC SOURCE CIRCUIT.
- 11. GROUNDING SYSTEM COMPONENTS SHALL BE LISTED FOR THEIR PURPOSE, INCLUDING BUT NOT LIMITED TO GROUNDS RODS, GROUNDING LUGS, GROUNDING CLAMPS, ECT.
- 12. ALL GROUNDING CONNECTIONS SHALL BE RATED FOR DIRECT BURIAL (DB RATED), CONTRACTOR IS TO SUPPLY DOCUMENTATION PROVING THIS DURING PRODUCT SUBMITTALS.
- 13. ALL EQUIPMENT GROUNDING CONDUCTORS INSTALLED SHALL BE COPPER ONLY.

HEALTH AND SAFETY ISSUES:

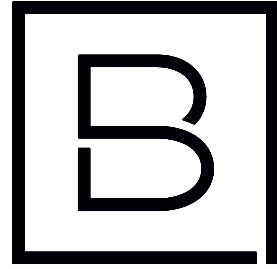
- 1. THE CONTRACTOR SHALL MAKE EFFORT TO PRODUCE AS LITTLE DISTURBANCE TO THE FACILITY DURING CONSTRUCTION. AFFECTED AREAS SHALL BE RETURNED TO THEIR PRE-CONSTRUCTION CONDITION.
- 2. CONTRACTORS MUST COMPLY WITH FEDERAL, STATE, AND LOCAL REGULATIONS RELATED TO THE ENVIRONMENT.
- 3. ALL WORK MUST COMPLY WITH THEIR SAFETY MANUALS, OSHA REQUIREMENTS AND STANDARDS.
- 4. THE CONTRACTOR IS RESPONSIBLE FOR THE SAFETY OF ON-SITE PERSONNEL. AN UNSAFE CONDITION IS A REASON FOR STOPPING THE WORK. ACCIDENT REPORT FORMS (OSHA FORM 301 OR 300) WILL BE SUBMITTED FOR EACH REPORTABLE OCCUPATIONAL INJURY, ILLNESS, OR LOST TIME ACCIDENT. THE CONTRACTOR IS RESPONSIBLE FOR NOTIFYING OSHA IN THE EVENT OF A SERIOUS EMPLOYEE ILLNESS OR INJURY.
- 5. ALL CONDUCTORS AND EQUIPMENT SHALL BE CONSIDERED ENERGIZED UNLESS CHECKED, TAGGED, GROUNDED, AND CHECKED AGAIN.
- 6. THE CONTRACTOR SHALL APPLY JOB SAFETY MEETINGS COVERING THE PERSONAL PROTECTIVE EQUIPMENT (PPE), ACCESS AND CLEANLINESS OF THE SITE, ELECTRICAL SAFETY, POTENTIAL HAZARDS RECOGNITION AND MINIMIZATION.
- 7. THE CONTRACTOR SHALL CONDUCT THE FUELING AND LUBRICATING OF EQUIPMENT AND MOTOR VEHICLES IN A MANNER THAT PROTECTS AGAINST SPILLS AND EVAPORATION. ALL USED OIL GENERATED ON SITE WILL BE MANAGED IN ACCORDANCE WITH 40CFR 279.
- 8. THE CONTRACTOR SHALL TAKE PRECAUTIONS TO PREVENT RELEASES/SPILLS OF OIL AND HAZARDOUS MATERIALS. IN THE EVENT OF ANY RELEASES, NOTIFY THE LOCAL FIRE DEPARTMENT. THE CONTRACTOR SHALL COLLECT AND PROVIDE INFORMATION AND WRITTEN NOTIFICATIONS AS NEEDED BY THE INVESTIGATING AUTHORITY. CONTRACTOR SHALL CONTAIN AND CLEAN UP THESE SPILLS WITHOUT COST TO THE OWNER.
- 9. AN EMERGENCY ACTION PLAN SHOULD BE CREATED THAT INCLUDES AN INITIAL SITE SPECIFIC COMMUNICATION ASSESSMENT TO SURE THAT ADEQUATE RADIO OR CELL PHONE RECEPTIONS IS AVAILABLE ACROSS THE ENTIRE SITE.
- 10. ELECTRICAL APPLICABLE SAFETY REGULATIONS SUCH AS OSHA 1910.269, THE NESC, AND NFPA 70E ARE USED AT PV FACILITIES TO PROVIDE GUIDANCE IN DEVELOPING SAFETY POLICIES AND PROCEDURES.
- 11. TO ENSURE THE SAFETY OF WORKERS AT A PV FACILITY, A ROBUST SYSTEM OF SAFETY TRAINING, POLICIES AND PROCEDURES MUST BE ESTABLISHED. TRAINING CLASSES INCLUDE OSHA STANDARDS, NESC AND NFPA 70E ELECTRICAL AND ARC FLASH SAFETY, LOCKOUT/TAGOUT, FIRST AID AND CPR, HUMAN PERFORMANCE IMPROVEMENT AND PROJECT-SPECIFIC SAFE WORK RULES.
- 12. ADDITIONALLY, EQUIPMENT TECHNICAL TRAINING SHOULD ALSO BE CONDUCTED TO ENSURE THAT WORKERS HAVE A THOROUGH UNDERSTANDING OF THE OPERATIONS, MAINTENANCE AND SAFETY HAZARDS ASSOCIATED WITH EACH PIECE OF EQUIPMENT THEY WORK WITH.

DAMAGE AVOIDANCE:

- 1. THE ELECTRICAL CONTRACTOR SHALL CONSIDER THE WEATHERING OF EQUIPMENT OVER TIME AND ELIMINATE THE POSSIBILITY OF DEGRADATION DUE TO CORROSION, WATER ENTRY AND UV EXPOSURE. AS A RESULT, THE USE OF UNISTRUT OR SIMILAR MOUNTING SYSTEMS IS REQUIRED TO MOUNT ENCLOSURES, PULL BOXES, LOAD CENTERS, FUSE BOXES, OR OTHER EQUIPMENT.
- 2. WIRING SHALL RUN IN CONDUIT ENSURING LIFESPAN OF THE SYSTEM.
- 3. ALL NEMA 3/4 BOXES SHALL BE EQUIPPED WITH LISTED DRAIN PLUGS INSTALLED TO ALLOW WATER TO DRAIN. ANY MODIFICATION TO AS-MANUFACTURED EQUIPMENT SHOULD BE DONE IN SUCH A WAY AS TO MAINTAIN ALL LISTED RATINGS.
- 4. ALL CIRCUIT BREAKERS INSTALLED THAT ARE SUBJECT TO REVERSE POWER FLOW SHALL BE LISTED AS BACKFEED COMPATIBLE.
- 5. PADLOCK PROVISIONS ON ENCLOSURE DOOR SHALL BE CONSIDERED.
- 6. PV SOLAR PROJECT SHALL BE FENCED AVOIDING VANDALISM AND OTHER POSSIBLE DAMAGE. WARNING LABELS WILL BE PLACED AND ONLY CERTIFIED AND QUALIFIED INDIVIDUALS ARE ALLOWED TO ENTRY.

GENERAL NOTES:

- 1. THESE DRAWINGS MATCH THE INSCRIPTION DRAWINGS SUBMITTED BUT NOT LIMITED TO THE CORRESPONDING MUNICIPALITY.
- 2. THE TERM "WORK" SHALL MEAN ALL LABOR, TRANSPORTATION MATERIAL, EQUIPMENT, TOOLS, INSTALLATIONS, SYSTEMS, SUPERVISION AND ANY OTHER INCIDENTAL ITEMS OR SERVICES NECESSARY FOR THE PROPER EXECUTION OF THE PROJECT. "WORK" SHALL ALSO INCLUDE ANY REPAIR OR IMPROVEMENT REQUIRED AS A PROCESS OF THE CONSTRUCTION.
- 3. THE TERM "PROVIDE" SHALL MEAN FURNISH AND INSTALL. MAKE ALL FINAL CONNECTIONS AND LEAVE IN AN APPROVED COMPLETE OPERATION CONDITION.
- 4. THE TERM "SUMMARY DOCUMENTS" SHALL MEAN ALL DRAWINGS AND SPECIFICATIONS OR CORRESPONDENCE ISSUED BY THE DESIGNER OR AUTHORIZED REPRESENTATIVES.
- 5. ALL GENERAL CONDITIONS, SPECIAL REQUIREMENTS OR GENERAL REQUIREMENTS OF THE EQUIPMENT OF MATERIAL MANUFACTURERS ARE MADE PART OF SUMMARY DOCUMENTS AND HAVE THE SAME EFFECT AS IF COMPLETELY REPRODUCED.
- 6. AHJ SHALL REPORT ANY DISCREPANCIES BETWEEN CURRENT CODE AND THE DRAWINGS OR SPECIFICATIONS TO THE DESIGNER PRIOR TO WORK.
- 7. ALL WORKS SHALL BE IN ACCORDANCE WITH INDUSTRY STANDARDS. INDUSTRY STANDARDS SHALL BE DETERMINED BY MANUAL OR HANDBOOK OF THE PRIMARY ASSOCIATION OF EACH TRADE OR THE AHJ.
- 8. AS-BUILT DRAWING SHALL INCLUDE ALL TRADES OR SPECIALTY DRAWINGS. THESE DRAWINGS SHALL BE UPDATED AS THE PROJECT PROGRESSES FOR READY REFERENCE.
- 9. AS-BUILT DRAWINGS SHALL BE GIVEN TO THE OWNER AT SUBSTANTIAL COMPLETION. THESE DRAWINGS SHALL BE STAMPED AND SIGNED BY THE CONTRACTOR AND PRIVATE ENGINEER INSPECTOR.
- 10. THE DRAWINGS, ARRANGEMENTS, ANNOTATIONS AND GRAPHICAL PRESENTATION ON THE SUMMARY DOCUMENTS ARE THE PROPERTY OF THE DESIGNER WHO RETAINS OWNERSHIP AND AUTHORITY OF THE DOCUMENTS IN ITS ENTIRETY. THE DOCUMENTS ARE INSTRUMENTS OF SERVICE AND ARE THE INTELLECTUAL AND PHYSICAL PROPERTY OF THE DESIGNER. AUTHORIZED USE OF THE DOCUMENTS ARE GRANTED SOLELY FOR THIS PROJECT.
- 11. THE CONTRACTOR SHALL CAREFULLY EXAMINE ALL DOCUMENTS, SPECIALTY DRAWINGS AND MATERIAL SPECIFICATIONS. ANY DEVIATIONS OR INCONSISTENCIES SHALL BE BROUGHT TO ATTENTION OF THE DESIGNER PRIOR TO CONTINUATION OF PROCESS.
- 12. ALL DRAWINGS ARE DIAGRAMMATIC AND SCHEMATIC IN NATURE. WORK INCLUDES CERTAIN COMPONENTS, APPURTENANCES AND RELATED SPECIALTIES THAT MAY NOT BE SHOWN.
- 13. CONSTRUCTION MEANS AND METHODS ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR. THE DESIGNER HAS ACCOUNTED FOR THE MOST COMMON OF TECHNIQUES USED IN THE DESIGN OF THIS PROJECT.
- 14. ALL ELECTRICAL WORK TO BE PERFORMED BY PROPERLY LICENSED AND CERTIFIED ELECTRICIANS PER STATE AND LOCAL REQUIREMENTS.
- 15. ALL FABRICATION AND MANUFACTURING SHALL BE PERFORMED BY CERTIFIED INDIVIDUALS IN APPROVED ASSEMBLY AND FABRICATION SHOPS.
- 16. PRIOR STARTING ANY WORK, THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY DISAGREEMENT ABOUT SITE CONDITIONS, MANUFACTURER RECOMMENDATIONS OR AHJ.
- 17. CONTRACTOR INITIATED CHANGES SHALL BE SUBMITTED IN THE FORM OF A REQUEST FOR INFORMATION (RFI) FOR APPROVAL. CHANGES ACCEPTED WILL BE INCLUDED IN AS-BUILT DRAWINGS.
- 18. CONTRACTOR SHALL FOLLOW ALL EQUIPMENT MANUFACTURER'S MANUAL INSTRUCTIONS AND DATA SHEET. ALL COMPONENT MANUALS ARE TO BE READ AND UNDERSTOOD PRIOR TO INSTALLATION.
- 19. THE CONTRACTOR SHALL TURN ALL SWITCHES IN THE "OFF" POSITION AND FUSES REMOVED PRIOR TO INSTALLATION OF COMPONENTS.
- 20. THE CONTRACTOR SHALL CHECK AND VERIFY ALL DIMENSIONS ON THE DRAWINGS, INCLUDING EXISTING STRUCTURES, AND ADVISE OF ANY DISCREPANCY BEFORE STARTING THE WORK.
- 21. THE CONTRACTOR SHALL COORDINATE ALL OPERATIONS WITH THE OWNER.
- 22. THE CONTRACTOR SHALL COORDINATE ALL OPERATIONS WITH ANY EQUIPMENT AND ITS INSTALLER.
- 23. PROVIDE ALL WORKING CLEARANCES AT NEW AND EXISTING EQUIPMENT PER NEC 110.26.
- 24. ALL DISCONNECTING SWITCH AT COMBINER BOX SHALL BE SECURED FROM UNAUTHORIZED PERSONNEL BY LOCK.
- 25. CONDUITS AND CABLES SHALL NOT ENTER THE TOP OF ANY OUTDOOR ENCLOSURE WITHOUT WRITTEN APPROVAL FROM PROJECT ENGINEER.



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<b>DJP</b>	<b>DJP</b>
Designer	Reviewer
<b>JL</b>	<b>ECR</b>
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<b>05/28/2021</b>	<b>12773.46</b>

Sheet Name

**SPECIFICATION NOTES**

Drawing Number

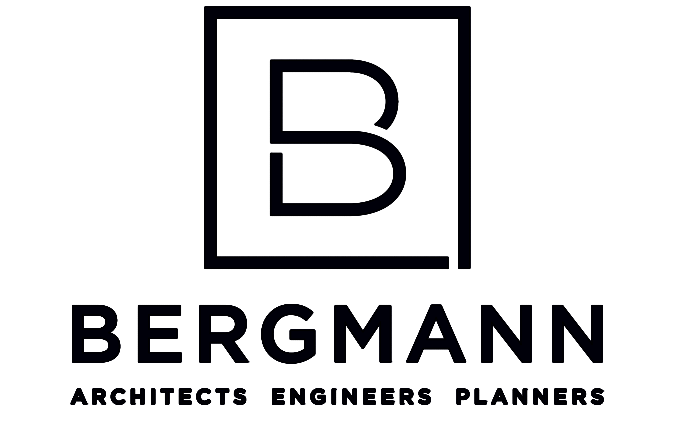
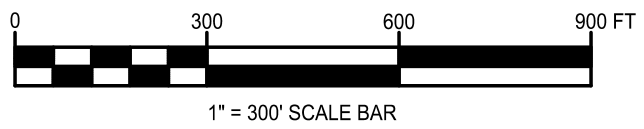
**C002**



12/5/2021 2:37 PM M:\Delaware River Solar\012773.46 Delaware River Solar 5568 Jericho Hill\4.0 Dwg\4.1 Cw\002-Overall.dwg ARCH D 24x36



NUMBER	TAX ID	PARCEL OWNER
1	164.-1-54	TODD LARSEN & SCOTT LARSEN
2	164.-1-62	JOHN E. GRADONI
3	164.-1-9	CHARLES D. ELLIOTT & CAROL A. ELLIOTT
4	164.-1-8.3	JUSTIN SNYDER & ALLISON SNYDER
5	164.15-2-7.2	MEREDITH L. TERRY
6	164.15-2-42	BILLY R. CARSTENS & SHAWN E. CARSTENS
7	164.15-2-7.3	HYOJIN LEE & SEONYOUNG HAN



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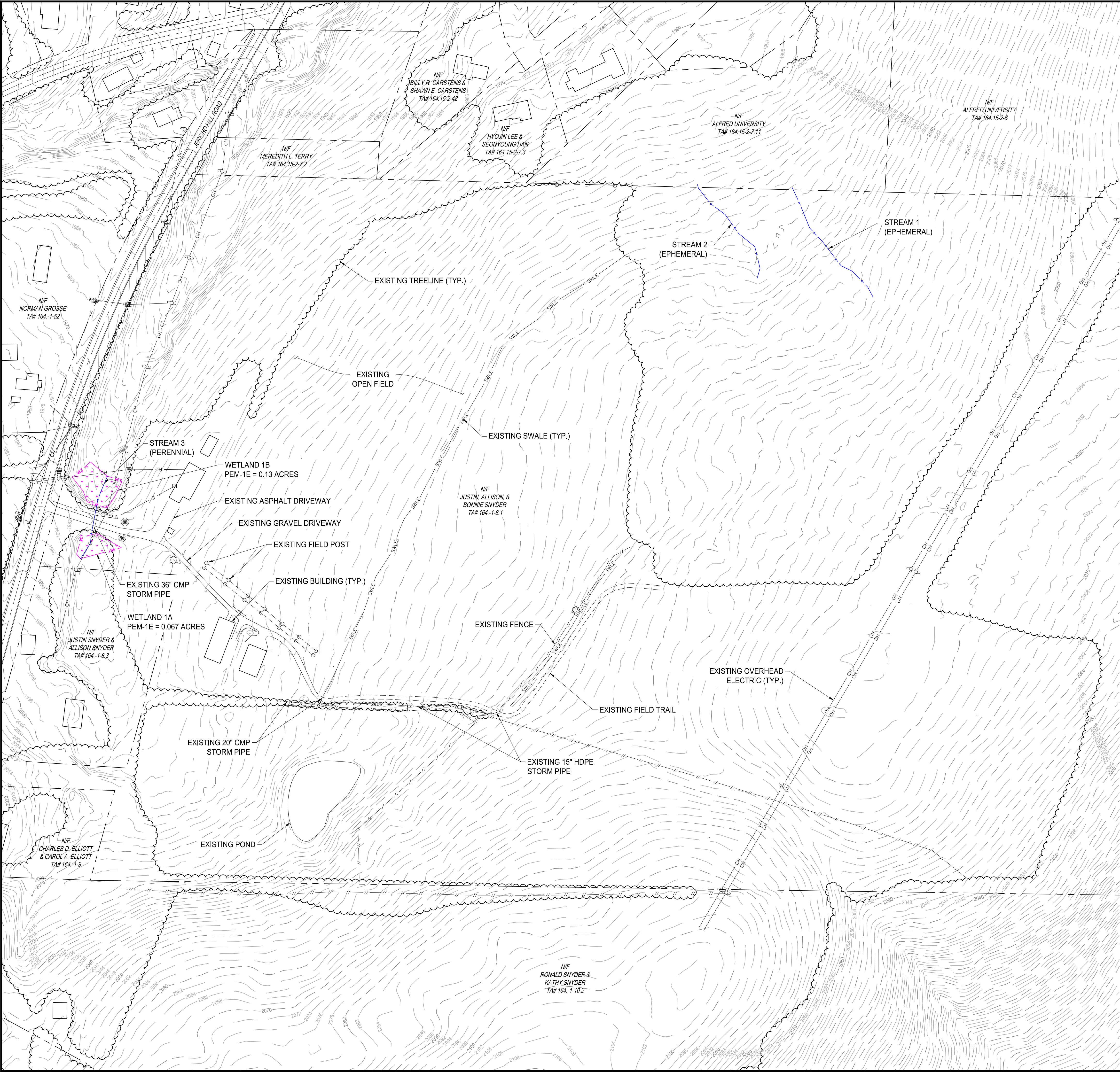
## AREA PARCEL PLAN

Drawing Number

# C003



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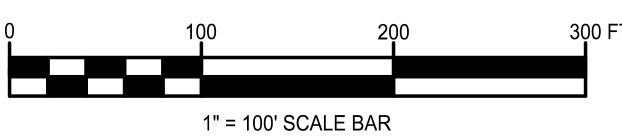


- NOTES
1. PROPERTY IS KNOWN AS TAX MAP ID # 164.-1-8.1 THE TOWN OF ALFRED, ALLEGANY COUNTY, NEW YORK.
  2. LOT AREA = 7,061,076 S.F. OR 162.1 AC.
  3. NO CHANGES IN STREET RIGHT OF WAY LINES EITHER COMPLETED OR PROPOSED KNOWN TO THIS SURVEYOR, NO OBSERVABLE EVIDENCE OF RECENT STREET OR SIDEWALK CONSTRUCTION OR REPAIRS.
  4. VERTICAL DATUM = NAVD88.
  5. LOCATION OF ALL UNDERGROUND UTILITIES ARE APPROXIMATE. ALL LOCATIONS AND SIZES ARE BASED ON UTILITY MARK-OUTS, ABOVE GROUND STRUCTURES THAT WERE VISIBLE & ACCESSIBLE IN THE FIELD, AND THE MAPS LISTED IN THE REFERENCES AVAILABLE AT THE TIME OF THE SURVEY. AVAILABLE AS-BUILT PLANS AND UTILITY MARK-OUT DOES NOT ENSURE MAPPING OF ALL UNDERGROUND UTILITIES AND STRUCTURES. BEFORE ANY EXCAVATION IS TO BEGIN, ALL UNDERGROUND UTILITIES SHOULD BE VERIFIED AS TO THEIR LOCATION, SIZE AND TYPE BY THE PROPER UTILITY COMPANIES.
  6. THIS PLAN WAS PREPARED WITHOUT THE BENEFIT OF A TITLE REPORT. THIS PROPERTY MAY BE SUBJECT TO RESTRICTIONS, COVENANTS AND/OR EASEMENTS, WRITTEN OR IMPLIED.
  7. THE EXISTENCE OF UNDERGROUND STORAGE TANKS, IF ANY, WAS NOT KNOWN AT THE TIME OF THIS SURVEY.
  8. TOPOGRAPHIC INFORMATION SHOWN HEREON TAKEN FROM GROUND SURVEY PERFORMED BY BERGMANN ON MAY 3, 2021 AND MAY 12, 2021.

LEGEND

LEGEND

- MONUMENT FOUND
- REBAR FOUND
- PIPE FOUND
- ONE POST SIGN
- TWO POST SIGN
- BOLLARD/POST
- DOWNSPOUT
- ELECTRICAL BOX
- ELECTRIC METER
- TRANSFORMER
- GAS VALVE
- GAS METER
- LIGHT POLE (ONE HEAD)
- LIGHT POLE (TWO HEAD)
- LIGHT POLE (THREE HEAD)
- LIGHT POLE (FOUR HEAD)
- LIGHT POLE (PEDESTAL)
- WASH LIGHT
- TELEPHONE JUNCTION BOX
- FIBER OPTIC LINE MARKER
- UTILITY POLE
- GUY WIRE
- SIGNAL POLE
- TRAFFIC CONTROL CABINET
- RECTANGULAR HANDHOLE
- ROUND HANDHOLE
- SQUARE HANDHOLE
- HYD
- WV
- FDC
- CO
- CB
- DMHI
- SMH
- EMH
- CONIFEROUS BUSH OR TREE
- DECIDUOUS BUSH OR TREE
- MAILBOX OR PAPER BOX
- INVERT OR INVERT WITH END SECTION
- EDGE OF WOODS
- EDGE OF WATER
- CENTERLINE OF SWALE/DITCH
- CHAIN LINK FENCE
- GUIDE RAIL
- SANITARY SEWER LINE
- STORM/DRAINAGE LINE
- UNDERGROUND DOMESTIC WATER LINE
- UNDERGROUND FIRE WATER LINE
- UNDERGROUND GAS LINE
- UNDERGROUND TELEPHONE LINE
- UNDERGROUND ELECTRIC LINE
- UNDERGROUND TELEPHONE & ELECTRIC LINE
- UNDERGROUND FIBER OPTIC LINE
- OVERHEAD UTILITY WIRE
- LEASE LINE
- ADJOINING PROPERTY LINE
- EASEMENT LINE
- RIGHT OF WAY LINE
- RIGHT OF WAY LINE
- DELINEATED WETLAND - PFO
- SCHEDULE "B" TITLE EXCEPTION NUMBER



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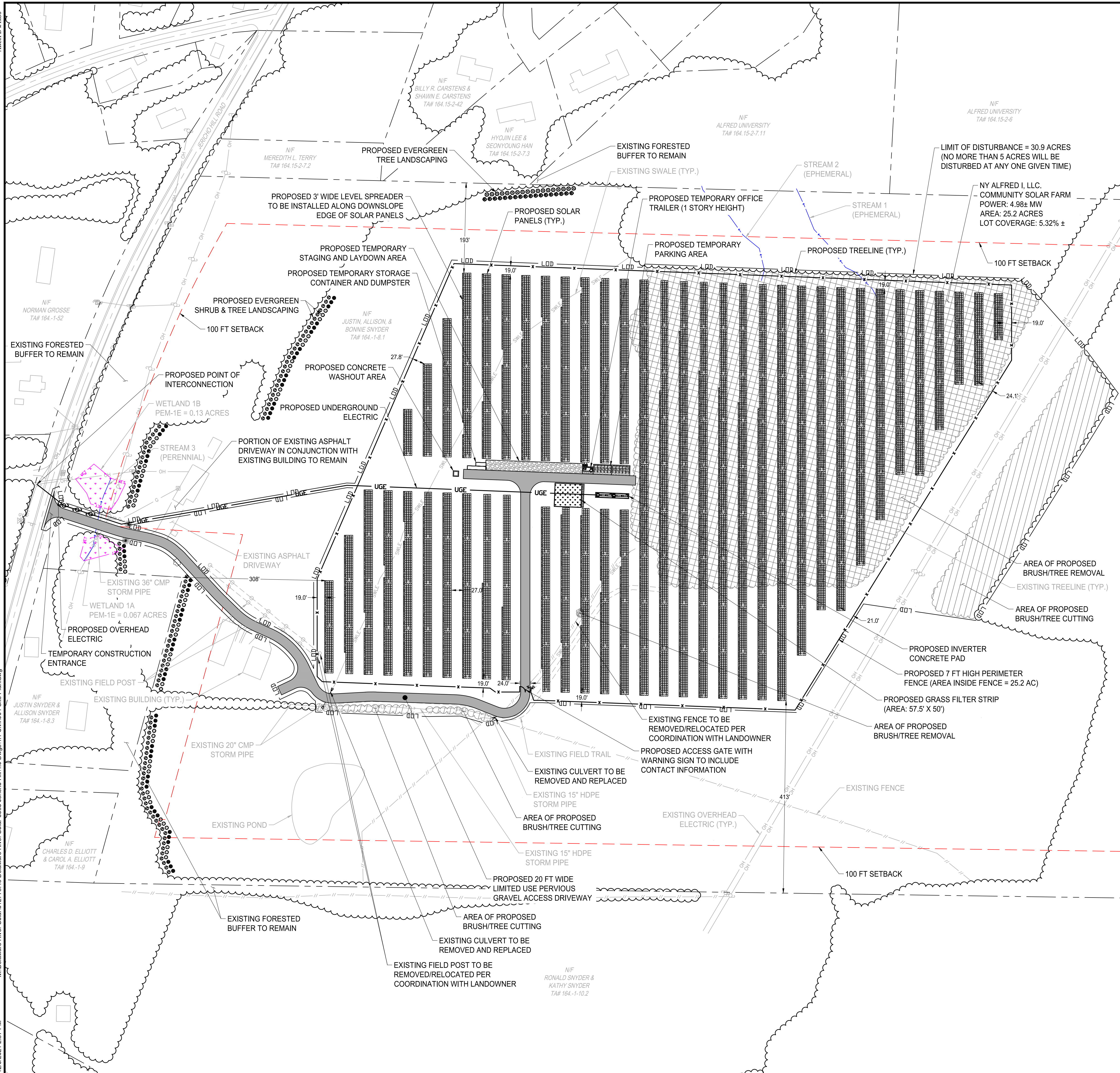
## EXISTING CONDITIONS PLAN

Drawing Number

# C004

5 of 18















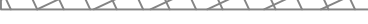





ARRAY INFORMATION	
SYSTEM SIZE	6.235 MW-DC, 4.988 MW-AC
MODULE	LONGI LR5-72HBD 545Wp, 11,440 UNITS

FARMLAND DISTURBANCE TABLE				
FARMLAND CLASSIFICATION	EXISTING LOT AREA (ACRES)	PERMANENT DISTURBANCE	PROJECT FOOTPRINT AREA (ACRES)	PROJECT FOOTPRINT AREA (%)
FARMLAND OF STATEWIDE IMPORTANCE	81.5±	320,012± SF (7.34± AC.)	21.7±	26.62%
PRIME FARMLAND IF DRAINED	20.3±	196,892± SF (4.52± AC.)	5.64±	27.78%
NOT PRIME FARMLAND	60.3±	218± SF (0.005 AC.)	0.01±	0.016%
TOTAL	162.1±	517,122± SF (11.865± AC.)	27.35±	16.87%

## NOTES

1. PLEASE SEE SHEET C013 FOR SEED MIX DETAIL. TO BE USED IN ALL DISTURBED AREAS OF PRIME FARMLAND OR COMFAR OF STATEWIDE IMPORTANCE.
2. ALTHOUGH THE LIMIT OF DISTURBANCE IS STATED TO BE 30.9 ACRES, PHYSICAL GROUND DISTURBANCE WILL INVOLVE 14.4 ACRES. INDICATED BY THE SHOWN 14.4 ACRES OF PHYSICAL GROUND DISTURBANCE WILL INCLUDE CONSTRUCTION OF THE DRIVEWAY, FILTER STRIP, EQUIPMENT PAD, FENCE, PANEL POST, LAND GRADING, UNDERGROUND ELECTRICAL TRENCHING, AND THE AREA OF TREE/BURCH REMOVAL DURING THE STAGE OF CONSTRUCTION, THE CUMULATIVE PHYSICAL GROUND DISTURBANCE WILL NOT EXCEED 14.5 ACRES. THE LIMIT OF DISTURBANCE, AS STATED TO BE 30.9 ACRES, IS A REPRESENTATION OF THE TOTAL PROJECT AREA AND DOES NOT REPRESENT THE ACRES OF PHYSICAL GROUND DISTURBANCE.

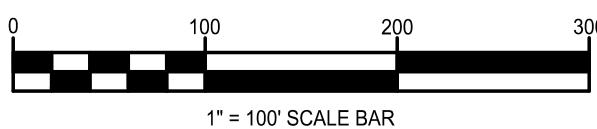
### LEGEND

	PROPOSED SOLAR PANELS
	PROPOSED PERIMETER FENCE
	PROPOSED UNDERGROUND ELECTRIC
	PROPOSED OVERHEAD ELECTRIC
	STREAM
	PROPOSED STORM PIPE
	PROPOSED LIMITED USE PERVIOUS GRAVEL DRIVE/WALKWAY
	AREA OF PROPOSED BRUSH/TREE CUTTING
	AREA OF PROPOSED BRUSH/TREE REMOVAL
	PROPOSED STAGING AND LAYDOWN AREA
	PROPOSED GRASS FILTER STRIP
	DELINEATED WETLAND - PFO (PALUSTRINE FORESTED)
	SETBACK LINE
	EXISTING TREELINE
	PROPOSED TREELINE
	LIMIT OF DISTURBANCE

## SPECIAL PERMIT STANDARDS FOR TIER 3, AGRICULTURAL /RESIDENTIAL USAGE DISTRICT

1. MINIMUM LOT SIZE REQUIREMENTS: 10.0 ACRES
2. PARCEL LINE SETBACK REQUIREMENTS: FRONT/SIDE/REAR = 100'
3. MAXIMUM HEIGHT REQUIREMENTS: 20'
4. MAXIMUM LOT COVERAGE: 35% (INCLUSIVE OF FOUNDATION/POLES, ALL MECHANICAL EQUIPMENT PAD MOUNTED STRUCTURES AND PAVED ACCESS ROADS)
5. FENCE HEIGHT: 7' REQUIRED
6. TIER 3 SOLAR ENERGY SYSTEMS LOCATED ON PRIME SOILS OR SOILS OF STATEWIDE IMPORTANCE CANNOT EXCEED 50% OF THE ENTIRE LOT AND WILL BE REQUIRED TO SET AT LEAST 20% OF THE TOTAL SURFACE AREA OF THE PANELS ON THE LOT WITH NATIVE PERENNIAL VEGETATION DESIGNED TO ATTRACT POLLINATORS.
7. UTILITIES SHOULD BE UNDERGROUND TO THE MAXIMUM EXTENT PRACTICABLE.

\*NOTE: PLEASE SEE SITE PLAN DATA TABLE AND FARMLAND DISTURBANCE TABLE FOR DETAIL.



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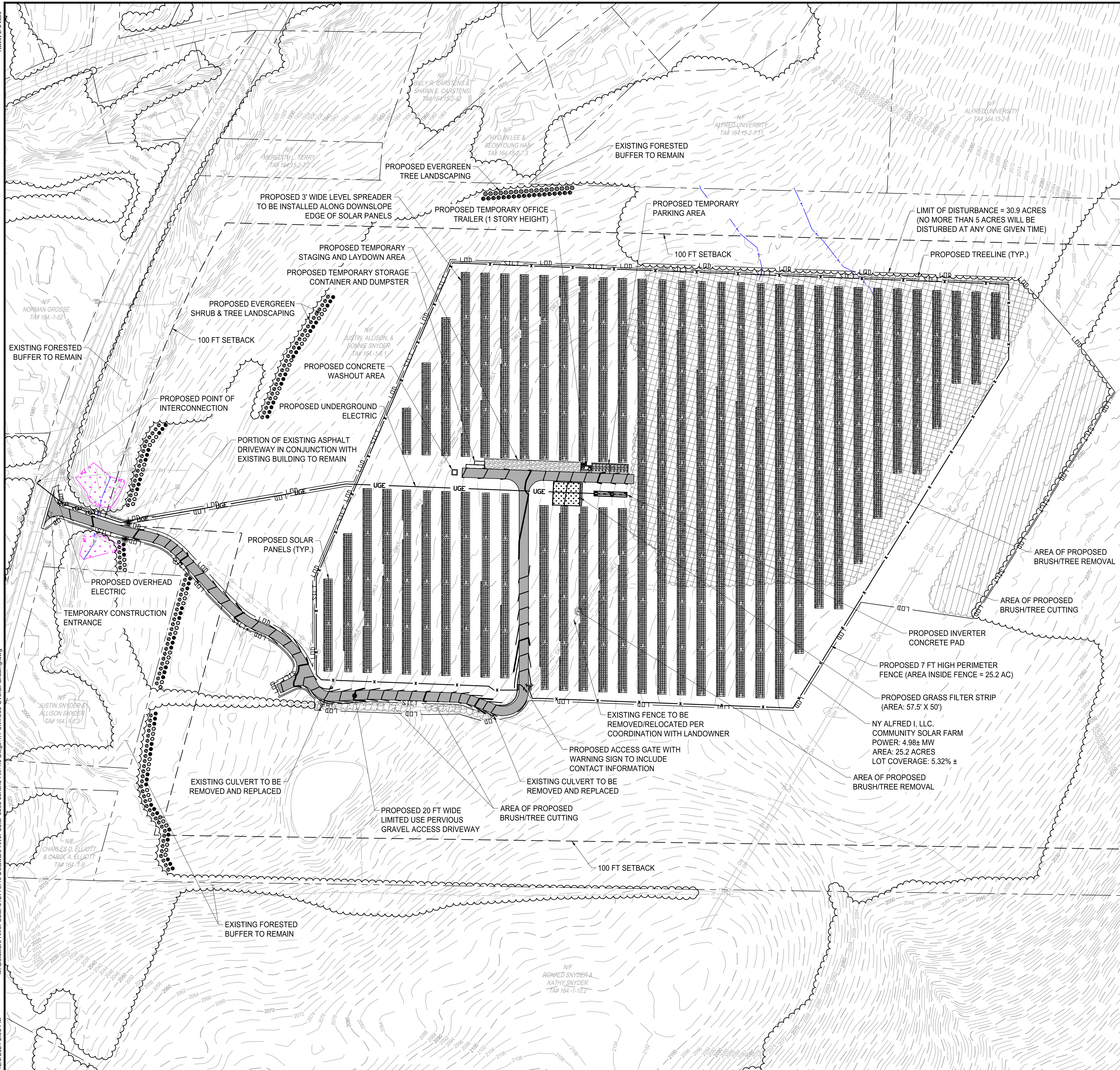
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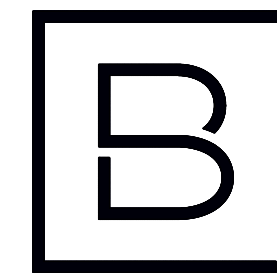
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LEGEND	
	PROPOSED SOLAR PANELS
	PROPOSED PERIMETER FENCE
	PROPOSED UNDERGROUND ELECTRIC
	PROPOSED OVERHEAD ELECTRIC
	STREAM
	PROPOSED STORM PIPE
	PROPOSED LIMITED USE PERVIOUS GRAVEL DRIVEWAY
	AREA OF PROPOSED BRUSH/TREE CUTTING
	AREA OF PROPOSED BRUSH/TREE REMOVAL
	PROPOSED STAGING AND LAYDOWN AREA
	PROPOSED GRASS FILTER STRIP
	DELINEATED WETLAND - PFO (PALUSTRINE FORESTED)
	SETBACK LINE
	EXISTING TREELINE
	PROPOSED TREELINE
	LIMITS OF DISTURBANCE
	DRIVEWAY SECTION ALIGNMENT
	PROPOSED SILT SOCK
	PROPOSED MAJOR CONTOUR
	PROPOSED MINOR CONTOUR
	EXISTING MAJOR CONTOUR
	EXISTING MINOR CONTOUR



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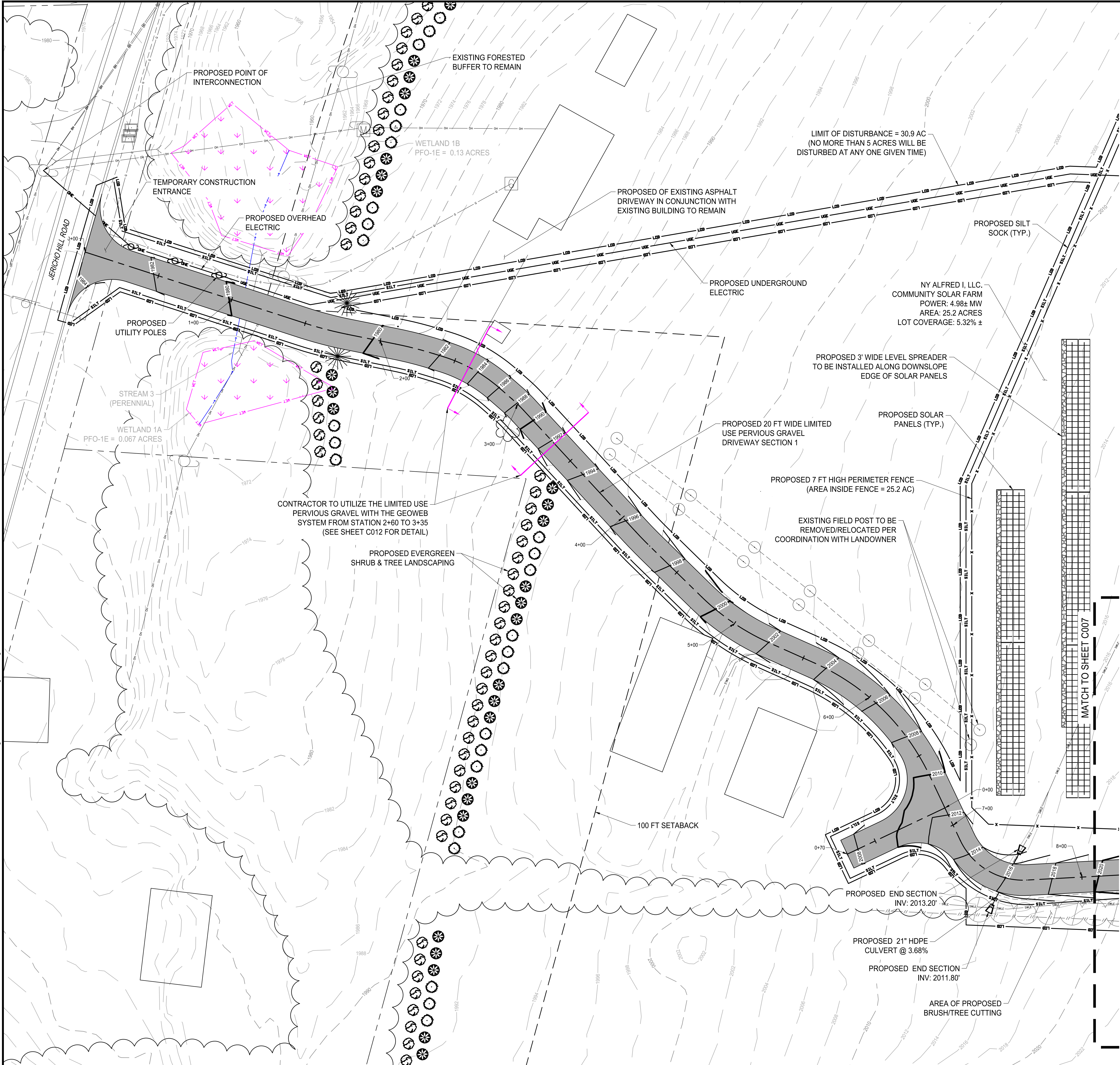
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## OVERALL GRADING PLAN

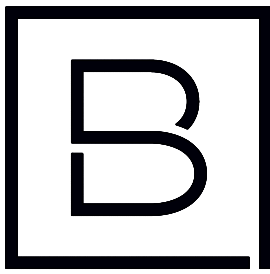
Drawing Number

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LEGEND	
	PROPOSED SOLAR PANELS
	PROPOSED PERIMETER FENCE
	PROPOSED UNDERGROUND ELECTRIC
	PROPOSED OVERHEAD ELECTRIC
	STREAM
	PROPOSED STORM PIPE
	PROPOSED LIMITED USE PERVIOUS GRAVEL DRIVEWAY
	AREA OF PROPOSED BRUSH/TREE CUTTING
	AREA OF PROPOSED BRUSH/TREE REMOVAL
	PROPOSED STAGING AND LAYDOWN AREA
	PROPOSED GRASS FILTER STRIP
	DELINEATED WETLAND - PFO (PALUSTRINE FORESTED)
	SETBACK LINE
	EXISTING TREELINE
	PROPOSED TREELINE
	LIMITS OF DISTURBANCE
	DRIVEWAY SECTION ALIGNMENT
	PROPOSED SILT SOCK
	PROPOSED MAJOR CONTOUR
	PROPOSED MINOR CONTOUR
	EXISTING MAJOR CONTOUR
	EXISTING MINOR CONTOUR



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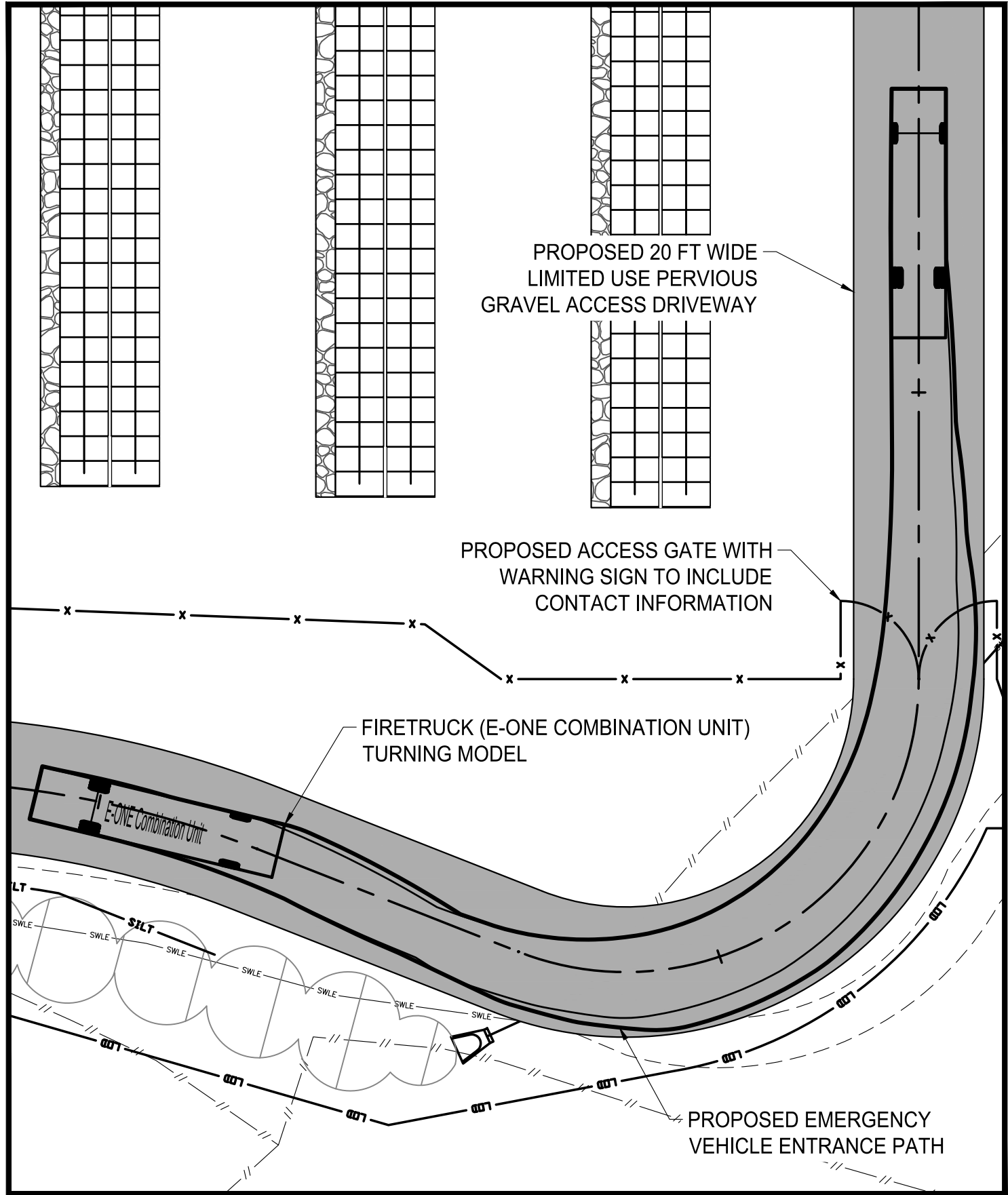
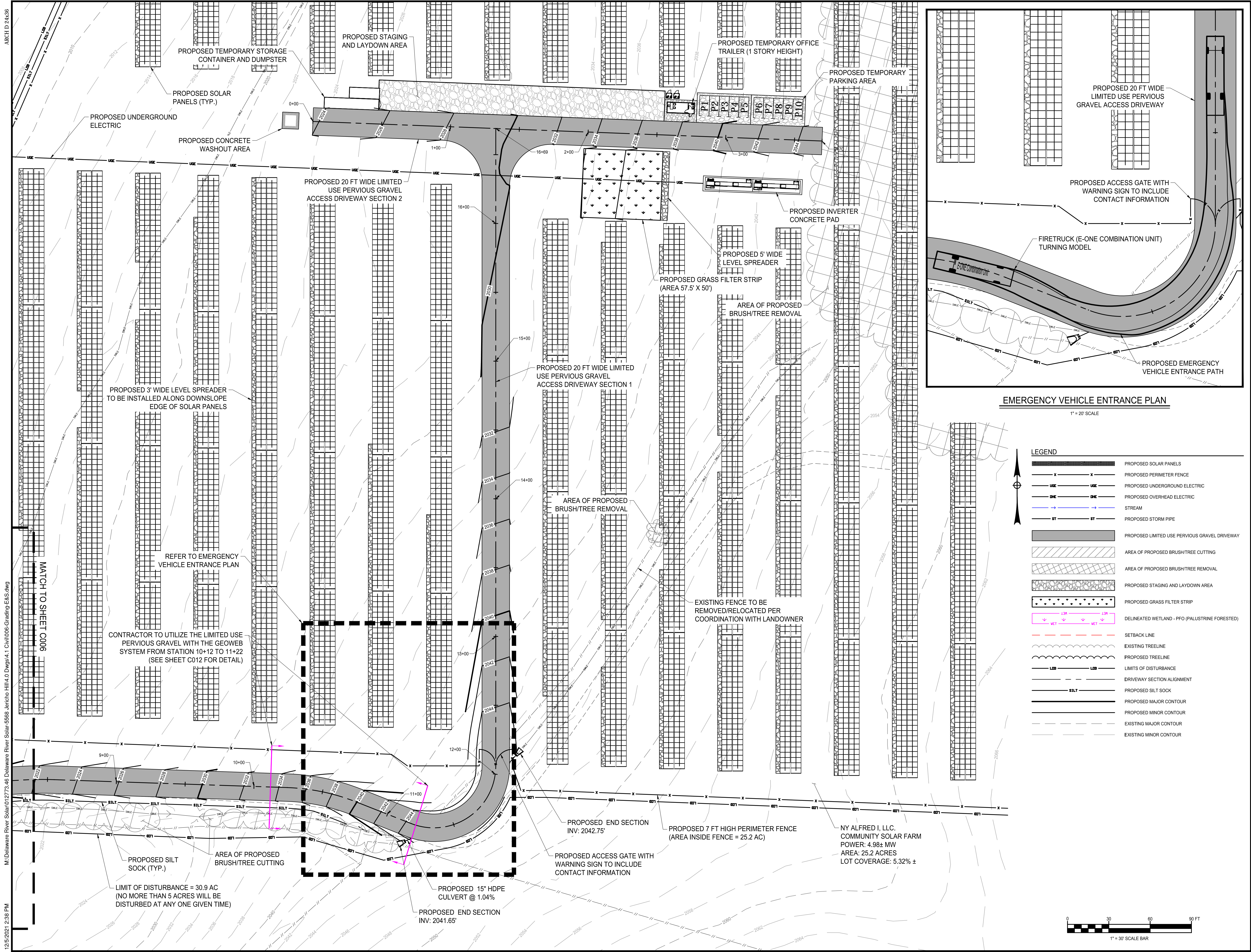
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**GRADING & EROSION  
CONTROL PLAN**

Drawing Number

**C007**

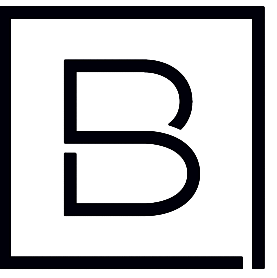
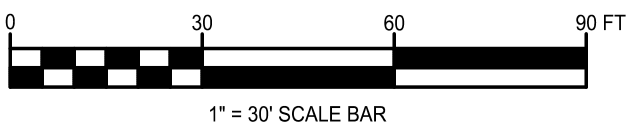




EMERGENCY VEHICLE ENTRANCE PLAN

1" = 20' SCALE

LEGEND	
	PROPOSED SOLAR PANELS
	PROPOSED PERIMETER FENCE
	PROPOSED UNDERGROUND ELECTRIC
	PROPOSED OVERHEAD ELECTRIC
	STREAM
	PROPOSED STORM PIPE
	PROPOSED LIMITED USE PERVIOUS GRAVEL DRIVEWAY
	AREA OF PROPOSED BRUSHTREE CUTTING
	AREA OF PROPOSED BRUSHTREE REMOVAL
	PROPOSED STAGING AND LAYDOWN AREA
	PROPOSED GRASS FILTER STRIP
	DELINEATED WETLAND - PFO (PALUSTRINE FORESTED)
	SETBACK LINE
	EXISTING TREELINE
	PROPOSED TREELINE
	LIMITS OF DISTURBANCE
	DRIVEWAY SECTION ALIGNMENT
	PROPOSED SILT SOCK
	PROPOSED MAJOR CONTOUR
	PROPOSED MINOR CONTOUR
	EXISTING MAJOR CONTOUR
	EXISTING MINOR CONTOUR



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**NY ALFRED I, LLC.**

**COMMUNITY SOLAR  
FARM PROJECT**

5568 JERICHO HILL ROAD  
ALFRED, NY 14803

Date Revised	Description
07/01/2021	REVISED PER TOWN COMMENTS
09/03/2021	REVISED PER TOWN COMMENTS
10/11/2021	REVISED PER TOWN COMMENTS
11/03/2021	REVISED PER TOWN COMMENTS
12/03/2021	REVISED PER TOWN COMMENTS

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Project Manager	Discipline Lead
<b>DJP</b>	<b>DJP</b>
Designer	Reviewer
<b>JL</b>	<b>ECR</b>
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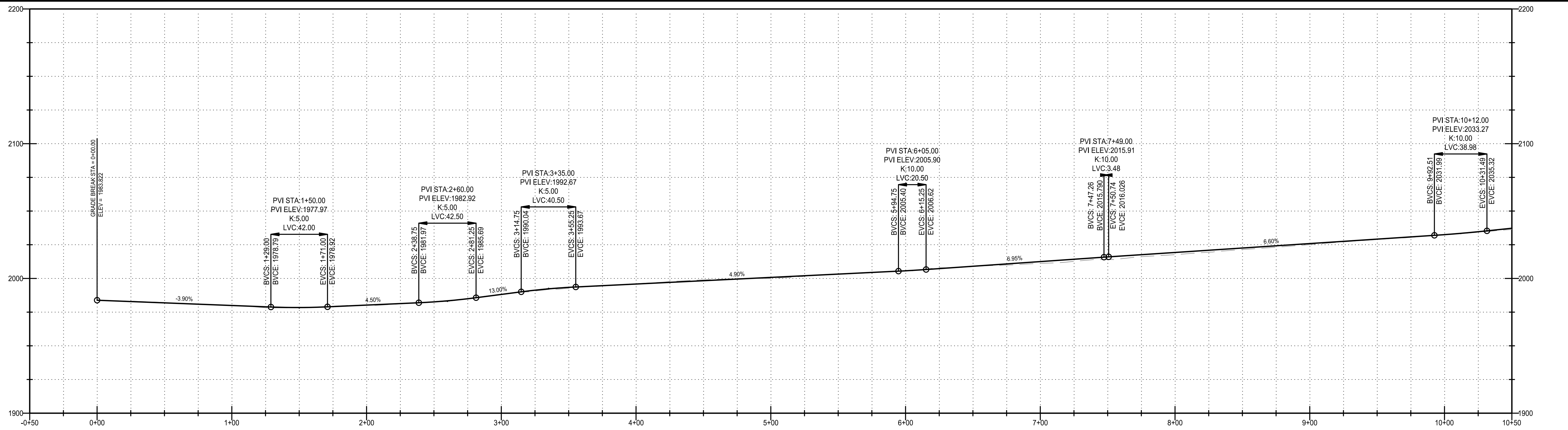
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**GRADING & EROSION  
CONTROL PLAN**

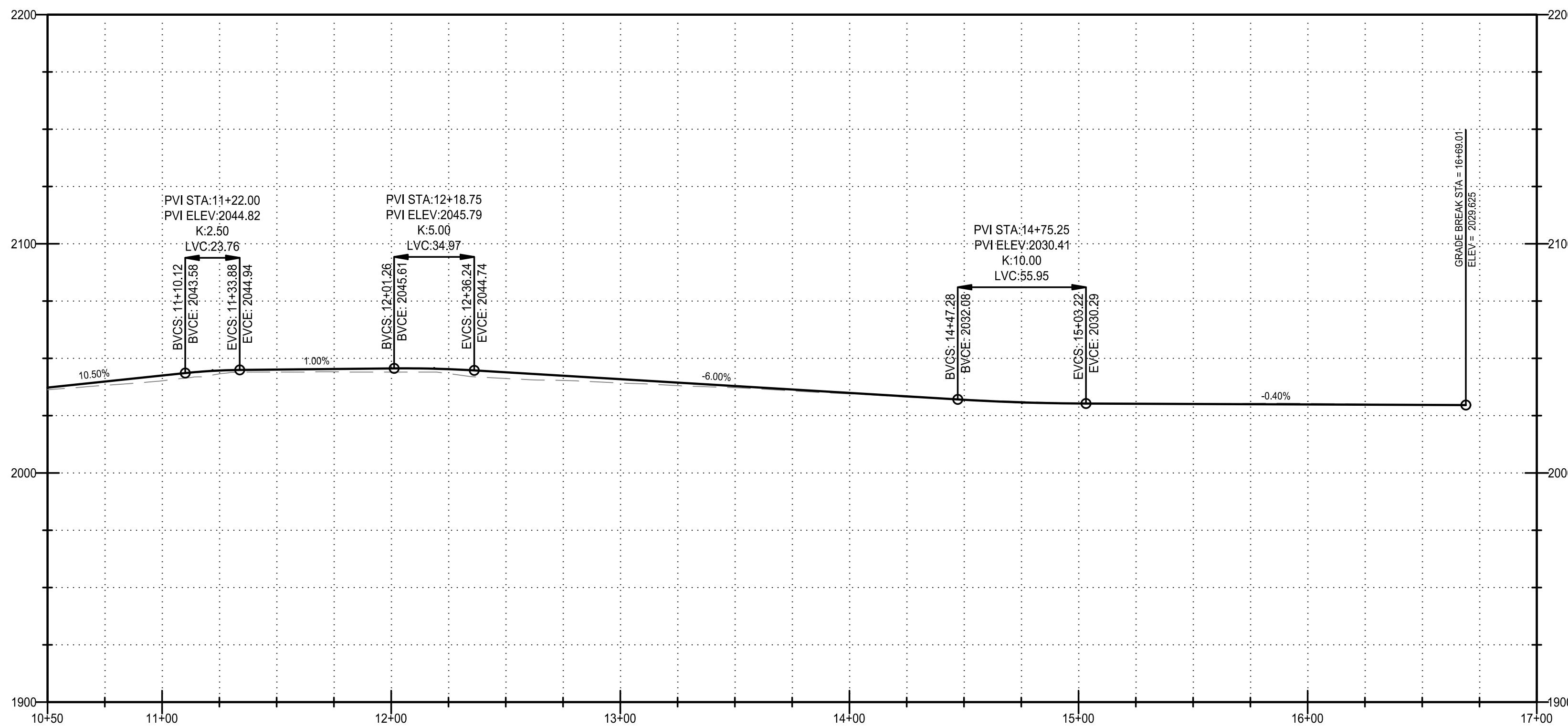
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**C008**

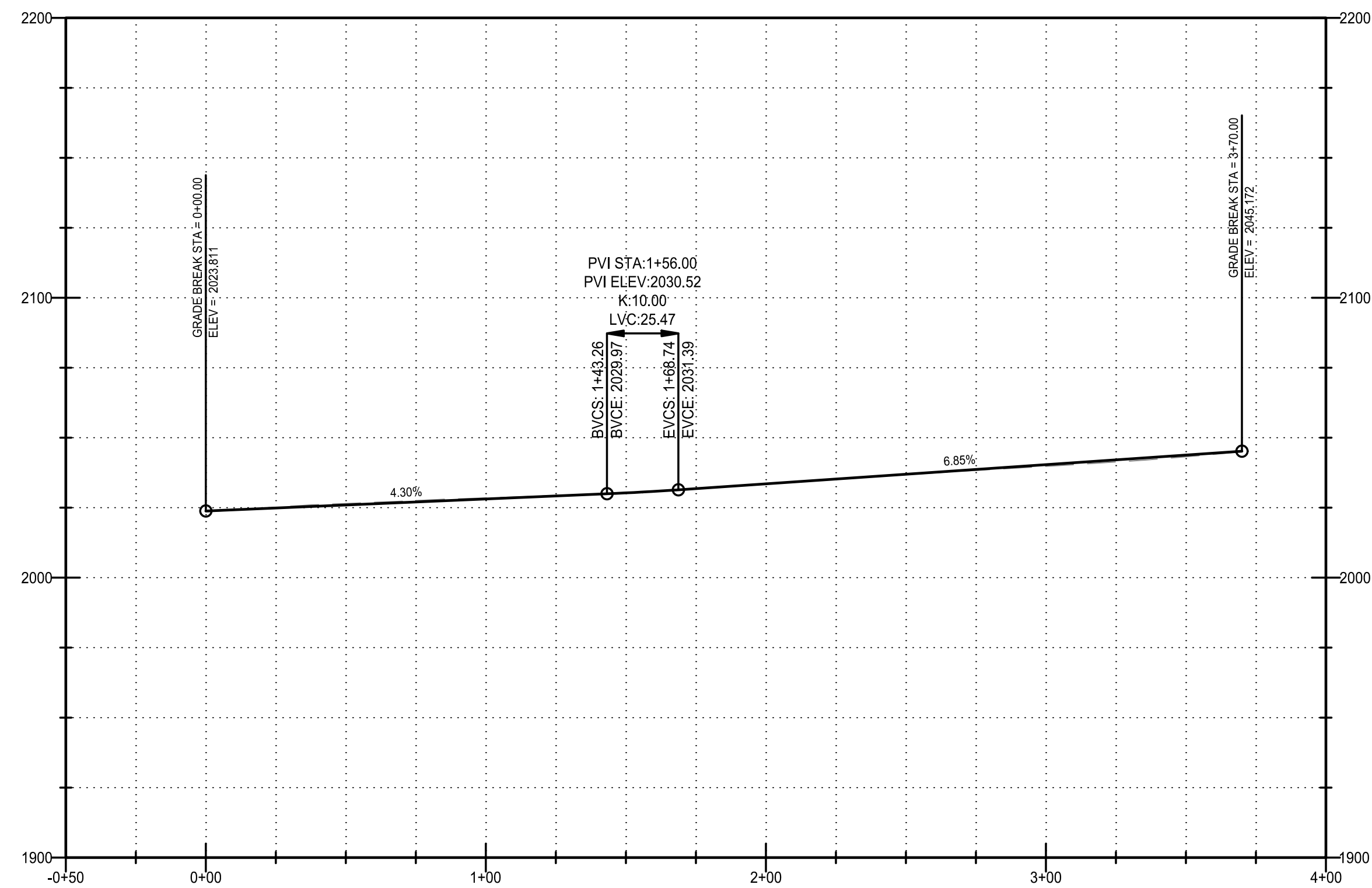




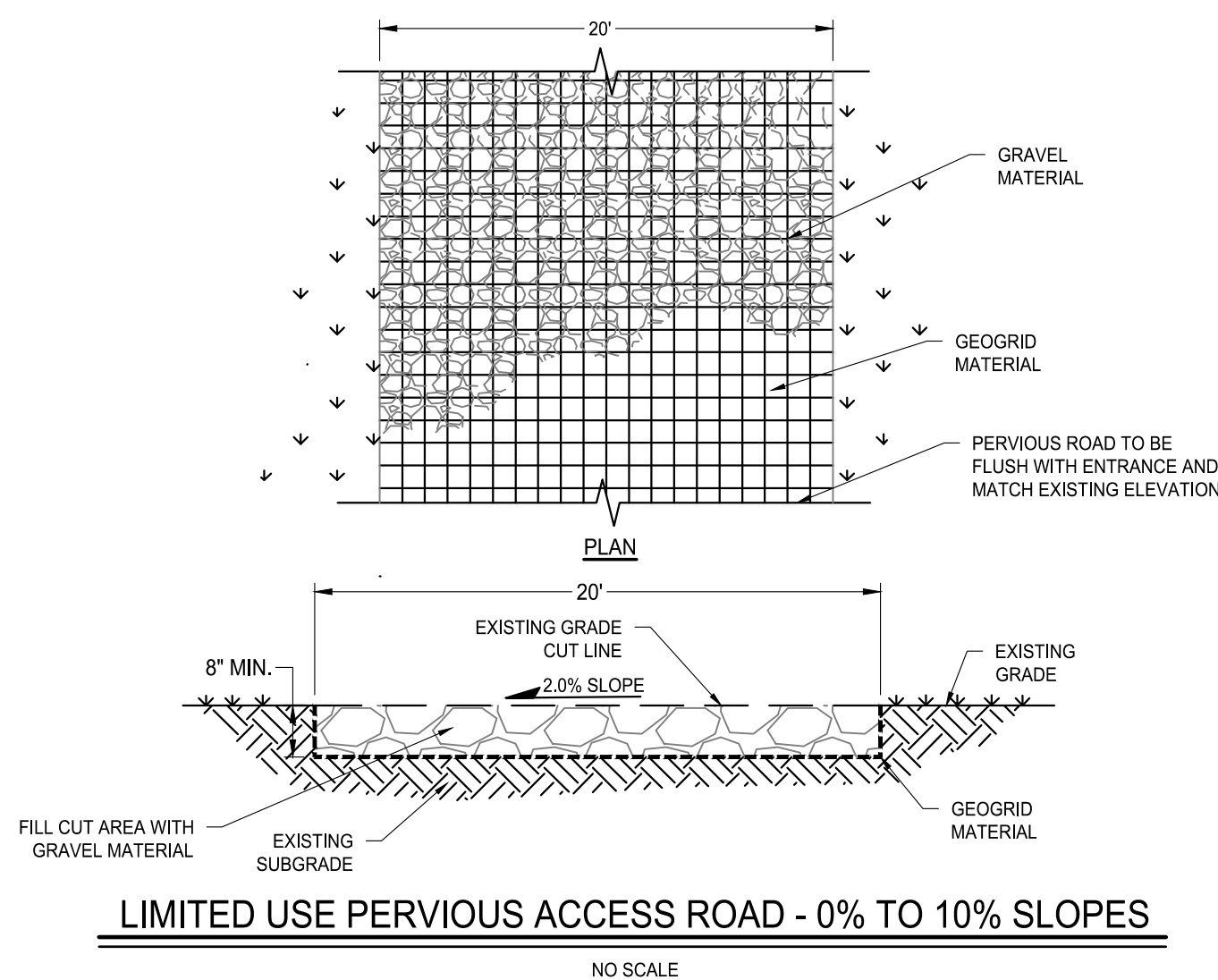
DRIVEWAY SECTION 1 (STA. 0+00 TO 10+50)



DRIVEWAY SECTION 1 (STA. 10+50 TO 16+69.01)



DRIVEWAY SECTION 2 (STA. 0+00 TO 3+70)



## GEOGRID MATERIAL NOTES:

1. THE GEOGRID, OR COMPARABLE PRODUCT, IS INTENDED FOR USE IN ALL CONDITIONS, IN ORDER TO ASSIST IN MATERIAL SEPARATION FROM NATIVE SOILS AND PRESERVE ACCESS LOADS.
2. GRAVEL FILL MATERIAL SHALL CONSIST OF 1-4" CLEAN, DURABLE, SHARP ANGLED CRUSHED STONE OF UNIFORM QUALITY, MEETING THE SPECIFICATION OF NYSDOT 703-02, SIZE DESIGNATION 3-5 OF TABLE 703-4. STONE MAY BE PLACED IN FRONT OF AND SPREAD WITH A TRACKED VEHICLE. GRAVEL SHALL NOT BE COMPACTED.
3. GEOGRID SHALL BE MIRAFI BXG110 OR APPROVED EQUAL. GEOGRID SHALL BE DESIGNED BASED ON EXISTING SOIL CONDITIONS AND PROPOSED HAUL ROAD SLOPES.
4. IF MORE THAN ONE ROLL WIDTH IS REQUIRED, ROLLS SHOULD OVERLAP A MINIMUM OF SIX INCHES.
5. REFER TO MANUFACTURER'S SPECIFICATION FOR PROPER TYING AND CONNECTIONS.
6. LIMITED USE PERVIOUS ACCESS ROAD SHALL BE DRESSED AS REQUIRED WITH ONLY 1-4" CRUSHED STONE MEETING NYSDOT 703-02 SPECIFICATIONS.

BASIS OF DESIGN: TENCATE MIRAFI BXG110 GEOGRIDS; 365 SOUTH HOLLAND DRIVE, PENDERGRASS, GA. 800-685-9990 OR 706-693-2226; WWW.MIRAFI.COM

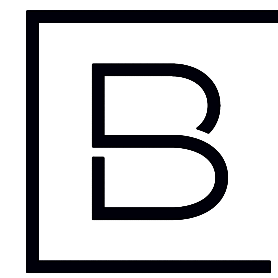
## WOVEN GEOTEXTILE MATERIAL NOTES:

1. SPECIFIED GEOTEXTILE WILL ONLY BE UTILIZED IN PLACID SOILS. PLACID SOILS CONSIST OF POORLY DRAINED SOILS COMPOSED OF FINELY TEXTURED PARTICLES AND ARE PRONE TO RUTTING. PLACID SOILS ARE TYPICALLY PRESENT IN LOW-LYING AREAS WITH HYDROLOGIC SOILS GROUP (HSG) OF C OR D OR AS SPECIFIED FROM AN ENVIRONMENTAL SCIENTIST, SOIL SCIENTIST OR GEOTECHNICAL DATA.
2. THE CONCERN OF POTENTIAL REDUCTION OF NATIVE INFILTRATION RATES DUE TO THE GEOTEXTILE MATERIAL WOULD NOT BE A SIGNIFICANT CONCERN IN POORLY DRAINED SOIL WHERE SEGREGATION OF PERVIOUS STONE AND NATIVE MATERIALS IS CRUCIAL FOR LONG TERM OPERATION AND MAINTENANCE.

BASIS OF DESIGN: TENCATE MIRAFI RSI-SERIES WOVEN GEOSYNTHETICS; 365 SOUTH HOLLAND DRIVE, PENDERGRASS, GA. 800-685-9990 OR 706-693-2226; WWW.MIRAFI.COM

## GENERAL NOTES:

1. USE OF THIS DETAIL/CRITERION IS LIMITED TO ACCESS ROADS USED ON AN OCCASIONAL BASIS ONLY (I.E. PROVIDE ACCESS FOR MOWING, EQUIPMENT REPAIR OR MAINTENANCE).
2. LIMITED USE PERVIOUS ACCESS ROAD IS LIMITED TO LOW IMPACT IRREGULAR MAINTENANCE ACCESS ASSOCIATED WITH RENEWABLE ENERGY PROJECTS IN NEW YORK STATE.
3. REMOVE STUMPS, ROCKS AND DEBRIS AS NECESSARY, FILL VOIDS TO MATCH EXISTING NATIVE SOILS AND COMPACTION LEVEL.
4. REMOVED TOPSOIL MAY BE SPREAD IN ADJACENT AREAS AS DIRECTED BY THE PROJECT ENGINEER. COMPACT TO THE DEGREE OF THE NATIVE IN SITU SOIL. DO NOT PLACE IN AN AREA THAT IMPEDES STORM WATER DRAINAGE.
5. GRADE ROADWAY, WHERE NECESSARY, TO NATIVE SOILS AND DESIRED ELEVATION. MINOR GRADING FOR CROSS SLOPE CUT AND FILL MAY BE REQUIRED.
6. REMOVE REFUSE SOILS AS DIRECTED BY THE PROJECT ENGINEER. DO NOT PLACE IN AN AREA THAT IMPEDES STORM WATER DRAINAGE.
7. ROADWAY WIDTH TO BE DETERMINED BY CLIENT.
8. THE LIMITED USE PERVIOUS ACCESS ROAD CROSS SLOPE SHALL BE 1.5% IN MOST CASES AND SHOULD NOT EXCEED 6%. THE LONGITUDINAL SLOPE OF THE ACCESS DRIVE SHOULD NOT EXCEED 15%.
9. LIMITED USE PERVIOUS ACCESS ROAD IS NOT INTENDED TO BE UTILIZED FOR CONSTRUCTION WHICH MAY SUBJECT THE ACCESS TO SEDIMENT TRACKING. THIS SPECIFICATION IS TO BE DEVELOPED FOR POST-CONSTRUCTION USE. SOIL RESTORATION PRACTICES MAY BE APPLICABLE TO RESTORE CONSTRUCTION RELATED COMPACTION TO PRE-EXISTING CONDITIONS AND SHOULD BE VERIFIED BY SOIL PENETROMETER READINGS. THE PENETROMETER READINGS SHALL BE COMPARED TO THE RESPECTIVE RECORDED READINGS TAKEN PRIOR TO CONSTRUCTION, EVERY 100 LINEAR FEET ALONG THE PROPOSED ROADWAY.
10. TO ENSURE THAT SOIL IS NOT TRACKED ONTO THE LIMITED USE PERVIOUS ACCESS ROAD, IT SHALL NOT BE USED BY CONSTRUCTION VEHICLES TRANSPORTING SOIL, FILL MATERIAL, ETC. IF THE LIMITED USE PERVIOUS ACCESS IS COMPLETED DURING THE INITIAL PHASES OF CONSTRUCTION AND UTILIZED TO REMOVE SEDIMENT FROM CONSTRUCTION VEHICLES AND EQUIPMENT PRIOR TO ENTERING THE LIMITED USE PERVIOUS ACCESS ROAD FROM ANY LOCATION ON OR OFF SITE, MAINTENANCE OF THE PERVIOUS ACCESS ROAD WILL BE REQUIRED IF SEDIMENT IS OBSERVED WITHIN THE CLEAN STONE.
11. THE LIMITED USE PERVIOUS ACCESS ROAD SHALL NOT BE CONSTRUCTED OR USED UNTIL ALL AREAS SUBJECT TO RUNOFF ONTO THE PERVIOUS ACCESS HAVE ACHIEVED FINAL STABILIZATION.
12. PROJECTS SHOULD AVOID INSTALLATION OF THE LIMITED USE PERVIOUS ACCESS ROAD IN POORLY DRAINED AREAS, HOWEVER IF NO ALTERNATIVE LOCATION IS AVAILABLE, THE PROJECT SHALL UTILIZE WOVEN GEOTEXTILE MATERIAL AS DETAILED IN FOLLOWING NOTES.
13. THE DRAINAGE DITCH IS OFFERED IN THE DETAIL FOR CIRCUMSTANCES WHEN CONCENTRATED FLOW COULD NOT BE AVOIDED. THE INTENTION OF THE DESIGN IS TO MINIMIZE ALTERATIONS TO HYDROLOGY, HOWEVER WHEN DEALING WITH 5%-15% GRADES NOT PARALLEL TO THE CONTOUR, A ROADSIDE DITCH MAY BE REQUIRED. THE NYS STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROLS FOR GRASSED WATERWAYS AND VEGETATED WATERWAYS ARE APPLICABLE FOR SIZING AND STABILIZATION. DIMENSIONS FOR THE GRASSED WATERWAY SPECIFICATION WOULD BE DESIGNED FOR PROJECT SPECIFIC HYDROLOGIC RUNOFF CALCULATIONS, AND A SEPARATE DETAIL FOR THE SPECIFIC GRASSED WATERWAY WOULD BE INCLUDED IN THIS PRACTICE. RUNOFF DISCHARGE WILL BE SUBJECT TO THE POST-DEVELOPMENT CONDITIONS. INCREASED ROADSIDE DITCH MAY REQUIRE ADDITIONAL PRACTICES TO ATTENUATE RUNOFF TO PRE-DEVELOPMENT CONDITIONS.
14. IF A ROADSIDE DITCH IS NOT UTILIZED TO CAPTURE RUNOFF FROM THE ACCESS ROAD, THE PERVIOUS ACCESS ROAD WILL HAVE A WELL-ESTABLISHED PERENNIAL VEGETATIVE COVER, WHICH SHALL CONSIST OF UNIFORM VEGETATION (I.E. BUFFER), 20 FEET WIDE AND PARALLEL TO THE DOWN GRADIENT SIDE OF THE ACCESS ROAD. POST-CONSTRUCTION OPERATION AND MAINTENANCE PRACTICES WILL MAINTAIN THIS VEGETATIVE COVER TO ENSURE FINAL STABILIZATION FOR THE LIFE OF THE ACCESS ROAD.
15. THE DESIGN PROFESSIONAL MUST ACCOUNT FOR THE LIMITED USED PERVIOUS ACCESS ROAD IN THEIR SITE ASSESSMENT/HYDROLOGY ANALYSIS. IF THE HYDROLOGY ANALYSIS SHOWS THAT THE HYDROLOGY HAS BEEN ALTERED FROM PRE- TO POST-DEVELOPMENT CONDITIONS (SEE APPENDIX A OF GP-02-001 FOR THE DEFINITION OF "ALTER THE HYDROLOGY..."), THE DESIGN MUST INCLUDE THE NECESSARY DETENTION/RETENTION PRACTICES TO ATTENUATE THE RATES (10 AND 100 YEAR EVENTS) TO PRE-DEVELOPMENT CONDITIONS.



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**NY ALFRED I, LLC.**

## COMMUNITY SOLAR FARM PROJECT

5568 JERICHO HILL ROAD  
ALFRED, NY 14803

Date Revised	Description
07/01/2021	REVISED PER TOWN COMMENTS
09/03/2021	REVISED PER TOWN COMMENTS
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Project Manager	Discipline Lead
<b>DJP</b>	<b>DJP</b>
Designer	Reviewer
<b>JL</b>	<b>ECR</b>
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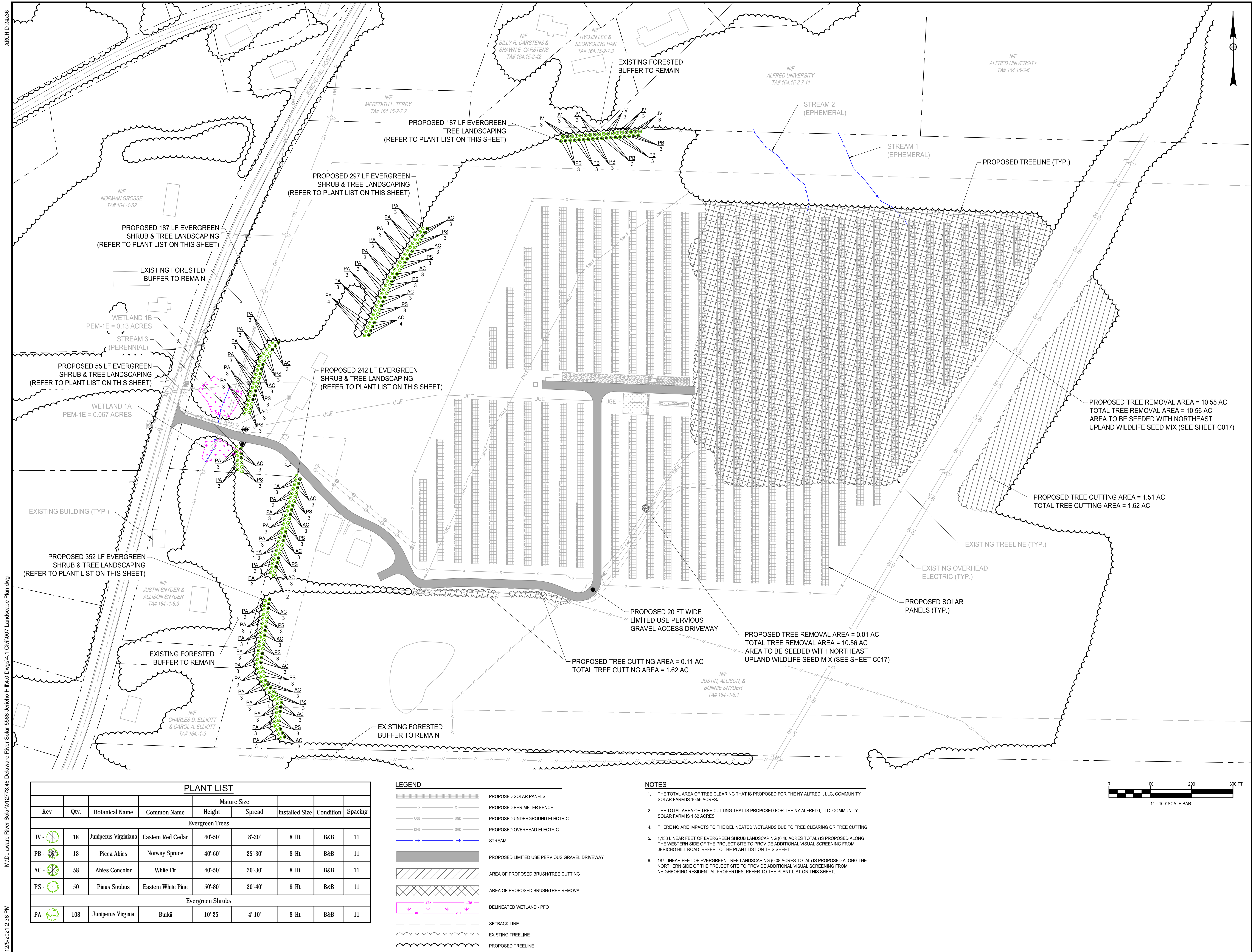
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## GRADING PLAN DETAILS

Drawing Number

**C009**





## PLANT LIST

Key	Qty.	Botanical Name	Common Name	Height	Spread	Installed Size	Condition	Spacing
Evergreen Trees								
JV -	18	Juniperus Virginiana	Eastern Red Cedar	40'-50'	8'-20'	8' Ht.	B&B	11'
PB -	18	Picea Abies	Norway Spruce	40'-60'	25'-30'	8' Ht.	B&B	11'
AC -	58	Abies Concolor	White Fir	40'-50'	20'-30'	8' Ht.	B&B	11'
PS -	50	Pinus Strobus	Eastern White Pine	50'-80'	20'-40'	8' Ht.	B&B	11'
Evergreen Shrubs								
PA -	108	Juniperus Virginia	Burkii	10'-25'	4'-10'	8' Ht.	B&B	11'

## LEGEND

	PROPOSED SOLAR PANELS
	PROPOSED PERIMETER FENCE
	PROPOSED UNDERGROUND ELECTRIC
	PROPOSED OVERHEAD ELECTRIC
	STREAM
	PROPOSED LIMITED USE PERVIOUS GRAVEL DRIVEWAY
	AREA OF PROPOSED BRUSH/TREE CUTTING
	AREA OF PROPOSED BRUSH/TREE REMOVAL
	DELINEATED WETLAND - PFO
	SETBACK LINE
	EXISTING TREELINE
	PROPOSED TREELINE

## NOTES

- THE TOTAL AREA OF TREE CLEARING THAT IS PROPOSED FOR THE NY ALFRED I, LLC. COMMUNITY SOLAR FARM IS 10.56 ACRES.
- THE TOTAL AREA OF TREE CUTTING THAT IS PROPOSED FOR THE NY ALFRED I, LLC. COMMUNITY SOLAR FARM IS 1.62 ACRES.
- THERE ARE NO IMPACTS TO THE DELINEATED WETLANDS DUE TO TREE CLEARING OR TREE CUTTING.
- 1,133 LINEAR FEET OF EVERGREEN SHRUB LANDSCAPING (0.46 ACRES TOTAL) IS PROPOSED ALONG THE WESTERN SIDE OF THE PROJECT SITE TO PROVIDE ADDITIONAL VISUAL SCREENING FROM JERICO HILL ROAD. REFER TO THE PLANT LIST ON THIS SHEET.
- 187 LINEAR FEET OF EVERGREEN TREE LANDSCAPING (0.08 ACRES TOTAL) IS PROPOSED ALONG THE NORTHERN SIDE OF THE PROJECT SITE TO PROVIDE ADDITIONAL VISUAL SCREENING FROM NEIGHBORING RESIDENTIAL PROPERTIES. REFER TO THE PLANT LIST ON THIS SHEET.



## NY ALFRED I, LLC.

COMMUNITY SOLAR  
FARM PROJECT

5568 JERICO HILL ROAD  
ALFRED, NY 14803

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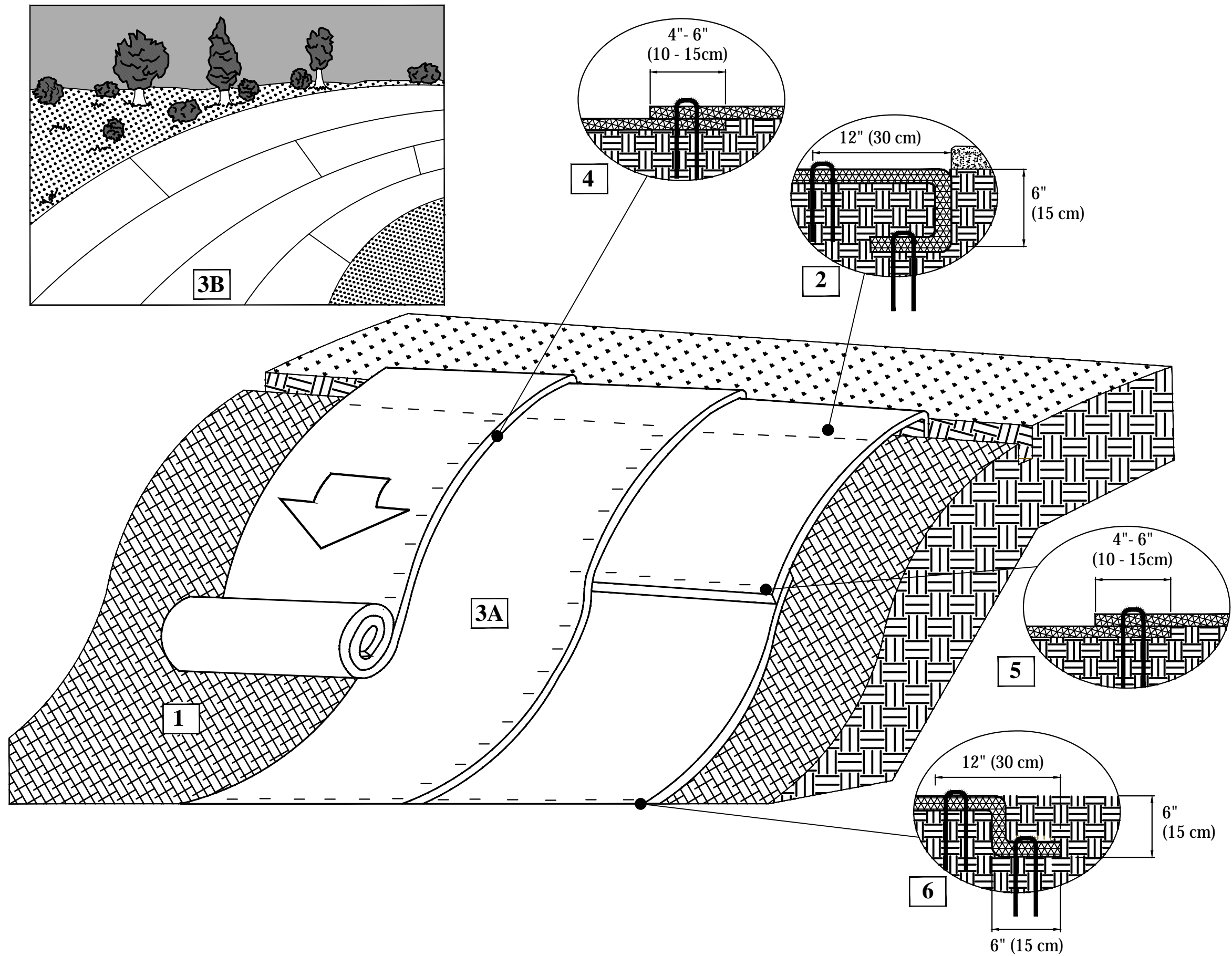
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## LANDSCAPE PLAN

Drawing Number

**C010**

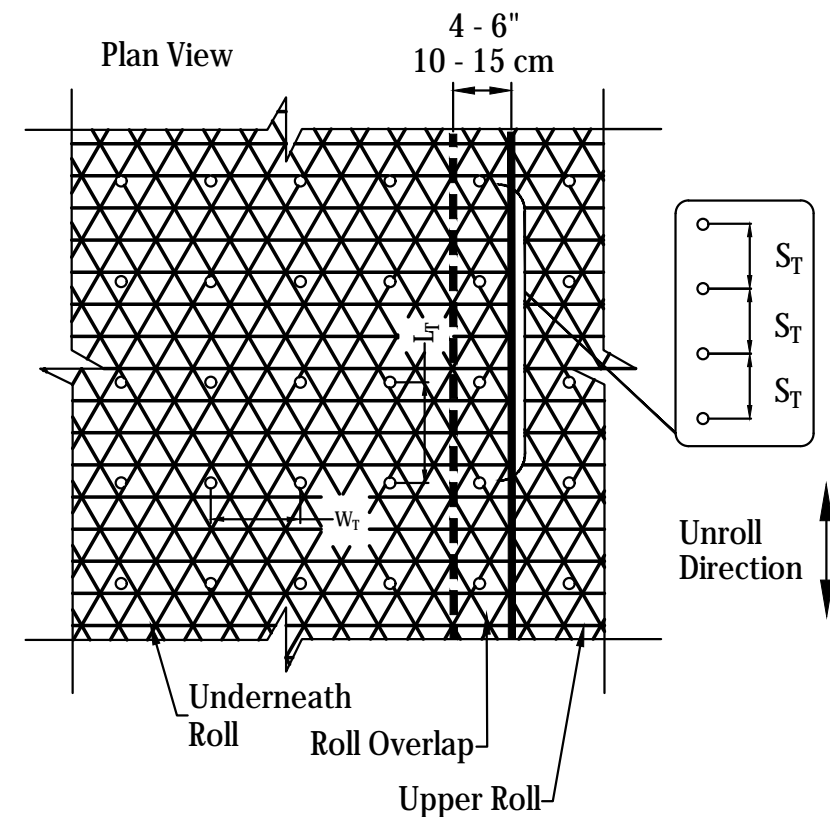




### Instructions

1. Prepare soil before installing rolled erosion control products (RECPs), including any necessary application of lime, fertilizer, and seed. Ground surface must be free of debris, rocks, clay clods and raked smooth sufficient to allow intimate contact of the RECP with the soil over the entirety of the installation.
2. Begin at the top of the slope by anchoring the RECPs in a 6" (15 cm) deep X 6" (15 cm) wide trench. Anchor the RECPs with a row of staples/stakes/pins spaced at  $S_T$  apart in the bottom of the trench. Backfill and compact the trench after stapling and fold the roll over downslope. Secure RECPs over compacted soil with a row of staples/stakes/pins spaced at  $S_T$  apart across the width of the RECPs.
3. Roll the RECPs (A) down or (B) horizontally across the slope. RECPs will unroll with appropriate side against the soil surface. All RECPs must be securely fastened to soil surface by placing staples/stakes/pins in appropriate locations as shown in the staple pattern guide. RollMax RECPs and ECBs should utilize Staple Pattern C. TRMs and VMax materials should utilize Staple Pattern D.
4. The edges of parallel RECPs must be stapled with approximately 4" - 6" (10 - 15 cm) overlap.
5. Consecutive RECPs spliced down the slope must overlapped with the upstream mat atop the downstream mat (shingle style). The overlap should be 4" - 6" (10 - 15 cm).
6. At the terminal end, secure each mat across the width with a row of staples/stakes/pins spaced at  $S_T$ . If exposed to flow, foot traffic, wind uplift or other disruption, trench the terminal end in as shown in detail.
7. Fasteners should provide a minimum of twenty pounds of pullout resistance. Six-inch (10 cm) X one-inch (2.5 cm) eleven gauge staples are typically adequate. In loose soils, longer staples may be necessary, twist pins can provide the greatest pullout resistance. In hard or rocky soils, straight pins may be used where staples or twist pins are refused, provided the minimum pullout requirements are met. Bio-degradable fasteners shall not be used with VMax (TRM) or TMax (HPTRM) materials.

### Staple Pattern Guide



○ Pin / Staple / Twist Pin, as appropriate for field conditions

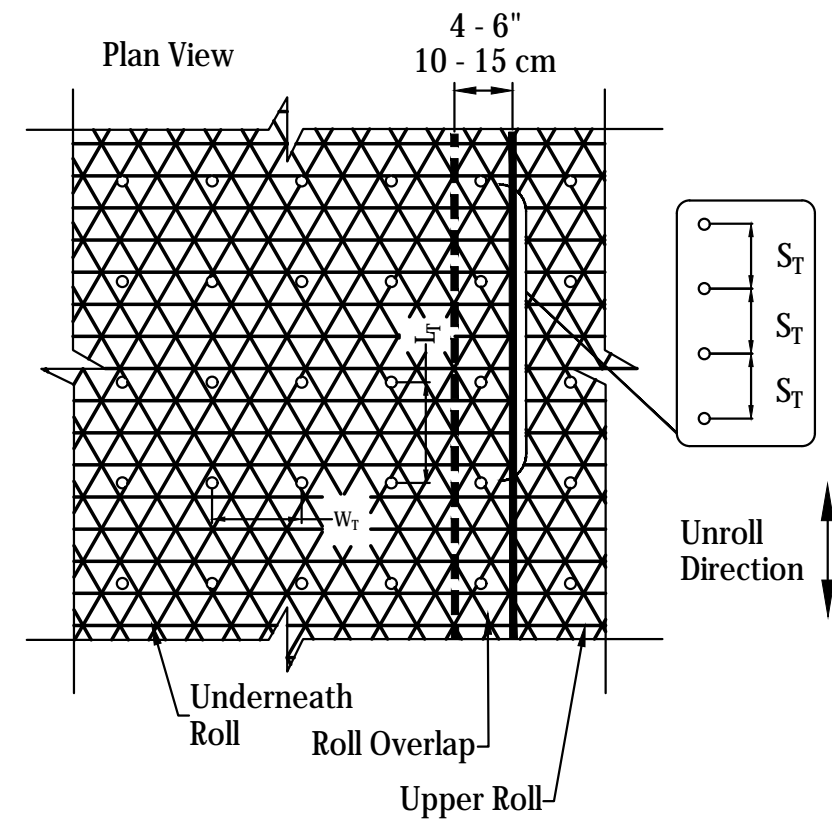
Staple Pattern		
Dimension	C	D
$W_T$	30" (75 cm)	24" (60 cm)
$L_T$	30" (75 cm)	20" (50 cm)
$S_T$	18" (45 cm)	18" (45 cm)
Nominal Frequency	1.7 / SY	3.0 / SY
Application	ECB (Degradable)	TRM (Permanent)

\*Note: Staple Pattern A and B used prior to 8/2019 have been discontinued.

### Instructions

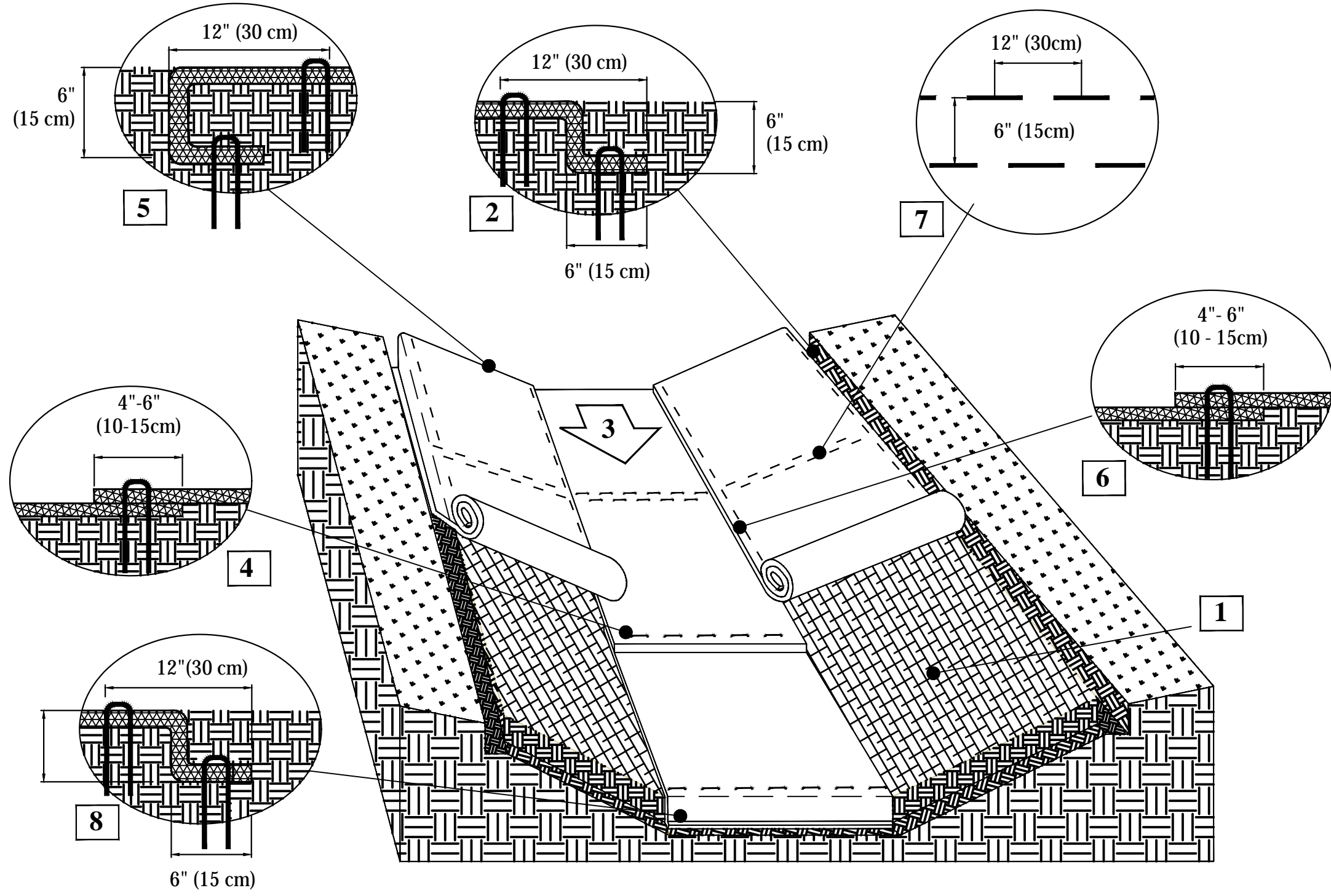
1. Prepare soil before installing rolled erosion control products (RECPs), including any necessary application of lime, fertilizer, and seed. Ground surface must be free of debris, rocks, clay clods and raked smooth sufficient to allow intimate contact of the RECP with the soil over the entirety of the installation.
2. Begin at the top of the channel by anchoring the RECPs in a 6" (15 cm) deep X 6" (15 cm) wide trench with approximately 12" (30 cm) of RECPs extended beyond the up-slope portion of the trench. Use ShoreMax mat at the channel/culvert outlet as supplemental scour protection as needed. Anchor the RECPs with a row of staples/stakes/pins approximately 12" (30 cm) apart in the bottom of the trench. Backfill and compact the trench after stapling. Apply seed to the compacted soil and fold the remaining 12" (30 cm) portion of RECPs back over the seed and compacted soil. Secure RECPs over compacted soil with a row of staples/stakes/pins spaced approximately 12" (30 cm) apart across the width of the RECPs.
3. Roll center RECPs in direction of water flow in bottom of channel. RECPs will unroll with appropriate side against the soil surface. All RECPs must be securely fastened to soil surface by placing staples/stakes/pins in appropriate locations as shown in the staple pattern guide.
4. Place consecutive RECPs end-over-end (Shingle style) with a 4" - 6" (10 - 15 cm) overlap. Use a double row of staples staggered 4" apart and 4" on center to secure RECPs.
5. Full length edge of RECPs at top of side slopes must be anchored with a row of staples/stakes/pins spaced at  $S_T$  apart in a 6" (15 cm) deep X 6" (15 cm) wide trench. Backfill and compact the trench after stapling.
6. Adjacent RECPs must be overlapped approximately 4" - 6" (10 - 15 cm) and secured with staples/stakes/pins at  $S_T$ .
7. In high flow channel applications a staple check slot is recommended at 30 to 40 foot (9 - 12m) intervals. Use a double row of staples staggered 6" (15 cm) apart and 12" (30 cm) on center over entire width of the channel.
8. The terminal end of the RECPs must be anchored with a row of staples/stakes/pins spaced at  $S_T$  apart in a 6" (15 cm) deep X 6" (15 cm) wide trench. Backfill and compact the trench after stapling.
9. Fasteners should provide a minimum of twenty pounds of pullout resistance. Six-inch (10 cm) X one-inch (2.5 cm) eleven gauge staples are typically adequate. In loose soils, longer staples may be necessary, twist pins can provide the greatest pullout resistance. In hard or rocky soils, straight pins may be used where staples or twist pins are refused, provided the minimum pullout requirements are met. Bio-degradable fasteners shall not be used with VMax (TRM) or TMax (HPTRM) materials.

### Staple Pattern Guide



○ Pin / Staple / Twist Pin, as appropriate for field conditions

Staple Pattern	
Dimension	E
$W_T$	20" (50 cm)
$L_T$	20" (50 cm)
$S_T$	18" (45 cm)
Nominal Frequency	3.8 / SY

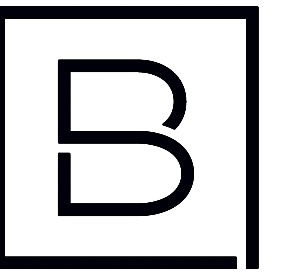


**CRITICAL POINTS**  
A. Overlaps and Seams  
B. Projected Water Line  
C. Channel Bottom/Side Slope Vertices

NOTES:  
\*Horizontal staple spacing should be altered if necessary to allow staples to secure the critical points along the channel surface.

### EROSION CONTROL BLANKET STAPLE PATTERN

NO SCALE



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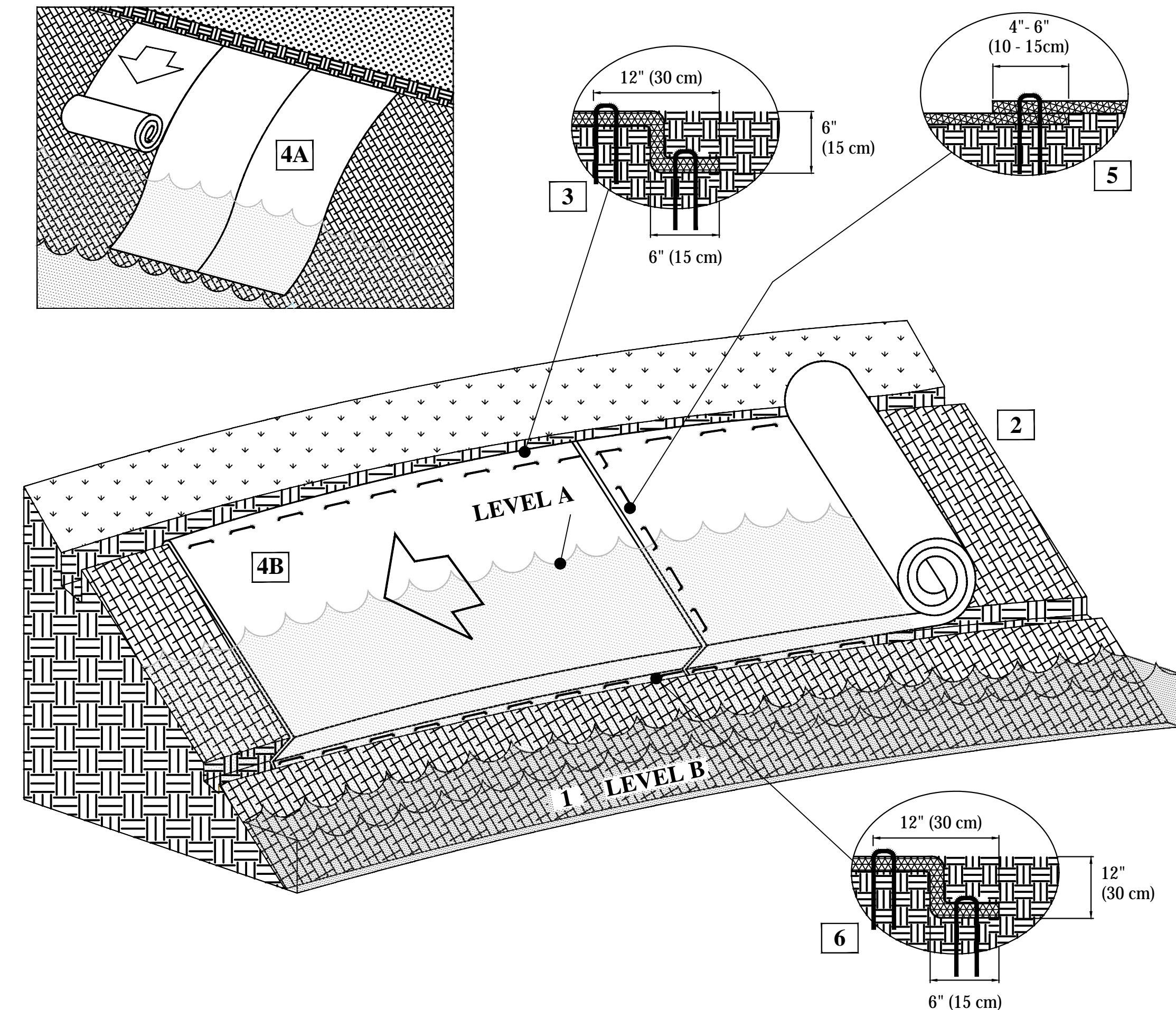
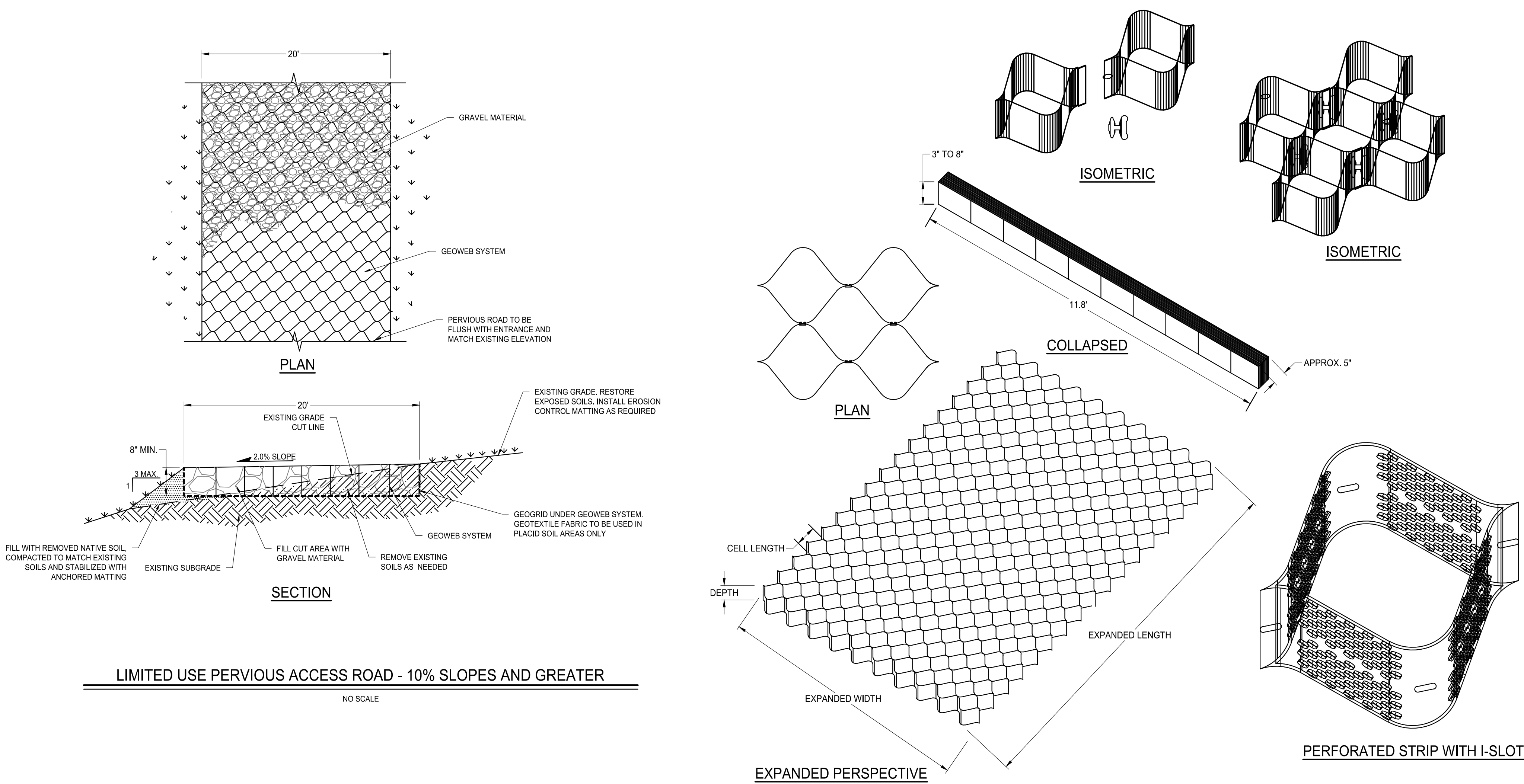
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**DETAILS I**

Drawing Number

**C011**

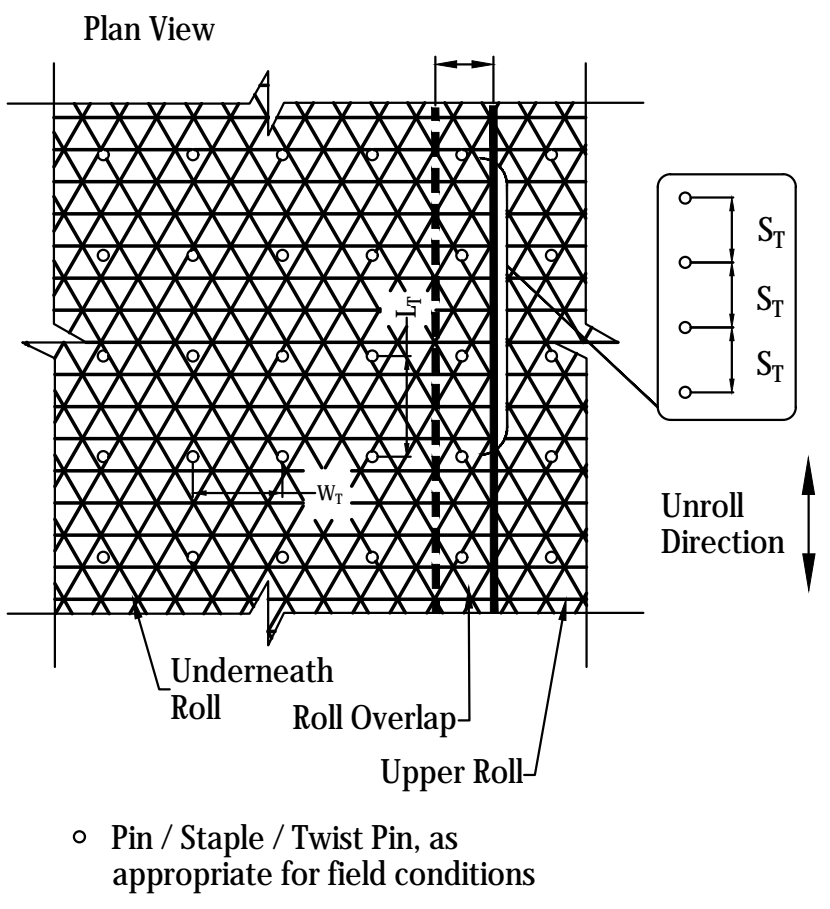




Instructions

- For easier installation, lower water level from Level A to Level B before installation.
- Prepare soil before installing rolled erosion control products (RECPs), including any necessary application of lime, fertilizer, and seed. Ground surface must be free of debris, rocks, clay clods and raked smooth sufficient to allow intimate contact of the RECP with the soil over the entirety of the installation.
- Begin at the top of the shoreline by anchoring the RECPs in a 6" (15 cm) deep X 6" (15 cm) wide trench. Anchor the RECPs with a row of staples/stakes/pins spaced at  $S_T$  apart in the bottom of the trench. Backfill and compact the trench after stapling.
- Roll RECPs either (A) down the shoreline for long banks (top to bottom) or (B) horizontally across the shoreline slope. RECPs will unroll with appropriate side against the soil surface. VMax TRMs should always be installed parallel to flow. All RECPs must be securely fastened to soil surface by placing staples/stakes/pins in appropriate locations as shown in the staple pattern guide.
- The edges of all horizontal and vertical seams must be stapled with approximately 4" - 6" (10 - 15 cm) overlap. Note: \*In streambank applications, seam overlaps should be shingled in the predominant flow direction.
- The edges of the RECPs at or below normal water level must be anchored by placing the RECP's in a 12" (30 cm) deep X 6" (15 cm) wide anchor trench. Anchor the RECPs with a row of staples/stakes/pins spaced approximately 12" (30cm) apart in the trench. Backfill and compact the trench after stapling (stone or soil may be used as backfill). For installation at or below normal water level, use of ShoreMax mat on top of the RECP or geotextile underneath is likely required for sections below the normal water line.
- Fasteners should provide a minimum of twenty pounds of pullout resistance. Six-inch (10 cm) X one-inch (2.5 cm) eleven gauge staples are typically adequate. In loose soils, longer staples may be necessary, twist pins can provide the greatest pullout resistance. In hard or rocky soils, straight pins may be used where staples or twist pins are refused, provided the minimum pullout requirements are met. Bio-degradable fasteners shall not be used with VMax (TRM) or TMax (HPTRM) materials.

Staple Pattern Guide



Staple Pattern	
Dimension	E
$W_T$	20" (50 cm)
$L_T$	20" (50 cm)
$S_T$	18" (45 cm)
Nominal Frequency	3.8 / SY

- GENERAL NOTES:
- USE OF THIS DETAIL/CRITERION IS LIMITED TO ACCESS ROADS USED ON AN OCCASIONAL BASIS ONLY (I.E. PROVIDE ACCESS FOR MOWING, EQUIPMENT REPAIR OR MAINTENANCE)
  - LIMITED USE PERVIOUS ACCESS ROAD IS LIMITED TO LOW IMPACT IRREGULAR MAINTENANCE ACCESS ASSOCIATED WITH RENEWABLE ENERGY PROJECTS IN NEW YORK STATE.
  - REMOVE STUMPS, ROCKS AND DEBRIS AS NECESSARY. FILL VOIDS TO MATCH EXISTING NATIVE SOILS AND COMPACTION LEVEL.
  - REMOVED TOPSOIL MAY BE SPREAD IN ADJACENT AREAS AS DIRECTED BY THE PROJECT ENGINEER, COMPACT TO THE DEGREE OF THE NATIVE IN SITU SOIL. DO NOT PLACE IN AN AREA THAT IMPEDES STORM WATER DRAINAGE.
  - GRADE ROADWAY, WHERE NECESSARY, TO NATIVE SOILS AND DESIRED ELEVATION. MINOR GRADING FOR CROSS SLOPE CUT AND FILL MAY BE REQUIRED.
  - REMOVE REFUSE SOILS AS DIRECTED BY THE PROJECT ENGINEER. DO NOT PLACE IN AN AREA THAT IMPEDES STORM WATER DRAINAGE.
  - ROADWAY WIDTH TO BE DETERMINED BY CLIENT.
  - THE LIMITED USE PERVIOUS ACCESS ROAD CROSS SLOPE SHALL BE 1.5% IN MOST CASES AND SHOULD NOT EXCEED 6%. THE LONGITUDINAL SLOPE OF THE ACCESS DRIVE SHOULD NOT EXCEED 15%.
  - LIMITED USE PERVIOUS ACCESS ROAD IS NOT INTENDED TO BE UTILIZED FOR CONSTRUCTION WHICH MAY SUBJECT THE ACCESS TO SEDIMENT TRACKING. THIS SPECIFICATION IS TO BE DEVELOPED FOR POST-CONSTRUCTION USE. SOIL RESTORATION PRACTICES MAY BE APPLICABLE TO RESTORE CONSTRUCTION RELATED COMPACTION TO PRE-EXISTING CONDITIONS AND SHOULD BE VERIFIED BY SOIL PENETROMETER READINGS. THE PENETROMETER READINGS SHALL BE COMPARED TO THE RESPECTIVE RECORDED READINGS TAKEN PRIOR TO CONSTRUCTION, EVERY 100 LINEAR FEET ALONG THE PROPOSED ROADWAY.
  - TO ENSURE THAT SOIL IS NOT TRACKED ONTO THE LIMITED USE PERVIOUS ACCESS ROAD, IT SHALL NOT BE USED BY CONSTRUCTION VEHICLES TRANSPORTING SOIL, FILL MATERIAL, ETC. IF THE LIMITED USE PERVIOUS ACCESS IS COMPLETED DURING THE INITIAL PHASES OF CONSTRUCTION AND UTILIZED TO REMOVE SEDIMENT FROM CONSTRUCTION VEHICLES AND EQUIPMENT PRIOR TO ENTERING THE LIMITED USE PERVIOUS ACCESS ROAD FROM ANY LOCATION ON, OR OFF SITE, MAINTENANCE OF THE PERVIOUS ACCESS ROAD WILL BE REQUIRED IF SEDIMENT IS OBSERVED WITHIN THE CLEAN STONE.
  - THE LIMITED USE PERVIOUS ACCESS ROAD SHALL NOT BE CONSTRUCTED OR USED UNTIL ALL AREAS SUBJECT TO RUNOFF ONTO THE PERVIOUS ACCESS HAVE ACHIEVED FINAL STABILIZATION.
  - PROJECTS SHOULD AVOID INSTALLATION OF THE LIMITED USE PERVIOUS ACCESS ROAD IN POORLY DRAINED AREAS, HOWEVER IF NO ALTERNATIVE LOCATION IS AVAILABLE, THE PROJECT SHALL UTILIZE WOVEN GEOTEXTILE MATERIAL AS DETAILED IN FOLLOWING NOTES.
  - THE DRAINAGE DITCH IS OFFERED IN THE DETAIL FOR CIRCUMSTANCES WHEN CONCENTRATED FLOW COULD NOT BE AVOIDED. THE INTENTION OF THE DESIGN IS TO MINIMIZE ALTERATIONS TO HYDROLOGY, HOWEVER WHEN DEALING WITH 5%-15% GRADES NOT PARALLEL TO THE CONTOUR, A ROADSIDE DITCH MAY BE REQUIRED. THE NYS STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL FOR GRASSED WATERWAYS AND VEGETATED WATERWAYS ARE APPLICABLE FOR SIZING AND STABILIZATION. DIMENSIONS FOR THE GRASSED WATERWAY SPECIFICATION WOULD BE DESIGNED FOR PROJECT SPECIFIC HYDROLOGIC RUNOFF CALCULATIONS, AND A SEPARATE DETAIL FOR THE SPECIFIC GRASSED WATERWAY WOULD BE INCLUDED IN THIS PRACTICE. RUNOFF DISCHARGE WILL BE SUBJECT TO THE OUTLET REQUIREMENTS OF THE REFERENCED STANDARD, INCREASED POST-DEVELOPMENT RUNOFF FROM THE ASSOCIATED ROADSIDE DITCH MAY REQUIRE ADDITIONAL PRACTICES TO ATTENUATE RUNOFF TO PRE-DEVELOPMENT CONDITIONS.
  - IF A ROADSIDE DITCH IS NOT UTILIZED TO CAPTURE RUNOFF FROM THE ACCESS ROAD, THE PERVIOUS ACCESS ROAD WILL HAVE A WELL-ESTABLISHED PERENNIAL VEGETATIVE COVER, WHICH SHALL CONSIST OF UNIFORM VEGETATION (I.E. BUFFER), 20 FEET WIDE AND PARALLEL TO THE DOWN GRADIENT SIDE OF THE ACCESS ROAD. POST-CONSTRUCTION OPERATION AND MAINTENANCE PRACTICES WILL MAINTAIN THIS VEGETATIVE COVER TO ENSURE FINAL STABILIZATION FOR THE LIFE OF THE ACCESS ROAD.
  - THE DESIGN PROFESSIONAL MUST ACCOUNT FOR THE LIMITED USED PERVIOUS ACCESS ROAD IN THEIR SITE ASSESSMENT / HYDROLOGY ANALYSIS. IF THE HYDROLOGY ANALYSIS SHOWS THAT THE HYDROLOGY HAS BEEN ALTERED FROM PRE- TO POST-DEVELOPMENT CONDITIONS (SEE APPENDIX A OF GP-4-20-001 FOR THE DEFINITION OF "ALTER THE HYDROLOGY..."), THE DESIGN MUST INCLUDE THE NECESSARY DETENTION/RETENTION PRACTICES TO ATTENUATE THE RATES (10 AND 100 YEAR EVENTS) TO PRE-DEVELOPMENT CONDITIONS.

- GEOWEB MATERIAL NOTES:
- THE GEOWEB, OR COMPARABLE PRODUCT, IS INTENDED FOR USE IN ALL CONDITIONS, IN ORDER TO ASSIST IN MATERIAL SEPARATION FROM NATIVE SOILS AND PRESERVE ACCESS LOADS.
  - GRAVEL FILL MATERIAL SHALL CONSIST OF 1-1/4" CLEAN, DURABLE, SHARP ANGLED CRUSHED STONE OF UNIFORM QUALITY, MEETING THE SPECIFICATION OF NYSDOT 703-02, SIZE DESIGNATION 3-5 OF TABLE 703-4. STONE MAY BE PLACED IN FRONT OF AND SPREAD WITH A TRACKED VEHICLE. GRAVEL SHALL NOT BE COMPACTED.
  - GEOWEB SHALL BE MIRAFI BKG110 OR APPROVED EQUAL. GEOWEB SHALL BE DESIGNED BASED ON EXISTING SOIL CONDITIONS AND PROPOSED HAUL ROAD SLOPES.
  - IF MORE THAN ONE ROLL WIDTH IS REQUIRED, ROLLS SHOULD OVERLAP A MINIMUM OF SIX INCHES.
  - REFER TO MANUFACTURER'S SPECIFICATION FOR PROPER TYING AND CONNECTIONS.
  - LIMITED USE PERVIOUS ACCESS ROAD SHALL BE DRESSED AS REQUIRED WITH ONLY 1-1/4" CRUSHED STONE MEETING NYSDOT 703-02 SPECIFICATIONS.

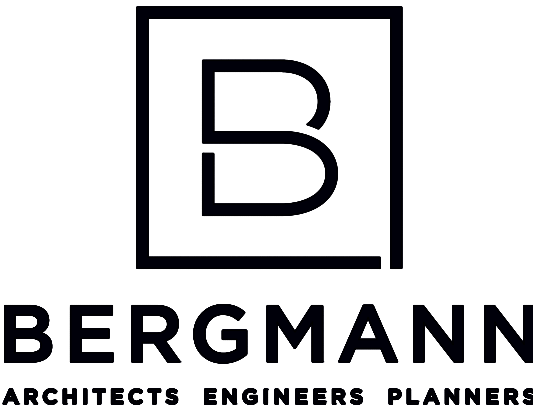
BASIS OF DESIGN: TENCATE MIRAFI BKG110 GEOWEB, 365 SOUTH HOLLAND DRIVE, PENDERGRASS, GA; 800-885-9990 OR 706-693-2226; WWW.MIRAFI.COM

- GEOWEB MATERIAL NOTES:
- THE GEOWEB, OR COMPARABLE PRODUCT, IS SUGGESTED FOR USE ON ROAD PROFILES EXCEEDING 10%. THE GEOWEB PRODUCT IS INTENDED TO LIMIT SHIFTING STONE MATERIAL DURING USE.
  - INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
  - WHERE REQUIRED, A NATIVE SOIL WEDGE SHALL BE PLACED TO ACCOMMODATE ROAD CROSS SLOPE OF 1.5%. NATIVE SOIL SHALL BE COMPACTED TO MATCH EXISTING SOIL CONDITIONS.
  - GRAVEL FILL MATERIAL SHALL CONSIST OF 1-1/4" CLEAN, DURABLE, SHARP ANGLED CRUSHED STONE OF UNIFORM QUALITY, MEETING THE SPECIFICATIONS OF NYSDOT ITEM 703-02, SIZE DESIGNATION 3-5 OF TABLE 703-4. STONE MAY BE PLACED IN FRONT OF AND SPREAD WITH A TRACKED VEHICLE. GRAVEL SHALL NOT BE COMPACTED.
  - GEOWEB SYSTEM SHALL BE PRESTO GEOSYSTEM GEOWEB OR APPROVED EQUAL. GEOWEB SHALL BE DESIGNED BASED ON EXISTING SOIL CONDITIONS AND PROPOSED HAUL ROAD SLOPES.
  - LIMITED USE PERVIOUS ACCESS ROAD SHALL BE FLUSH WHEN CONNECTIVE, ALIGN THE I-SLOTS FOR INTERLEAF AND END TO END CONNECTIONS. THE GEOWEB PANELS SHALL BE CONNECTED WITH ATRA KEYS AT THE INTERLEAF AND END TO END CONNECTIONS. REFER TO MANUFACTURER'S SPECIFICATION FOR PROPER INSTALLATION, TYING AN CONNECTIONS.

BASIS OF DESIGN: PRESTO GEOSYSTEMS GEOWEB, 670 NORTH PERKINS STREET, APPLETON, WI; 800-549-3424 OR 920-738-1222; INFO@PRESTOGEOM.COM; WWW.PRESTOGEOM.COM

- WOVEN GEOTEXTILE MATERIAL NOTES:
- SPECIFIED GEOTEXTILE WILL ONLY BE UTILIZED IN PLACID SOILS. PLACID SOILS CONSIST OF POORLY DRAINED SOILS COMPOSED OF FINELY TEXTURED PARTICLES AND ARE PRONE TO RUTTING. PLACID SOILS ARE TYPICALLY PRESENT IN LOW-LYING AREAS WITH HYDROLOGIC SOILS GROUP (HSG) OF C OR D OR AS SPECIFIED FROM AN ENVIRONMENTAL SCIENTIST, SOIL SCIENTIST OR GEOTECHNICAL DATA.
  - THE CONCERN OF POTENTIAL REDUCTION OF NATIVE INFILTRATION RATES DUE TO THE GEOTEXTILE MATERIAL WOULD NOT BE A SIGNIFICANT CONCERN IN POORLY DRAINED SOILS WHERE SEGREGATION OF PERVIOUS STONE AND NATIVE MATERIALS IS CRUCIAL FOR LONG TERM OPERATION AND MAINTENANCE.

BASIS OF DESIGN: TENCATE MIRAFI RSI-SERIES WOVEN GEOSYNTHETICS; 365 SOUTH HOLLAND DRIVE, PENDERGRASS, GA; 800-885-9990 OR 706-693-2226; WWW.MIRAFI.COM



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NY ALFRED I, LLC.

COMMUNITY SOLAR FARM PROJECT

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ALFRED, NY 14803

Date Revised	Description
07/01/2021	REVISED PER TOWN COMMENTS
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Project Manager	Discipline Lead
DJP	DJP
Designer	Reviewer
JL	ECR
Date Issued	Project Number
05/28/2021	12773.46

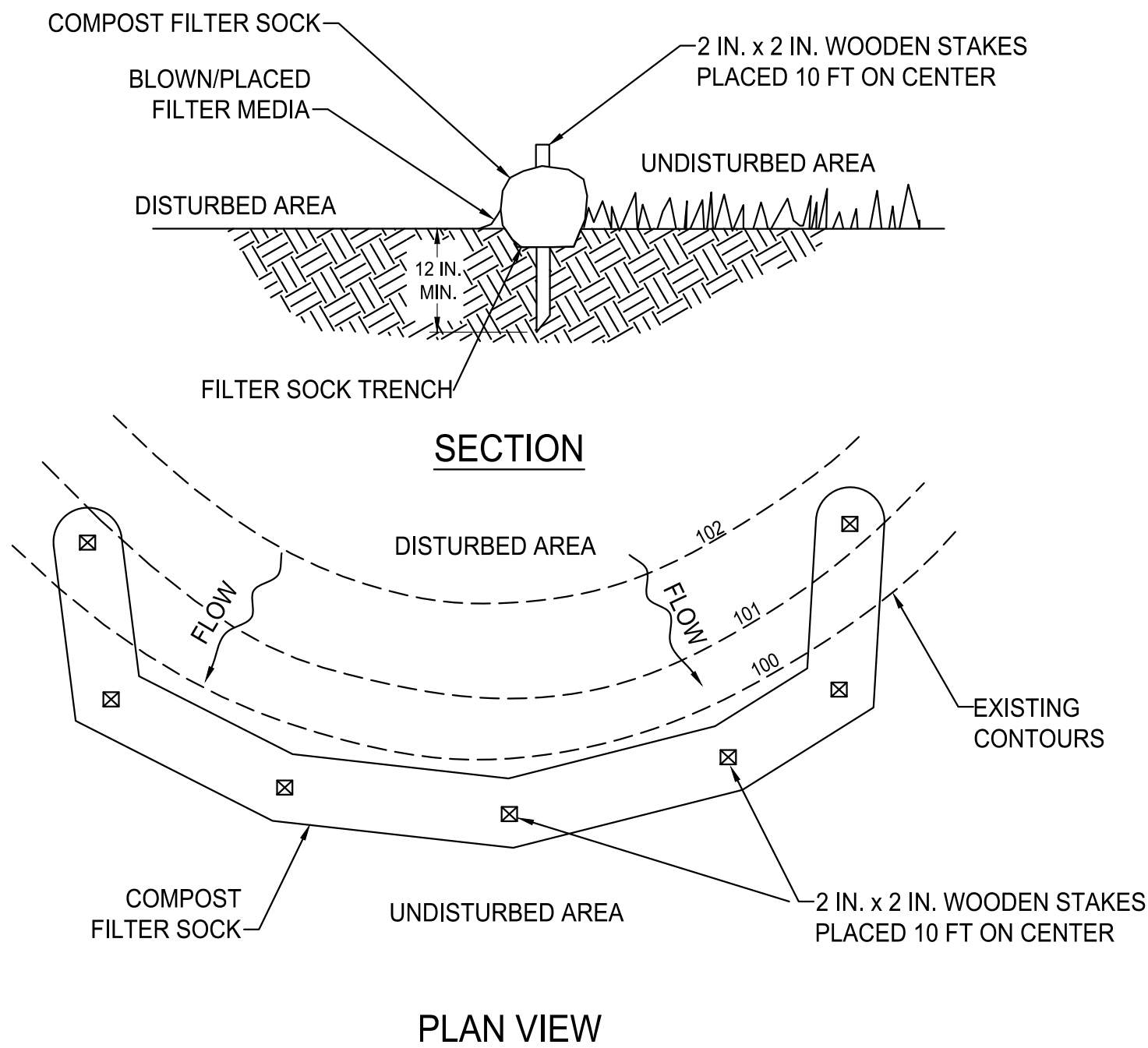
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DETAILS II

Drawing Number

C012

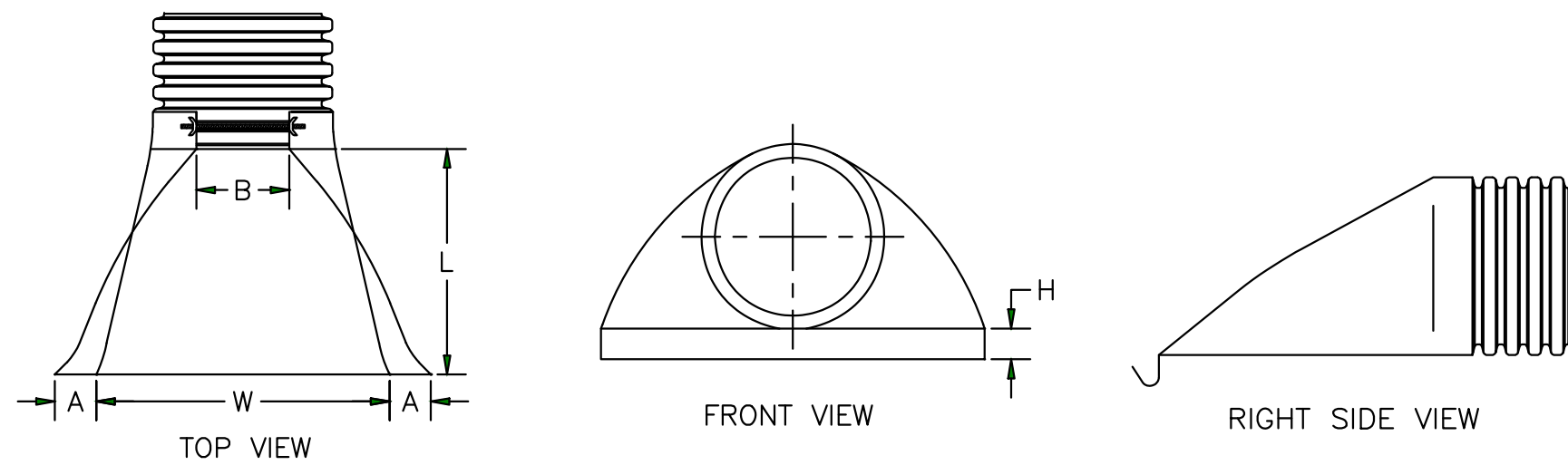




- NOTES:
1. SOCK FABRIC AND COMPOST SHALL MEET ALL STATE STANDARDS.
  2. COMPOST FILTER SOCK SHALL BE PLACED AT EXISTING LEVEL GRADE. BOTH ENDS OF THE BARRIER SHALL BE EXTENDED AT LEAST 8 FEET UP SLOPE AT 45 DEGREES TO THE MAIN BARRIER ALIGNMENT. MAXIMUM SLOPE LENGTH ABOVE ANY BARRIER SHALL NOT EXCEED THAT SPECIFIED FOR THE SIZE OF THE SOCK AND THE SLOPE OF ITS TRIBUTARY AREA.
  3. TRAFFIC SHALL NOT BE PERMITTED TO CROSS COMPOST FILTER SOCKS.
  4. ACCUMULATED SEDIMENT SHALL BE REMOVED WHEN IT REACHES 1/2 THE ABOVE GROUND HEIGHT OF THE BARRIER AND DISPOSED IN THE MANNER DESCRIBED ELSEWHERE IN THE PLAN.
  5. COMPOST FILTER SOCKS SHALL BE INSPECTED WEEKLY AND AFTER EACH RUNOFF EVENT. DAMAGED SOCKS SHALL BE REPAIRED ACCORDING TO MANUFACTURER'S SPECIFICATIONS OR REPLACED WITHIN 24 HOURS OF INSPECTION.
  6. BIODEGRADABLE COMPOST FILTER SOCKS SHALL BE REPLACED AFTER 6 MONTHS; PHOTODEGRADABLE SOCKS AFTER 1 YEAR. POLYPROPYLENE SOCKS SHALL BE REPLACED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.
  7. UPON STABILIZATION OF THE AREA TRIBUTARY TO THE SOCK, STAKES SHALL BE REMOVED. THE SOCK MAY BE LEFT IN PLACE AND VEGETATED OR REMOVED. IN THE LATTER CASE, THE MESH SHALL BE CUT OPEN AND THE MULCH SPREAD AS A SOIL SUPPLEMENT.

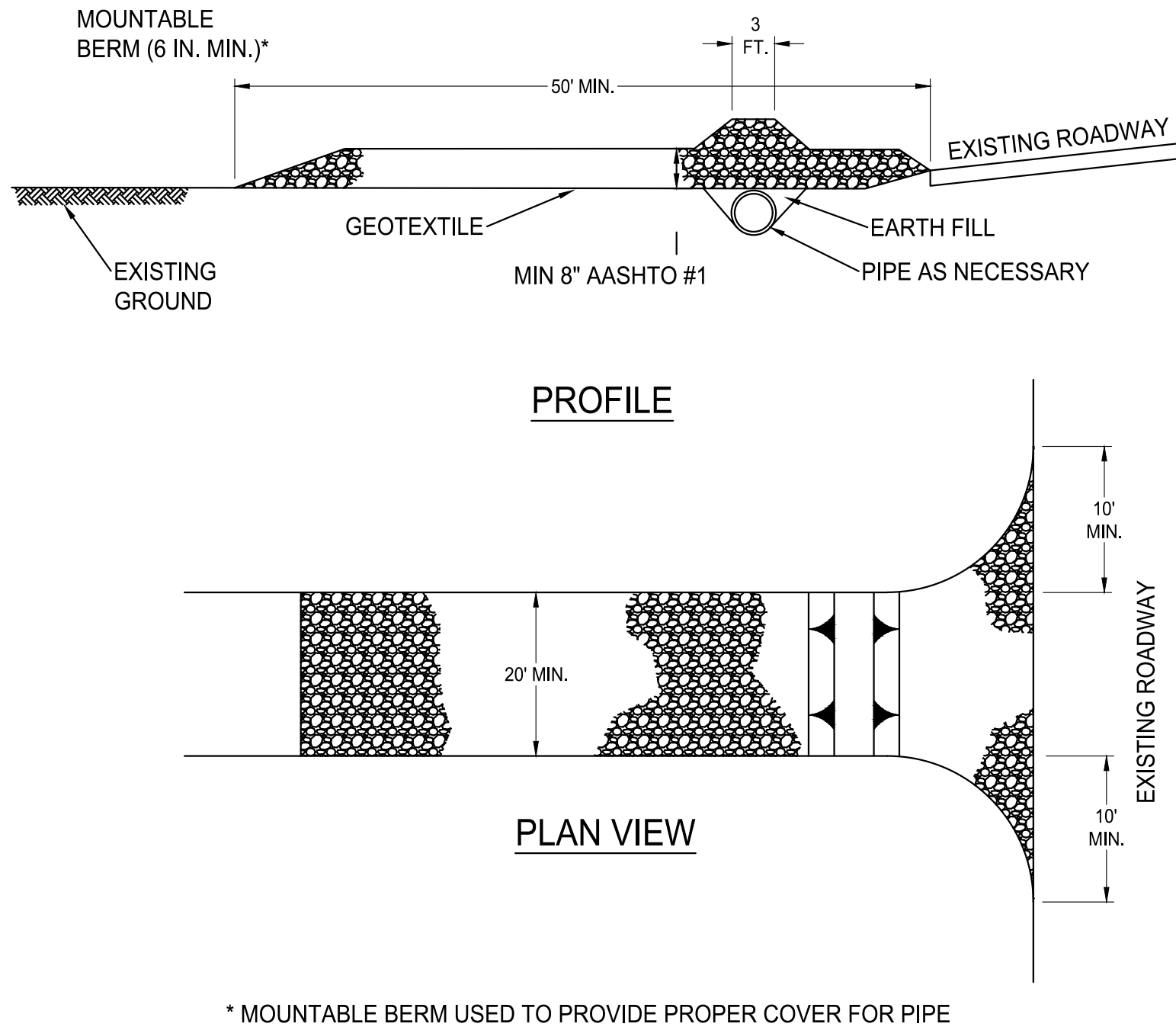
18" COMPOST FILTER SOCK  
NO SCALE

PIPE DIAMETER, in (mm)						
Diameter in (mm)	12 (300)	15 (375)	18 (450)	24 (600)	30 (750)	36 (900)
A	6.5 (165)	6.5 (165)	7.5 (191)	7.5 (191)	7.5 (191)	7.5 (191)
B (max)	10.0 (254)	10.0 (254)	15.0 (381)	18.0 (475)	22.0 (559)	25.0 (635)
H	6.5 (165)	6.5 (165)	6.5 (165)	6.5 (165)	8.6 (218)	8.6 (218)
L	25.0 (635)	25.0 (635)	32.0 (813)	36.0 (914)	58.0 (1473)	58.0 (1473)
W	29.0 (737)	29.0 (737)	35.0 (889)	45.0 (1143)	63.0 (1600)	63.0 (1600)



- NOTES:
1. PRODUCT SHOWN FROM ADS, INC. OF HDPE MEETING ASTM D3350 MINIMUM CELL CLASSIFICATION 213320C
  2. AN ALTERNATIVE SUPPLIER CAN BE USED AS LONG AS MINIMUM SPECIFICATIONS ABOVE ARE MET
  3. WHEN PROVIDED, METAL THREADED FASTENING ROD SHALL BE STAINLESS STEEL
  4. INVERT OF THE PIPE AND THE END SECTION SHALL BE AT THE SAME ELEVATION

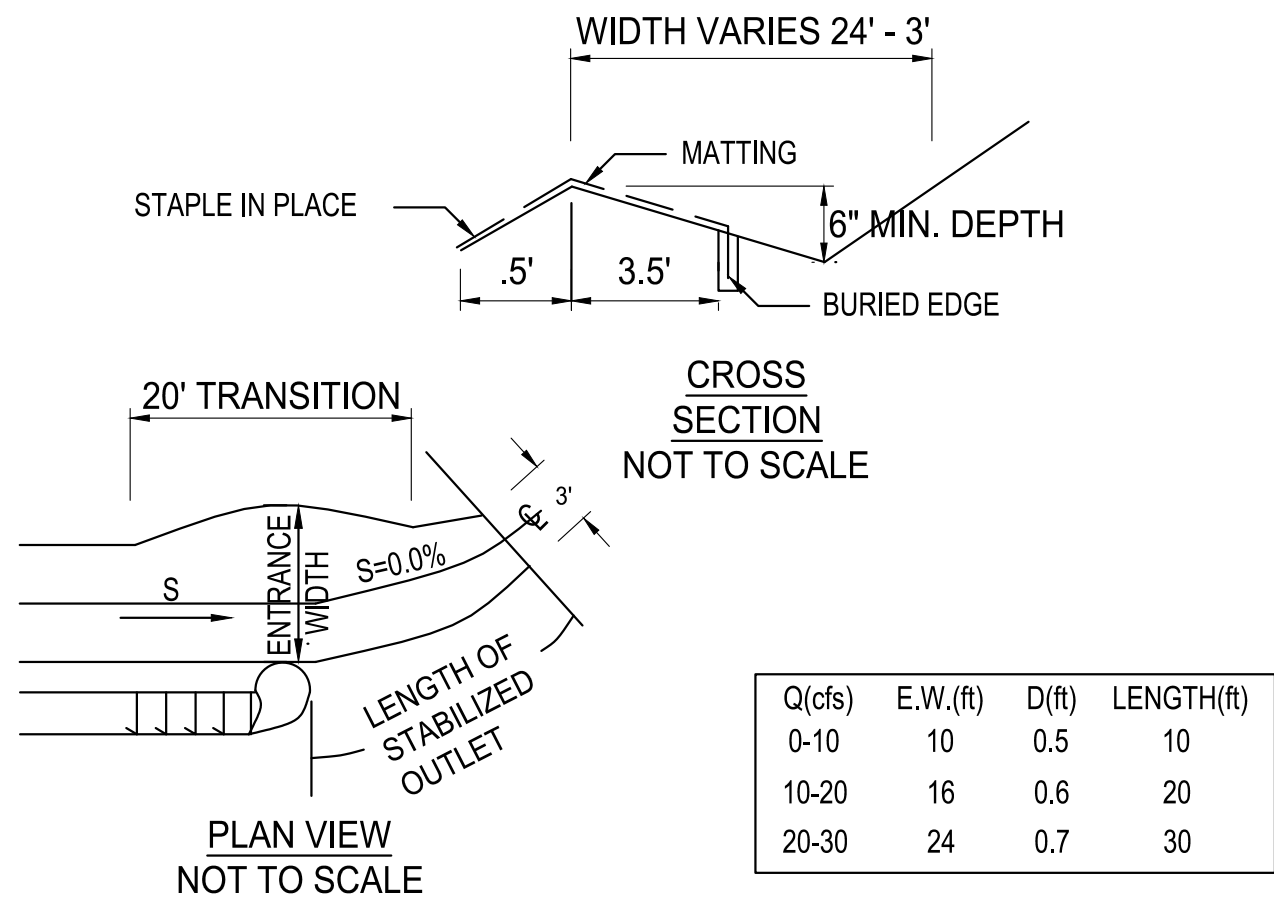
TYPICAL FLARED END SECTION SPECIFICATION  
NO SCALE



\* MOUNTABLE BERM USED TO PROVIDE PROPER COVER FOR PIPE

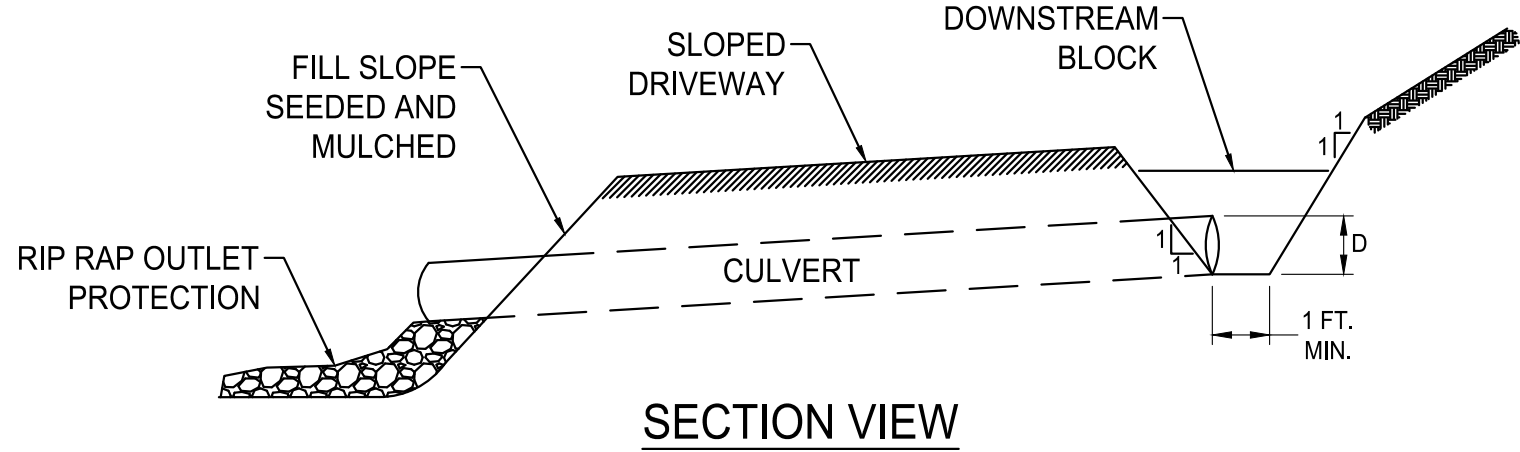
- NOTES:
1. REMOVE TOPSOIL PRIOR TO INSTALLATION OF ROCK CONSTRUCTION ENTRANCE. EXTEND ROCK OVER FULL WIDTH OF ENTRANCE.
  2. RUNOFF SHALL BE DIVERTED FROM ROADWAY TO A SUITABLE SEDIMENT REMOVAL BMP PRIOR TO ENTERING ROCK CONSTRUCTION ENTRANCE.
  3. MOUNTABLE BERM SHALL BE INSTALLED WHEREVER OPTIONAL CULVERT PIPE IS USED AND PROPER PIPE COVER AS SPECIFIED BY MANUFACTURER IS NOT OTHERWISE PROVIDED. PIPE SHALL BE SIZED APPROPRIATELY FOR SIZE OF DITCH BEING CROSSED.
  4. MAINTENANCE: ROCK CONSTRUCTION ENTRANCE THICKNESS SHALL BE CONSTANTLY MAINTAINED TO THE SPECIFIED DIMENSIONS BY ADDING ROCK. A STOCKPILE SHALL BE MAINTAINED ON SITE FOR THIS PURPOSE. ALL SEDIMENT DEPOSITED ON PAVED ROADWAYS SHALL BE REMOVED AND RETURNED TO THE CONSTRUCTION SITE IMMEDIATELY. IF EXCESSIVE AMOUNTS OF SEDIMENT ARE BEING DEPOSITED ON ROADWAY, EXTEND LENGTH OF ROCK CONSTRUCTION ENTRANCE BY 50 FOOT INCREMENTS UNTIL CONDITION IS ALLEVIATED OR INSTALL WASH RACK. WASHING THE ROADWAY OR SWEEPING THE DEPOSITS INTO ROADWAY DITCHES, SEWERS, CULVERTS, OR OTHER DRAINAGE COURSES IS NOT ACCEPTABLE.

STABILIZED CONSTRUCTION ENTRANCE  
NO SCALE



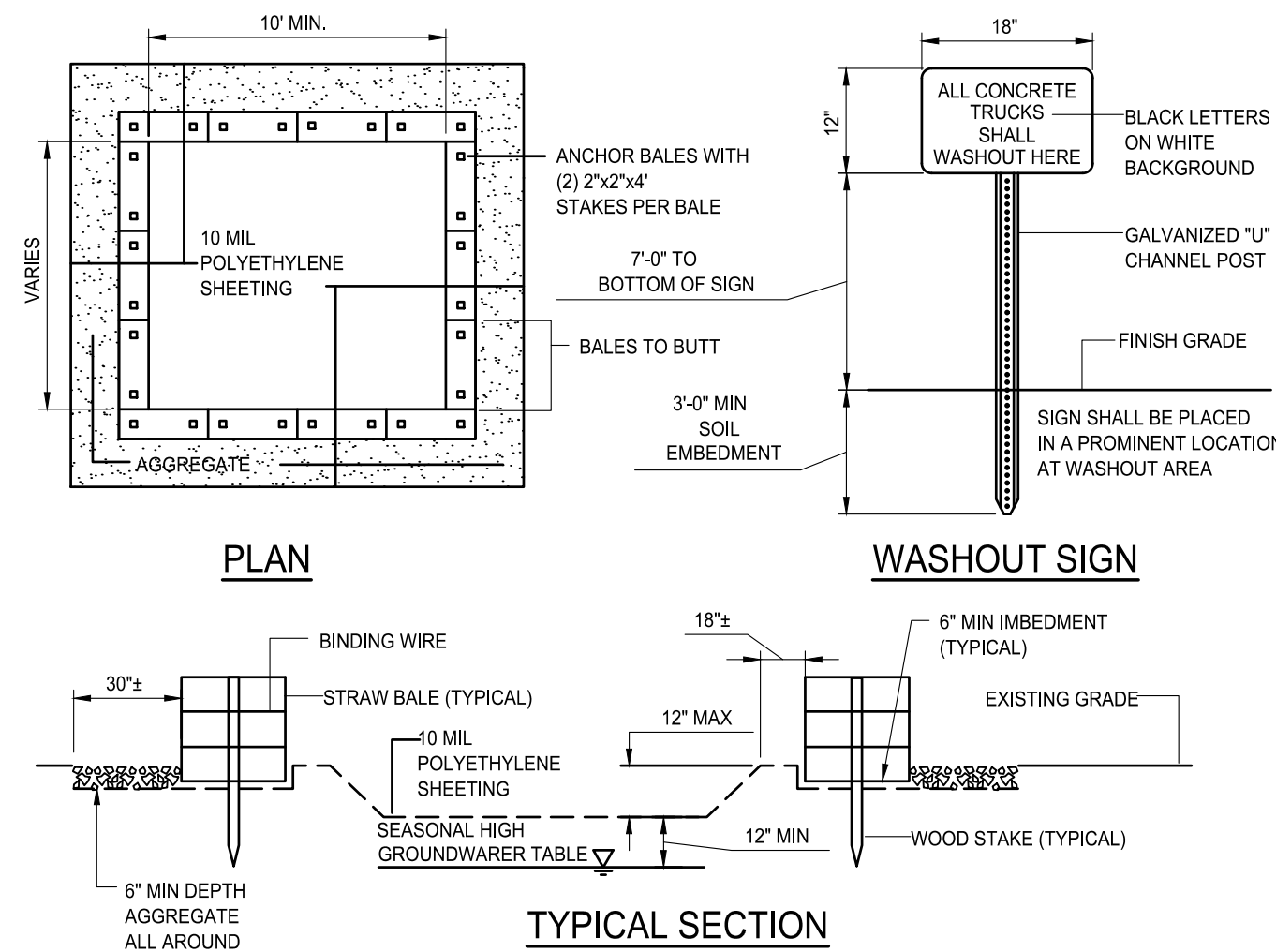
- CONSTRUCTION SPECIFICATIONS:
1. THE MATTING SHOULD BE A MINIMUM OF 4 FT. WIDE EXTENDING 6 INCHES OVER THE LIP AND BURIED 6 INCHES DEEP IN A VERTICAL TRENCH ON THE LOWER EDGE. THE UPPER EDGE SHOULD BUTT AGAINST SMOOTHLY CUT SOD AND BE SECURELY HELD IN PLACE WITH CLOSELY SPACED HEAVY DUTY WIRE STAPLES AT LEAST 12 INCHES IN LENGTH.
  2. ENSURE THAT THE LIP IS LEVEL TO UNIFORMLY SPREAD DISCHARGE.
  3. THE LIP SHALL BE CONSTRUCTED ON UNDISTURBED SOIL NOT FILL.
  4. A 20 FOOT TRANSITION SECTION WILL BE CONSTRUCTED FROM THE DIVERSION CHANNEL TO THE SPREADER TO SMOOTHLY BLEND THE DIFFERENT DIMENSION AND GRADES.
  5. THE RUNOFF DISCHARGE WILL BE OUTLETED ONTO A STABILIZED VEGETATED SLOPE NOT EXCEEDING 10%.
  6. SEED AND MULCH THE DISTURBED AREA IMMEDIATELY AFTER CONSTRUCTION.

LEVEL SPREADER  
NO SCALE



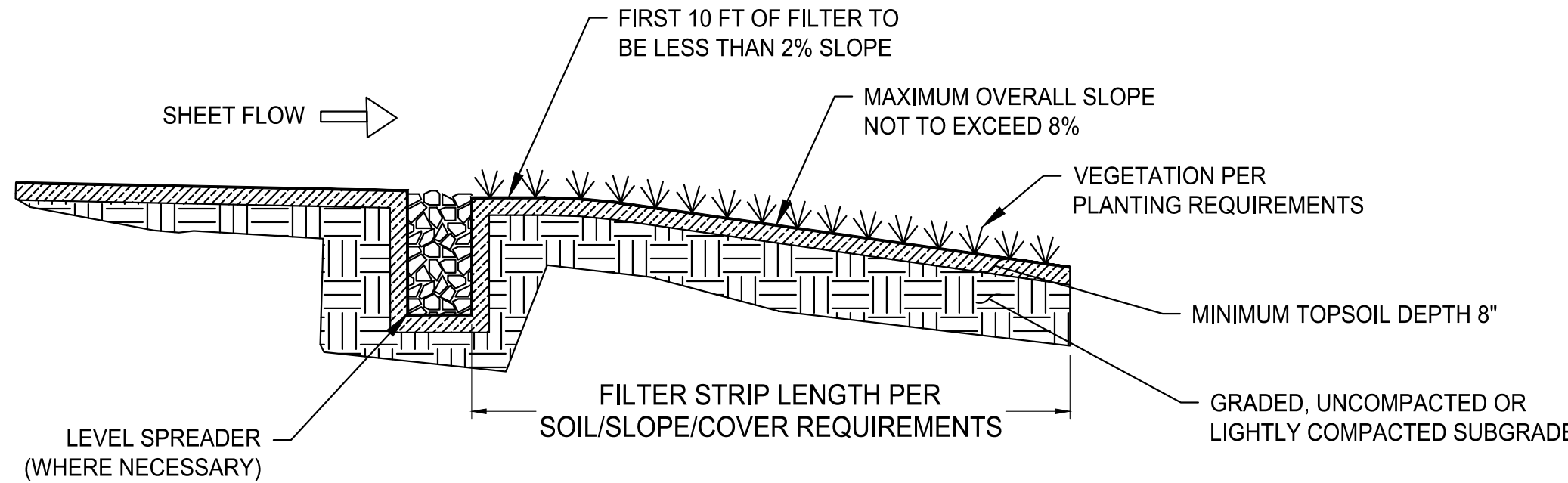
- NOTES:
1. CUT AND FILL SLOPES SHALL BE STABILIZED IMMEDIATELY UPON COMPLETION OF DRIVEWAY GRADING. THESE AREAS SHALL BE BLANKETED WHEREVER THEY ARE LOCATED WITHIN 50 FEET OF A SURFACE WATER OR WITHIN 100 FEET OF AN HIGH QUALITY OR EXCEPTIONAL VALUE SURFACE WATER OR WHERE A SUITABLE VEGETATIVE FILTER STRIP DOES NOT EXIST.
  2. A TOP DRESSING COMPOSED OF HARD, DURABLE STONE SHALL BE PROVIDED FOR SOILS HAVING LOW STRENGTH.
  3. DRIVEWAY DITCHES SHALL BE PROVIDED WITH ADEQUATE PROTECTIVE LINING WHEREVER RUNOFF CANNOT SHEET FLOW AWAY FROM THE DRIVEWAY.
  4. DRIVEWAY SHALL BE INSPECTED WEEKLY AND AFTER EACH RUNOFF EVENT. DAMAGED DRIVEWAYS, DITCHES, OR CROSS DRAINS SHALL BE REPAIRED IMMEDIATELY.

CROSS CULVERT



- NOTES:
1. CONTAINMENT MUST BE STRUCTURALLY SOUND AND LEAK FREE AND CONTAIN ALL LIQUID WASTES.
  2. CONTAINMENT DEVICES MUST BE OF SUFFICIENT QUANTITY OR VOLUME TO COMPLETELY CONTAIN THE LIQUID WASTES GENERATED.
  3. WASHOUT MUST BE CLEANED OR NEW FACILITIES CONSTRUCTED AND READY TO USE ONCE WASHOUT IS 75% FULL.
  4. WASHOUT AREA(S) SHALL BE INSTALLED IN A LOCATION EASILY ACCESSIBLE BY CONCRETE TRUCKS.
  5. ONE OR MORE AREAS MAY BE INSTALLED ON THE CONSTRUCTION SITE AND MAY BE RELOCATED AS CONSTRUCTION PROGRESSES.
  6. AT LEAST WEEKLY REMOVE ACCUMULATION OF SAND AND AGGREGATE AND DISPOSE OF PROPERLY.

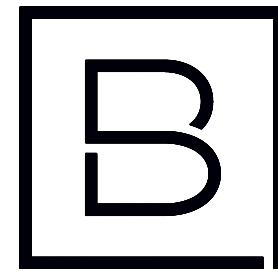
CONCRETE WASHOUT AREA  
NOT TO SCALE



- REQUIRED ELEMENTS:
1. MAXIMUM CONTRIBUTING LENGTH SHALL BE 150 FEET FOR PERVIOUS AND 75 FEET FOR IMPERVIOUS SURFACES.
  2. RUNOFF SHALL ENTER THE BUFFER AS OVERLAND SHEET FLOW; A FLOW SPREADER CAN BE SUPPLIED TO ENSURE THIS. IF AVERAGE CONTRIBUTING SLOPE CRITERIA CANNOT BE MET (NOTE: A LEVEL SPREADER SHALL BE USED BETWEEN BUFFER SLOPES RANGING BETWEEN 3% AND 15%; FOR BUFFER SLOPES BEYOND 15% THIS PRACTICE CANNOT BE APPLIED).
  3. MINIMUM WIDTH OF A VEGETATED FILTER STRIP OR UNDISTURBED RIPARIAN BUFFER SHALL BE 50 FEET FOR SLOPES OF 0% TO 8%; 75 FEET FOR SLOPES OF 8% TO 12% AND 100 FEET FOR SLOPES OF 12% TO 15%.
  4. BUFFERS MUST BE FULLY VEGETATED.
  5. SITTING AND SIZING OF THE PRACTICE SHOULD ADDRESS WQV AND RUNOFF REDUCTION REQUIREMENTS AND CANNOT RESULT IN OVERFLOW TO UNDESIGNATED AREAS.

NOTE: IN HSG C AND D BUFFER LENGTH SHOULD BE INCREASED BY 15%-20% RESPECTIVELY.

GRASS FILTER STRIP  
NO SCALE



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**NY ALFRED I, LLC.**

**COMMUNITY SOLAR  
FARM PROJECT**

5568 JERICHO HILL ROAD  
ALFRED, NY 14803

Date Revised	Description
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Project Manager	Discipline Lead
<b>DJP</b>	<b>DJP</b>
Designer	Reviewer
<b>JL</b>	<b>ECR</b>
Date Issued	Project Number
<b>05/28/2021</b>	<b>12773.46</b>

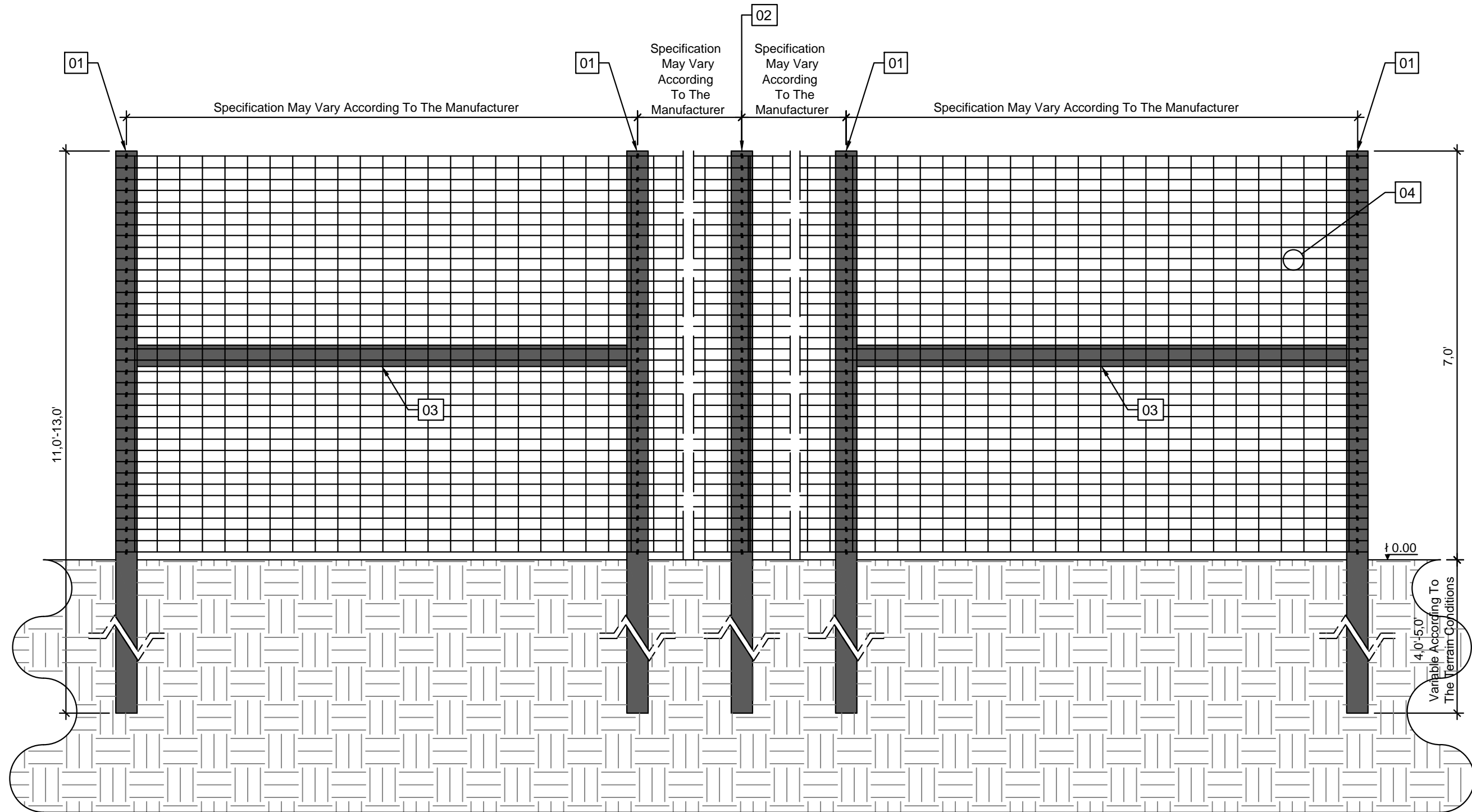
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**DETAILS III**

Drawing Number

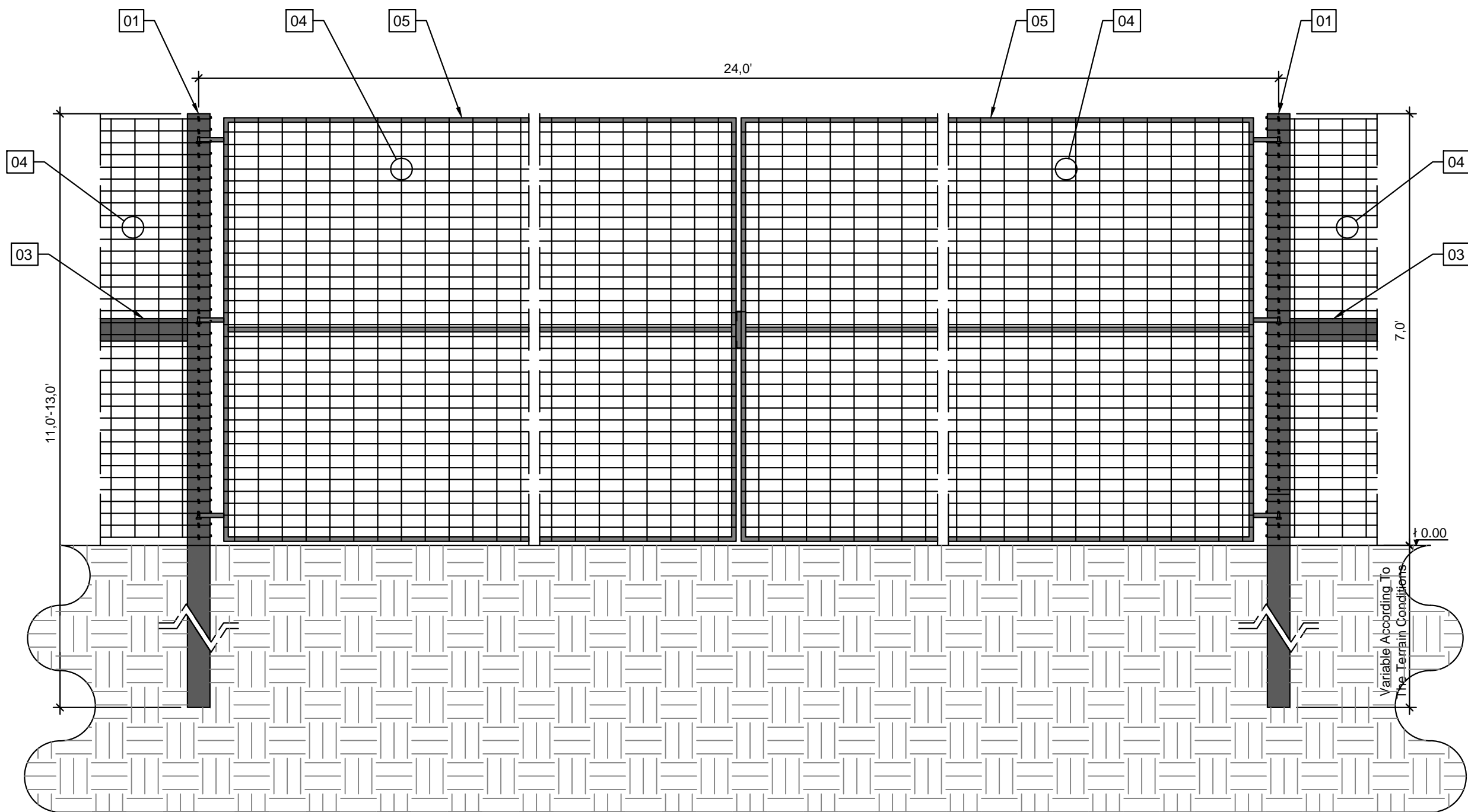
**C013**





FRONT VIEW

- 01 CORNER POST 5" A/c or 1" A/c WITH BRACING FOR STABILITY
- 02 LINE POST 5" A/c or 1" A/c
- 03 BRACING CORNER POST 5" A/c or 1" A/c
- 04 FIXED-KNOT WOVEN WIRE
- 05 ACCESS GATE
- 06 2" x 2" WOOD STAKES
- 07 FIBER ROLL 9A/c

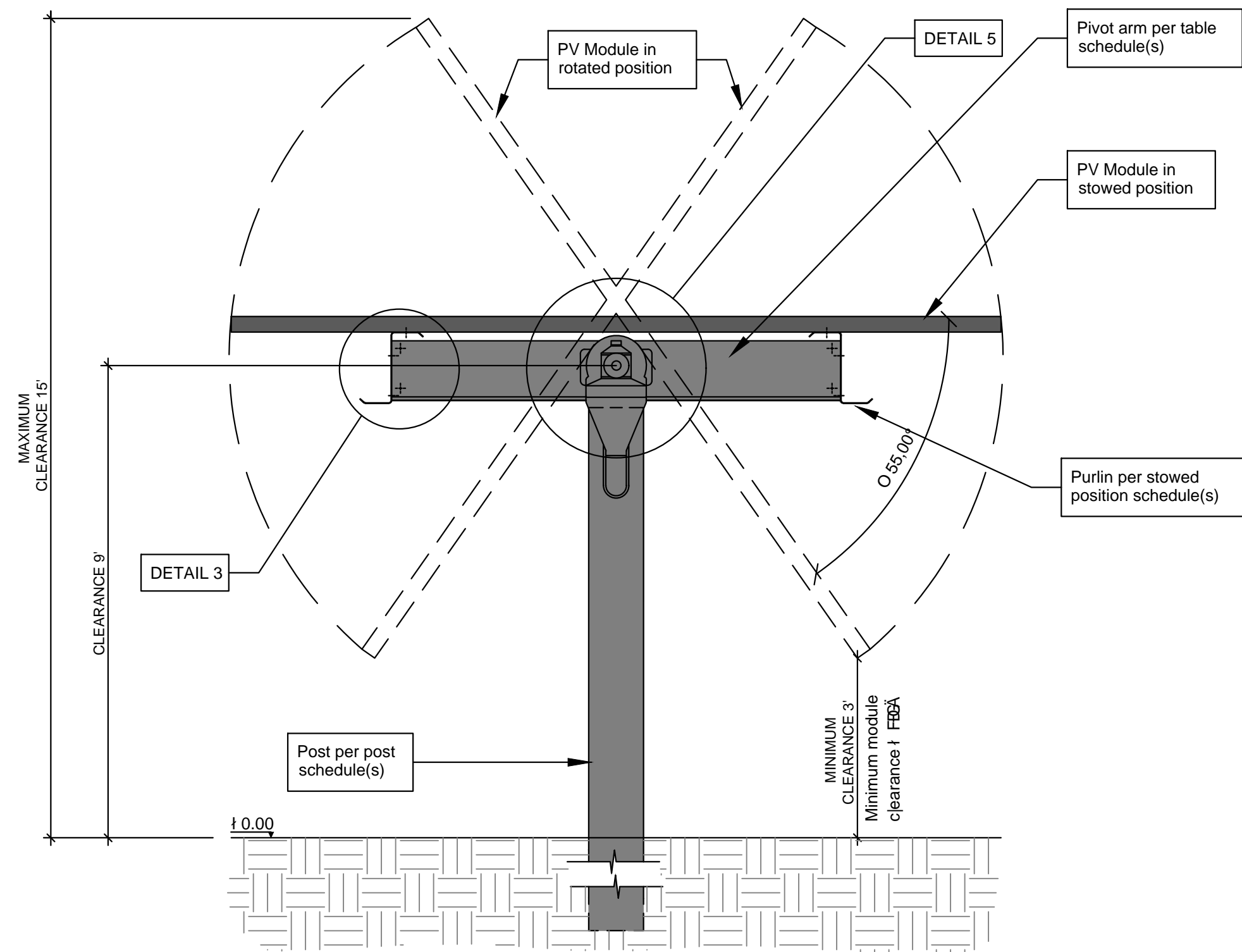


FRONT VIEW

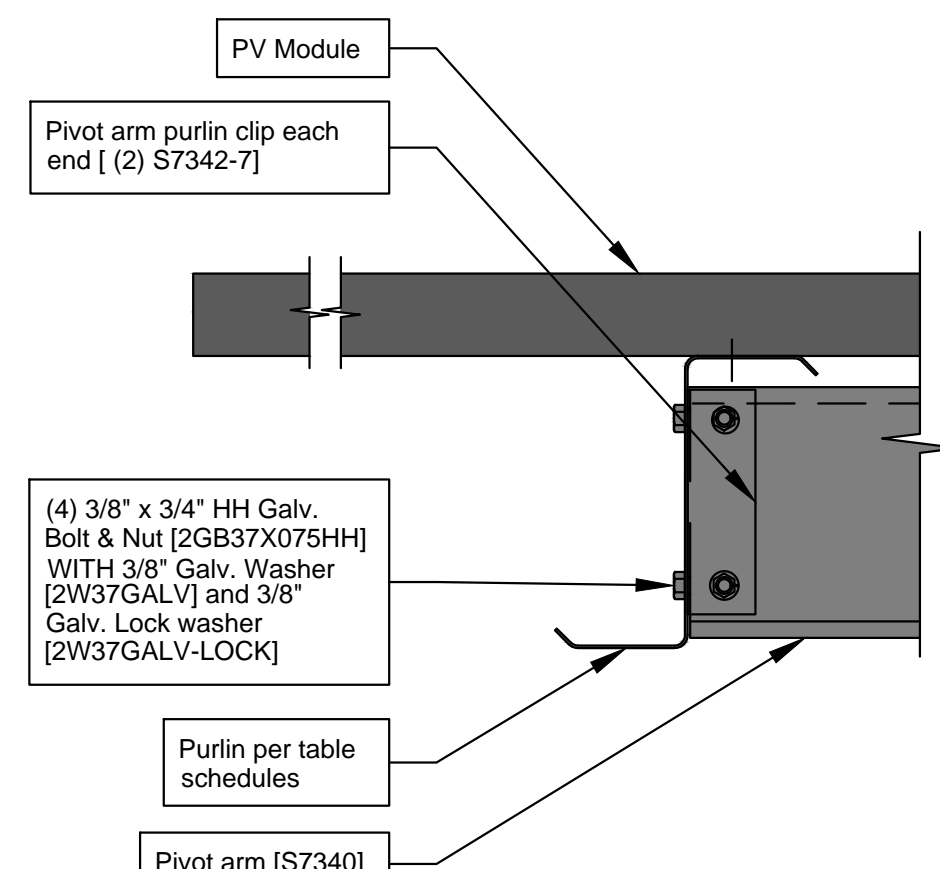
- 01 CORNER POST 5" A/c or 1" A/c WITH BRACING FOR STABILITY
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- 04 FIXED-KNOT WOVEN WIRE
- 05 ACCESS GATE
- 06 2" x 2" WOOD STAKES
- 07 FIBER ROLL 9A/c

PERIMETER FENCE DETAIL

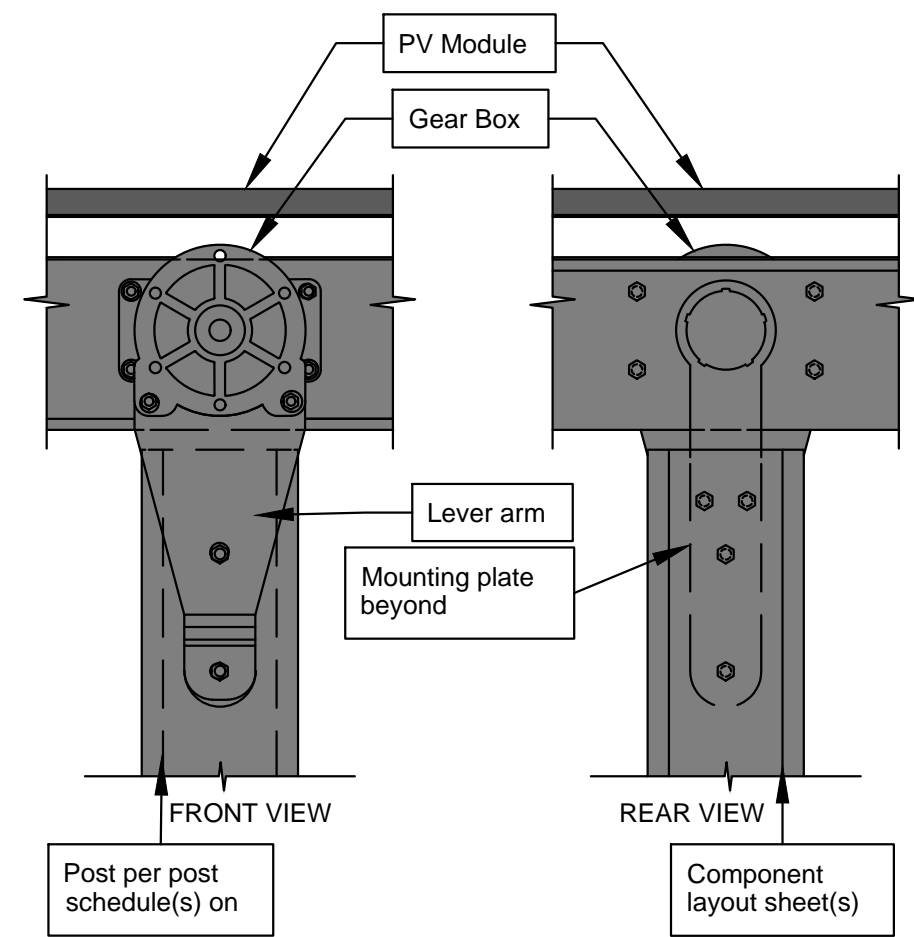
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DETAIL 6



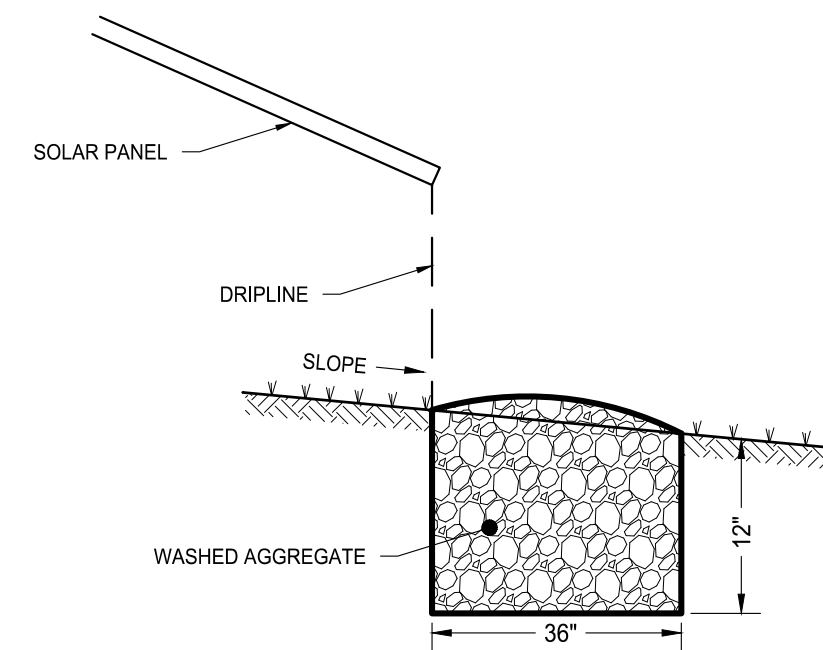
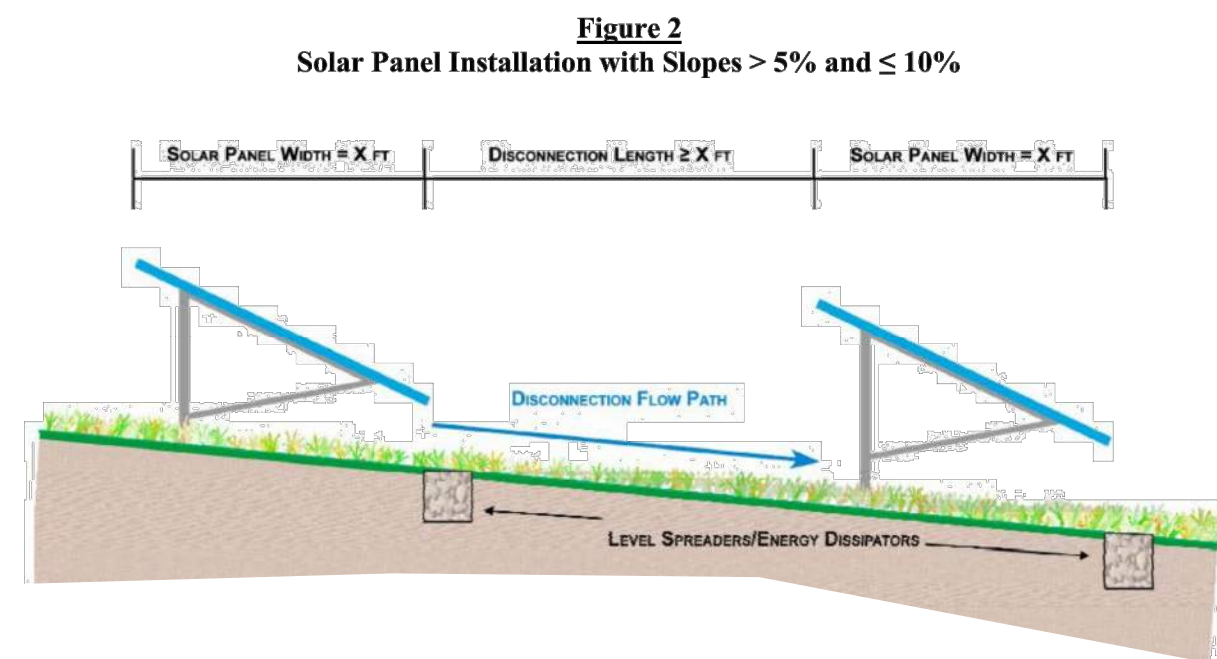
DETAIL 3



DETAIL 5

TRACKER SOLAR ARRAY DETAIL

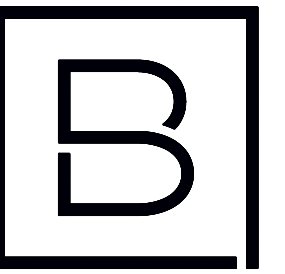
NO SCALE



SIDE VIEW

SOLAR PANEL INSTALLATION WITH LEVEL SPREADERS

NO SCALE



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Project Manager <b>DJP</b>	Discipline Lead <b>DJP</b>
Designer <b>JL</b>	Reviewer <b>ECR</b>
Date Issued <b>05/28/2021</b>	Project Number <b>12773.46</b>

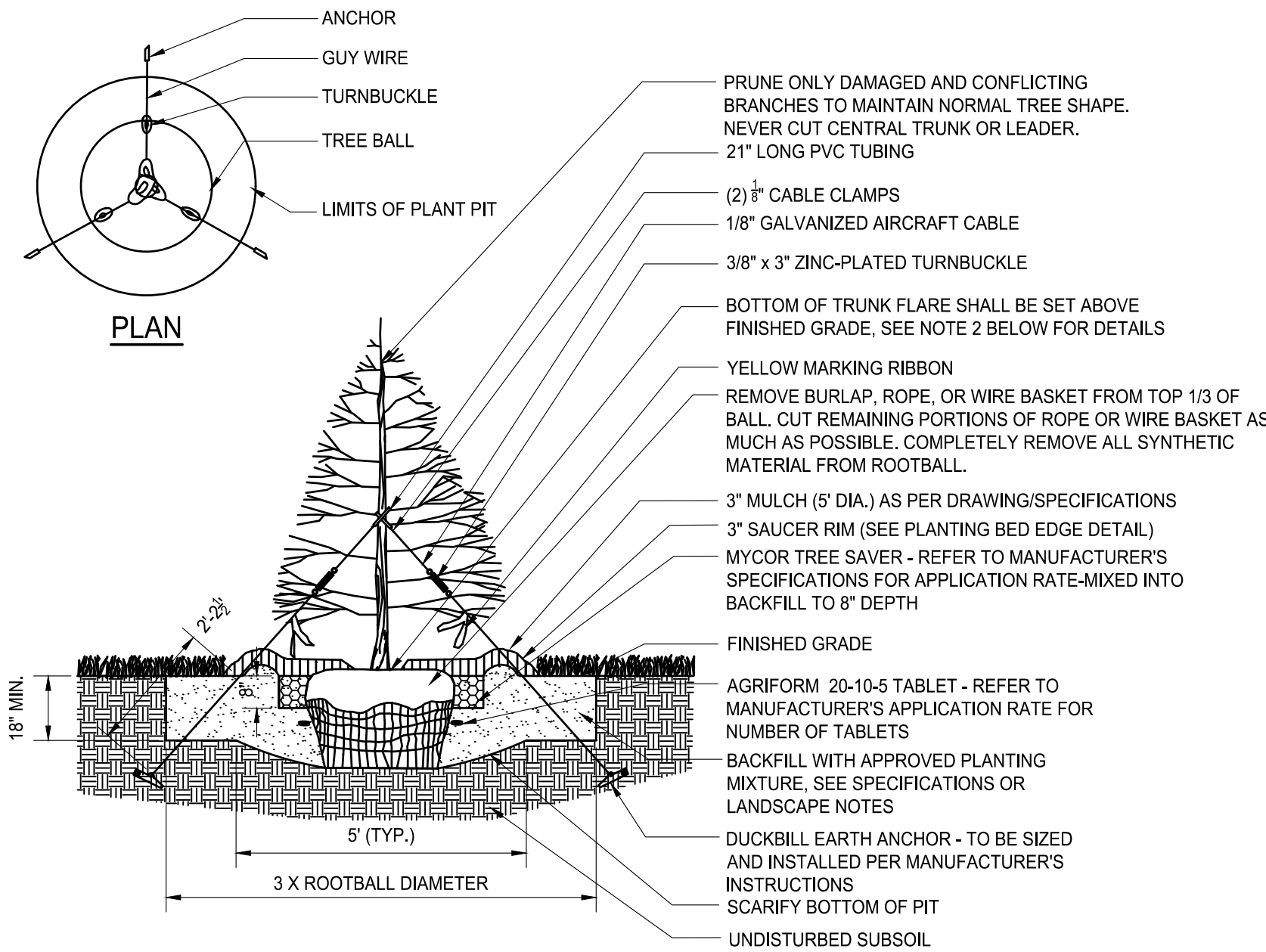
Sheet Name

**DETAILS IV**

Drawing Number

**C014**



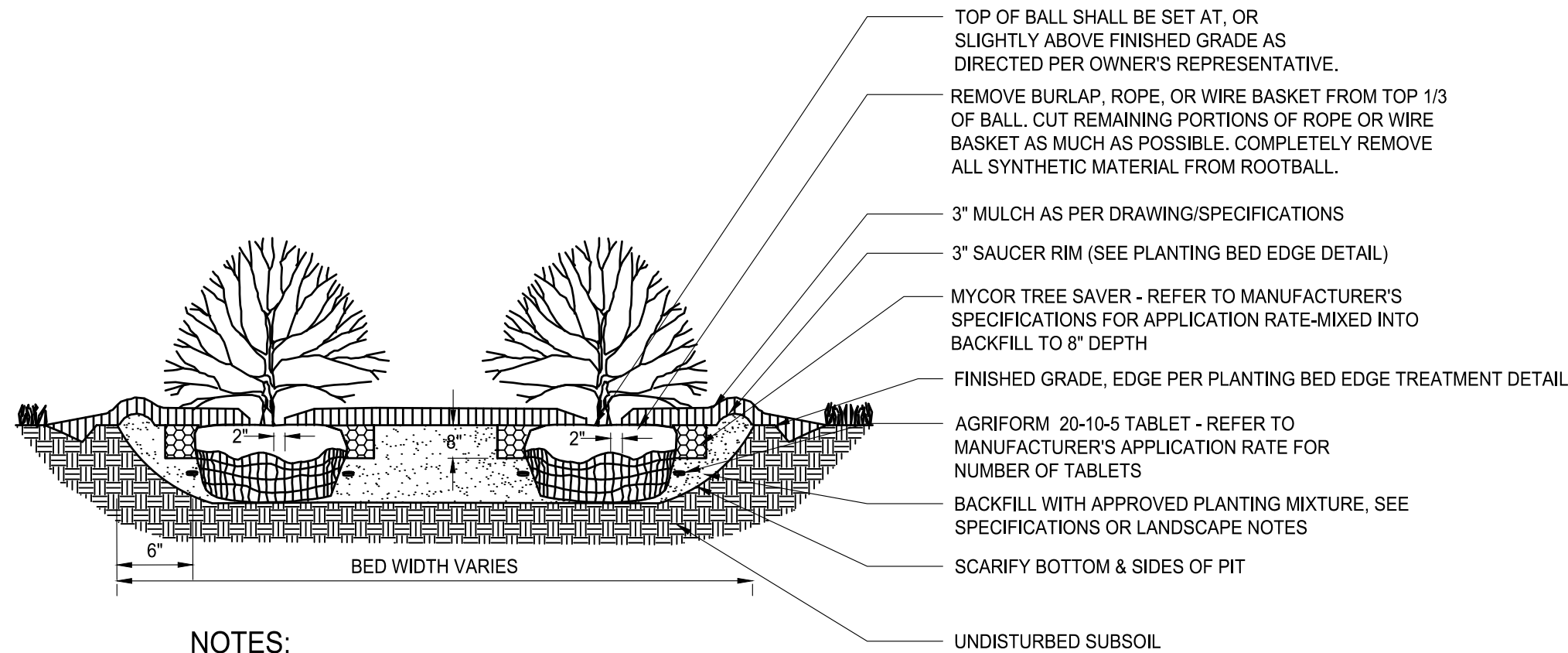


NOTES:

1. MAINTAIN A 2" MINIMUM RADIUS CLEAR OF MULCH AROUND THE TRUNK.
2. THE DISTANCE BETWEEN THE BOTTOM OF THE TRUNK FLARE AND THE FINISHED GRADE SHALL BE AS FOLLOWS:  
FOR SANDY OR LOAMY SOILS: 1"  
FOR CLAY OR POORLY DRAINED SOILS: 3"  
THE CONTRACTOR SHALL REVIEW THE APPROPRIATE PLANTING DEPTH WITH THE OWNER'S REPRESENTATIVE PRIOR TO INSTALLATION.
3. WHEN TAGGING TREES AT THE NURSERY, MARK THE NORTH SIDE OF THE TREE IN THE FIELD AND WHEN INSTALLING, ROTATE TREE TO FACE NORTH WHENEVER POSSIBLE.

EVERGREEN TREE PLANTING

NO SCALE

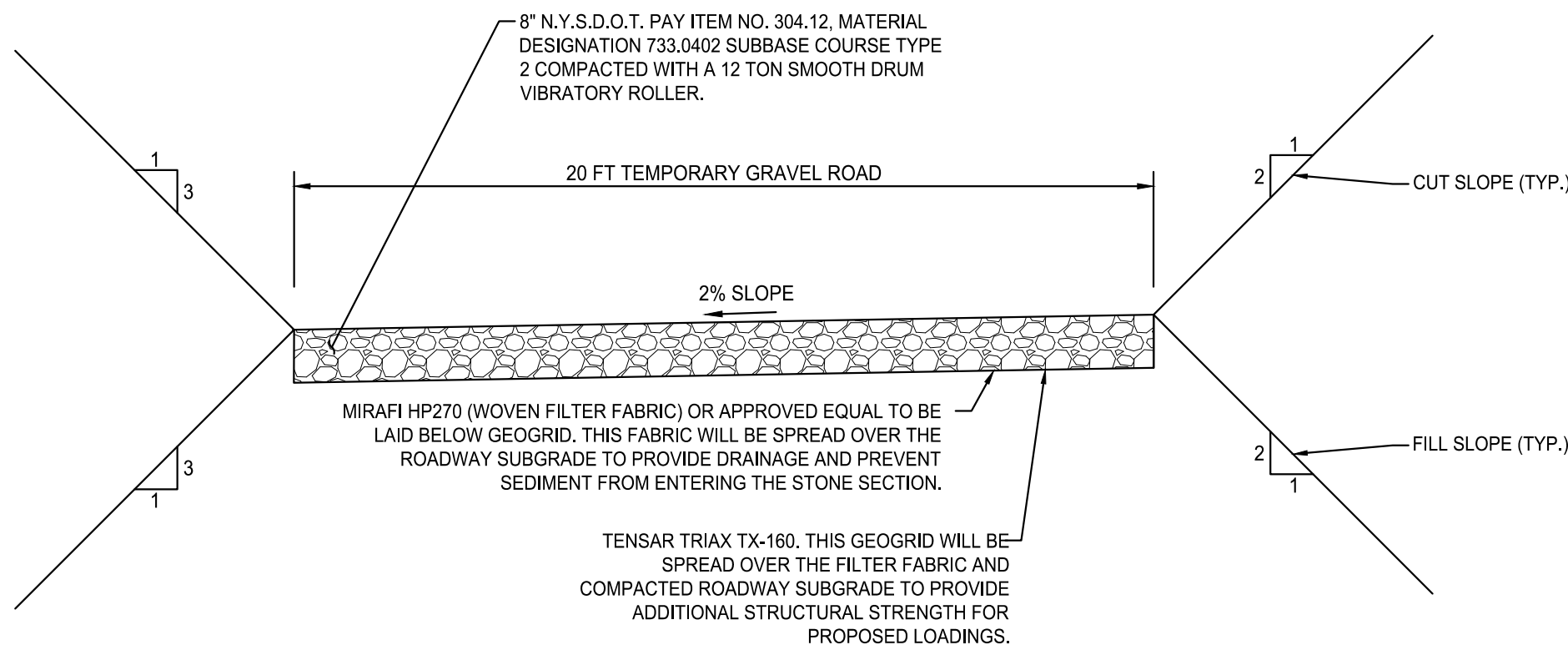


NOTES:

1. MAINTAIN A 2" MINIMUM RADIUS CLEAR OF MULCH AROUND THE TRUNK.
2. PLANTING BED DEPTH IN LAWN AREAS SHALL BE A MINIMUM OF 18" DEEP AND/OR AS DIRECTED BY THE OWNER'S REPRESENTATIVE.
3. ALL PLANTING BEDS SHALL BE FREE OF CONSTRUCTION DEBRIS.

SHRUB PLANTING

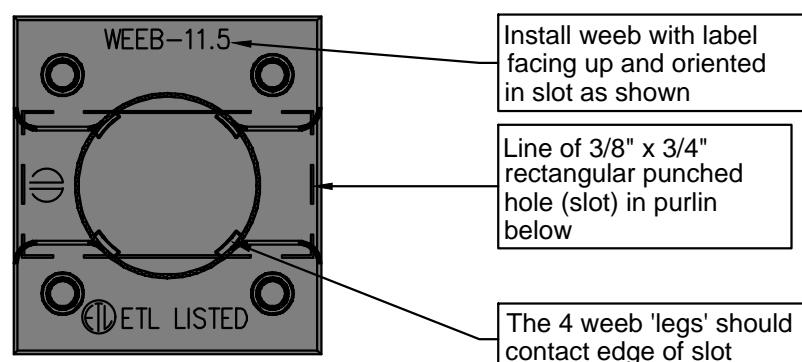
NO SCALE



TEMPORARY CONSTRUCTION ROAD

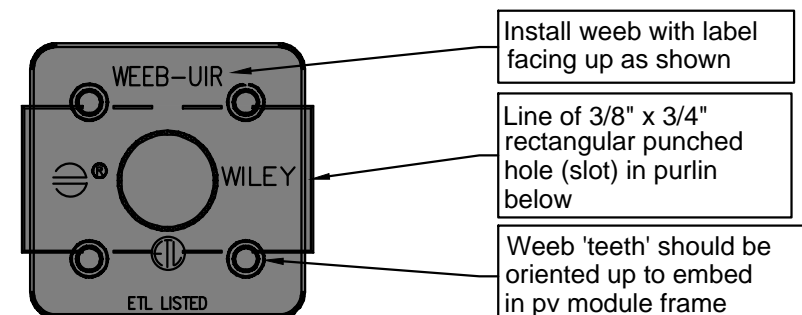
NO SCALE

FOR USE WITH 5/16" HARDWARE (1 PER PV MODULE)



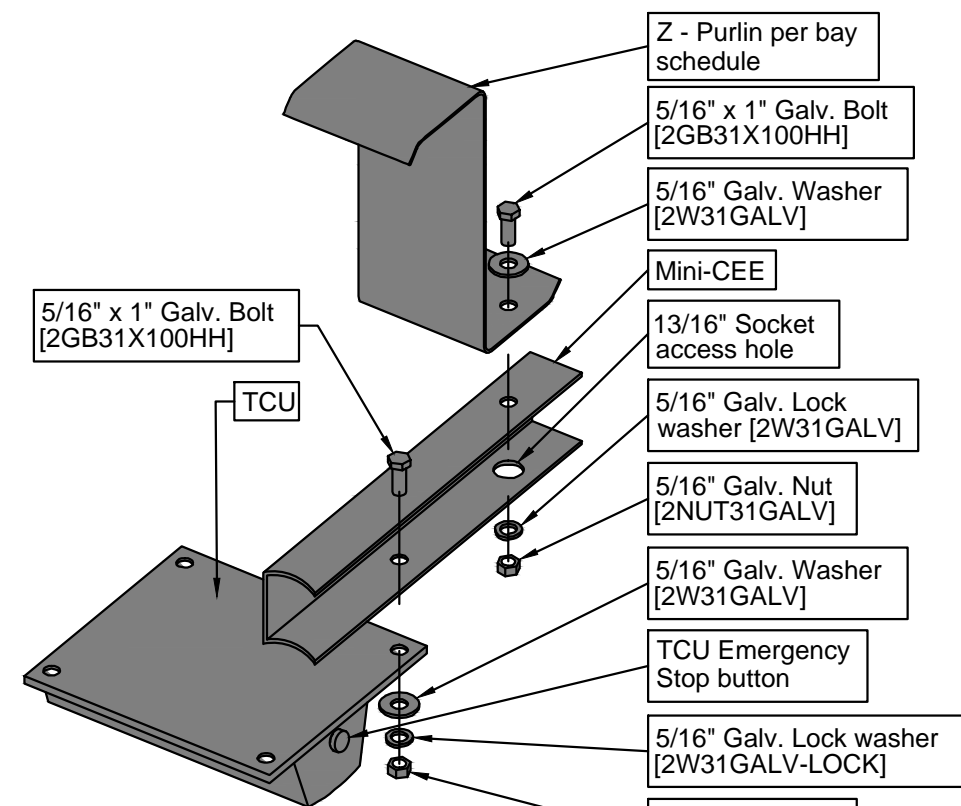
Note: Weeb should fit snugly in slot

FOR USE WITH 1/4" HARDWARE (1 PER PV MODULE)



Note: Weeb may rotate during fastener tightening

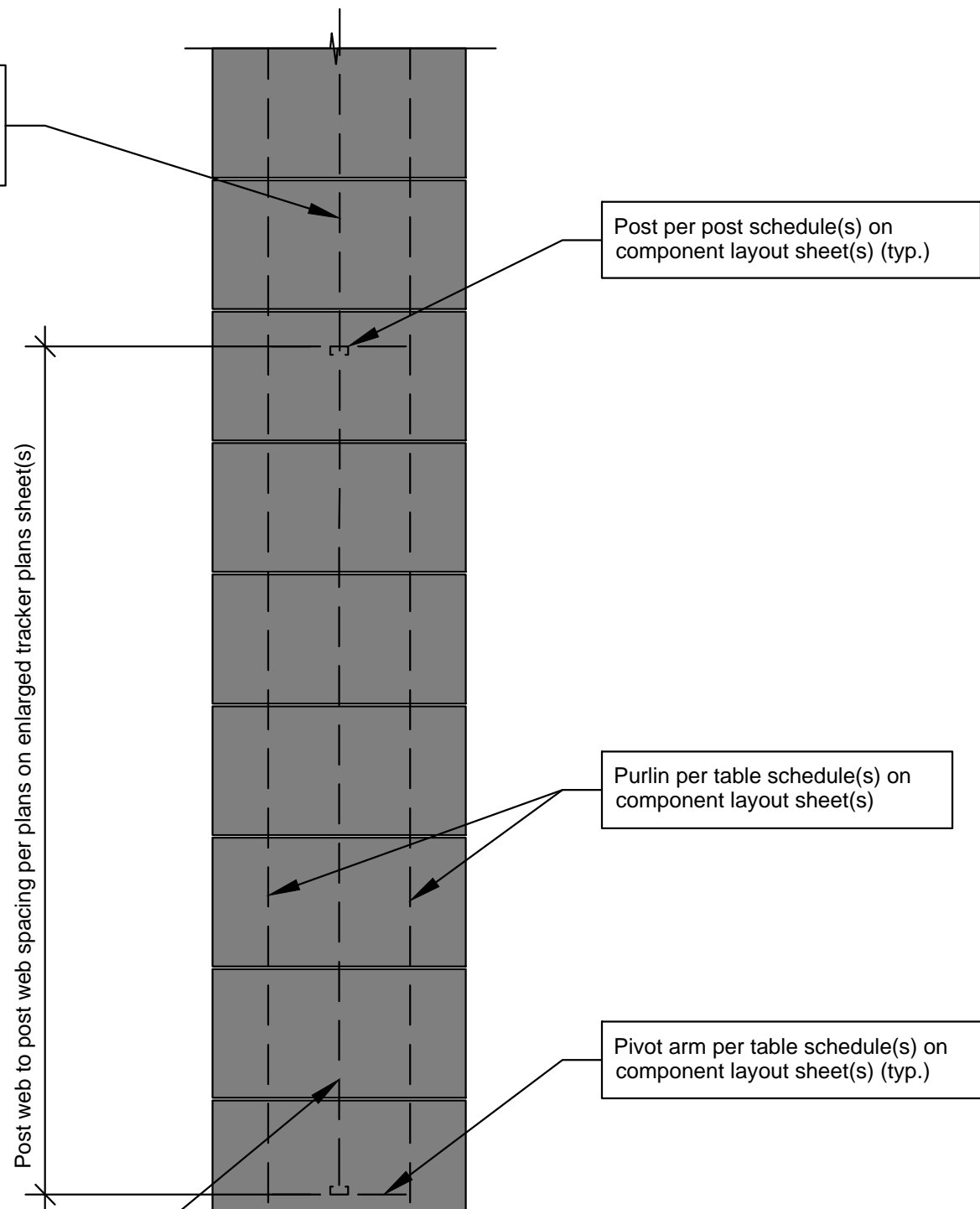
DETAIL 1



Note: Torque connections to 10 ft-lbf

DETAIL 4

Drive tube jumper per drive tube jumper schedule(s) on component layout sheet(s). Omit at ends of runs



Drive tube per table schedule(s) on component layout sheet(s)

PV Module (Typ.)

Purlin (Typ.)

TCU mounted below moduleS w/ Mini-CEE's

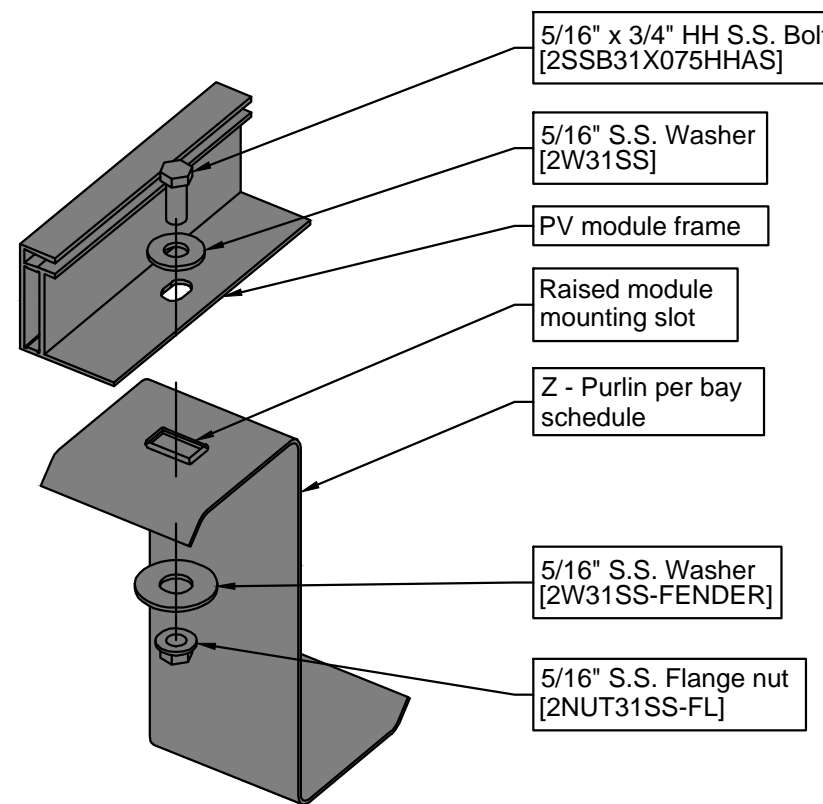
Post per post schedule(s) on component layout sheet(s) (typ.)

Purlin per table schedule(s) on component layout sheet(s)

Pivot arm per table schedule(s) on component layout sheet(s) (typ.)

DETAIL 6

DETAIL 7



DETAIL 2

RACKING SYSTEM DETAIL

NO SCALE

CONSTRUCTION NOTES:

1. 8" N.Y.S.D.O.T PAY ITEM NO. 304.12, MATERIAL DESIGNATION 733.0402 SUBBASE COURSE TYPE 2 COMPACTED WITH A 12 TON SMOOTH DRUM VIBRATORY ROLLER.
2. ACCESS DRIVE STONE TO BE ACQUIRED FROM N.Y.S.D.O.T. APPROVED QUARRY.
3. THE DRIVEWAY SHOULD BE STRIPPED OF VEGETATION AND TOPSOIL, THEN PROOFROLLED WITH A LOADED TRUCK.
4. IF ANY SOFT SURFACE SOILS ARE ENCOUNTERED, THEY SHOULD BE REMOVED AND REPLACED WITH COMPACTED FILL. ALL UNSTABILIZED FILL MATERIAL MUST PRODUCE A CBR OF 3.0 OR GREATER.

NOTES:

1. CUT AND FILL SLOPES SHALL BE STABILIZED IMMEDIATELY UPON COMPLETION OF DRIVEWAY GRADING. THESE AREAS SHALL BE BLANKETED WHEREVER THEY ARE LOCATED WITHIN 50 FEET OF A SURFACE WATER OR WITHIN 100 FEET OF A HIGH QUALITY SURFACE WATER OR WHERE A SUITABLE VEGETATIVE FILTER STRIP DOES NOT EXIST.
2. A TOP DRESSING COMPOSTED OF HARD, DURABLE STONE SHALL BE PROVIDED FOR SOILS HAVING LOW STRENGTH.
3. DRIVEWAY DITCHES SHALL BE PROVIDED WITH ADEQUATE PROTECTIVE LINING WHEREVER RUNOFF CANNOT SHEET FLOW AWAY FROM THE DRIVEWAY.
4. DRIVEWAY SHALL BE INSPECTED WEEKLY AND AFTER EACH RUNOFF EVENT. DAMAGED DRIVEWAYS, DITCHES, OR CROSS DRAINS SHALL BE REPAIRED IMMEDIATELY.



280 East Broad Street, Suite #200  
Rochester, NY 14604  
www.bergmannpc.com  
office: 585.232.5135

NY ALFRED I, LLC.

COMMUNITY SOLAR FARM PROJECT

5568 JERICHO HILL ROAD  
ALFRED, NY 14803

Date Revised	Description
07/01/2021	REVISED PER TOWN COMMENTS
09/03/2021	REVISED PER TOWN COMMENTS
10/11/2021	REVISED PER TOWN COMMENTS
11/03/2021	REVISED PER TOWN COMMENTS
12/03/2021	REVISED PER TOWN COMMENTS

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Project Manager	Discipline Lead
DJP	DJP
Designer	Reviewer
JL	ECR
Date Issued	Project Number
05/28/2021	12773.46

Sheet Name

DETAILS V

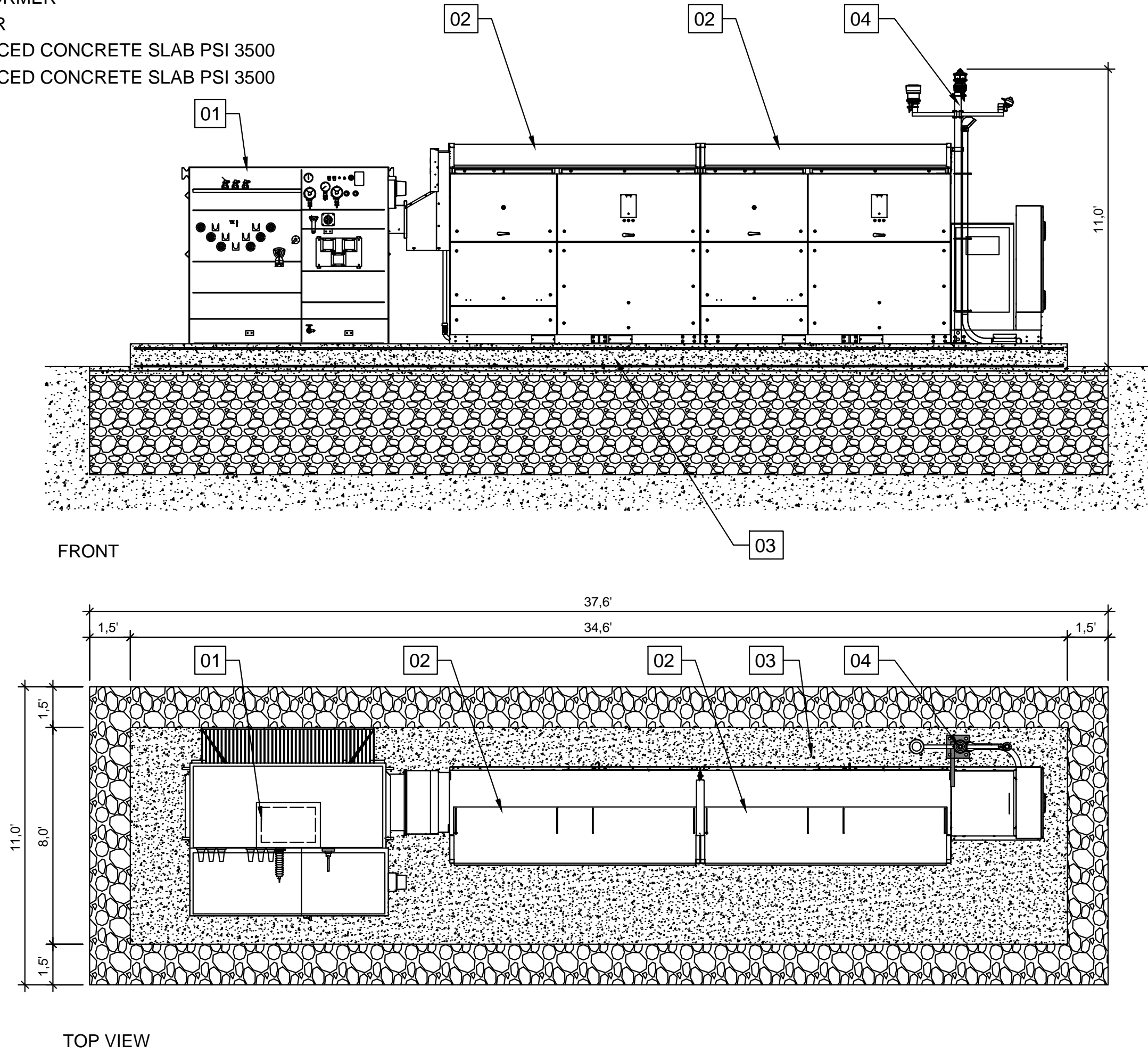
Drawing Number

C015



DETAIL 1 scale 1":8' - PAD DISTRIBUTION

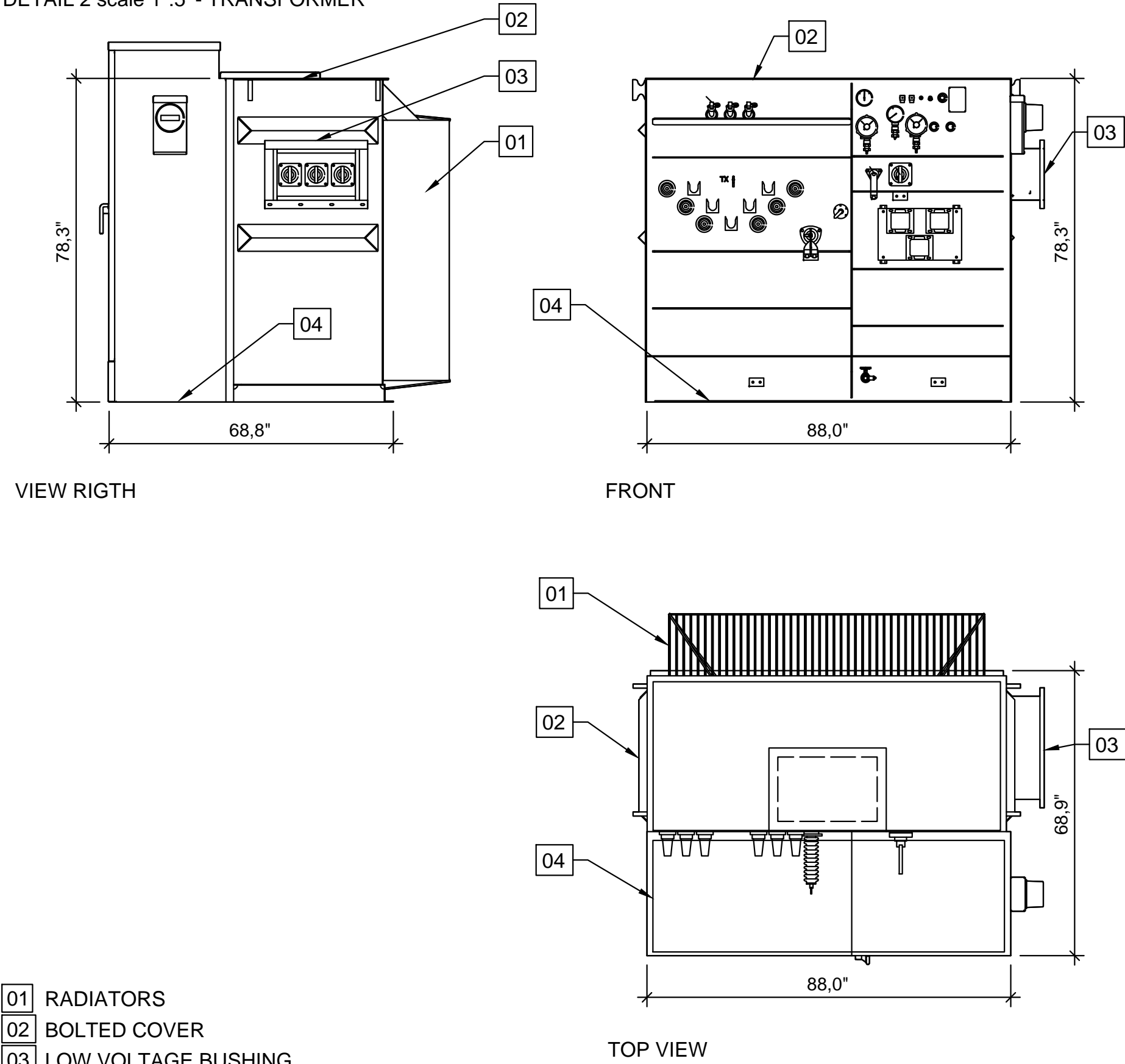
- 01 TRANSFORMER
- 02 INVERTER
- 03 REINFORCED CONCRETE SLAB PSI 3500
- 04 REINFORCED CONCRETE SLAB PSI 3500



PAD DISTRIBUTION DETAIL

NO SCALE

DETAIL 2 scale 1":5' - TRANSFORMER

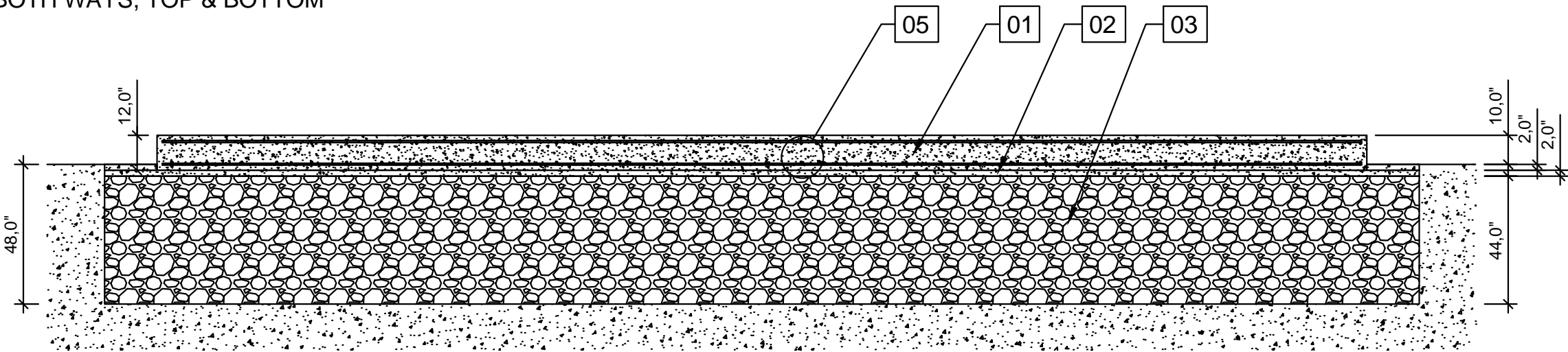


TRANSFORMER DETAIL

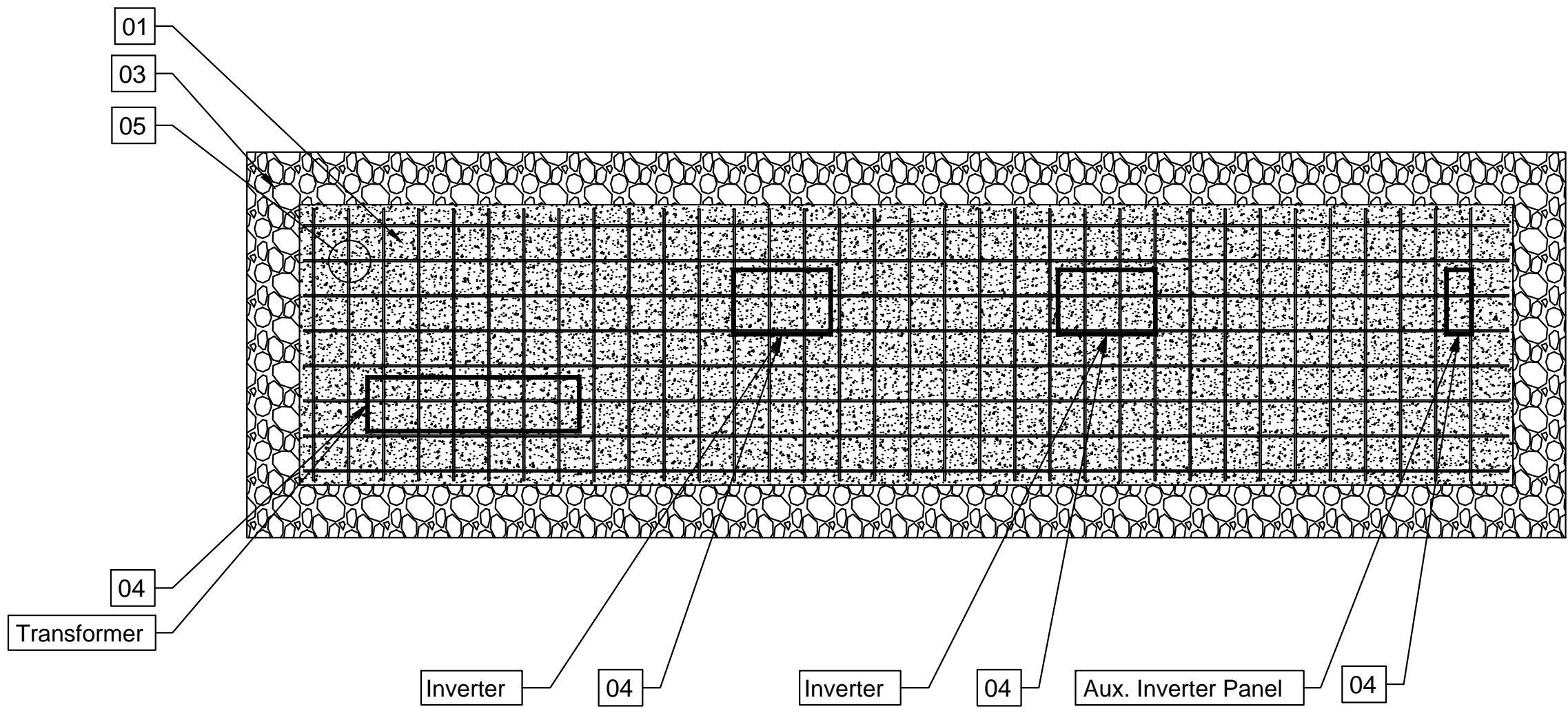
NO SCALE

DETAIL 3 scale 1":8' TRANSFORMER, INVERTER & AUXILIARY EQUIPMENT PAD

- 01 REINFORCED CONCRETE SLAB PSI 3500
- 02 BLINDING CONCRETE
- 03 COMPACTED GRADED AGGREGATES 3/4"
- 04 ESTIMATED LOCATION FOR CONDUITS
- 05 REBAR #4@12" O.C., BOTH WAYS, TOP & BOTTOM

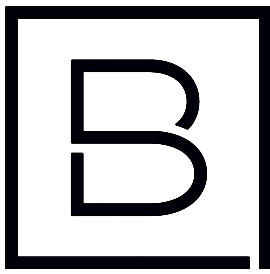


FRONT



TRANSFORMER, INVERTER & AUXILIARY EQUIPMENT PAD DETAIL

NO SCALE



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Project Manager	Discipline Lead
<b>DJP</b>	<b>DJP</b>
Designer	Reviewer
<b>JL</b>	<b>ECR</b>
Date Issued	Project Number
<b>05/28/2021</b>	<b>12773.46</b>

Sheet Name

**DETAILS VI**

Drawing Number

**C016**



Upland Seed Mix		
Low-Growing Wildflower & Grass Mix - ERNMX #156		
Seeding Rate: 20 lb per acre with a cover crop of grain rye at 30 lb per acre		
SCIENTIFIC NAME	COMMON NAME	% OF MIX
Festuca ovina	Sheep Fescue, Variety Not Stated	63.60%
Lolium multiflorum (L. perenne var. italicum)	Annual Ryegrass	17%
Linum perenne ssp. lewisii	Perennial Blue Flax	8%
Rudbeckia hirta	Blackeyed Susan, Coastal Plain NC Ecotype	2%
Coreopsis lanceolata	Lanceleaf Coreopsis, Coastal Plain NC Ecotype	2%
Chrysanthemum leucanthemum	Oxeye Daisy	2%
Chrysanthemum maximum	Shasta Daisy	1%
Chamaecrista fasciculata (Cassia f.)	Partridge Pea, PA Ecotype	1%
Papaver rhoeas, Shirley Mix	Corn Poppy/Shirley Mix	1%
Achillea millefolium	Common Yarrow	0.5%
Aster oblongifolius (Symphyotrichum oblongifolium)	Aromatic Aster, PA Ecotype	0.5%
Eupatorium coelestinum (Conoclinium c.)	Mistflower, VA Ecotype	0.5%
Monarda punctata, Coastal Plain SC Ecotype	Spotted Beebalm, Coastal Plain SC Ecotype	0.5%
Asclepias tuberosa	Butterfly Milkweed	0.3%
Pycnanthemum tenuifolium	Slender Mountainmint	0.1%
Company Information		
Ernst Conservation Seeds, Inc.		
Address: 8884 Mercer Pike, Meadville, PA 16335		
Phone: (800) 873-3321		
Web: http://www.ernstseed.com		

\*OR APPROVED EQUIVALENT

NOTES:

1. WHEN FINAL GRADE IS ACHIEVED DURING NON-GERMINATING MONTHS, THE AREA SHOULD BE TEMPORARILY STABILIZED UNTIL THE BEGINNING OF THE NEXT PLANTING SEASON.
2. MULCHES SHOULD BE APPLIED AT THE RATES SHOWN IN THE MULCH APPLICATION RATES TABLE. VERY LITTLE BARE GROUND SHOULD BE VISIBLE THROUGH THE MULCH.
3. STRAW AND HAY MULCH SHOULD BE ANCHORED OR TACKIFIED IMMEDIATELY AFTER APPLICATION TO PREVENT BEING WINDBLOWN.
4. TOPSOIL SHOULD BE UNIFORMLY DISTRIBUTED ACROSS THE DISTURBED AREA TO A DEPTH OF 4 INCHES MINIMUM. SPREADING SHOULD BE DONE IN SUCH A MANNER THAT SEEDING CAN PROCEED WITH A MINIMUM OF ADDITIONAL PREPARATION OR TILLAGE.
5. TOPSOIL SHOULD NOT BE PLACED WHILE THE TOPSOIL OF SUBSOIL IS IN A FROZEN OR MUDDY CONDITION, WHEN THE SUBSOIL IS EXCESSIVELY WET, OR IN A CONDITION THAT MAY OTHERWISE BE DETRIMENTAL TO PROPER GRADING AND SEEDBED PREPARATION.
6. WHEN USED AS A MULCH REPLACEMENT, THE APPLICATION RATE (THICKNESS) OF THE COMPOST SHOULD BE 1/2" TO 3/4". COMPOST SHOULD BE PLACED EVENLY AND SHOULD PROVIDE 100% SOIL COVERAGE. NO SOIL SHOULD BE VISIBLE. BLANKETING SHALL BE USED ON ALL SLOPES 3H:1V OR STEEPER OR AS NOTED ON THE PLANS.
8. PERMANENT STABILIZATION SHALL BE INSTALLED IMMEDIATELY UPON COMPLETION OF EARTH DISTURBANCE.
9. WETLAND SEED MIX SHOULD BE INSTALLED ONLY IN DRY SWALE.

SOIL AMENDMENT APPLICATION RATE EQUIVALENTS					
SOIL AMENDMENT		PER ACRE	PER 1,000 SQ. FT.	PER 1,000 SQ. YD.	NOTES
TEMPORARY PERMANENT SEEDING	AGRICULTURAL LIME	6 TONS	240 LB.	2,480 LB.	OR AS PER SOIL TEST: MAY NOT BE REQUIRED IN AGRICULTURAL FIELDS
	10-10-20 FERTILIZER	1,000 L.B.	25 LB.	210 LB.	
	AGRICULTURAL LIME	1 TON	40 LB.	410 LB.	TYPICALLY NOT REQUIRED FOR TOPSOIL STOCKPILES
	10-10-20 FERTILIZER	500 LB.	12.5 LB.	100 LB.	
COMPOST STANDARDS					
ORGANIC MATTER CONTENT			80% - 100% (DRY WEIGHT BASIS)		
ORGANIC PORTION			FIBROUS AND ELONGATED		
pH			5.5 - 8.0		
MOISTURE CONTENT			35% - 55%		
PARTICLE SIZE			98% PASS THROUGH 1" SCREEN		
SOLUBLE SALT CONCENTRATION			5.0 dS/m (mmhos/cm) MAXIMUM		
MULCH APPLICATION RATES					
MULCH TYPE	APPLICATION RATE (MIN.)			NOTES	
	PER ACRE	PER 1,000 SQ. FT.	PER 1,000 SQ. YD.		
STRAW	3 TONS	140 LB.	1,240 LB.	EITHER WHEAT OR OAT STRAW, FREE OF WEEDS, NOT CHOPPED OR FINELY BROKEN	
HAY	3 TONS	140 LB.	1,240 LB.	TIMOTHY, MIXED CLOVER AND TIMOTHY, OR OTHER NATIVE FORAGE GRASSES	
WOOD CELLULOSE	1,500 LB.	35 LB.	310 LB.	DO NOT USE ALONE IN WINTER, DURING HOT AND DRY WEATHER OR ON STEEP SLOPES (> 3:1)	
WOOD	1,000 LB. CELLULOSE	25 LB.	210 LB.	WHEN USED OVER STRAW OR HAY	
WOOD CHIPS	4 - 6 TONS	185 - 275 LB.	1,650 - 2,500 LB.	MAY PREVENT GERMINATION OF GRASSES AND LEGUMES	

SITE STABILIZATION - SEED MIX



Date: December 14, 2020

**Ernst Conservation Seeds**  
8884 Mercer Pike  
Meadville, PA 16335  
(800) 873-3321 Fax (814) 336-5191  
[www.ernstseed.com](http://www.ernstseed.com)

**Fuzz & Buzz Mix - Standard - ERNMX-146**

	Botanical Name	Common Name	Price/lb
26.40 %	<i>Lolium perenne</i> , 'Crave', Tetraploid	Perennial Ryegrass, 'Crave', Tetraploid	2.31
25.80 %	<i>Dactylis glomerata</i> , 'Pennlate'	Orchardgrass, 'Pennlate'	2.75
18.90 %	<i>Poa pratensis</i> , 'Troy'	Kentucky Bluegrass, 'Troy' (pasture type)	3.08
12.00 %	<i>Festuca elatior</i> x <i>Lolium perenne</i> , Duo	Festulolium, 'Duo'	1.87
5.70 %	<i>Trifolium hybridum</i>	Alsike Clover	3.58
5.70 %	<i>Trifolium pratense</i> , Medium, Variety Not Stated	Red Clover, Medium, Variety Not Stated	2.75
1.30 %	<i>Chrysanthemum leucanthemum</i>	Oxeye Daisy	30.80
1.30 %	<i>Cichorium intybus</i>	Blue Chicory	17.60
1.10 %	<i>Lotus corniculatus</i> , 'Leo'	Bird's Foot Trefoil, 'Leo'	5.78
0.90 %	<i>Coreopsis lanceolata</i>	Lanceleaf Coreopsis	26.40
0.90 %	<i>Solidago nemoralis</i> , PA Ecotype	Gray Goldenrod, PA Ecotype	396.00

**100.00 %** **Mix Price/lb Bulk:** **\$6.98**

**Seeding Rate:** Expect to apply about 26.5 lbs per acre.

Forage & Pasture Sites; Solar Sites

\*OR APPROVED EQUIVALENT

NOTES:

1. FUZZ & BUZZ MIX TO BE USED INSIDE THE FENCED AREAS. UPLAND SEED MIX TO BE USED OUTSIDE THE FENCE.

POLLINATOR -SEED MIX

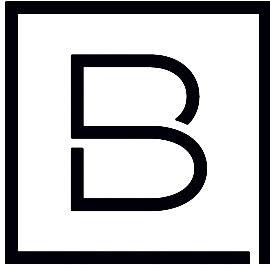
**Vegetative Stabilization - Stream Bank and Wetland Mix**

Seed: ERNMX-128 (or equivalent) <sup>1</sup>			Rate (lbs/acre)
<i>Carex vulpinoidea</i>	Fox Sedge	20%	15
<i>Echinochloa crusgalli</i> var. <i>frumentacea</i>	Japanese Millet	20%	
<i>Elymus virginicus</i>	Virginia Wild Rye	20%	
<i>Polygonum pensylvanicum</i>	Pennsylvania Smartweed	19.5%	
<i>Agrostis scabra</i>	Ticklegrass (Rough Bentgrass)	5%	6,000
<i>Panicum virgatum</i> , <i>Shelter</i>	Shelter Switch Grass	5%	
<i>Carex stipata</i>	Awl Sedge	3%	
<i>Panicum clandestinum</i>	Tioga Deer Tongue	3%	
<i>Carex scoparia</i>	Blunt Broom Sedge	2.5%	
<i>Bidens cernua</i> Mix	Nodding Bur Marigold Mix	1%	
<i>Juncus tenuis</i>	Path Rush	1%	
Mulch: Straw			

<sup>1</sup> ERNMX-128 = Ernst Conservation Seeds Seasonally Flooded Seed Mix

\*OR APPROVED EQUIVALENT

WETLAND -SEED MIX



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**NY ALFRED I, LLC.**

**COMMUNITY SOLAR FARM PROJECT**

5568 JERICHO HILL ROAD  
ALFRED, NY 14803

Date Revised	Description
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Project Manager	Discipline Lead
<b>DJP</b>	<b>DJP</b>
Designer	Reviewer
<b>JL</b>	<b>ECR</b>
Date Issued	Project Number
<b>05/28/2021</b>	<b>12773.46</b>

Sheet Name

**DETAILS VII**

Drawing Number

**C017**





## Appendix D

# Notice of Intent (NOI)



# NOI for coverage under Stormwater General Permit for Construction Activity

version 1.31

(Submission #: HPA-NWC8-7B56C, version 1)

## Details

---

**Originally Started By** John Li

**Submission ID** HPA-NWC8-7B56C

**Submission Reason** New

**Status** Draft

**Active Steps** Form Submitted

## Form Input

---

### Owner/Operator Information

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

Delaware River Solar, LLC. (and affiliate NY Alfred 1, LLC.)

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

Dolgos

**Owner/Operator Contact Person First Name**

Peter

**Owner/Operator Mailing Address**

140 East 45th Street, Suite 32B-1

**City**

New York

**State**

NY



**Zip**

10017

**Phone**

646 998 6495

**Email**

peter.dolgos@delawareriversolar.com

**Federal Tax ID**

86-1626506

**Project Location****Project/Site Name**

NY Alfred I, LLC. Community Solar Farm

**Street Address (Not P.O. Box)**

5568 Jericho Hill Road

**Side of Street**

East

**City/Town/Village (THAT ISSUES BUILDING PERMIT)**

Town of Alfred

**State**

NY

**Zip**

14803

**DEC Region**

9

**County**

ALLEGANY

**Name of Nearest Cross Street**

Randolph Road

**Distance to Nearest Cross Street (Feet)**

1130

**Project In Relation to Cross Street**

East

**Tax Map Numbers Section-Block-Parcel**

164.-1-8.1



**Tax Map Numbers**

NONE PROVIDED

**1. Coordinates**

---

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

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

**Navigate to your location and click on the map to get the X,Y coordinates**

42.23958968812399,-77.7889997407837

**Project Details****2. What is the nature of this project?**

New Construction

**3. Select the predominant land use for both pre and post development conditions.****Pre-Development Existing Landuse**

Cultivated Land

**Post-Development Future Land Use**

Other: Solar Farm

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

NONE PROVIDED

---

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

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

**Total Site Area (acres)**

162.1

**Total Area to be Disturbed (acres)**

30.9

**Existing Impervious Area to be Disturbed (acres)**

0.22



**Future Impervious Area Within Disturbed Area (acres)**

0.037

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

No

---

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

0

**B (%)**

0

**C (%)**

0

**D (%)**

100

**7. Is this a phased project?**

No

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

6/1/2022

**End Date**

10/1/2022

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

Delineated Streams and Wetlands

**9a. Type of waterbody identified in question 9?**

Stream/Creek On Site

Wetland/Federal Jurisdiction On Site (Answer 9b)

**Other Waterbody Type Off Site Description**

NONE PROVIDED

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

Delineated by Consultant

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

No



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

No

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

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?**

NONE PROVIDED

**If Yes, what is the acreage to be disturbed?**

NONE PROVIDED

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

No

**15. Does the site runoff enter a separate storm sewer system (including roadside drains, swales, ditches, culverts, etc)?**

No

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

NONE PROVIDED

**17. Does any runoff from the site enter a sewer classified as a Combined Sewer?**

No

**18. Will future use of this site be an agricultural property as defined by the NYS Agriculture and Markets Law?**

No

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

No

**20. Is this a remediation project being done under a Department approved work plan? (i.e. CERCLA, RCRA, Voluntary Cleanup Agreement, etc.)**

No

## **Required SWPPP Components**



**21. Has the required Erosion and Sediment Control component of the SWPPP been developed in conformance with the current NYS Standards and Specifications for Erosion and Sediment Control (aka Blue Book)?**

Yes

**22. Does this construction activity require the development of a SWPPP that includes the post-construction stormwater management practice component (i.e. Runoff Reduction, Water Quality and Quantity Control practices/techniques)?**

No

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

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

NONE PROVIDED

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

**SWPPP Preparer**

Bergmann

**Contact Name (Last, Space, First)**

Redding, Eric

**Mailing Address**

2 Winners Circle, Suite 102

**City**

Albany

**State**

NY

**Zip**

12205

**Phone**

518 862 0325

**Email**

eredding@bergmannpc.com

**Download SWPPP Preparer Certification Form**

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

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



3) Scan the signed form

4) Upload the scanned document

[Download SWPPP Preparer Certification Form](#)

**Please upload the SWPPP Preparer Certification**

SWPPP Preparer Certification.pdf - 08/02/2021 03:15 PM

**Comment**

NONE PROVIDED

## **Erosion & Sediment Control Criteria**

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

Yes

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

**Temporary Structural**

Construction Road Stabilization

Dust Control

Silt Fence

Stabilized Construction Entrance

**Biotechnical**

None

**Vegetative Measures**

Topsoiling

Mulching

Seeding

**Permanent Structural**

Land Grading

**Other**

Level Spreaders and Grass Filter Strip

## **Post-Construction Criteria**

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



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

Preservation of Undisturbed Area  
Reduction of Clearing and Grading  
Locating Development in Less Sensitive Areas  
Preservation of Buffers

**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).

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

NONE PROVIDED

**29. Post-construction SMP Identification**

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

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

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

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

NONE PROVIDED

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

NONE PROVIDED

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

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

NONE PROVIDED

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

NONE PROVIDED



**If Yes, go to 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; therefore, NOI can not be processed. SWPPP preparer must modify design to meet sizing criteria.

**33. SMPs**

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

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

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

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

NONE PROVIDED

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

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

NONE PROVIDED

**35. Is the sum of the RRv provided (#30) and the WQv provided (#33a) greater than or equal to the total WQv required (#28)?**

NONE PROVIDED

If Yes, go to question 36.

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

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

NONE PROVIDED

**CPv Provided (acre-feet)**

NONE PROVIDED

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

NONE PROVIDED



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

**Overbank Flood Control Criteria (Qp)**

**Pre-Development (CFS)**

NONE PROVIDED

**Post-Development (CFS)**

NONE PROVIDED

**Total Extreme Flood Control Criteria (Qf)**

**Pre-Development (CFS)**

NONE PROVIDED

**Post-Development (CFS)**

NONE PROVIDED

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

NONE PROVIDED

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

Yes

**If Yes, Identify the entity responsible for the long term Operation and Maintenance**  
Delaware River Solar, LLC.

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

Question #22 is marked no because the project will meet all the criteria listed under Scenario 1, except for item 5, of the April 5, 2018 Guidance from the DEC on "Solar Panel Construction Stormwater Permitting/SWPPP Guidance". The project proposes a 791 sq. ft. concrete equipment pad. In addition to standard erosion and sediment control practices, the SWPPP for this project will also propose the use of a grass filter strip to address the need for water quality treatment caused by the equipment pad. Although question #4 is stated as 30.9 acres of "Total Area to be Disturbed", physical ground disturbance will only involve 14.5 acres, which will include construction of the driveway, equipment pad, fence, panel post, land grading, underground electrical trenching, and the area of tree/brush removal. The "Total Area to be Disturbed", as stated to be 30.9 acres, is a representation of the total project area and does not represent the total acreage of physical ground disturbance.

## **Post-Construction SMP Identification**

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



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

### **RR Techniques (Area Reduction)**

---

Round to the nearest tenth

**Total Contributing Acres for Conservation of Natural Area (RR-1)**

NONE PROVIDED

**Total Contributing Impervious Acres for Conservation of Natural Area (RR-1)**

NONE PROVIDED

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

NONE PROVIDED

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

NONE PROVIDED

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

NONE PROVIDED

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

NONE PROVIDED

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

NONE PROVIDED

### **RR Techniques (Volume Reduction)**

---

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

NONE PROVIDED

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

NONE PROVIDED

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

NONE PROVIDED

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

NONE PROVIDED

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

NONE PROVIDED

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

NONE PROVIDED



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

NONE PROVIDED

**Standard SMPs with RRv Capacity**

---

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

NONE PROVIDED

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

NONE PROVIDED

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

NONE PROVIDED

**Total Contributing Impervious Acres for Underground Infiltration System (I-4)**

NONE PROVIDED

**Total Contributing Impervious Acres for Bioretention (F-5)**

NONE PROVIDED

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

NONE PROVIDED

**Standard SMPs**

---

**Total Contributing Impervious Acres for Micropool Extended Detention (P-1)**

NONE PROVIDED

**Total Contributing Impervious Acres for Wet Pond (P-2)**

NONE PROVIDED

**Total Contributing Impervious Acres for Wet Extended Detention (P-3)**

NONE PROVIDED

**Total Contributing Impervious Acres for Multiple Pond System (P-4)**

NONE PROVIDED

**Total Contributing Impervious Acres for Pocket Pond (P-5)**

NONE PROVIDED

**Total Contributing Impervious Acres for Surface Sand Filter (F-1)**

NONE PROVIDED

**Total Contributing Impervious Acres for Underground Sand Filter (F-2)**

NONE PROVIDED

**Total Contributing Impervious Acres for Perimeter Sand Filter (F-3)**

NONE PROVIDED



**Total Contributing Impervious Acres for Organic Filter (F-4)**

NONE PROVIDED

**Total Contributing Impervious Acres for Shallow Wetland (W-1)**

NONE PROVIDED

**Total Contributing Impervious Acres for Extended Detention Wetland (W-2)**

NONE PROVIDED

**Total Contributing Impervious Acres for Pond/Wetland System (W-3)**

NONE PROVIDED

**Total Contributing Impervious Acres for Pocket Wetland (W-4)**

NONE PROVIDED

**Total Contributing Impervious Acres for Wet Swale (O-2)**

NONE PROVIDED

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

---

**Total Contributing Impervious Area for Hydrodynamic**

NONE PROVIDED

**Total Contributing Impervious Area for Wet Vault**

NONE PROVIDED

**Total Contributing Impervious Area for Media Filter**

NONE PROVIDED

**"Other" Alternative SMP?**

NONE PROVIDED

**Total Contributing Impervious Area for "Other"**

NONE PROVIDED

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

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

**Manufacturer of Alternative SMP**

NONE PROVIDED

**Name of Alternative SMP**

NONE PROVIDED



## **Other Permits**

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

None

**If SPDES Multi-Sector GP, then give permit ID**

NONE PROVIDED

**If Other, then identify**

NONE PROVIDED

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

No

**If "Yes," then indicate Size of Impact, in acres, to the nearest tenth**

NONE PROVIDED

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

NONE PROVIDED

## **MS4 SWPPP Acceptance**

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

No

**If No, skip question 44**

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

NONE PROVIDED

**MS4 SWPPP Acceptance Form Download**

Download form from the link below. Complete, sign, and upload.

[MS4 SWPPP Acceptance Form](#)

**MS4 Acceptance Form Upload**

NONE PROVIDED

**Comment**

NONE PROVIDED

## **Owner/Operator Certification**



**Owner/Operator Certification Form Download**

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

[Owner/Operator Certification Form \(PDF, 45KB\)](#)

**Upload Owner/Operator Certification Form**

Owner Operator Certification.pdf - 12/01/2021 04:38 PM

**Comment**

NONE PROVIDED

## Attachments

---

Date	Attachment Name	Context	User
12/1/2021 4:38 PM	Owner Operator Certification.pdf	Attachment	John Li
8/2/2021 3:15 PM	SWPPP Preparer Certification.pdf	Attachment	John Li

## Status History

---

	User	Processing Status
8/2/2021 2:26:38 PM	John Li	Draft

## Processing Steps

---

Step Name	Assigned To/Completed By	Date Completed
Form Submitted		
Under Review	DAVID GASPER	





## Appendix E

# NOI Acknowledgment Letter





## Appendix F

# Owner/Operator Certification Form





Department of  
Environmental  
Conservation

## Owner/Operator Certification Form

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

Project/Site Name: NY Alfred I, LLC. Community Solar Farm

eNOI Submission Number: HPA-NWC8-7B56C

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

Peter Dolger

Signature

SVP - NY Alfred I, LLC

12/1/21

Date





Appendix G

**NYS DEC SPDES General Permit for Stormwater  
Discharges from Construction Activity  
(GP-0-20-001)**





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

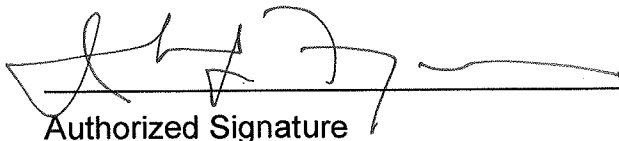
Issued Pursuant to Article 17, Titles 7, 8 and Article 70  
of the Environmental Conservation Law

Effective Date: January 29, 2020

Expiration Date: January 28, 2025

John J. Ferguson

Chief Permit Administrator



Authorized Signature

1-23-20  
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

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

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



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

- a. **Erosion and Sediment Controls.** Design, install and maintain effective erosion and sediment controls to *minimize* the *discharge of pollutants* and prevent a violation of the *water quality standards*. At a minimum, such controls must be designed, installed and maintained to:
- (i) *Minimize* soil erosion through application of runoff control and soil stabilization control measure to *minimize pollutant discharges*;
  - (ii) Control stormwater *discharges*, including both peak flowrates and total stormwater volume, to *minimize* channel and *streambank* erosion and scour in the immediate vicinity of the *discharge* points;
  - (iii) *Minimize* the amount of soil exposed during *construction activity*;
  - (iv) *Minimize* the disturbance of *steep slopes*;
  - (v) *Minimize* sediment *discharges* from the site;
  - (vi) Provide and maintain *natural buffers* around surface waters, direct stormwater to vegetated areas and maximize stormwater infiltration to reduce *pollutant discharges*, unless *infeasible*;
  - (vii) *Minimize* soil compaction. Minimizing soil compaction is not required where the intended function of a specific area of the site dictates that it be compacted;
  - (viii) 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.** *Discharges from dewatering activities, including discharges from dewatering of trenches and excavations, must be managed by appropriate control measures.*
- d. **Pollution Prevention Measures.** Design, install, implement, and maintain effective pollution prevention measures to *minimize the discharge of pollutants* and prevent a violation of the *water quality standards*. At a minimum, such measures must be designed, installed, implemented and maintained to:
  - (i) *Minimize the discharge of pollutants from equipment and vehicle washing, wheel wash water, and other wash waters. This applies to washing operations that use clean water only. Soaps, detergents and solvents cannot be used;*
  - (ii) *Minimize the exposure of building materials, building products, construction wastes, trash, landscape materials, fertilizers, pesticides, herbicides, detergents, sanitary waste, hazardous and toxic waste, and other materials present on the site to precipitation and to stormwater. Minimization of exposure is not required in cases where the exposure to precipitation and to stormwater will not result in a discharge of pollutants, or where exposure of a specific material or product poses little risk of stormwater contamination (such as final products and materials intended for outdoor use) ; and*
  - (iii) *Prevent the discharge of pollutants from spills and leaks and implement chemical spill and leak prevention and response procedures.*
- e. **Prohibited Discharges.** The following *discharges* are prohibited:
  - (i) *Wastewater from washout of concrete;*
  - (ii) *Wastewater from washout and cleanout of stucco, paint, form release oils, curing compounds and other construction materials;*



- (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 *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.



### 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 *discharges* 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 *discharges* 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 *discharges* 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 *discharges* 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 *discharges*; including stormwater runoff, snowmelt runoff, and surface runoff and drainage, from *construction activities*.
3. Notwithstanding paragraphs E.1 and E.2 above, the following non-stormwater discharges are authorized by this permit: those listed in 6 NYCRR 750-1.2(a)(29)(vi), with the following exception: “Discharges from firefighting activities are authorized only when the firefighting activities are emergencies/unplanned”; waters to which other components have not been added that are used to control dust in accordance with the SWPPP; and uncontaminated *discharges* from *construction site* de-watering operations. All non-stormwater discharges must be identified in the SWPPP. Under all circumstances, the *owner or operator* must still comply with *water quality standards* in Part I.D of this permit.
4. The *owner or operator* must maintain permit eligibility to *discharge* under this permit. Any *discharges* that are not compliant with the eligibility conditions of this permit are not authorized by the permit and the *owner or operator* must either apply for a separate permit to cover those ineligible *discharges* or take steps necessary to make the *discharge* eligible for coverage.

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

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

1. *Discharges* after *construction activities* have been completed and the site has undergone *final stabilization*;
2. *Discharges* that are mixed with sources of non-stormwater other than those expressly authorized under subsection E.3. of this Part and identified in the SWPPP required by this permit;
3. *Discharges* that are required to obtain an individual SPDES permit or another SPDES general permit pursuant to Part VII.K. of this permit;
4. *Construction activities* or *discharges* from *construction activities* that may adversely affect an *endangered or threatened species* unless the *owner or*



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

5. *Discharges* which either cause or contribute to a violation of *water quality standards* adopted pursuant to the *ECL* and its accompanying regulations;
6. *Construction activities* for residential, commercial and institutional projects:
  - a. Where the *discharges* from the *construction activities* are tributary to waters of the state classified as AA or AA-s; and
  - b. Which are undertaken on land with no existing *impervious cover*; and
  - c. Which disturb one (1) or more acres of land designated on the current United States Department of Agriculture ("USDA") Soil Survey as Soil Slope Phase "D", (provided the map unit name is inclusive of slopes greater than 25%), or Soil Slope Phase "E" or "F" (regardless of the map unit name), or a combination of the three designations.
7. *Construction activities* for linear transportation projects and linear utility projects:
  - a. Where the *discharges* from the *construction activities* are tributary to waters of the state classified as AA or AA-s; and
  - b. Which are undertaken on land with no existing *impervious cover*; and
  - c. Which disturb two (2) or more acres of land designated on the current USDA Soil Survey as Soil Slope Phase "D" (provided the map unit name is inclusive of slopes greater than 25%), or Soil Slope Phase "E" or "F" (regardless of the map unit name), or a combination of the three designations.



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

## Part II. PERMIT COVERAGE

### A. How to Obtain Coverage

1. An *owner or operator* of a *construction activity* that is not subject to the requirements of a regulated, traditional land use control MS4 must first prepare a SWPPP in accordance with all applicable requirements of this permit and then submit a completed Notice of Intent (NOI) to the Department to be authorized to discharge under this permit.
2. An *owner or operator* of a *construction activity* that is subject to the requirements of a *regulated, traditional land use control MS4* must first prepare a SWPPP in accordance with all applicable requirements of this permit and then have the SWPPP reviewed and accepted by the *regulated, traditional land use control MS4* prior to submitting the NOI to the Department. The *owner or operator* shall have the "MS4 SWPPP Acceptance" form signed in accordance with Part VII.H., and then submit that form along with a completed NOI to the Department.
3. The requirement for an *owner or operator* to have its SWPPP reviewed and accepted by the *regulated, traditional land use control MS4* prior to submitting the NOI to the Department does not apply to an *owner or operator* that is obtaining permit coverage in accordance with the requirements in Part II.F. (Change of Owner or Operator) or where the *owner or operator* of the *construction activity* is the *regulated, traditional land use control MS4*. This exemption does not apply to *construction activities* subject to the New York City Administrative Code.



## **B. Notice of Intent (NOI) Submittal**

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, 4<sup>th</sup> Floor  
Albany, New York 12233-3505**

2. Beginning December 21, 2020 and in accordance with EPA's 2015 NPDES Electronic Reporting Rule (40 CFR Part 127), the *owner or operator* must submit the NOI electronically using the *Department's* online NOI.
3. The *owner or operator* shall have the SWPPP preparer sign the "SWPPP Preparer Certification" statement on the NOI prior to submitting the form to the Department.
4. As of the date the NOI is submitted to the Department, the *owner or operator* shall make the NOI and SWPPP available for review and copying in accordance with the requirements in Part VII.F. of this permit.

## **C. Permit Authorization**

1. An *owner or operator* shall not *commence construction activity* until their authorization to *discharge* under this permit goes into effect.
2. Authorization to *discharge* under this permit will be effective when the *owner or operator* has satisfied all of the following criteria:
  - a. project review pursuant to the State Environmental Quality Review Act ("SEQRA") have been satisfied, when SEQRA is applicable. See the Department's website (<http://www.dec.ny.gov/>) for more information,
  - b. where required, all necessary Department permits subject to the *Uniform Procedures Act* ("UPA") (see 6 NYCRR Part 621), or the equivalent from another New York State agency, have been obtained, unless otherwise notified by the Department pursuant to 6 NYCRR 621.3(a)(4). *Owners or operators of construction activities* that are required to obtain UPA permits



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

- c. the final SWPPP has been prepared, and
  - d. a complete NOI has been submitted to the Department in accordance with the requirements of this permit.
3. An *owner or operator* that has satisfied the requirements of Part II.C.2 above will be authorized to *discharge* stormwater from their *construction activity* in accordance with the following schedule:
- a. For *construction activities* that are not subject to the requirements of a *regulated, traditional land use control MS4*:
    - (i) Five (5) business days from the date the Department receives a complete electronic version of the NOI (eNOI) for *construction activities* with a SWPPP that has been prepared in conformance with the design criteria in the technical standard referenced in Part III.B.1 and the *performance criteria* in the technical standard referenced in Parts III.B., 2 or 3, for *construction activities* that require post-construction stormwater management practices pursuant to Part III.C.; or
    - (ii) Sixty (60) business days from the date the Department receives a complete NOI (electronic or paper version) for *construction activities* with a SWPPP that has not been prepared in conformance with the design criteria in technical standard referenced in Part III.B.1. or, for *construction activities* that require post-construction stormwater management practices pursuant to Part III.C., the *performance criteria* in the technical standard referenced in Parts III.B., 2 or 3, or;
    - (iii) Ten (10) business days from the date the Department receives a complete paper version of the NOI for *construction activities* with a SWPPP that has been prepared in conformance with the design criteria in the technical standard referenced in Part III.B.1 and the *performance criteria* in the technical standard referenced in Parts III.B., 2 or 3, for *construction activities* that require post-construction stormwater management practices pursuant to Part III.C.



- b. For *construction activities* that are subject to the requirements of a *regulated, traditional land use control MS4*:
  - (i) Five (5) business days from the date the Department receives both a complete electronic version of the NOI (eNOI) and signed “MS4 SWPPP Acceptance” form, or
  - (ii) Ten (10) business days from the date the Department receives both a complete paper version of the NOI and signed “MS4 SWPPP Acceptance” form.
- 4. Coverage under this permit authorizes stormwater *discharges* from only those areas of disturbance that are identified in the NOI. If an *owner or operator* wishes to have stormwater *discharges* from future or additional areas of disturbance authorized, they must submit a new NOI that addresses that phase of the development, unless otherwise notified by the Department. The *owner or operator* shall not *commence construction activity* on the future or additional areas until their authorization to *discharge* under this permit goes into effect in accordance with Part II.C. of this permit.

#### **D. General Requirements For Owners or Operators With Permit Coverage**

- 1. The *owner or operator* shall ensure that the provisions of the SWPPP are implemented from the *commencement of construction activity* until all areas of disturbance have achieved *final stabilization* and the Notice of Termination (“NOT”) has been submitted to the Department in accordance with Part V. of this permit. This includes any changes made to the SWPPP pursuant to Part III.A.4. of this permit.
- 2. The *owner or operator* shall maintain a copy of the General Permit (GP-0-20-001), NOI, *NOI Acknowledgment Letter*, SWPPP, MS4 SWPPP Acceptance form, inspection reports, responsible contractor’s or subcontractor’s certification statement (see Part III.A.6.), and all documentation necessary to demonstrate eligibility with this permit at the *construction site* until all disturbed areas have achieved *final stabilization* and the NOT has been submitted to the Department. The documents must be maintained in a secure location, such as a job trailer, on-site construction office, or mailbox with lock. The secure location must be accessible during normal business hours to an individual performing a compliance inspection.
- 3. The *owner or operator* of a *construction activity* shall not disturb greater than five (5) acres of soil at any one time without prior written authorization from the Department or, in areas under the jurisdiction of a *regulated, traditional land*



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

- a. The *owner or operator* shall have a *qualified inspector* conduct **at least** two (2) site inspections in accordance with Part IV.C. of this permit every seven (7) calendar days, for as long as greater than five (5) acres of soil remain disturbed. The two (2) inspections shall be separated by a minimum of two (2) full calendar days.
  - b. In areas where soil disturbance activity has temporarily or permanently ceased, the application of soil stabilization measures must be initiated by the end of the next business day and completed within seven (7) days from the date the current soil disturbance activity ceased. The soil stabilization measures selected shall be in conformance with the technical standard, New York State Standards and Specifications for Erosion and Sediment Control, dated November 2016.
  - c. The *owner or operator* shall prepare a phasing plan that defines maximum disturbed area per phase and shows required cuts and fills.
  - d. The *owner or operator* shall install any additional site-specific practices needed to protect water quality.
  - e. The *owner or operator* shall include the requirements above in their SWPPP.
4. In accordance with statute, regulations, and the terms and conditions of this permit, the Department may suspend or revoke an *owner's or operator's* coverage under this permit at any time if the Department determines that the SWPPP does not meet the permit requirements or consistent with Part VII.K..
  5. Upon a finding of significant non-compliance with the practices described in the SWPPP or violation of this permit, the Department may order an immediate stop to all activity at the site until the non-compliance is remedied. The stop work order shall be in writing, describe the non-compliance in detail, and be sent to the *owner or operator*.
  6. For *construction activities* that are subject to the requirements of a *regulated, traditional land use control MS4*, the *owner or operator* shall notify the



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

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

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

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

#### **F. Change of Owner or Operator**

1. When property ownership changes or when there is a change in operational control over the construction plans and specifications, the original *owner or operator* must notify the new *owner or operator*, in writing, of the requirement to obtain permit coverage by submitting a NOI with the Department. For *construction activities* subject to the requirements of a *regulated, traditional land use control MS4*, the original *owner or operator* must also notify the MS4, in writing, of the change in ownership at least 30 calendar days prior to the change in ownership.
2. Once the new *owner or operator* obtains permit coverage, the original *owner or operator* shall then submit a completed NOT with the name and permit identification number of the new *owner or operator* to the Department at the address in Part II.B.1. of this permit. If the original *owner or operator* maintains ownership of a portion of the *construction activity* and will disturb soil, they must maintain their coverage under the permit.
3. Permit coverage for the new *owner or operator* will be effective as of the date the Department receives a complete NOI, provided the original *owner or*



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

### Part III. STORMWATER POLLUTION PREVENTION PLAN (SWPPP)

#### A. General SWPPP Requirements

1. A SWPPP shall be prepared and implemented by the *owner or operator* of each *construction activity* covered by this permit. The SWPPP must document the selection, design, installation, implementation and maintenance of the control measures and practices that will be used to meet the effluent limitations in Part I.B. of this permit and where applicable, the post-construction stormwater management practice requirements in Part I.C. of this permit. The SWPPP shall be prepared prior to the submittal of the NOI. The NOI shall be submitted to the Department prior to the *commencement of construction activity*. A copy of the completed, final NOI shall be included in the SWPPP.
2. The SWPPP shall describe the erosion and sediment control practices and where required, post-construction stormwater management practices that will be used and/or constructed to reduce the *pollutants* in stormwater *discharges* and to assure compliance with the terms and conditions of this permit. In addition, the SWPPP shall identify potential sources of pollution which may reasonably be expected to affect the quality of stormwater *discharges*.
3. All SWPPPs that require the post-construction stormwater management practice component shall be prepared by a *qualified professional* that is knowledgeable in the principles and practices of stormwater management and treatment.
4. The *owner or operator* must keep the SWPPP current so that it at all times accurately documents the erosion and sediment controls practices that are being used or will be used during construction, and all post-construction stormwater management practices that will be constructed on the site. At a minimum, the *owner or operator* shall amend the SWPPP, including construction drawings:
  - a. whenever the current provisions prove to be ineffective in minimizing *pollutants* in stormwater *discharges* from the site;



- b. whenever there is a change in design, construction, or operation at the *construction site* that has or could have an effect on the *discharge* of *pollutants*;
  - c. to address issues or deficiencies identified during an inspection by the *qualified inspector*, the Department or other regulatory authority; and
  - d. to document the final construction conditions.
5. The Department may notify the *owner or operator* at any time that the SWPPP does not meet one or more of the minimum requirements of this permit. The notification shall be in writing and identify the provisions of the SWPPP that require modification. Within fourteen (14) calendar days of such notification, or as otherwise indicated by the Department, the *owner or operator* shall make the required changes to the SWPPP and submit written notification to the Department that the changes have been made. If the *owner or operator* does not respond to the Department's comments in the specified time frame, the Department may suspend the *owner's or operator's* coverage under this permit or require the *owner or operator* to obtain coverage under an individual SPDES permit in accordance with Part II.D.4. of this permit.
6. Prior to the *commencement of construction activity*, the *owner or operator* must identify the contractor(s) and subcontractor(s) that will be responsible for installing, constructing, repairing, replacing, inspecting and maintaining the erosion and sediment control practices included in the SWPPP; and the contractor(s) and subcontractor(s) that will be responsible for constructing the post-construction stormwater management practices included in the SWPPP. The *owner or operator* shall have each of the contractors and subcontractors identify at least one person from their company that will be responsible for implementation of the SWPPP. This person shall be known as the *trained contractor*. The *owner or operator* shall ensure that at least one *trained contractor* is on site on a daily basis when soil disturbance activities are being performed.

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

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



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

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

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

## **B. Required SWPPP Contents**

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



- 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



- I. Digital photographs, with date stamp, that clearly show the condition of all practices that have been identified as needing corrective actions. The *qualified inspector* shall attach paper color copies of the digital photographs to the inspection report being maintained onsite within seven (7) calendar days of the date of the inspection. The *qualified inspector* shall also take digital photographs, with date stamp, that clearly show the condition of the practice(s) after the corrective action has been completed. The *qualified inspector* shall attach paper color copies of the digital photographs to the inspection report that documents the completion of the corrective action work within seven (7) calendar days of that inspection.
5. Within one business day of the completion of an inspection, the *qualified inspector* shall notify the *owner or operator* and appropriate contractor or subcontractor identified in Part III.A.6. of this permit of any corrective actions that need to be taken. The contractor or subcontractor shall begin implementing the corrective actions within one business day of this notification and shall complete the corrective actions in a reasonable time frame.
6. All inspection reports shall be signed by the *qualified inspector*. Pursuant to Part II.D.2. of this permit, the inspection reports shall be maintained on site with the SWPPP.

## **Part V. TERMINATION OF PERMIT COVERAGE**

### **A. Termination of Permit Coverage**

1. An *owner or operator* that is eligible to terminate coverage under this permit must submit a completed NOT form to the address in Part II.B.1 of this permit. The NOT form shall be one which is associated with this permit, signed in accordance with Part VII.H of this permit.
2. An *owner or operator* may terminate coverage when one or more 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 sources*. It is a calculation of the maximum amount of a pollutant that a waterbody can receive on a daily basis and still meet *water quality standards*, and an allocation of that amount to the pollutant's sources. A TMDL stipulates wasteload allocations (WLAs) for *point source* discharges, load allocations (LAs) for *nonpoint sources*, and a margin of safety (MOS).

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



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**

<p><b>The following construction activities that involve soil disturbances of one (1) or more acres of land, but less than five (5) acres:</b></p> <ul style="list-style-type: none"><li>• Single family home <u>not</u> located in one of the watersheds listed in Appendix C or <u>not directly discharging</u> to one of the 303(d) segments listed in Appendix E</li><li>• Single family residential subdivisions with 25% or less impervious cover at total site build-out and <u>not</u> located in one of the watersheds listed in Appendix C and <u>not</u> directly discharging to one of the 303(d) segments listed in Appendix E</li><li>• Construction of a barn or other <i>agricultural building</i>, silo, stock yard or pen.</li></ul>
<p><b>The following construction activities that involve soil disturbances between five thousand (5000) square feet and one (1) acre of land:</b></p> <p>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.</p>
<p><b>The following construction activities that involve soil disturbances of one (1) or more acres of land:</b></p> <ul style="list-style-type: none"><li>• Installation of underground, linear utilities; such as gas lines, fiber-optic cable, cable TV, electric, telephone, sewer mains, and water mains</li><li>• Environmental enhancement projects, such as wetland mitigation projects, stormwater retrofits and stream restoration projects</li><li>• Pond construction</li><li>• Linear bike paths running through areas with vegetative cover, including bike paths surfaced with an impervious cover</li><li>• Cross-country ski trails and walking/hiking trails</li><li>• Sidewalk, bike path or walking path projects, surfaced with an impervious cover, that are not part of residential, commercial or institutional development;</li><li>• 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.</li><li>• Slope stabilization projects</li><li>• Slope flattening that changes the grade of the site, but does not significantly change the runoff characteristics</li></ul>



**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

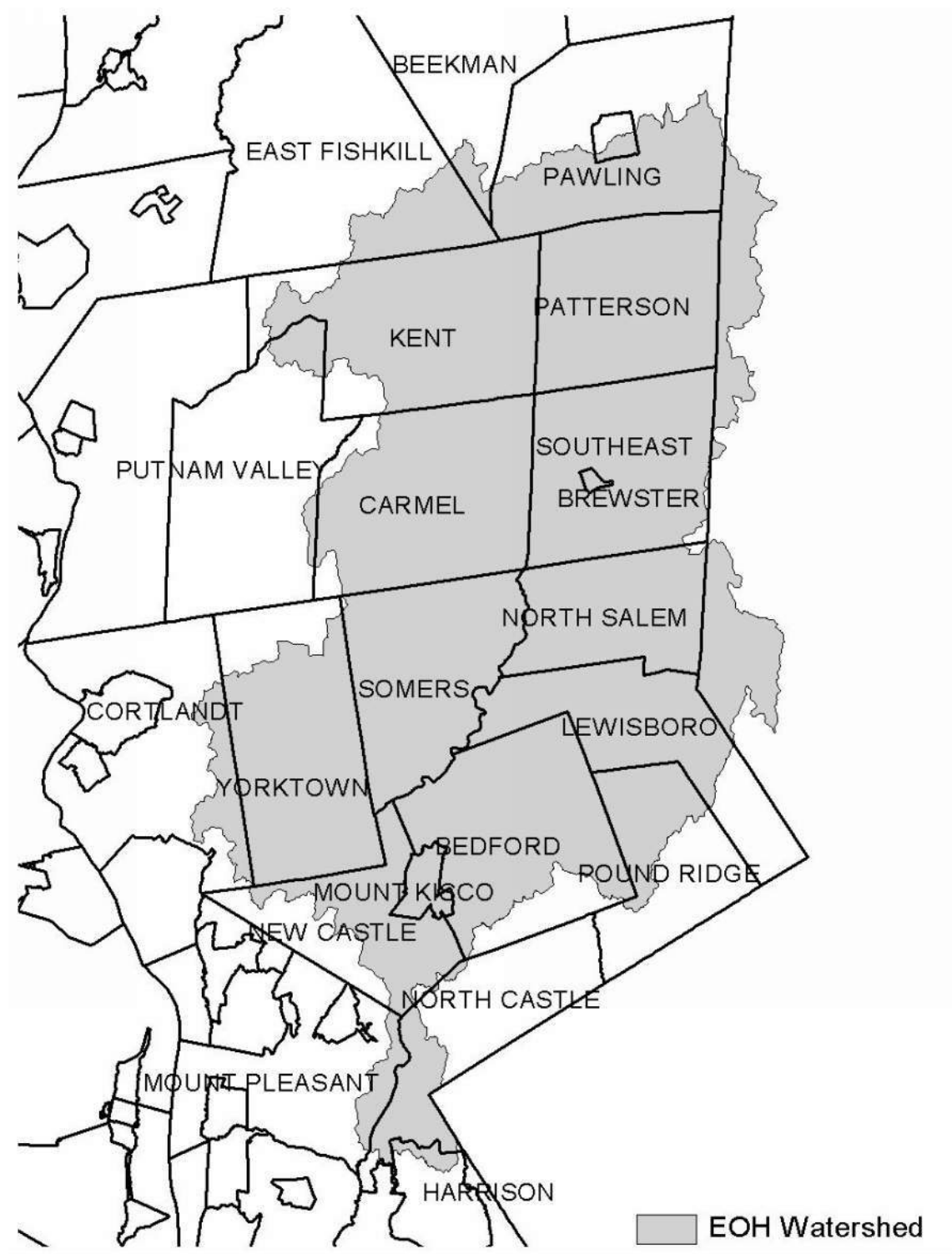


## APPENDIX C – Watersheds Requiring Enhanced Phosphorus Removal

**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



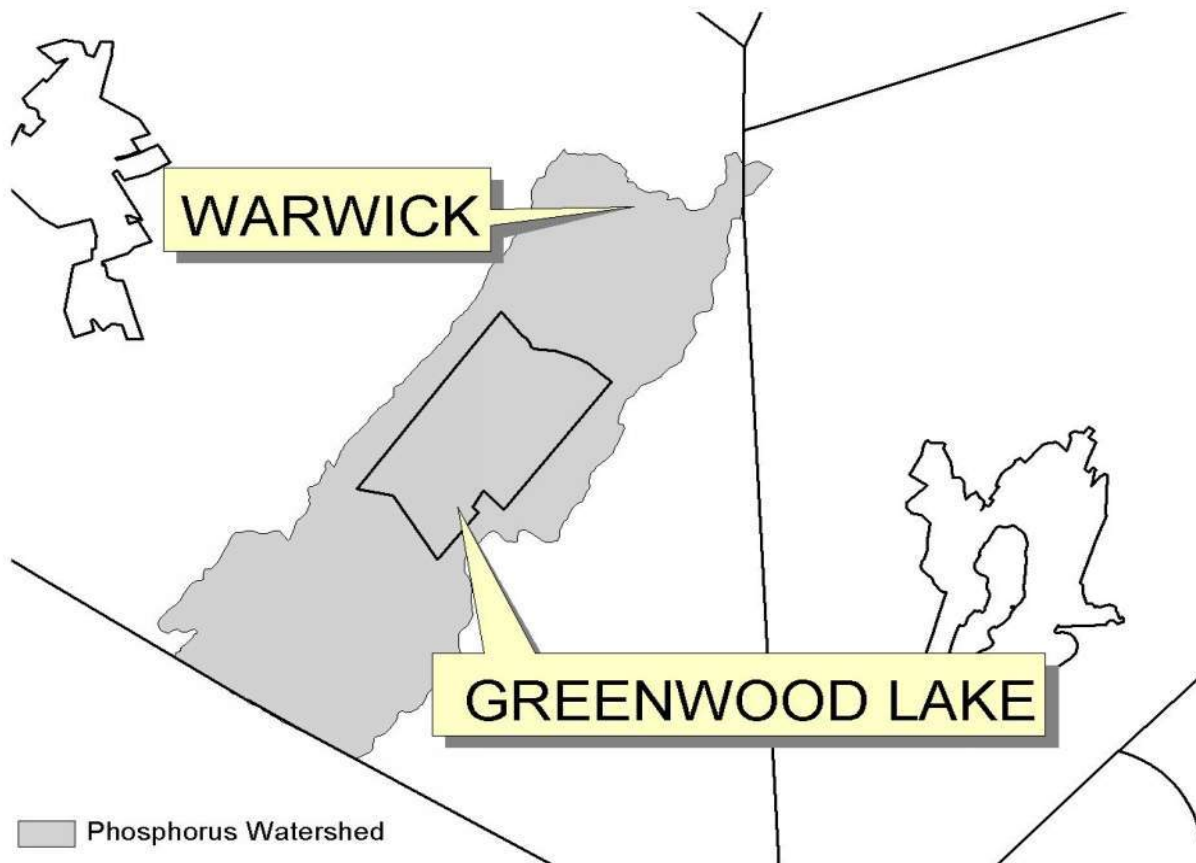
**Figure 1 - New York City Watershed East of the Hudson**



**Figure 2 - Onondaga Lake Watershed**

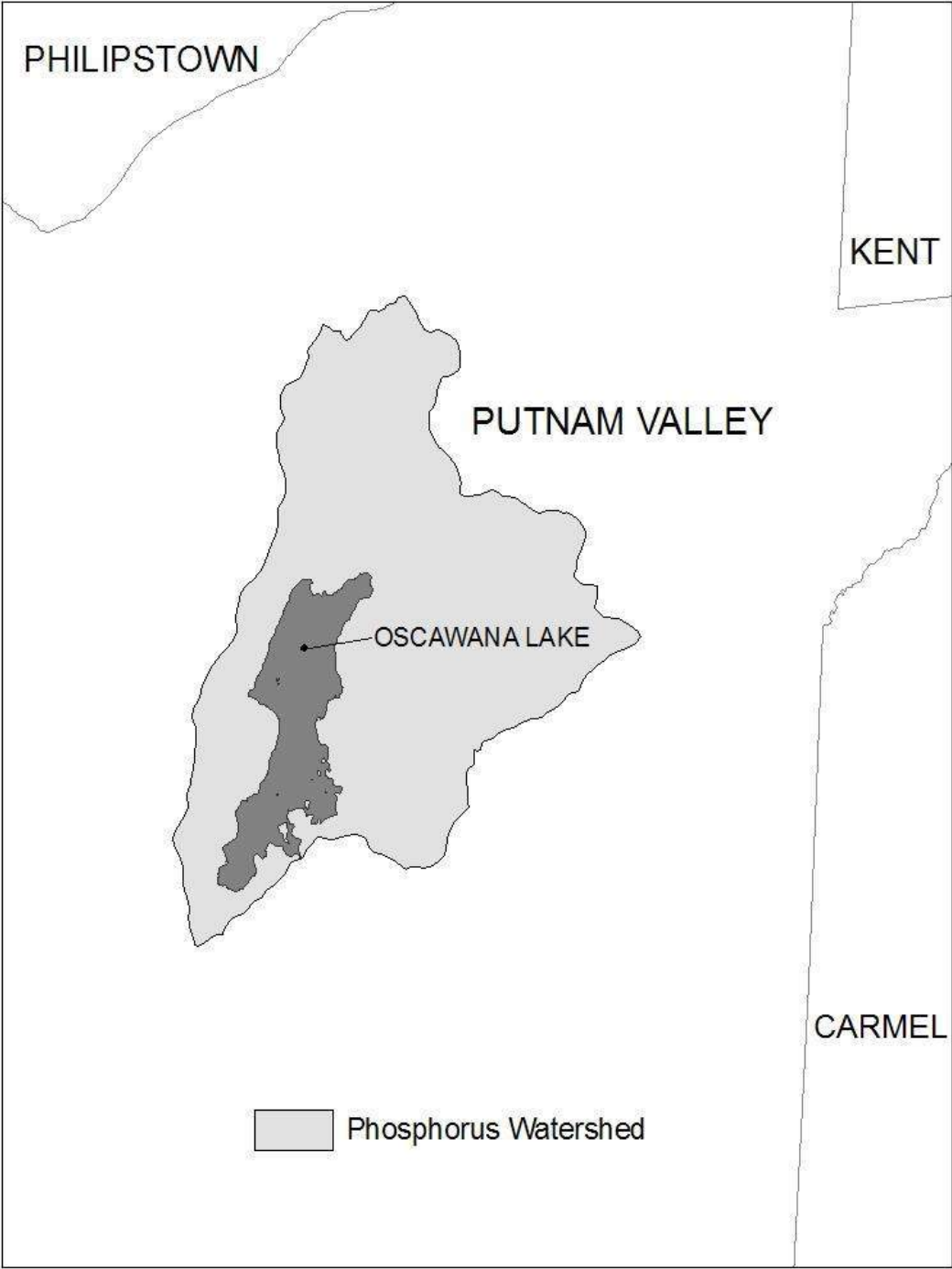


**Figure 3 - Greenwood Lake Watershed**



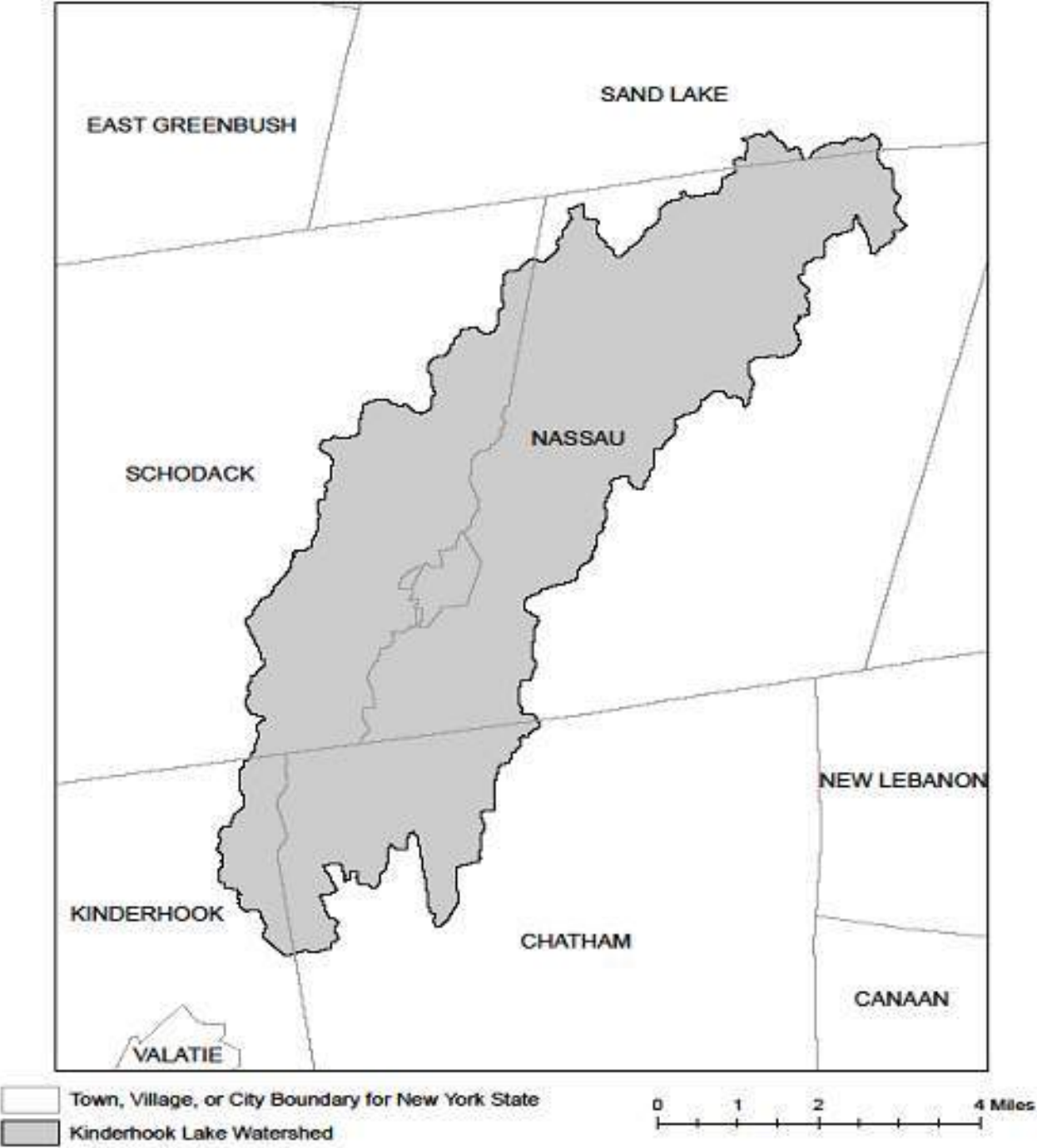


**Figure 4 - Oscawana Lake Watershed**





**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
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## 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

<u>Region</u>	<u>COVERING THE FOLLOWING COUNTIES:</u>	<u>DIVISION OF ENVIRONMENTAL PERMITS (DEP) PERMIT ADMINISTRATORS</u>	<u>DIVISION OF WATER (DOW) WATER (SPDES) PROGRAM</u>
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 G-1

# Solar Panel Construction Stormwater Permitting/SWPPP Guidance




# NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Water, Bureau of Water Permits  
625 Broadway, Albany, New York 12233-3505  
P: (518) 402-8111 | F: (518) 402-9029  
www.dec.ny.gov

## MEMORANDUM

**TO:** Regional Water Engineers

**FROM:** Robert Wither, Chief, South Permit Section 

**SUBJECT:** Solar Panel Construction Stormwater Permitting/SWPPP Guidance

**DATE:** April 5, 2018

### Issue

The Department is seeing an increase in the number of solar panel construction projects across New York State. This has resulted in an increase in the number of questions on Construction General Permit (CGP) and Stormwater Pollution Prevention Plan (SWPPP) requirements from design professionals because the current CGP (GP-0-15-002) does not include a specific reference to the SWPPP requirements for solar panel projects in Tables 1 and 2 of Appendix B. To address this issue, the Division of Water (DOW) has developed the following guidance on CGP/SWPPP requirements for the different types of solar panel projects.

### Scenario 1

The DOW considers solar panel projects designed and constructed in accordance with the following criteria to be a "*Land clearing and grading for the purposes of creating vegetated open space (i.e. recreational parks, lawns, meadows, fields)*" type project as listed in Table 1, Appendix B of the CGP. Therefore, the SWPPP for this type of project will typically just need to address erosion and sediment controls.

1. Solar panels are constructed on post or rack systems and elevated off the ground surface,
2. The panels are spaced apart so that rain water can flow off the down gradient side of the panel and continue as sheet flow across the ground surface\*,
3. For solar panels constructed on slopes, the individual rows of solar panels are generally installed along the contour so rain water sheet flows down slope\*,
4. The ground surface below the panels consist of a well-established vegetative cover (see "Final Stabilization" definition in Appendix A of the CGP),
5. The project does not include the construction of any traditional impervious areas (i.e. buildings, substation pads, gravel access roads or parking areas, etc.),
6. Construction of the solar panels will not alter the hydrology from pre-to post

assessment/hydrology analysis to make this determination.



Department of  
Environmental  
Conservation



\*Refer to Maryland's "Stormwater Design Guidance- Solar Panel Installations" attached for guidance on panel installation.

\*\*See notes below for additional criteria.

## **Scenario 2**

If the design and construction of the solar panels meets all the criteria above, except for item 6, the project will fall under the "*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*" project type as listed in Table 2, Appendix B of the CGP. Therefore, the SWPPP for this type of project must address post-construction stormwater practices designed in accordance with the sizing criteria in Chapter 4 of the NYS Stormwater Management Design Manual, dated January 2015 (Note: Chapter 10 for projects in NYC EOH Watershed). The Water Quality Volume (WQv)/Runoff Reduction Volume (RRv) sizing criteria can be addressed by designing and constructing the solar panels in accordance with the criteria in items 1 – 4 above, however, the quantity control sizing criteria (Cpv, Qp and Qf) from Chapter 4 (or 10) of the Design Manual must still be addressed, unless one of the waiver criteria from Chapter 4 can be applied. \*\*See notes below for additional criteria.

## **\*\* Notes**

- **Item 1:** For solar panel projects where the panels are mounted directly to the ground (i.e. no space below panel to allow for infiltration of runoff), the SWPPP must address post-construction stormwater management controls designed in accordance with the sizing criteria in Chapter 4 of the NYS Stormwater Management Design Manual, dated January 2015 (Note: Chapter 10 for projects in NYC EOH Watershed).

- **Item 5:** For solar panel projects that include the construction of traditional impervious areas (i.e. buildings, substation pads, gravel access roads or parking areas, etc.), the SWPPP must address post-construction stormwater management controls for those areas of the project. This applies to both Scenario 1 and 2 above.

cc: Carol Lamb-Lafay, BWP  
Dave Gasper, BWP





## Stormwater Design Guidance – Solar Panel Installations

Revisions to Maryland's stormwater management regulations in 2010 require that environmental site design (ESD) be used to the maximum extent practicable (MEP) to mimic natural hydrology, reduce runoff to reflect forested wooded conditions, and minimize the impact of land development on water resources. This applies to any residential, commercial, industrial, or institutional development where more than 5,000 square feet of land area is disturbed. Consequently, stormwater management must be addressed even when permeable features like solar panel installations exceed 5,000 square feet of land disturbance.

Depending on local soil conditions and proposed imperviousness, the amount of rainfall that stormwater requirements are based on varies from 1.0 to 2.6 inches. However, addressing stormwater management does not mean that structural or micro-scale practices must be constructed to capture and treat large volumes of runoff. Using nonstructural techniques like disconnecting impervious cover reduces runoff by promoting overland filtering and infiltration. Commonly used with smaller or narrower impervious areas like driveways or open roads, the Disconnection of Non-Rooftop Runoff technique (see pp. 5.61 to 5.65 of the **2000 Maryland Stormwater Design Manual**<sup>1</sup>) is a low cost alternative for treating runoff in situations like rows of solar panels.

When non-rooftop disconnection is used to treat runoff, the following factors should be considered:

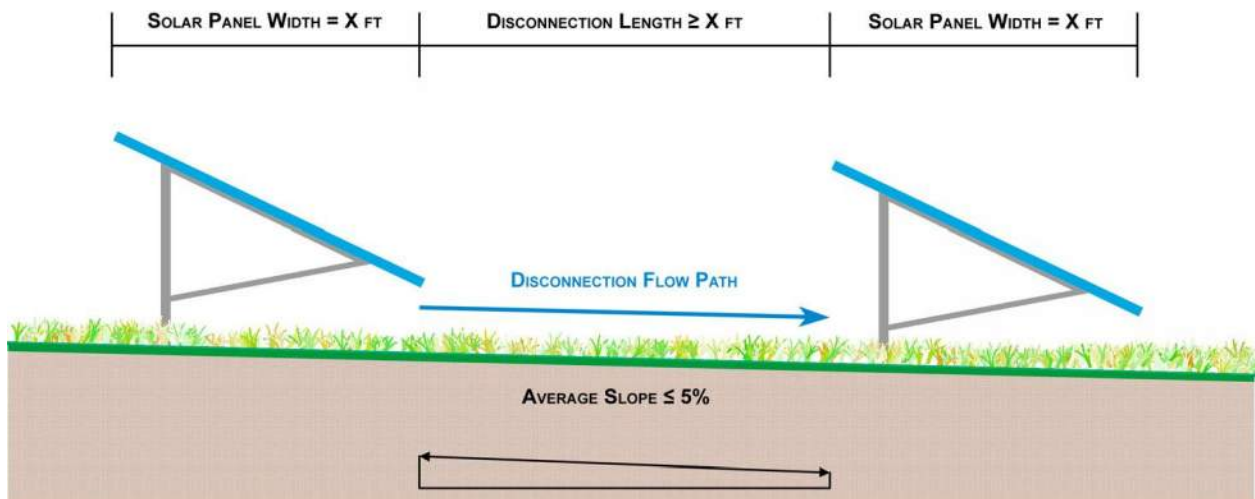
- The vegetated area receiving runoff must be equal to or greater in length than the disconnected surface (e.g., width of the row of solar panels)
- Runoff must sheet flow onto and across vegetated areas to maintain the disconnection
- Disconnections should be located on gradual slopes ( $\leq 5\%$ ) to maintain sheetflow. Level spreaders, terraces, or berms may be used to maintain sheetflow conditions if the average slope is steeper than 5%. However, installations on slopes greater than 10% will require an engineered plan that ensures adequate treatment and the safe and non-erosive conveyance of runoff to the property line or downstream stormwater management practice.
- Disconnecting impervious surfaces works best in undisturbed soils. To minimize disturbance and compaction, construction vehicles and equipment should avoid areas used for disconnection during installation of the solar panels.
- Groundcover vegetation must be maintained in good condition in those areas receiving disconnected runoff. Typically this maintenance is no different than other lawn or landscaped areas. However, areas receiving runoff should be protected (e.g., planting shrubs or trees along the perimeter) from future compaction.

Depending on the layout and number of panels installed, the disconnection of non-rooftop runoff technique may address some or all of the stormwater management requirements for an individual project. Where the imperviousness is high or there is other infrastructure (e.g., access roads, transformers), additional runoff may need to be treated. In these situations, other ESD techniques or micro-scale practices may be needed to provide stormwater management for these features.



5%

Several rows of solar panels will be installed in an existing meadow. The soils within the meadow are hydrologic soil group (HSG) B and the average slope does not exceed 5%. Each row of panels is 10 feet wide and the distance between rows is 20 feet. The rows of solar panels will be installed according to Figure 1 below. In this scenario, the disconnection length is the same as the distance between rows (20 feet) and is greater than the width of each row (10 feet). Therefore, each row of panels is adequately disconnected and the runoff from 1.0 inch of rainfall is treated.



**Figure 1. Typical Installation - Slope ≤ 5%**

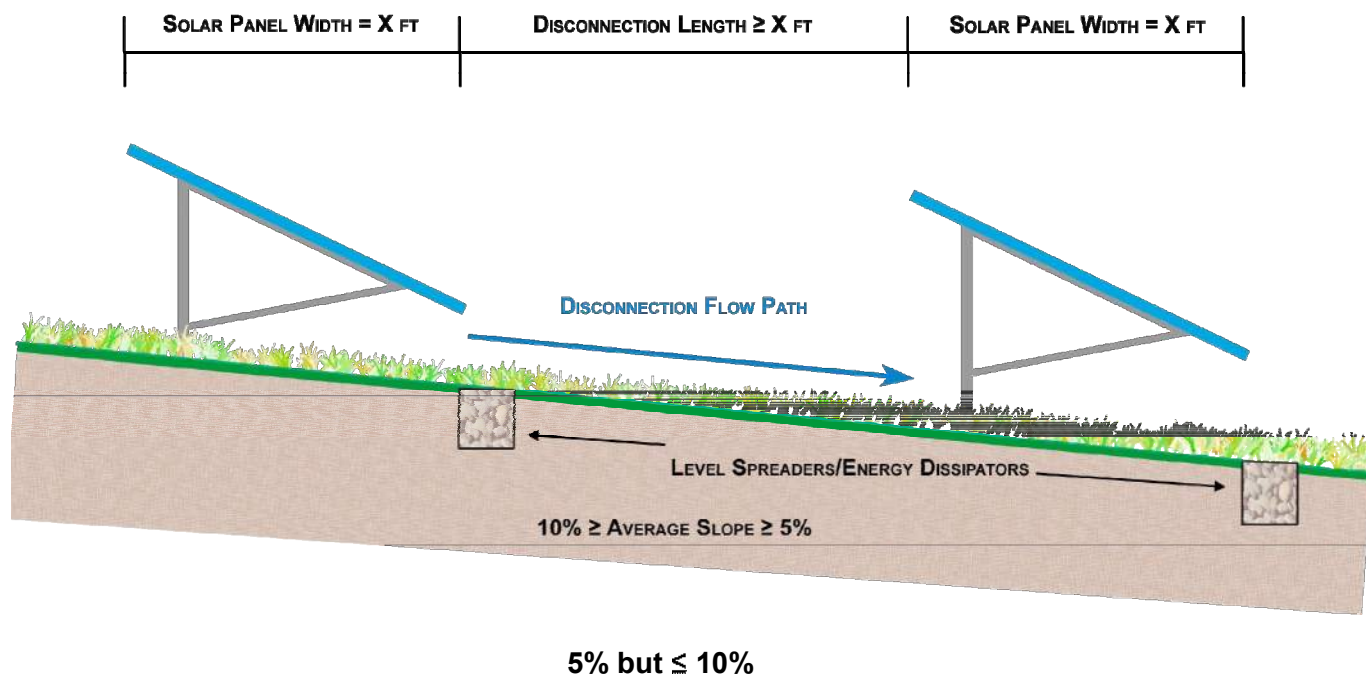
5% but ≤ 10%

Several rows of solar panels will be installed in an existing meadow. The soils within the meadow are hydrologic soil group (HSG) B and the average slope is greater than 5% but less than 10%. Each row of panels is 10 feet wide and the distance between rows is 20 feet. The rows of solar panels will be installed as shown in Figure 2 below. The disconnection length is the same as the distance between rows (20 feet) and is greater than the width of each row (10 feet). However, in this example, a level spreader (typically 1 to 2-foot wide and 1 foot deep) has been located at the drip edge of each row of panels to dissipate energy and maintain sheetflow.

## Discussion

To meet State and local stormwater management requirements, ESD must be used to the MEP to reduce runoff to reflect forested conditions. While all reasonable options for implementing ESD must be investigated, minimally, the runoff from 1 inch of rainfall must be treated. In each of the examples above, there may be additional opportunities to implement ESD techniques or practices and reduce runoff that should be explored. However, simply disconnecting the runoff from the solar panel arrays captures and treats the runoff from 1.0 inch of rainfall. Where imperviousness is low and soil conditions less optimal (e.g., HSG C or D), this may be sufficient to completely address stormwater management requirements. In more dense applications or in sandy soils, additional stormwater management may be required.





## Conclusion

The primary purpose of Maryland's stormwater management program is to mimic natural hydrologic runoff characteristics and minimize the impact of land development on water resources. Any land development project that exceeds 5,000 square feet of disturbance, including solar panel projects, must address stormwater management. However, for solar panels, stormwater management may be provided in a cost-effective manner by disconnecting each row of panels and directing runoff over the vegetated areas between the individual rows.

## Resources

<sup>1</sup> [2000 Maryland Stormwater Design Manual, Volumes I and II](http://www.mde.state.md.us/programs/Water/StormwaterManagementProgram/MarylandStormwaterDesignManual/Pages/Programs/WaterPrograms/SedimentandStormwater/stormwater_design/index.aspx), MDE, October 2000  
[http://www.mde.state.md.us/programs/Water/StormwaterManagementProgram/MarylandStormwaterDesignManual/Pages/Programs/WaterPrograms/SedimentandStormwater/stormwater\\_design/index.aspx](http://www.mde.state.md.us/programs/Water/StormwaterManagementProgram/MarylandStormwaterDesignManual/Pages/Programs/WaterPrograms/SedimentandStormwater/stormwater_design/index.aspx)





# Appendix H

## Stormwater Pollution Prevention Plan Certification Form





Department of  
Environmental  
Conservation

# SWPPP Preparer Certification Form

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

## **Project Site Information** Project/Site Name

## **Owner/Operator Information** Owner/Operator (Company Name/Private Owner/Municipality Name)

## **Certification Statement – SWPPP Preparer**

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

First name

MI

Last Name

Signature

Date





# Appendix I

## Notice of Termination (NOT)



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

\*(NOTE: Submit completed form to address above)\*

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

**Please indicate your permit identification number:** NYR \_\_\_\_

**I. Owner or Operator Information**

1. Owner/Operator Name:

2. Street Address:

3. City/State/Zip:

4. Contact Person:

4a. Telephone:

4b. Contact Person E-Mail:

**II. Project Site Information**

5. Project/Site Name:

6. Street Address:

7. City/Zip:

8. County:

**III. Reason for Termination**

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

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

9c. ☐ Other (Explain on Page 2)

**IV. Final Site Information:**

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

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

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

\_\_\_\_\_



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

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

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

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

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

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

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

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

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

Printed Name:

Title/Position:

Signature:

Date:



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

**VII. Qualified Inspector Certification - Final Stabilization:**

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

Printed Name:

Title/Position:

Signature:

Date:

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

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

Printed Name:

Title/Position:

Signature:

Date:

**IX. Owner or Operator Certification**

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

Printed Name:

Title/Position:

Signature:

Date:

(NYS DEC Notice of Termination - January 2015)





## Appendix J

# General Contractor's Certification



**STORM WATER POLLUTION PREVENTION PLAN  
CONTRACTOR'S CERTIFICATION**

**CONSTRUCTION SITE –  
PROPOSED NY ALFRED I, LLC. COMMUNITY SOLAR FARM – DELAWARE RIVER SOLAR, LLC.  
AND ITS AFFILIATE:  
NY ALFRED I, LLC.  
TOWN OF ALFRED  
ALLEGANY COUNTY, NEW YORK  
STORMWATER POLLUTION PREVENTION PLAN DATED AUGUST, 2021**

**CONTRACTOR'S CERTIFICATION:**

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

Name: \_\_\_\_\_  
(Print)

Signature: \_\_\_\_\_

Title: \_\_\_\_\_

Company Name: \_\_\_\_\_

Address: \_\_\_\_\_

Telephone Number: \_\_\_\_\_

Date: \_\_\_\_\_

Scope of Services: \_\_\_\_\_

Date: \_\_\_\_\_

Received by: \_\_\_\_\_  
[Name]





## Appendix K

# Subcontractor's Certification



**STORM WATER POLLUTION PREVENTION PLAN  
SUBCONTRACTOR'S CERTIFICATION**

**CONSTRUCTION SITE –  
PROPOSED NY ALFRED I, LLC. COMMUNITY SOLAR FARM – DELAWARE RIVER SOLAR, LLC.  
AND ITS AFFILIATE:  
NY ALFRED I, LLC.  
TOWN OF ALFRED  
ALLEGANY COUNTY, NEW YORK  
STORMWATER POLLUTION PREVENTION PLAN DATED AUGUST, 2021**

**SUBCONTRACTOR'S CERTIFICATION:**

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

Name: \_\_\_\_\_  
(Print)

Signature: \_\_\_\_\_

Title: \_\_\_\_\_

Company Name: \_\_\_\_\_

Address: \_\_\_\_\_

Telephone Number: \_\_\_\_\_

Date: \_\_\_\_\_

Scope of Services: \_\_\_\_\_

Date: \_\_\_\_\_

Received by: \_\_\_\_\_  
[Name]





# Appendix L

## Inspection Report



**STORMWATER POLLUTION PREVENTION PLAN**

**CONSTRUCTION SITE –  
PROPOSED NY ALFRED I, LLC. COMMUNITY SOLAR FARM – DELAWARE RIVER SOLAR, LLC.  
AND ITS AFFILIATE:  
NY ALFRED I, LLC.  
TOWN OF ALFRED  
ALLEGANY COUNTY, NEW YORK  
STORMWATER POLLUTION PREVENTION PLAN DATED AUGUST, 2021**

**Inspections/reports must be completed a minimum of once every seven calendar days.**

**Inspection Type:**    ☐ **Routine (every 7 calendar days)**    ☐ **Other \_\_\_\_\_**

**Date:** \_\_\_\_\_

**Week Ending:** \_\_\_\_\_

**Weather/Storm Event Information:**

**Storm Start Time:** \_\_\_\_\_

**Storm Duration:** \_\_\_\_\_

**Approximate Amount of Rainfall (inches):** \_\_\_\_\_

**Based on the results of the inspection, necessary control modifications shall be implemented within seven (7) calendar days. These reports shall be kept on file as part of the Storm Water Pollution Prevention Plan for at least five (5) years from the date of completion and submission of the Final Stabilization Certification/Termination Checklist and Notice of Termination. A copy of the SWPPP shall be kept at the site at all times during construction.**

**Practices in need of repair:**


**Item not corrected from previous inspection:**


**Name of Inspector:** \_\_\_\_\_ **Title of Inspector :** \_\_\_\_\_

**Inspector's Signature:** \_\_\_\_\_



### **Compliance Certification**

**I certify that, based on no incidents of non-compliance identified during the inspection, the site is in compliance with the SWPPP and the Construction General Permit.**

**Name of Duly Authorized Representative (Printed):** \_\_\_\_\_

**Signature of Duly Authorized Representative:** \_\_\_\_\_

**Date:** \_\_\_\_\_

**\*Note: Only to be signed when the site is in full compliance with the SWPPP and the Construction General Permit.**

## **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;**

**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**

\_\_\_\_\_  
**Qualified Inspector (print name)**

\_\_\_\_\_  
**Qualified Inspector Signature**

\_\_\_\_\_  
**Date of Inspection**

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



## **CONSTRUCTION DURATION INSPECTIONS**

### **Maintaining Water Quality**

---

**Yes No NA**

- ☐ ☐ ☐ Is there an increase in turbidity causing a substantial visible contrast to natural conditions?
- ☐ ☐ ☐ Is there residue from oil and floating substances, visible oil film, or globules or grease?
- ☐ ☐ ☐ 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 and debris 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.

### **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.

#### **2. Level 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**

##### **1. Stabilized Construction Entrance**

**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?

##### **2. Silt Fence**

**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.

##### **3. Storm Drain Inlet Protection (Use for Stone & Block; Filter Fabric; Curb; or, Excavated 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 1 acre or less.
- ☐ ☐ ☐ Excavated area is 900 cubic feet.
- ☐ ☐ ☐ Excavated side slopes should be 2:1.
- ☐ ☐ ☐ 2" x 4" frame is constructed and structurally sound.
- ☐ ☐ ☐ Posts 3-foot maximum spacing between posts.
- ☐ ☐ ☐ Fabric is embedded 1 to 1.5 feet below ground and secured to frame/posts with staples at max 8-inch spacing.



☐ ☐ ☐ Posts are stable, fabric is tight and without rips or frayed areas.  
Sediment accumulation \_\_\_\_% of design capacity.

#### **4. 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 accumulation is \_\_\_\_% of design capacity.

#### **5. 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 accumulation is \_\_\_\_% of design capacity.

#### **Miscellaneous**

##### **1. Site Photos**

Yes No NA

☐ ☐ ☐ Site photos have been included with the report that depicts properly installed practices and identified deficiencies needing corrective action. If no, please state why below.

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





## Appendix M

# Stabilization Schedule Form



STORM WATER POLLUTION PREVENTION PLAN  
Stabilization Schedule for Major Grading Activities

**PROPOSED NY ALFRED I, LLC. COMMUNITY SOLAR FARM – DELAWARE RIVER SOLAR, LLC. – TOWN OF ALFRED, NY**

			Note: When these activities cease and if activities cease for more than 14 days these columns need to be completed.					
Major Site Construction Activity Areas	Begin Date	Completion Date	Temporary Cease Date	Resume Date	Begin Date for Stabilization Temporary	Begin Date for Stabilization Permanent	Type of Stabilization (List measures used such as stone, seeding, mulch, landscaping, etc...)	Contractor Responsible for Work
Temp. Gravel Const. Entrance								
Existing Pavements and Structures Removed, Utilities Removed/Relocated								
Mass Grading								
Access Drives Constructed								
Walkways Constructed								
Building Foundation								
Storm Sewers and Utility Installations								
Pervious Areas Stabilized								





## Appendix N

# Implementation Schedule Form



**CONSTRUCTION SITE –  
PROPOSED NY ALFRED I, LLC. COMMUNITY SOLAR FARM – DELAWARE RIVER SOLAR, LLC.  
AND ITS AFFILIATE:  
NY ALFRED I, LLC.  
TOWN OF ALFRED  
ALLEGANY COUNTY, NEW YORK  
STORMWATER POLLUTION PREVENTION PLAN DATED AUGUST, 2021**

**The Contractor will be responsible for implementing all Erosion and Sediment Control and Storm Water Management control structures. The Contractor may designate these tasks to certain subcontractors as they see fit, but the ultimate responsibility for implementing these controls and ensuring their proper functioning remains with the Contractor.**

[illegible]





## Appendix O

# Modification Log/Report



**STORM WATER POLLUTION PREVENTION PLAN  
MODIFICATION LOG**

**CONSTRUCTION SITE –  
PROPOSED NY ALFRED I, LLC. COMMUNITY SOLAR FARM – DELAWARE RIVER SOLAR, LLC.  
AND ITS AFFILIATE:  
NY ALFRED I, LLC.  
TOWN OF ALFRED  
ALLEGANY COUNTY, NEW YORK  
STORMWATER POLLUTION PREVENTION PLAN DATED AUGUST, 2021**

**CHANGES REQUIRED FOR STORM WATER POLLUTION PREVENTION PLAN**

The SWPPP must be amended whenever there is a change in design, construction, operation, or maintenance at the construction site that has a significant effect on the discharge of pollutants to the Waters of the United States that has not been previously addressed in the SWPPP, if inspections or investigations by site staff, local, state or federal officials determine that discharges are causing water quality exceedances or the SWPPP is ineffective in eliminating or significantly minimizing pollutants in storm water discharges from the construction site, or based on the results of an inspection, or there is a release containing a Hazardous Substance or Oil in an amount equal to or in excess of a reportable quantity established under either 40 CFR Part 110, 40 CFR Part 117, or 40 CFR Part 302 occurs during a 24 hour period, the SWPPP must be modified to include additional or modified BMPs designed to correct identified problems. Revisions to the SWPPP must be completed within seven (7) calendar days following the inspection. Modifications that are the result of inspections shall be initialed within 24 hours and completed within 48 hours. All modifications are to be referenced on both the forms and on a Progress Drawing.

**MODIFICATION LOG**

<b>MODIFICATION NUMBER*</b>	<b>DATE</b>	<b>BRIEF DESCRIPTION</b>	<b>PROJECT MANAGER REVIEW</b>

\*Modification Log Number to correspond with Modification Report Number



**STORM WATER POLLUTION PREVENTION PLAN  
MODIFICATION REPORT**

**CONSTRUCTION SITE –  
PROPOSED NY ALFRED I, LLC. COMMUNITY SOLAR FARM – DELAWARE RIVER SOLAR, LLC.  
AND ITS AFFILIATE:  
NY ALFRED I, LLC.  
TOWN OF ALFRED  
ALLEGANY COUNTY, NEW YORK  
STORMWATER POLLUTION PREVENTION PLAN DATED AUGUST, 2021**

**NUMBER** \_\_\_\_\_

**DATE** \_\_\_\_\_

**TO:  
ADDRESS:**

**TELEPHONE:**

**FACSIMILE:**

**SENT VIA:**

☐ Facsimile

☐ Courier

☐ US Mail

**INSPECTOR:** \_\_\_\_\_  
(Print Name)

\_\_\_\_\_  
(Inspector Signature)

**QUALIFICATIONS OF INSPECTOR:** \_\_\_\_\_

**CHANGES REQUIRED TO THE STORMWATER POLLUTION PREVENTION PLAN:**

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**REASONS FOR CHANGES:**

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**TO BE PERFORMED BY:** \_\_\_\_\_

**ON OR BEFORE:** \_\_\_\_\_

**Project Manager:** \_\_\_\_\_

**Other Operator:** \_\_\_\_\_





## Appendix P

# Final Stabilization/NOT Checklist



**STORM WATER POLLUTION PREVENTION PLAN**

**FINAL STABILIZATION CERTIFICATION /NOTICE OF TERMINATION CHECKLIST**

**CONSTRUCTION SITE –  
PROPOSED NY ALFRED I, LLC. COMMUNITY SOLAR FARM – DELAWARE RIVER SOLAR, LLC.  
AND ITS AFFILIATE:  
NY ALFRED I, LLC.  
TOWN OF ALFRED  
ALLEGANY COUNTY, NEW YORK  
STORMWATER POLLUTION PREVENTION PLAN DATED AUGUST, 2021**

1. ☐ All soil disturbing activities are complete and the facility no longer discharges storm water associated with Construction Activities.
2. ☐ Temporary Erosion and Sediment Control Measures have been removed or will be removed at the appropriate time.
3. ☐ All areas of the Construction Site not otherwise covered by a permanent pavement or structure have been stabilized with a uniform perennial vegetative cover with a density of 80% or equivalent measures have been employed.

**CONTRACTOR'S CERTIFICATION:**

*“I certify under penalty of law that all storm water discharges associated with Construction Activity from the identified project that are authorized by the NPDES Construction General Permit have been eliminated and that all disturbed areas and soils at the construction site have achieved Final Stabilization and all temporary erosion and sediment control measures have been remove in addition all permanent stormwater structures have been constructed as described in the SWPPP”*

Company Name: \_\_\_\_\_

Name (Print): \_\_\_\_\_

Signature: \_\_\_\_\_

Title: \_\_\_\_\_

Date: \_\_\_\_\_

Date: \_\_\_\_\_

Received by: \_\_\_\_\_  
[Name]





## Appendix Q

# Reportable Quantity Release Form



**CONSTRUCTION SITE –  
PROPOSED NY ALFRED I, LLC. COMMUNITY SOLAR FARM – DELAWARE RIVER SOLAR, LLC.  
AND ITS AFFILIATE:  
NY ALFRED I, LLC.  
TOWN OF ALFRED  
ALLEGANY COUNTY, NEW YORK  
STORMWATER POLLUTION PREVENTION PLAN DATED AUGUST, 2021**

- 1. All measures must be taken to contain and abate the spill and to prevent the discharge of Hazardous Substances or Oil to storm water or off-site.**
- 2. Contact the Project Manager or Operator's Engineer immediately upon knowledge of release.**
- 3. If a release is equal to or in excess of a reportable quantity, the SWPPP must be modified within seven (7) calendar days of knowledge of the discharge to provide a description of the release, the circumstances leading to the release, and the date of the release. The plans must identify measures to prevent the recurrence of such releases and to respond to such releases**

[illegible]





## Appendix R

# Project Rainfall Log



YEAR 2021

PROPOSED NY ALFRED I, LLC. COMMUNITY SOLAR FARM  
DELAWARE RIVER SOLAR, LLC. – TOWN OF ALFRED,  
NEW YORK  
STORM WATER POLLUTION PREVENTION PLAN  
PROJECT RAINFALL LOG

Month	Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec
Day												
1												
2												
3												
4												
5												
6												
7												
8												
9												
10												
11												
12												
13												
14												
15												
16												
17												
18												
19												
20												
21												
22												
23												
24												
25												
26												
27												
28												
29												
30												
31												
PM Initials												

Note: Rainfall amounts are to be based on a 24-hour rainfall event, instead of a cumulative total of rainfall over several days.





## Appendix S

# Pre-Construction Meeting Attendance Record



**STORM WATER POLLUTION PREVENTION PLAN  
PRE-CONSTRUCTION MEETING AGENDA AND ATTENDANCE RECORD**

**PROPOSED NY ALFRED I, LLC. COMMUNITY SOLAR FARM  
DELAWARE RIVER SOLAR, LLC. – TOWN OF ALFRED, NEW YORK  
STORM WATER POLLUTION PREVENTION PLAN**

Topic	Discussed	Further action or Information Required (Yes or No)
<b>Overview of SPDES Permit Program</b>		
<b>General Discussion of SWPPP and Records Retention Requirements</b>		
<b>Phasing of Project</b>		
<b>Review of Erosion and Sediment Control Plans (to include all temporary and permanent structural and stabilization measures)</b>		
<b>Locating solid waste containers, portable toilets, concrete washout areas, fueling areas and tank storage area on Progress Drawing</b>		
<b>Posting the Progress Drawing (marked on the Erosion and Sediment Control Plans) at job trailer</b>		
<b>Posting requirements for the Notice of Intent (NOI), Must be posted at Project entrance and inside job trailer wall.</b>		
<b>Allowable non-storm water discharges and handling procedures</b>		
<b>Materials management to include proper material storage, etc.</b>		
<b>Signatory Authorization Delegation</b>		
<b>Contractor's Certification</b>		
<b>Subcontractor's Certification</b>		
<b>Inspection form and required inspection timeframe</b>		
<b>Stabilization schedule</b>		
<b>Implementation schedule</b>		
<b>Modification report and modifying plans</b>		
<b>Final stabilization</b>		
<b>Reportable quantity release procedures</b>		
<b>Rain gage requirement and rainfall logs</b>		
<b>State specific requirements</b>		
<b>Import/Export – Fill and Spoil Materials</b>		
<b>SWPPP accessibility to regulatory officials</b>		
<b>Inspections – assisting and cooperating with regulatory officials – inspection reports and notices of violation (any response must be coordinated through Project Manager)</b>		

**Attendance Roster**

**Date:** \_\_\_\_\_

Name	Company	Telephone Number	Signature



**Attendance Roster (continued)**

[illegible]

**Items which require further action or additional information:** \_\_\_\_\_

---

**Additional items discussed (not addressed above):** \_\_\_\_\_

---

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**\*This completed form must be included in both the Project Manager's and Construction Site SWPPP Ledger.**





# Appendix T

## Stormwater Management Report





**BERGMANN**

ARCHITECTS ENGINEERS PLANNERS

## NY Alfred I, LLC. Community Solar Farm

### TOWN OF ALFRED

### STORMWATER MANAGEMENT REPORT



Town of Alfred  
Allegany County, New York  
August 2, 2021  
Revised: October 11, 2021  
December 03, 2021

### PREPARED FOR:

Delaware River Solar, LLC.  
And its affiliate NY Alfred I, LLC.  
140 East 45<sup>th</sup> Street, Suite 32B-1  
New York, NY 10017

### PREPARED BY:

Bergmann

280 East Broad Street, Suite 200  
Rochester, NY 14604

Phone: 585.232.5135  
[www.bergmannpc.com](http://www.bergmannpc.com)





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## Section I General Information

### A. PROJECT DESCRIPTION

The proposed NY Alfred I, LLC. Community Solar Farm is located within the Town of Alfred, Allegany County, New York. The project consists of a limited use pervious gravel driveway and solar arrays. The proposed solar project will be constructed on parcel 164.-1-8.1. The site is proposed to be developed in a single phase, with the full development covering a total of 31± acres, no more than 5 acres will be disturbed at any given time. The project will use an existing driveway for site access. The construction of the limited use pervious gravel driveway will be completed following the installation and connection of the solar panels.

### B. SOIL CLASSIFICATION

The existing soils are classified as D and C/D soils. The complete list of soils found on the project site is identified in Appendix A. The ground cover for the pre-development conditions was designated as meadow and woods for calculation purposes.

Table I  
Soil Summary

Symbol	Soil Name	Hydrologic Soil Group
11C	Ischua channery silt loam, 8 to 15 percent slopes	C/D
11D	Ischua channery silt loam, 15 to 25 percent slopes	C/D
11E	Ischua channery silt loam, 25 to 35 percent slopes	C/D
16B	Almond silt loam, 3 to 8 percent slopes	D
60C	Napoli silt loam, 8 to 15 percent slopes	D
73B	Gretor channery silt loam, 3 to 8 percent slopes	C/D
73C	Gretor channery silt loam, 8 to 15 percent slopes	C/D





## Section II Hydrology

### A. METHODOLOGY

Stormwater runoff rates discharged from the site under the existing conditions provide the basis on which to compare the impacts of the proposed site improvements. The areas draining to each analysis point are delineated using topographic survey maps and grading plans. HydroCAD 10.0 by HydroCAD Software Solutions LLC was used to model the existing and proposed condition.

The parameters required to calculate stormwater runoff are area, curve number, and time of concentration. Each drainage area is evaluated using the guidelines described in USDA Soil Conservation Service's TR-55 to determine the curve number and time of concentration.

The runoff curve number (CN) is based on a weighted average of ground cover and soil type. The underlying soil types are described in county soil maps. Site and grading plans and survey maps outline existing and proposed ground cover. CN values for specific locations are determined from the tables presented in TR-55. The proposed limited use pervious gravel driveway will be modeled with a curve number of 75. The curve number of 75 for the pervious driveway was developed using the following method:

$$S = 1000/CN - 10; CN = 1000/(S+10)$$

where:

Depth of gravel section = 8 inches

Assumptions = 40% Voids for limited use pervious gravel

S = Potential maximum retention after runoff

S = 8 inches of limited use pervious gravel with 40% voids (assumption) has a maximum retention of 3.2 inches

$$CN = 1000/(3.2+10) = 75.75 \approx 75$$

Time of concentration (Tc) represents the amount of time it takes for runoff to travel from the hydraulically most distant point of the watershed to the point of analysis. Surface roughness, slope, channel shape and flow patterns are the factors that affect the time of concentration. Stormwater runoff flows through the drainage area as sheet flow, shallow concentrated flow, open channel flow, or concentrated flow (such as in storm sewers). The sum of the travel times over the various surfaces within the assumed flow path for a specific drainage area determines that area's time of concentration. The figures and formulas in TR-55 are employed to compute travel times for sheet flow and shallow concentrated flow.

### B. EXISTING CONDITIONS

Though the project area has been identified as 31± acres, the drainage area analyzed has been calculated to be 95.674 acres. This drainage area is further categorized into three sub areas with site runoff conveyed via sheet flow and shallow concentrated flow. The parcel to be developed consists of an active agricultural field, forested habitat, pasturelands, wetlands, several existing buildings, and a unpaved agricultural road.





Table II  
Existing Conditions Summary

Drainage Area	Description	Size (ac)	Composite Cn	Tc (min)
DA-A	This area consists of grass, woods, wetlands, existing buildings, and an unpaved agricultural road. This area drains to the north-west via sheet flow and shallow concentrated flow.	22.114	79	20.7
DA-B	This area consists of grass, woods, wetlands, existing buildings, and an unpaved agricultural road. This area drains to the north-west via sheet flow and shallow concentrated flow.	43.720	78	44.9
DA-C	This area consists of grass and woods. This area drains to the south-east via sheet flow and shallow concentrated flow.	29.840	77	28.7

### C. PROPOSED CONDITIONS

The proposed drainage area comprises a total of 95.674 acres. In the proposed (post-development) condition, the site will be comprised of three sub areas that represents all of the site runoff. The three sub areas are labeled DA-1, DA-2, and DA-3. The three sub areas will drain via sheet flow and shallow concentrated flow to their designated design points as it does in the pre-development conditions.

Table III  
Proposed Conditions Summary

Drainage Area	Description	Size (ac)	Composite Cn	Tc (min)
DA-1	Includes grass, woods, wetlands, existing buildings, and some solar panels. This area drains to the north-west via sheet flow and shallow concentrated flow.	19.727	79	20.7
DA-2	Includes grass, woods, wetlands, existing buildings, some solar panels, and the proposed limited use pervious gravel driveway. This area drains to the north-west via sheet flow and shallow concentrated flow.	46.107	78	44.7
DA-3	Includes grass and woods. This area drains to the south-east via sheet flow and shallow concentrated flow.	29.840	77	28.7





## Section III Stormwater Management & SPDES Phase II Requirements

### State Pollutant Discharge Elimination System (SPDES)

Since the subject site will have land disturbance of more than 1-acre a State Pollutant Discharge Elimination System (SPDES) permit will be completed as part of the project. A Storm Water Pollution Prevention Plan (SWPPP) will be developed in accordance with the EPA Phase II regulations. The SWPPP will be for the most part modeled on the New York State DEC Guidelines and will meet the following criteria as the principle objectives contained in an approved SWPPP.

- 1) Reduction or elimination of erosion and sediment loading to water-bodies during construction activities.
- 2) Control the impact of storm water runoff on the water quality of the receiving waters.
- 3) Control the increase volume and peak runoff rate of runoff during and after construction.
- 4) Maintenance of storm water controls during and after completion of construction.

The aforementioned objectives will be accomplished by incorporating several of the design criteria outlined within the Technical Guidelines provided by New York State Department of Environmental Conservation, Stormwater Management Design Manual and summarized below.

In addition, the New York State DEC, Solar Panel Construction Stormwater Permitting/SWPPP Guidance, dated April 5, 2018 was used to determine the primary objectives of this SWPPP. The proposed NY Alfred I, LLC. Community Solar Farm will meet all the criteria listed under Scenario 1, except for item 5, of the abovementioned guidance document. In addition to standard erosion and sediment control practices, the SWPPP for this project will also propose the use of a grass filter strip to address the need for water quality treatment. Level spreaders will also be installed along the downslope edge of each row of solar panels to maintain sheet flow and to reduce possible erosion and runoff throughout the project site.

#### A. WATER QUALITY VOLUME

The New York State Department of Environmental Conservation, Stormwater Management Design Manual was used to determine the water quality criteria. Specifically, the unified storm water sizing criteria was followed for water quality to meet the State of New York pollutant goals. The water quantity volume is intended to improve water quality by capturing and treating 90% of the average annual storm water runoff volume.

The following equation is given within the design manual for calculating the water quality storage volume.

$$WQ_v = \frac{(P)(R_v)(A)}{12}$$

where:

- WQ<sub>v</sub> = water quality volume (acre-ft)
- P = 90% Rainfall Event Number (1" was used per ICW Guidelines)
- R<sub>v</sub> = 0.05 + 0.009 (I) , where I is percent of impervious cover
- A = site area (acres)

The proposed project is using a limited use pervious gravel section for the design of the gravel driveway. This driveway section is considered a pervious surface. The impervious area associated with the equipment pads is negligible and therefore, water quality treatment is not required.





## B. CHANNEL PROTECTION VOLUME

The proposed project is using a limited use pervious gravel section for the design of the gravel driveway. This driveway section is considered a pervious surface. The proposed design will not alter the hydrology from pre to post-development conditions and therefore, the need to provide the total channel protection storage volume is not required. In the event that channel protection is required, the New York State Department of Environmental Conservation, Stormwater Management Design Manual will be used to determine the water quantity criteria. Specifically, mitigating the 10-year and 100-year post-development runoff rates to the predevelopment runoff rates and providing the 24-hour extended detention for the 1-year storm event.

## C. RUNOFF REDUCTION VOLUME

The Runoff Reduction Volume (RRv) is not required because the project will not alter the hydrology from pre to post-development conditions.

## D. OVERBANK FLOOD

Overbank Flood protection is provided by controlling the peak discharge from the 10-year storm to 10-year predevelopment rates. This requirement is being satisfied as the proposed development peak flow rate from the 10-year storm shows a decrease from the pre-development peak flow rate. See Table VI for a summary of the results and see Appendix R-1 and R-2 for calculations.

## E. EXTREME STORM

Extreme Storm protection is provided by controlling the peak discharge from the 100-year storm to 100-year predevelopment rates. This requirement is being satisfied as the proposed development peak flow rate from the 100-year storm shows a decrease from the pre-development peak flow rate. See Table VII for a summary of the results and see Appendix R-1 and R-2 for calculations.





## Section IV Summary of Findings

### A. Summary of Results

The following table shows a summary of comparison pre-development and post-development flow rates with the proposed storm water management BMP's. The values account for the full development of the site in all phases.

Table V – Existing and Proposed Peak Discharge for the 1-year Storm (cfs)

Drainage Area	10 yr Design Storm Discharge	
	NY Alfred I, LLC. Solar Farm	
	Existing	Proposed
Existing Link DP-1 Proposed Link DP-1	11.30	10.08
Existing Link DP-2 Proposed Link DP-2	11.68	12.38
Existing Link DP-3 Proposed Link DP-3	9.91	9.91
Existing DA-A	11.30	-
Existing DA-B	11.68	-
Existing DA-C	9.91	-
Proposed DA-1	-	10.08
Proposed DA-2	-	12.38
Proposed DA-3	-	9.91
<b>TOTAL DP</b>	<b>32.89</b>	<b>32.37</b>

Table VI – Existing and Proposed Peak Discharge for the 10-year Storm (cfs)

Drainage Area	10 yr Design Storm Discharge	
	NY Alfred I, LLC. Solar Farm	
	Existing	Proposed
Existing Link DP-1 Proposed Link DP-1	37.38	33.35
Existing Link DP-2 Proposed Link DP-2	42.00	44.35
Existing Link DP-3 Proposed Link DP-3	37.09	37.09
Existing DA-A	37.38	-
Existing DA-B	42.00	-
Existing DA-C	37.09	-
Proposed DA-1	-	33.35
Proposed DA-2	-	44.35
Proposed DA-3	-	37.09
<b>TOTAL DP</b>	<b>116.47</b>	<b>114.79</b>





Table VII – Existing and Proposed Peak Discharge for the 100-year Storm (cfs)

Drainage Area	100 yr Design Storm Discharge	
	NY Alfred I, LLC. Solar Farm	
	Existing	Proposed
Existing Link DP-1 Proposed Link DP-1	99.25	88.53
Existing Link DP-2 Proposed Link DP-2	116.50	122.59
Existing Link DP-3 Proposed Link DP-3	104.67	104.67
Existing DA-A	99.25	-
Existing DA-B	116.50	-
Existing DA-C	104.6	-
Proposed DA-1	-	88.53
Proposed DA-2	-	122.59
Proposed DA-3	-	104.67
<b>TOTAL DP</b>	<b>320.42</b>	<b>315.79</b>

As depicted in the above tables, the peak discharge from the site for each of the design storms will decrease after this project is constructed and the stormwater management plan is implemented. Therefore, the proposed project does not alter the hydrology of the site from pre to post-development conditions.

#### B. Conclusion

Based on the calculations attached in the appendices of this report, the proposed stormwater runoff will decrease for all of the design storms under proposed conditions and water quality treatment is not required because the amount of impervious area proposed by the project site is negligible.

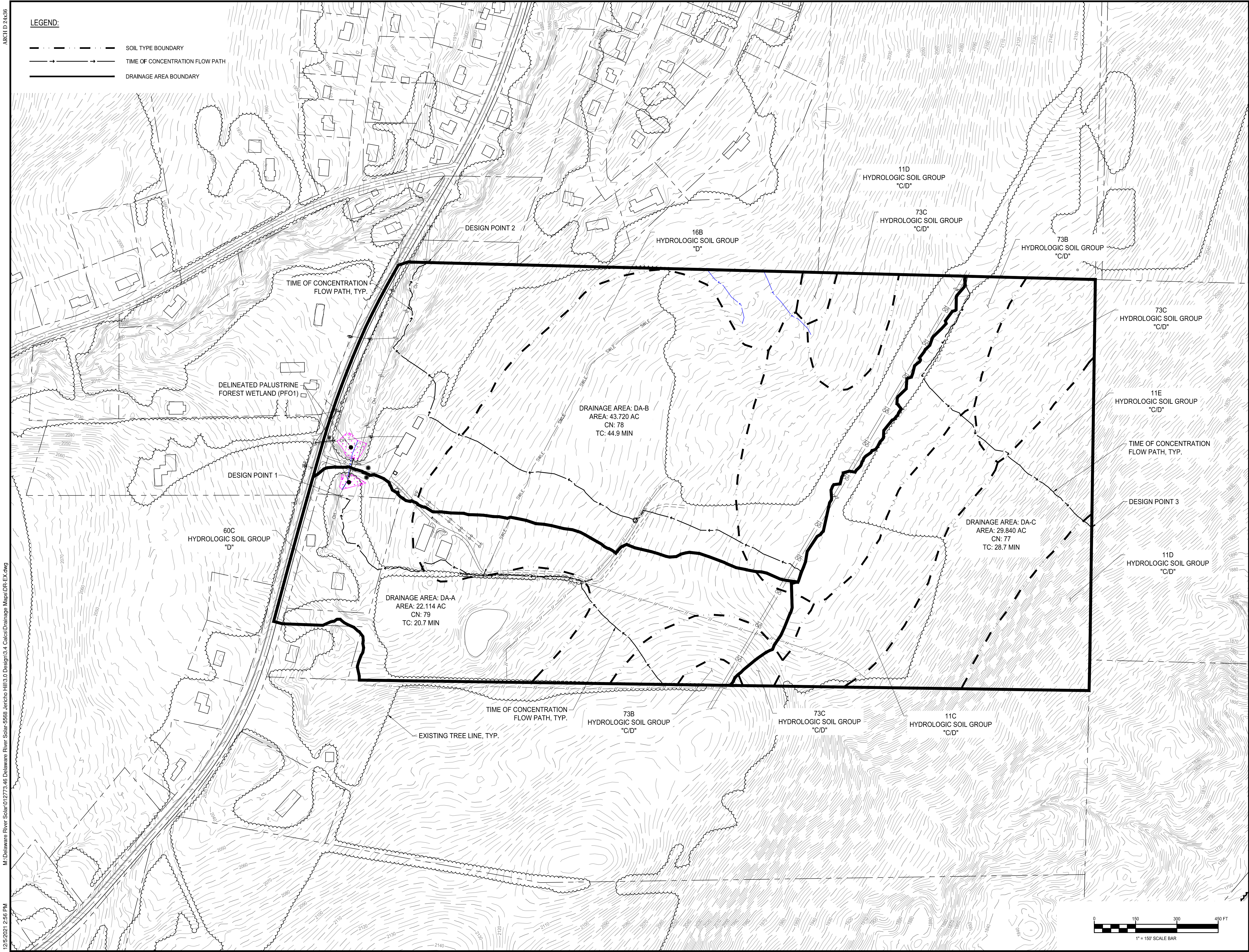




# Appendix T-1

## Existing Conditions Drainage Map And HydroCAD Report





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M:\Delaware River Solar\012773.46 Delaware River Solar-5568 Jericho Hill\3.0 Design\3.4 Calcs\Drainage Maps\DR-EX.dwg  
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- LEGEND:
- SOIL TYPE BOUNDARY
  - TIME OF CONCENTRATION FLOW PATH
  - DRAINAGE AREA BOUNDARY

BERGMANN

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office: 585.232.5135

NY ALFRED I, LLC.

COMMUNITY SOLAR FARM PROJECT

5568 JERICHO HILL ROAD  
ALFRED, NY 14803

Date Revised	Description
07/01/2021	REVISED PER TOWN COMMENTS
09/03/2021	REVISED PER TOWN COMMENTS
10/11/2021	REVISED PER TOWN COMMENTS
11/03/2021	REVISED PER TOWN COMMENTS
12/03/2021	REVISED PER TOWN COMMENTS

Project Manager	Discipline Lead
DJP	DJP
Designer	Reviewer
JL	ECR
Date Issued	Project Number
05/28/2021	12773.46

Sheet Name

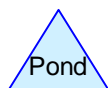
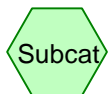
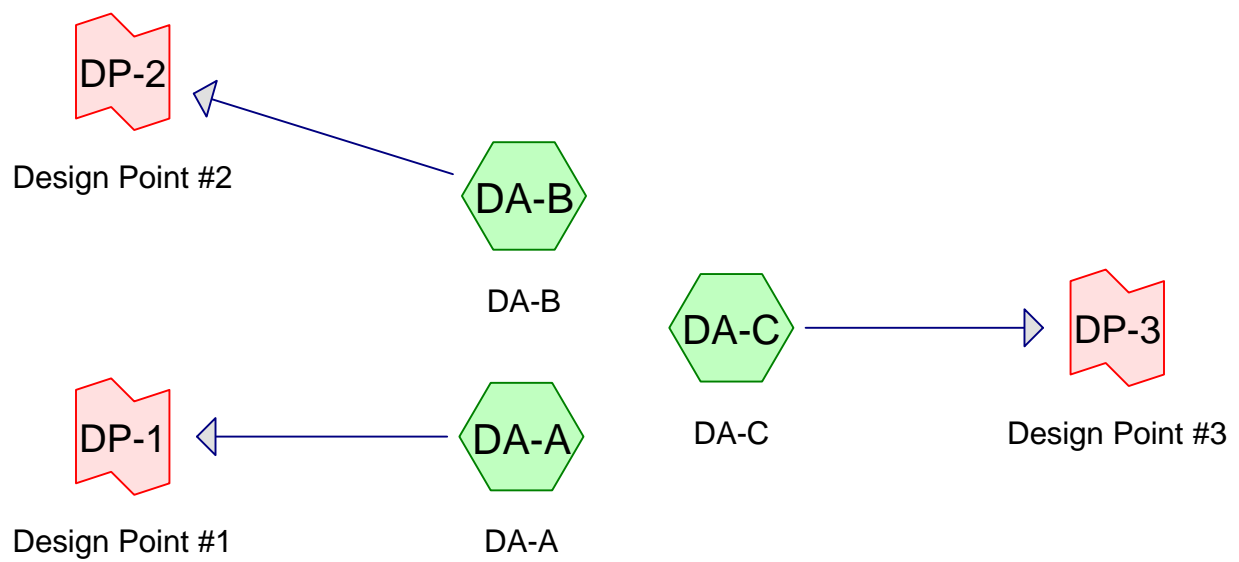
EXISTING CONDITIONS DRAINAGE MAP

Drawing Number

DR-EX

1 of 1







**Pre (JH)**

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Type II 24-hr 1 YR Rainfall=2.00"

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Page 2

**Summary for Subcatchment DA-A: DA-A**

Runoff = 11.30 cfs @ 12.16 hrs, Volume= 0.963 af, Depth= 0.52"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

Type II 24-hr 1 YR Rainfall=2.00"

Area (ac)	CN	Description
2.736	77	Woods, Good, HSG D
18.402	78	Meadow, non-grazed, HSG D
0.218	98	Roofs, HSG D
0.165	93	Paved roads w/open ditches, 50% imp, HSG D
0.396	98	Water Surface, HSG D
0.130	96	Gravel surface, HSG D
* 0.067	77	Palustrine Forest Wetland
22.114	79	Weighted Average
21.418		96.85% Pervious Area
0.696		3.15% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.2	100	0.0990	0.27		<b>Sheet Flow,</b> Grass: Short n= 0.150 P2= 2.25"
2.8	369	0.0972	2.18		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
1.9	445	0.0704	3.98		<b>Shallow Concentrated Flow,</b> Grassed Waterway Kv= 15.0 fps
1.9	208	0.0656	1.79		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
7.9	506	0.0452	1.06		<b>Shallow Concentrated Flow,</b> Woodland Kv= 5.0 fps
20.7	1,628	Total			



Pre (JH)

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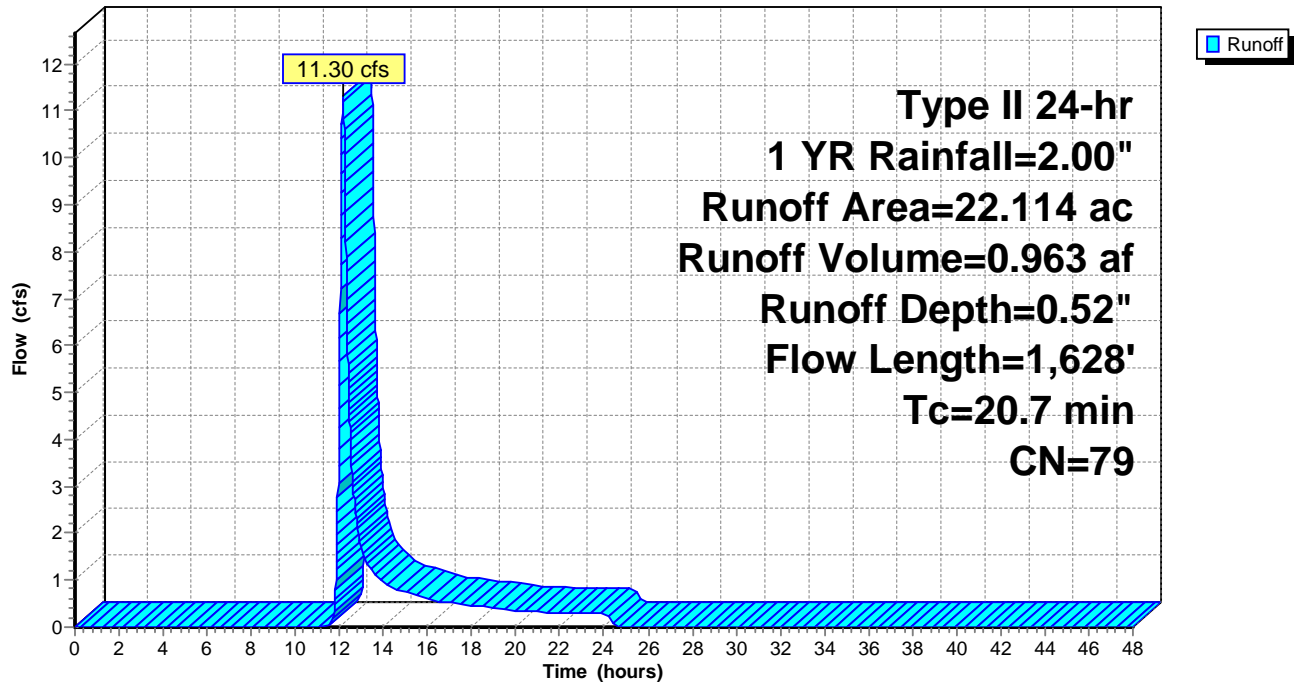
Type II 24-hr 1 YR Rainfall=2.00"

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Page 3

### Subcatchment DA-A: DA-A

#### Hydrograph





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Type II 24-hr 1 YR Rainfall=2.00"

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Page 4

**Summary for Subcatchment DA-B: DA-B**

Runoff = 11.68 cfs @ 12.51 hrs, Volume= 1.765 af, Depth= 0.48"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs  
Type II 24-hr 1 YR Rainfall=2.00"

Area (ac)	CN	Description
19.914	77	Woods, Good, HSG D
23.191	78	Meadow, non-grazed, HSG D
0.099	98	Roofs, HSG D
0.336	93	Paved roads w/open ditches, 50% imp, HSG D
0.049	96	Gravel surface, HSG D
* 0.131	77	Palustrine Forest Wetland
43.720	78	Weighted Average
43.453		99.39% Pervious Area
0.267		0.61% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
23.5	100	0.0035	0.07		<b>Sheet Flow,</b> Grass: Short n= 0.150 P2= 2.25"
5.2	562	0.0664	1.80		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
1.1	32	0.0010	0.47		<b>Shallow Concentrated Flow,</b> Grassed Waterway Kv= 15.0 fps
9.0	1,022	0.0731	1.89		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
6.1	565	0.0955	1.55		<b>Shallow Concentrated Flow,</b> Woodland Kv= 5.0 fps
44.9	2,281	Total			



Pre (JH)

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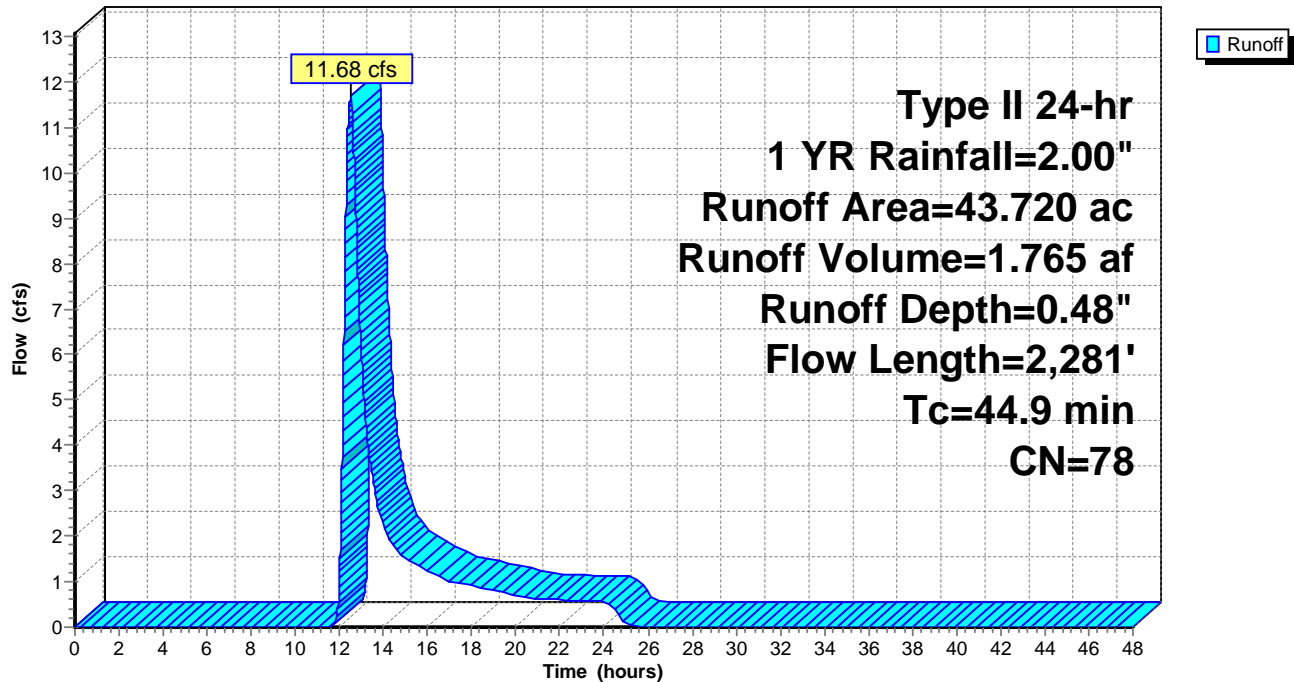
Type II 24-hr 1 YR Rainfall=2.00"

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### Subcatchment DA-B: DA-B

Hydrograph





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Type II 24-hr 1 YR Rainfall=2.00"

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**Summary for Subcatchment DA-C: DA-C**

Runoff = 9.91 cfs @ 12.27 hrs, Volume= 1.114 af, Depth= 0.45"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs  
Type II 24-hr 1 YR Rainfall=2.00"

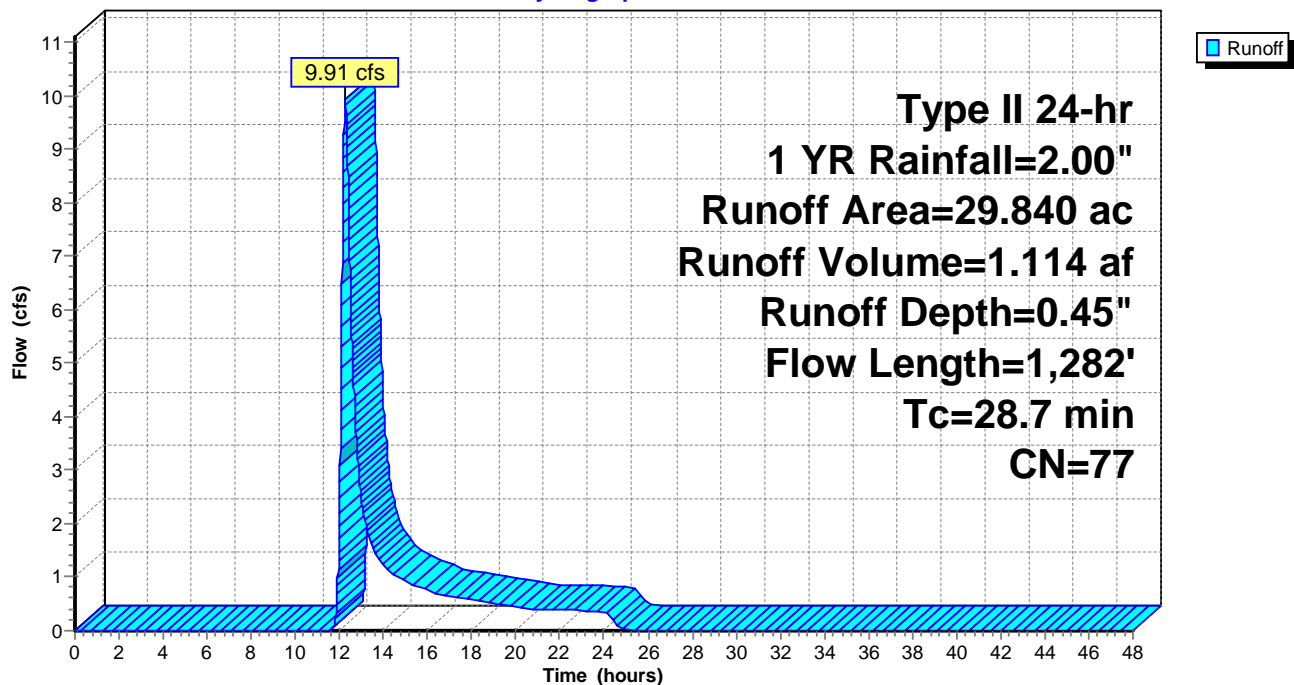
Area (ac)	CN	Description
22.271	77	Woods, Good, HSG D
7.569	78	Meadow, non-grazed, HSG D
29.840	77	Weighted Average
29.840		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.2	63	0.0605	0.20		<b>Sheet Flow,</b> Grass: Short n= 0.150 P2= 2.25"
11.3	37	0.0210	0.05		<b>Sheet Flow,</b> Woods: Light underbrush n= 0.400 P2= 2.25"
1.6	94	0.0382	0.98		<b>Shallow Concentrated Flow,</b> Woodland Kv= 5.0 fps
2.9	246	0.0411	1.42		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
7.7	842	0.1342	1.83		<b>Shallow Concentrated Flow,</b> Woodland Kv= 5.0 fps
28.7	1,282	Total			

**Subcatchment DA-C: DA-C**

Hydrograph

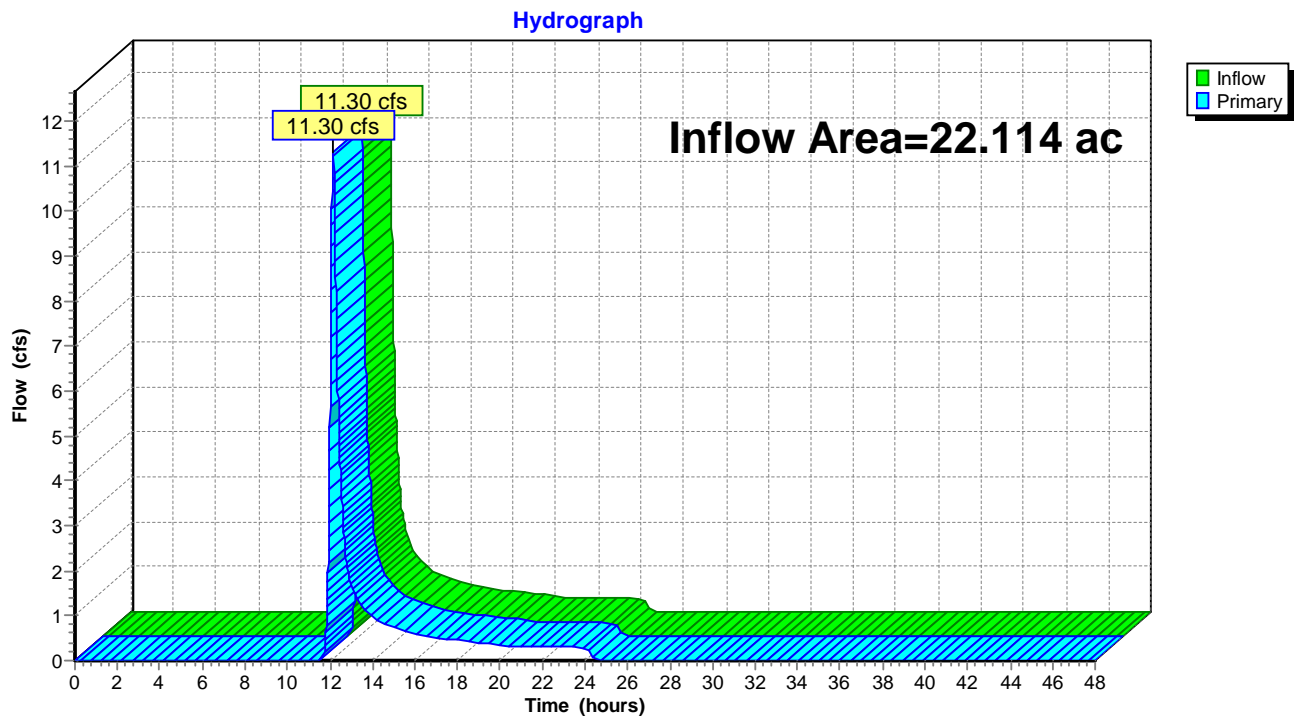




**Summary for Link DP-1: Design Point #1**

Inflow Area = 22.114 ac, 3.15% Impervious, Inflow Depth = 0.52" for 1 YR event  
Inflow = 11.30 cfs @ 12.16 hrs, Volume= 0.963 af  
Primary = 11.30 cfs @ 12.16 hrs, Volume= 0.963 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

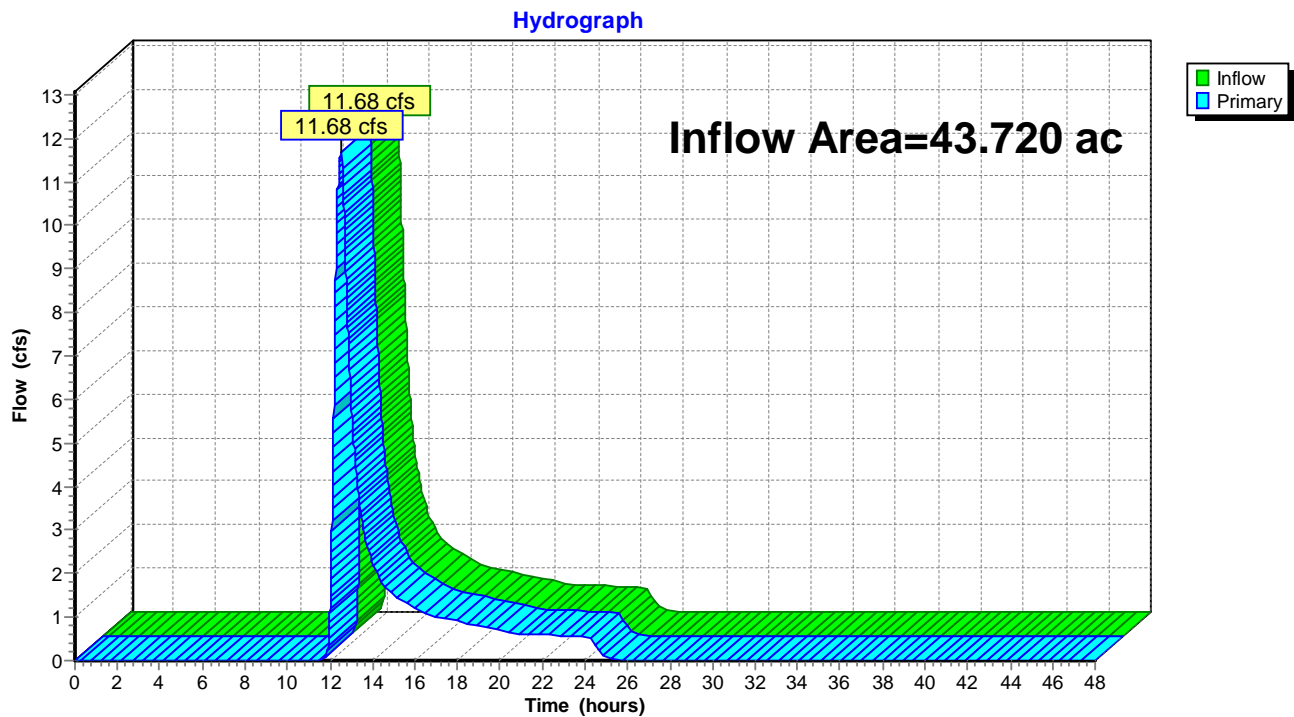
**Link DP-1: Design Point #1**



**Summary for Link DP-2: Design Point #2**

Inflow Area = 43.720 ac, 0.61% Impervious, Inflow Depth = 0.48" for 1 YR event  
Inflow = 11.68 cfs @ 12.51 hrs, Volume= 1.765 af  
Primary = 11.68 cfs @ 12.51 hrs, Volume= 1.765 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

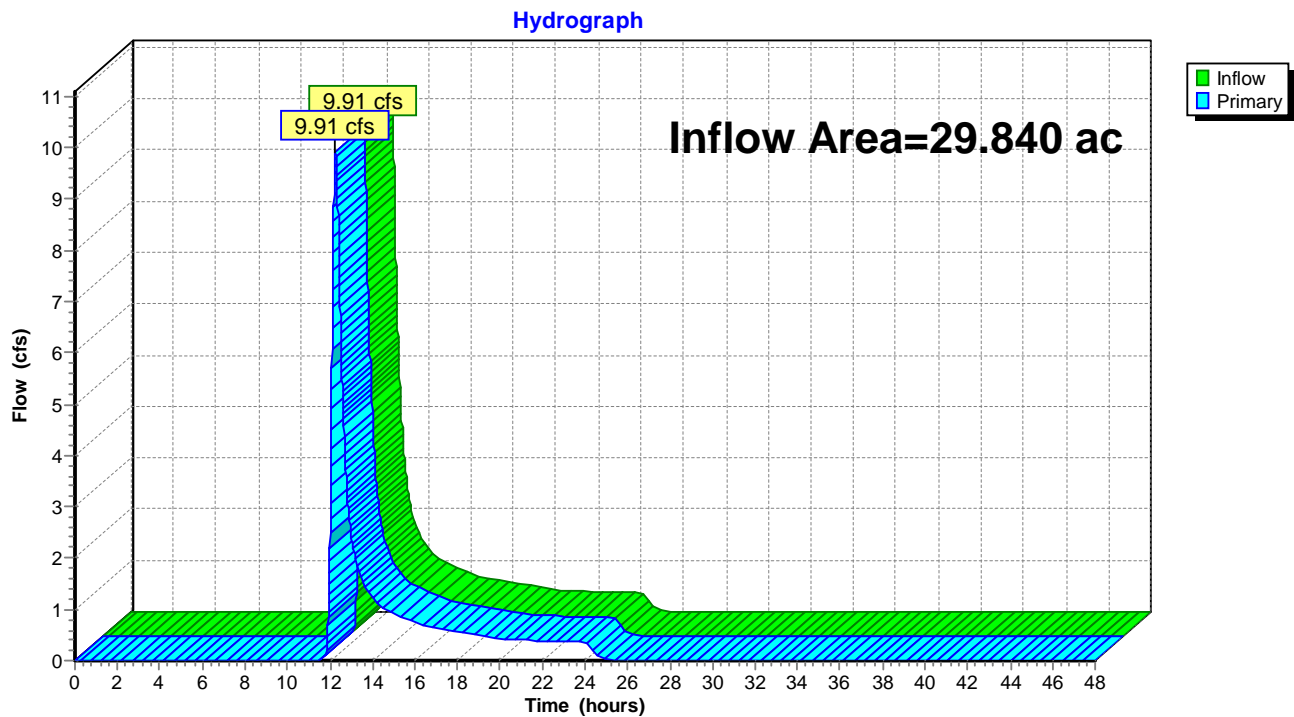
**Link DP-2: Design Point #2**



**Summary for Link DP-3: Design Point #3**

Inflow Area = 29.840 ac, 0.00% Impervious, Inflow Depth = 0.45" for 1 YR event  
Inflow = 9.91 cfs @ 12.27 hrs, Volume= 1.114 af  
Primary = 9.91 cfs @ 12.27 hrs, Volume= 1.114 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

**Link DP-3: Design Point #3**



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Type II 24-hr 10 YR Rainfall=3.50"

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**Summary for Subcatchment DA-A: DA-A**

Runoff = 37.38 cfs @ 12.14 hrs, Volume= 2.886 af, Depth= 1.57"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs  
Type II 24-hr 10 YR Rainfall=3.50"

Area (ac)	CN	Description
2.736	77	Woods, Good, HSG D
18.402	78	Meadow, non-grazed, HSG D
0.218	98	Roofs, HSG D
0.165	93	Paved roads w/open ditches, 50% imp, HSG D
0.396	98	Water Surface, HSG D
0.130	96	Gravel surface, HSG D
* 0.067	77	Palustrine Forest Wetland
22.114	79	Weighted Average
21.418		96.85% Pervious Area
0.696		3.15% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.2	100	0.0990	0.27		<b>Sheet Flow,</b> Grass: Short n= 0.150 P2= 2.25"
2.8	369	0.0972	2.18		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
1.9	445	0.0704	3.98		<b>Shallow Concentrated Flow,</b> Grassed Waterway Kv= 15.0 fps
1.9	208	0.0656	1.79		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
7.9	506	0.0452	1.06		<b>Shallow Concentrated Flow,</b> Woodland Kv= 5.0 fps
20.7	1,628	Total			



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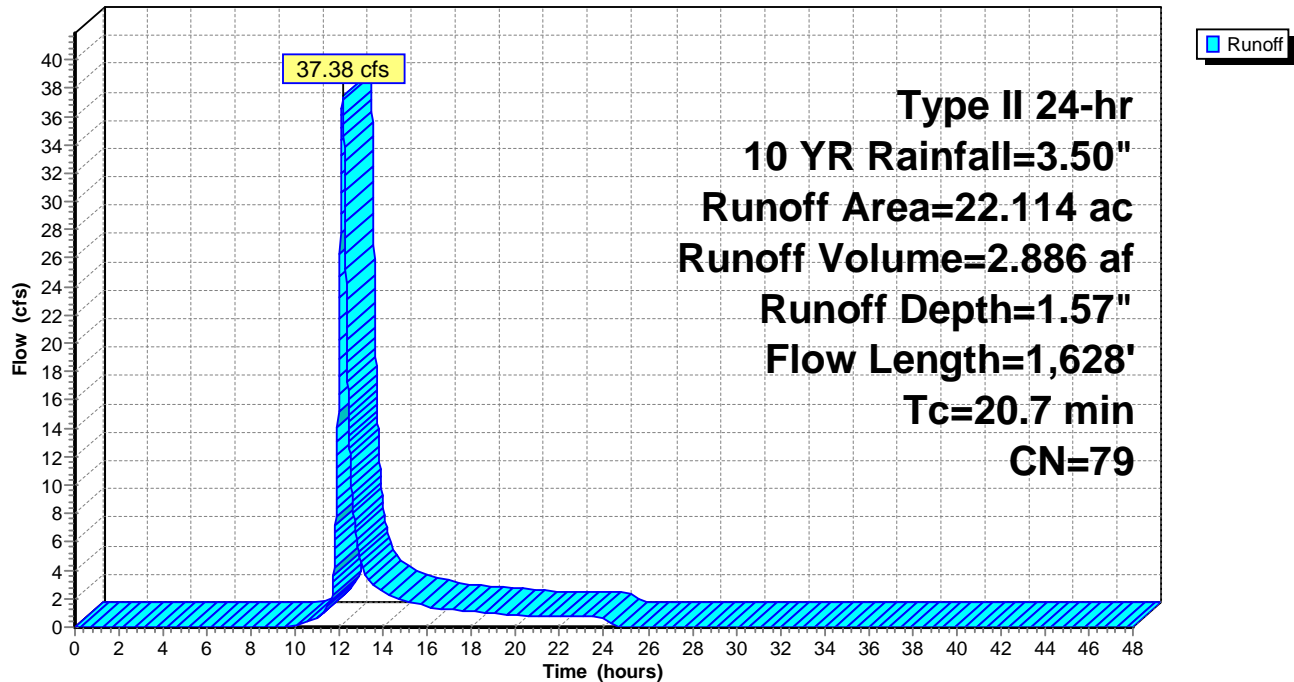
Type II 24-hr 10 YR Rainfall=3.50"

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### Subcatchment DA-A: DA-A

Hydrograph





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Type II 24-hr 10 YR Rainfall=3.50"

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**Summary for Subcatchment DA-B: DA-B**

Runoff = 42.00 cfs @ 12.43 hrs, Volume= 5.455 af, Depth= 1.50"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs  
Type II 24-hr 10 YR Rainfall=3.50"

Area (ac)	CN	Description
19.914	77	Woods, Good, HSG D
23.191	78	Meadow, non-grazed, HSG D
0.099	98	Roofs, HSG D
0.336	93	Paved roads w/open ditches, 50% imp, HSG D
0.049	96	Gravel surface, HSG D
* 0.131	77	Palustrine Forest Wetland
43.720	78	Weighted Average
43.453		99.39% Pervious Area
0.267		0.61% Impervious Area

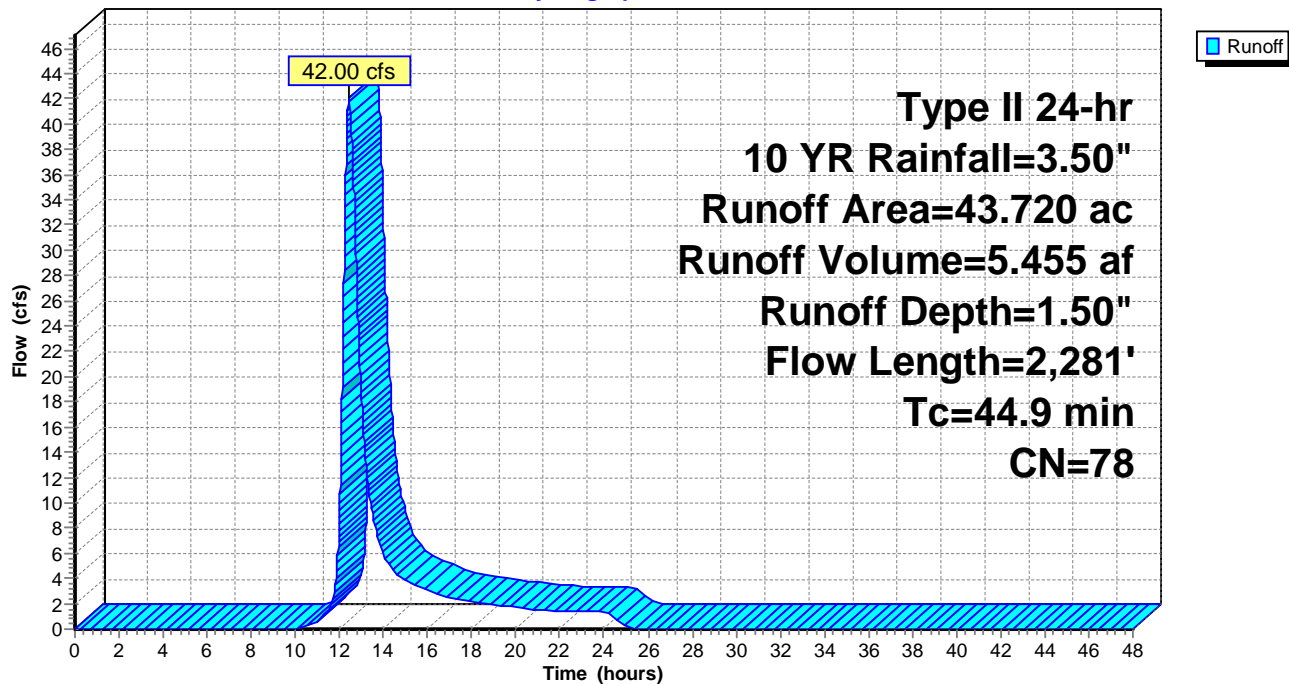
  

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
23.5	100	0.0035	0.07		<b>Sheet Flow,</b> Grass: Short n= 0.150 P2= 2.25"
5.2	562	0.0664	1.80		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
1.1	32	0.0010	0.47		<b>Shallow Concentrated Flow,</b> Grassed Waterway Kv= 15.0 fps
9.0	1,022	0.0731	1.89		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
6.1	565	0.0955	1.55		<b>Shallow Concentrated Flow,</b> Woodland Kv= 5.0 fps
44.9	2,281	Total			



## Subcatchment DA-B: DA-B

## Hydrograph





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Type II 24-hr 10 YR Rainfall=3.50"

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**Summary for Subcatchment DA-C: DA-C**

Runoff = 37.09 cfs @ 12.24 hrs, Volume= 3.557 af, Depth= 1.43"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs  
Type II 24-hr 10 YR Rainfall=3.50"

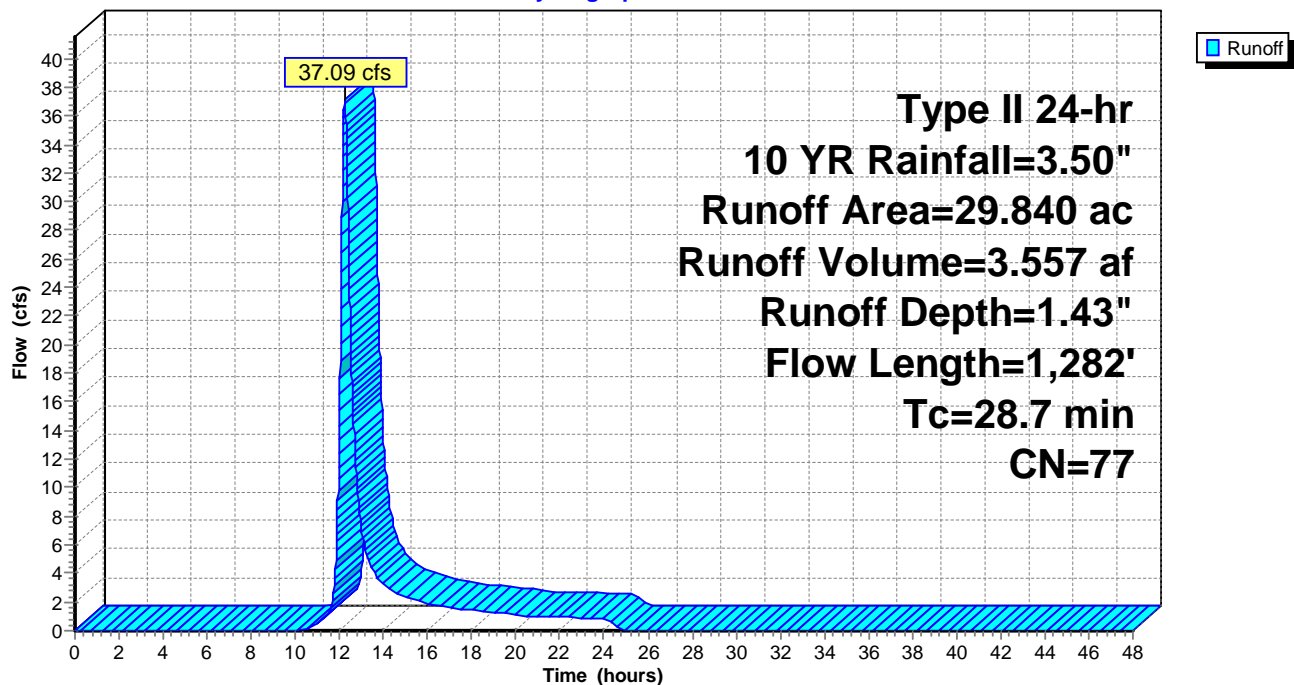
Area (ac)	CN	Description
22.271	77	Woods, Good, HSG D
7.569	78	Meadow, non-grazed, HSG D
29.840	77	Weighted Average
29.840		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.2	63	0.0605	0.20		<b>Sheet Flow,</b> Grass: Short n= 0.150 P2= 2.25"
11.3	37	0.0210	0.05		<b>Sheet Flow,</b> Woods: Light underbrush n= 0.400 P2= 2.25"
1.6	94	0.0382	0.98		<b>Shallow Concentrated Flow,</b> Woodland Kv= 5.0 fps
2.9	246	0.0411	1.42		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
7.7	842	0.1342	1.83		<b>Shallow Concentrated Flow,</b> Woodland Kv= 5.0 fps
28.7	1,282	Total			

**Subcatchment DA-C: DA-C**

Hydrograph

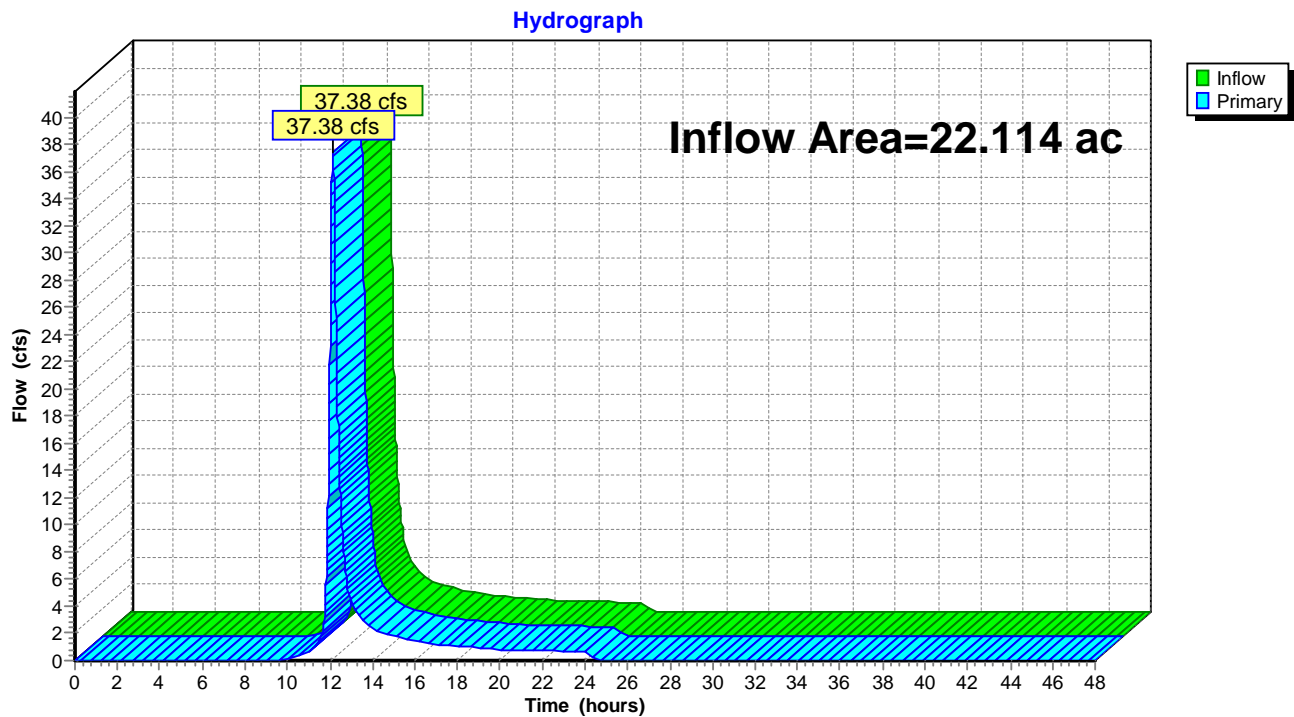




**Summary for Link DP-1: Design Point #1**

Inflow Area = 22.114 ac, 3.15% Impervious, Inflow Depth = 1.57" for 10 YR event  
Inflow = 37.38 cfs @ 12.14 hrs, Volume= 2.886 af  
Primary = 37.38 cfs @ 12.14 hrs, Volume= 2.886 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

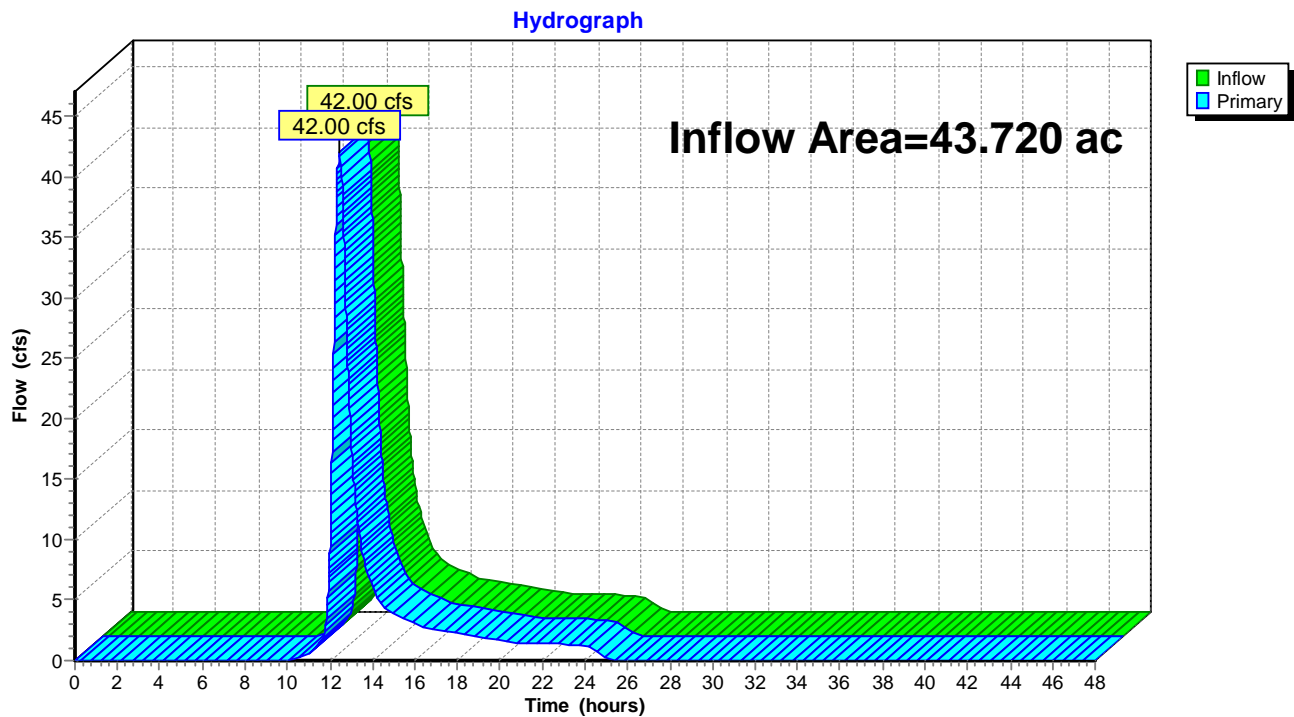
**Link DP-1: Design Point #1**



**Summary for Link DP-2: Design Point #2**

Inflow Area = 43.720 ac, 0.61% Impervious, Inflow Depth = 1.50" for 10 YR event  
Inflow = 42.00 cfs @ 12.43 hrs, Volume= 5.455 af  
Primary = 42.00 cfs @ 12.43 hrs, Volume= 5.455 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

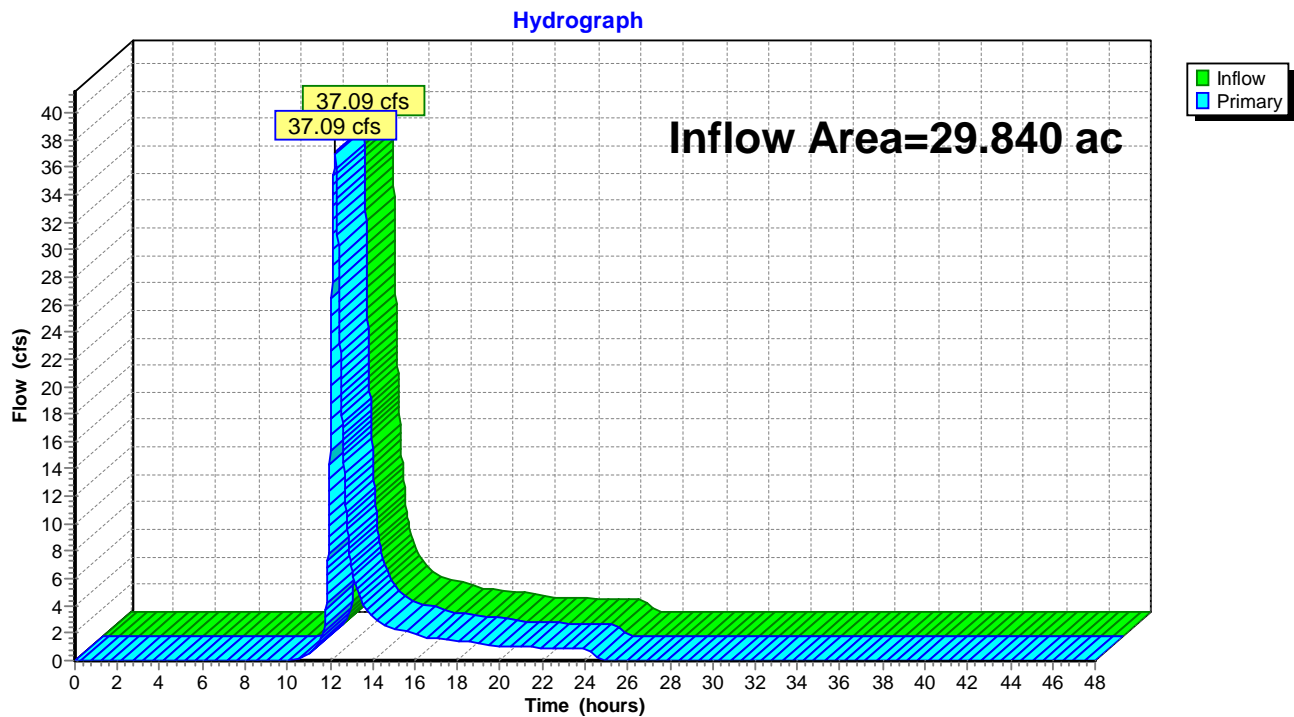
**Link DP-2: Design Point #2**



**Summary for Link DP-3: Design Point #3**

Inflow Area = 29.840 ac, 0.00% Impervious, Inflow Depth = 1.43" for 10 YR event  
Inflow = 37.09 cfs @ 12.24 hrs, Volume= 3.557 af  
Primary = 37.09 cfs @ 12.24 hrs, Volume= 3.557 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

**Link DP-3: Design Point #3**



**Pre (JH)**

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Type II 24-hr 100 YR Rainfall=6.50"

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**Summary for Subcatchment DA-A: DA-A**

Runoff = 99.25 cfs @ 12.13 hrs, Volume= 7.610 af, Depth= 4.13"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

Type II 24-hr 100 YR Rainfall=6.50"

Area (ac)	CN	Description
2.736	77	Woods, Good, HSG D
18.402	78	Meadow, non-grazed, HSG D
0.218	98	Roofs, HSG D
0.165	93	Paved roads w/open ditches, 50% imp, HSG D
0.396	98	Water Surface, HSG D
0.130	96	Gravel surface, HSG D
* 0.067	77	Palustrine Forest Wetland
22.114	79	Weighted Average
21.418		96.85% Pervious Area
0.696		3.15% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.2	100	0.0990	0.27		<b>Sheet Flow,</b> Grass: Short n= 0.150 P2= 2.25"
2.8	369	0.0972	2.18		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
1.9	445	0.0704	3.98		<b>Shallow Concentrated Flow,</b> Grassed Waterway Kv= 15.0 fps
1.9	208	0.0656	1.79		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
7.9	506	0.0452	1.06		<b>Shallow Concentrated Flow,</b> Woodland Kv= 5.0 fps
20.7	1,628	Total			



Pre (JH)

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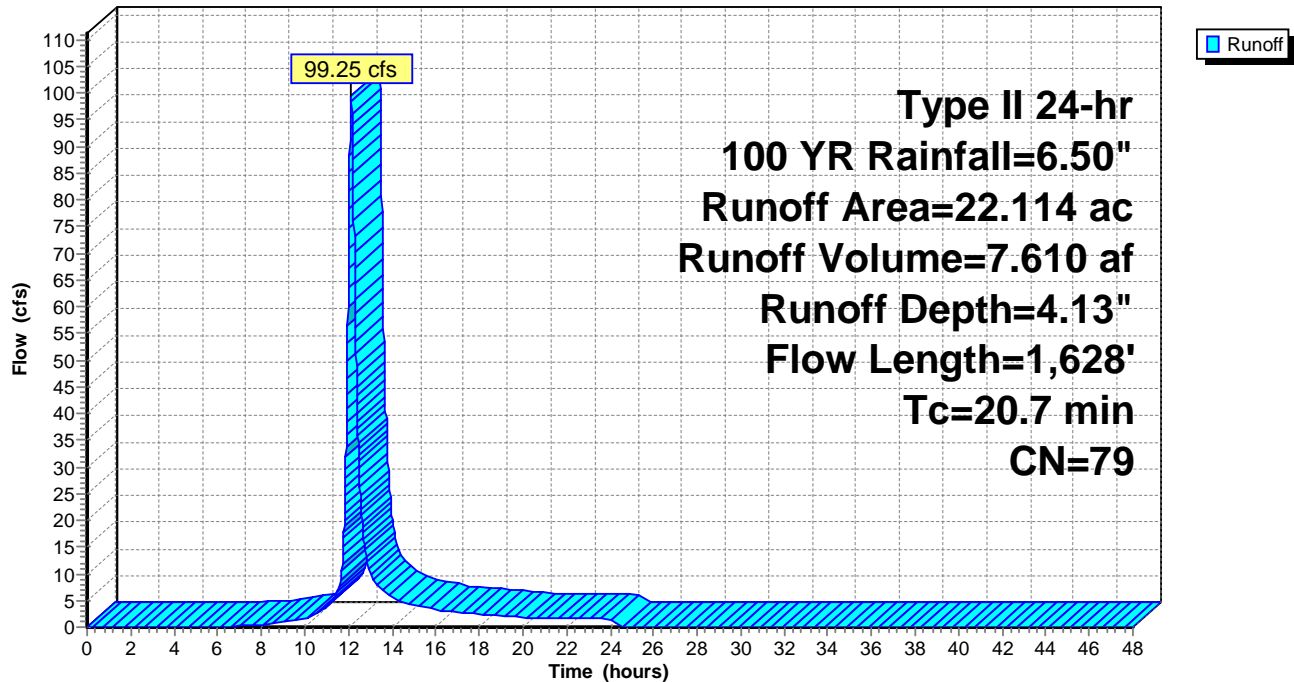
Type II 24-hr 100 YR Rainfall=6.50"

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### Subcatchment DA-A: DA-A

Hydrograph





**Pre (JH)**

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Type II 24-hr 100 YR Rainfall=6.50"

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**Summary for Subcatchment DA-B: DA-B**

Runoff = 116.50 cfs @ 12.42 hrs, Volume= 14.660 af, Depth= 4.02"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs  
Type II 24-hr 100 YR Rainfall=6.50"

Area (ac)	CN	Description
19.914	77	Woods, Good, HSG D
23.191	78	Meadow, non-grazed, HSG D
0.099	98	Roofs, HSG D
0.336	93	Paved roads w/open ditches, 50% imp, HSG D
0.049	96	Gravel surface, HSG D
* 0.131	77	Palustrine Forest Wetland
43.720	78	Weighted Average
43.453		99.39% Pervious Area
0.267		0.61% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
23.5	100	0.0035	0.07		<b>Sheet Flow,</b> Grass: Short n= 0.150 P2= 2.25"
5.2	562	0.0664	1.80		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
1.1	32	0.0010	0.47		<b>Shallow Concentrated Flow,</b> Grassed Waterway Kv= 15.0 fps
9.0	1,022	0.0731	1.89		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
6.1	565	0.0955	1.55		<b>Shallow Concentrated Flow,</b> Woodland Kv= 5.0 fps
44.9	2,281	Total			



Pre (JH)

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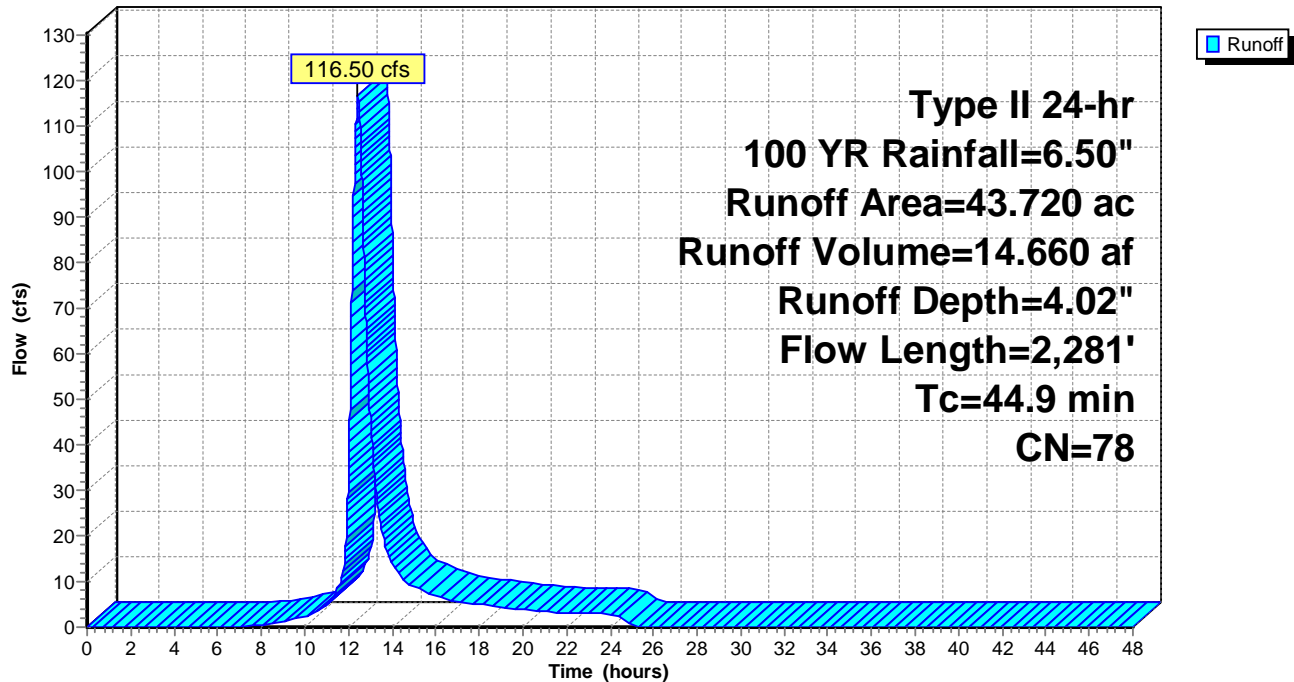
Type II 24-hr 100 YR Rainfall=6.50"

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### Subcatchment DA-B: DA-B

#### Hydrograph





**Pre (JH)**

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Type II 24-hr 100 YR Rainfall=6.50"

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**Summary for Subcatchment DA-C: DA-C**

Runoff = 104.67 cfs @ 12.22 hrs, Volume= 9.746 af, Depth= 3.92"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs  
Type II 24-hr 100 YR Rainfall=6.50"

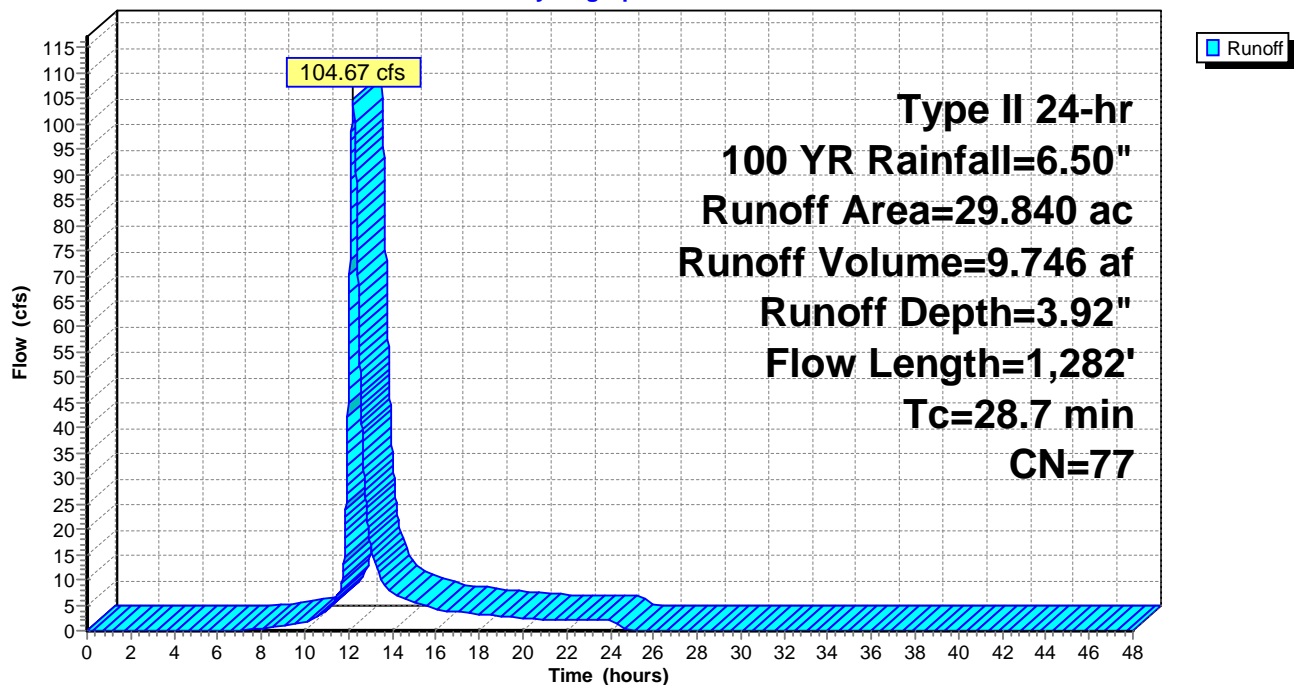
Area (ac)	CN	Description
22.271	77	Woods, Good, HSG D
7.569	78	Meadow, non-grazed, HSG D
29.840	77	Weighted Average
29.840		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.2	63	0.0605	0.20		<b>Sheet Flow,</b> Grass: Short n= 0.150 P2= 2.25"
11.3	37	0.0210	0.05		<b>Sheet Flow,</b> Woods: Light underbrush n= 0.400 P2= 2.25"
1.6	94	0.0382	0.98		<b>Shallow Concentrated Flow,</b> Woodland Kv= 5.0 fps
2.9	246	0.0411	1.42		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
7.7	842	0.1342	1.83		<b>Shallow Concentrated Flow,</b> Woodland Kv= 5.0 fps
28.7	1,282	Total			

**Subcatchment DA-C: DA-C**

Hydrograph

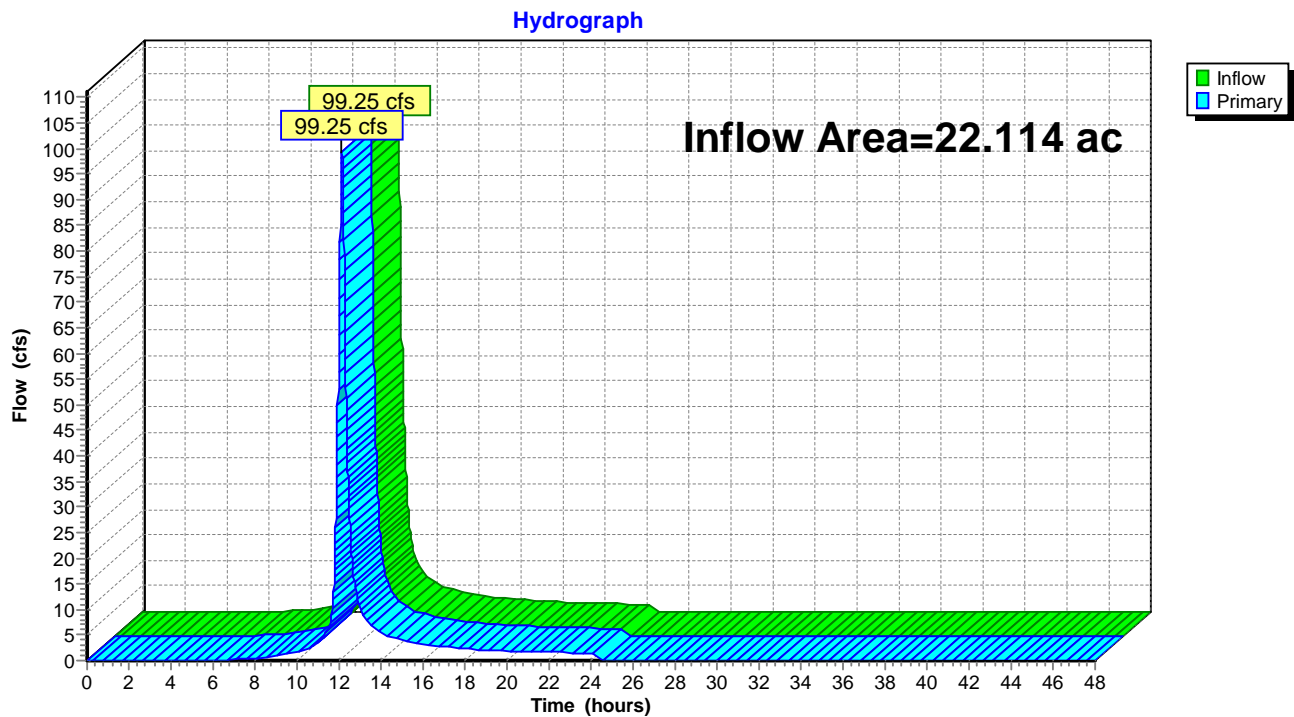




**Summary for Link DP-1: Design Point #1**

Inflow Area = 22.114 ac, 3.15% Impervious, Inflow Depth = 4.13" for 100 YR event  
Inflow = 99.25 cfs @ 12.13 hrs, Volume= 7.610 af  
Primary = 99.25 cfs @ 12.13 hrs, Volume= 7.610 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

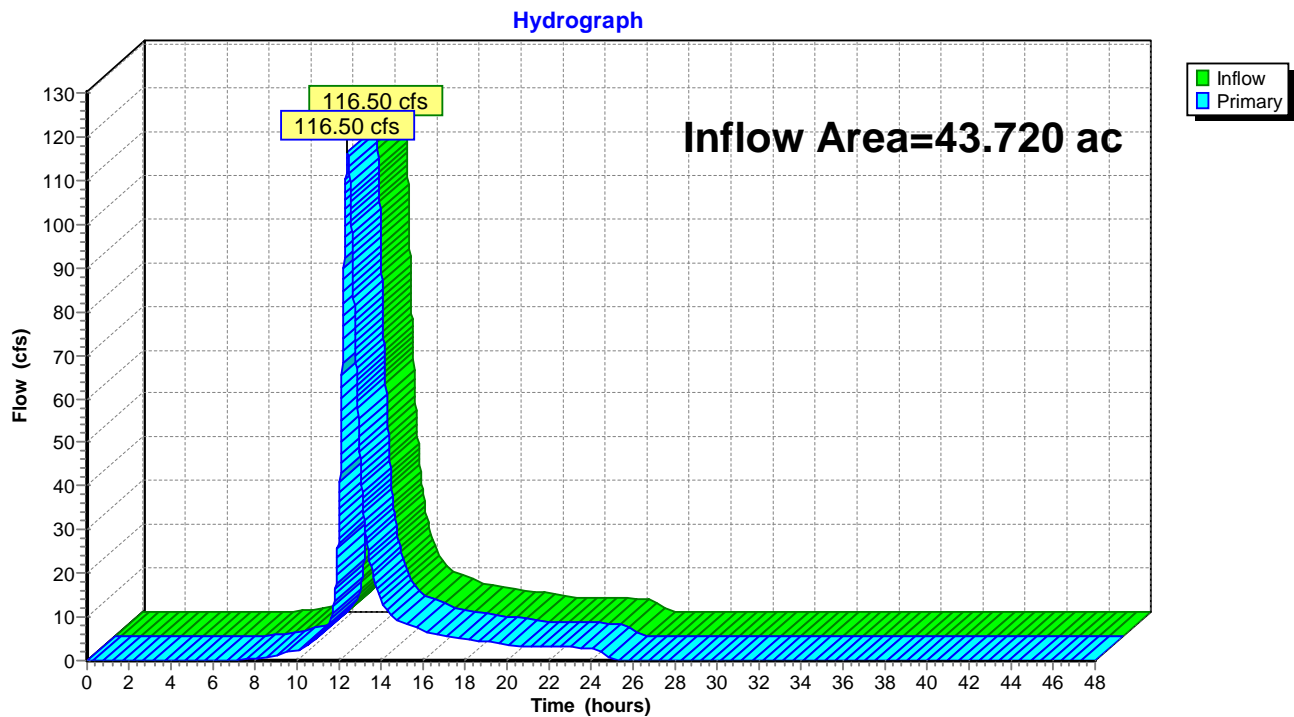
**Link DP-1: Design Point #1**



**Summary for Link DP-2: Design Point #2**

Inflow Area = 43.720 ac, 0.61% Impervious, Inflow Depth = 4.02" for 100 YR event  
Inflow = 116.50 cfs @ 12.42 hrs, Volume= 14.660 af  
Primary = 116.50 cfs @ 12.42 hrs, Volume= 14.660 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

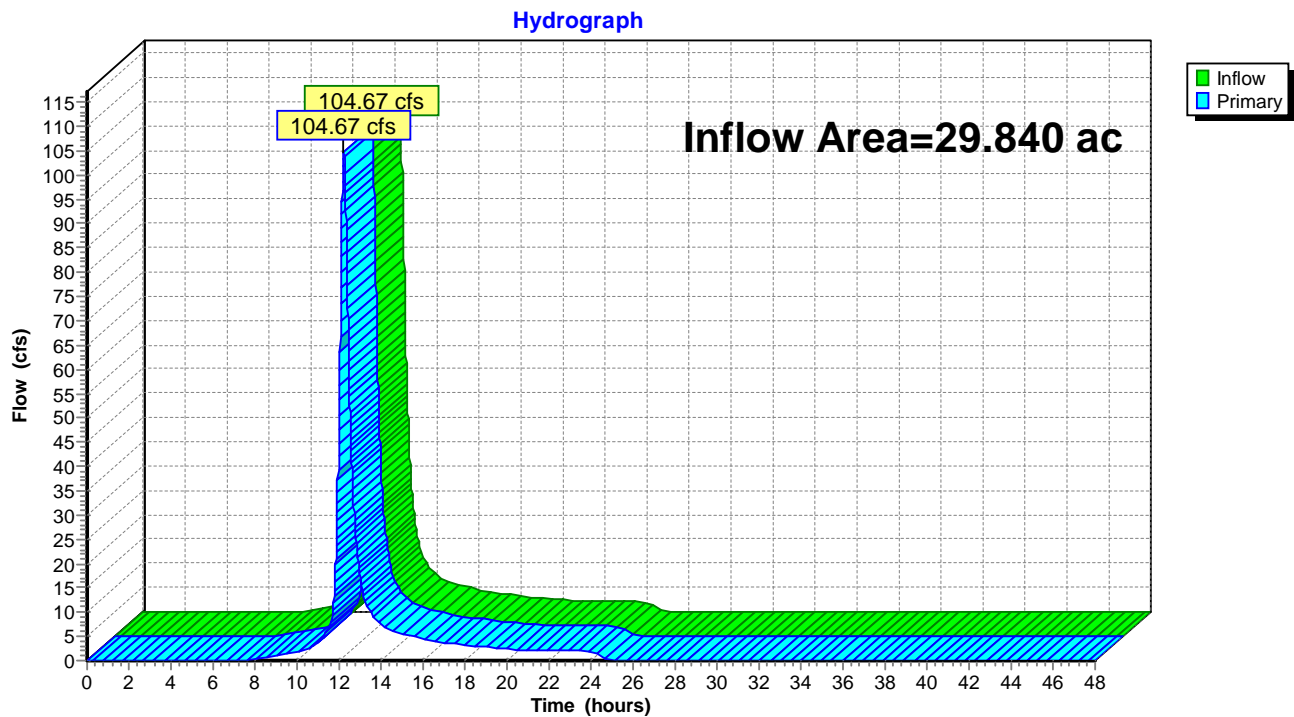
**Link DP-2: Design Point #2**



**Summary for Link DP-3: Design Point #3**

Inflow Area = 29.840 ac, 0.00% Impervious, Inflow Depth = 3.92" for 100 YR event  
Inflow = 104.67 cfs @ 12.22 hrs, Volume= 9.746 af  
Primary = 104.67 cfs @ 12.22 hrs, Volume= 9.746 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

**Link DP-3: Design Point #3**





# Appendix T-2

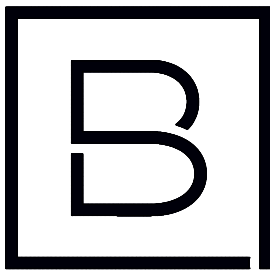
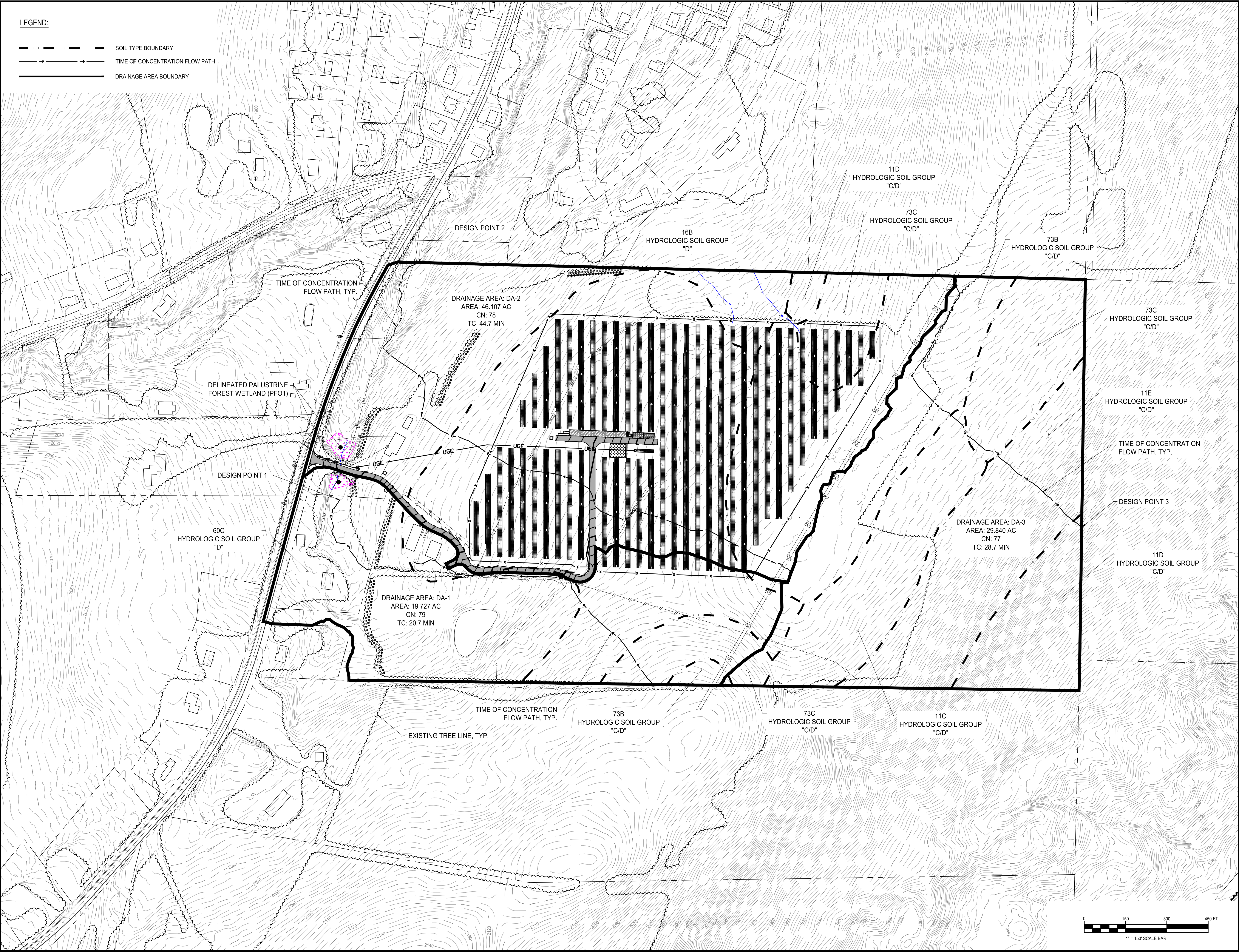
## Proposed Conditions Drainage Map And HydroCAD Report



ARCH D 24x36  
M:\Delaware River Solar\012773.46 Delaware River Solar-5568 Jericho Hill\3.0 Design\3.4 Calcs\Drainage Maps\DR-PR.dwg  
12/2/2021 2:54 PM

LEGEND:

- SOIL TYPE BOUNDARY
- TIME OF CONCENTRATION FLOW PATH
- DRAINAGE AREA BOUNDARY



**BERGMANN**  
ARCHITECTS ENGINEERS PLANNERS

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Rochester, NY 14604  
www.bergmannpc.com  
office: 585.232.5135

**NY ALFRED I, LLC.**

**COMMUNITY SOLAR  
FARM PROJECT**

5568 JERICHO HILL ROAD  
ALFRED, NY 14803

Date Revised	Description
07/01/2021	REVISED PER TOWN COMMENTS
09/03/2021	REVISED PER TOWN COMMENTS
10/11/2021	REVISED PER TOWN COMMENTS
11/03/2021	REVISED PER TOWN COMMENTS
12/03/2021	REVISED PER TOWN COMMENTS

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Project Manager	Discipline Lead
<b>DJP</b>	<b>DJP</b>
Designer	Reviewer
<b>JL</b>	<b>ECR</b>
Date Issued	Project Number
<b>05/28/2021</b>	<b>12773.46</b>

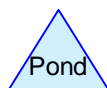
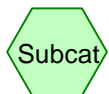
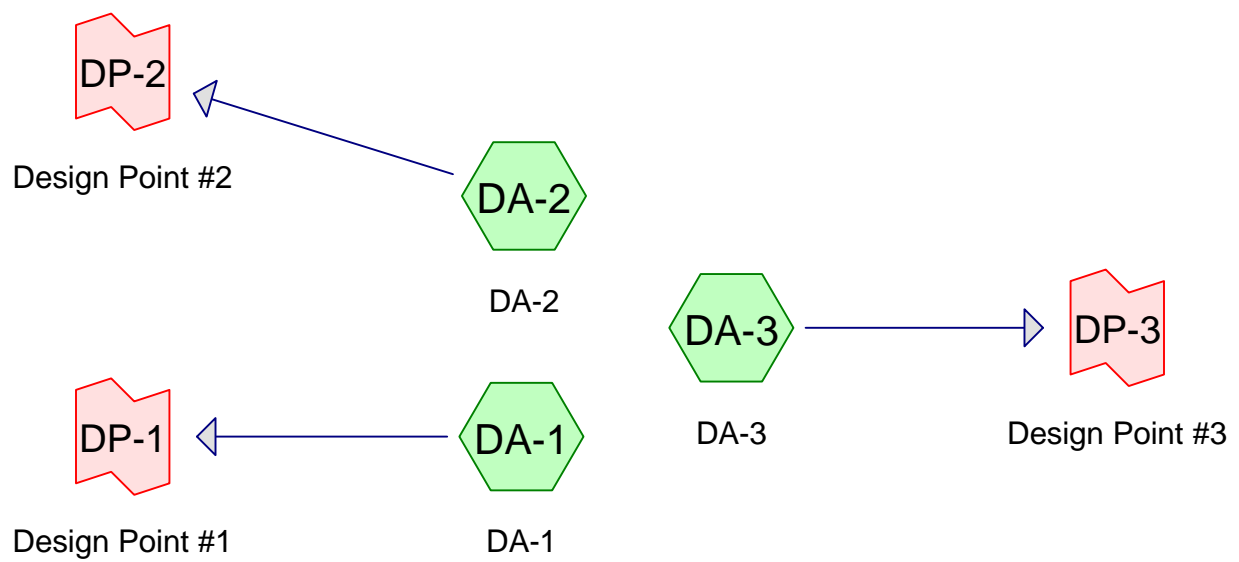
Sheet Name

**PROPOSED CONDITIONS  
DRAINAGE MAP**

Drawing Number

**DR-PR**







**Post (JH)**

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Type II 24-hr 1 YR Rainfall=2.00"

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Page 2

**Summary for Subcatchment DA-1: DA-1**

Runoff = 10.08 cfs @ 12.16 hrs, Volume= 0.859 af, Depth= 0.52"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

Type II 24-hr 1 YR Rainfall=2.00"

Area (ac)	CN	Description
2.626	77	Woods, Good, HSG D
16.233	78	Meadow, non-grazed, HSG D
0.218	98	Roofs, HSG D
0.144	93	Paved roads w/open ditches, 50% imp, HSG D
0.396	98	Water Surface, HSG D
0.043	96	Gravel surface, HSG D
* 0.067	77	Palustrine Forest Wetland
19.727	79	Weighted Average
19.041		96.52% Pervious Area
0.686		3.48% Impervious Area

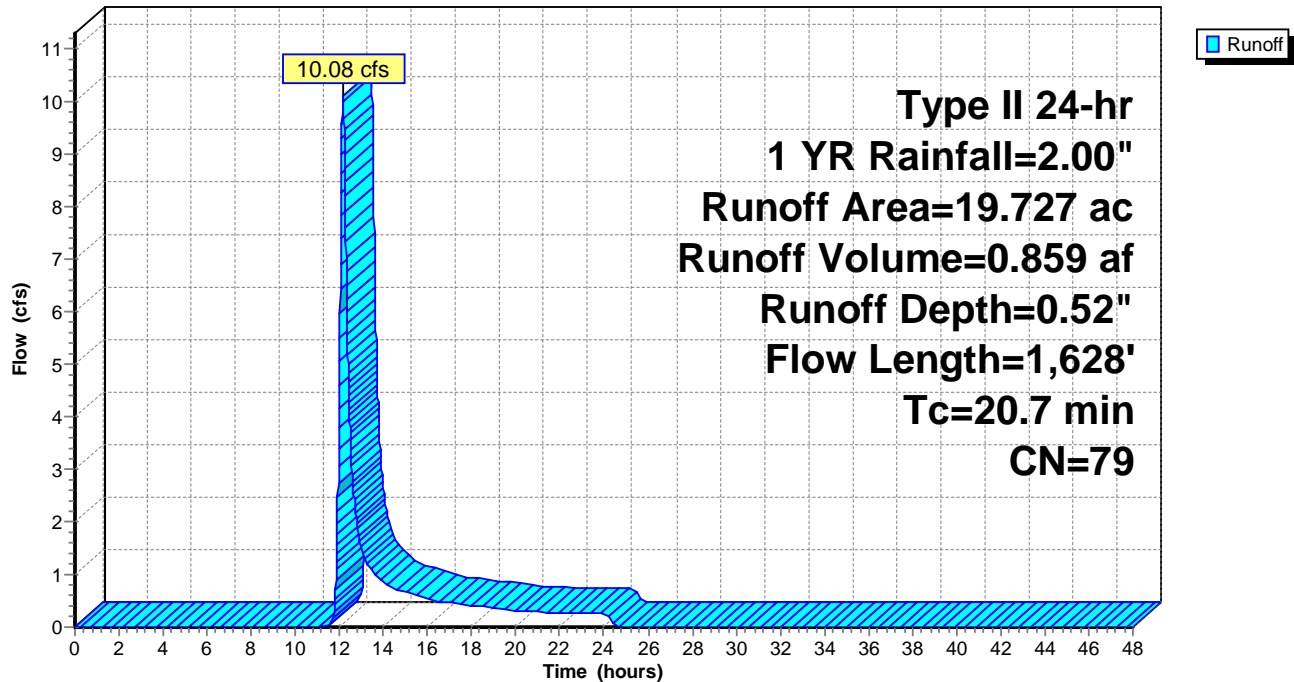
  

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.2	100	0.0990	0.27		<b>Sheet Flow,</b> Grass: Short n= 0.150 P2= 2.25"
2.8	369	0.0972	2.18		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
1.9	445	0.0704	3.98		<b>Shallow Concentrated Flow,</b> Grassed Waterway Kv= 15.0 fps
1.9	208	0.0656	1.79		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
7.9	506	0.0452	1.06		<b>Shallow Concentrated Flow,</b> Woodland Kv= 5.0 fps
20.7	1,628	Total			



Subcatchment DA-1: DA-1

Hydrograph





**Post (JH)**

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Type II 24-hr 1 YR Rainfall=2.00"

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**Summary for Subcatchment DA-2: DA-2**

Runoff = 12.38 cfs @ 12.47 hrs, Volume= 1.861 af, Depth= 0.48"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs  
Type II 24-hr 1 YR Rainfall=2.00"

Area (ac)	CN	Description
9.353	77	Woods, Good, HSG D
35.238	78	Meadow, non-grazed, HSG D
0.099	98	Roofs, HSG D
0.268	93	Paved roads w/open ditches, 50% imp, HSG D
0.015	96	Gravel surface, HSG D
* 0.131	77	Palustrine Forest Wetland
* 0.018	98	Concrete Equipment Pad
* 0.985	75	Limited Use Pervious Gravel Driveway
46.107	78	Weighted Average
45.856		99.46% Pervious Area
0.251		0.54% Impervious Area

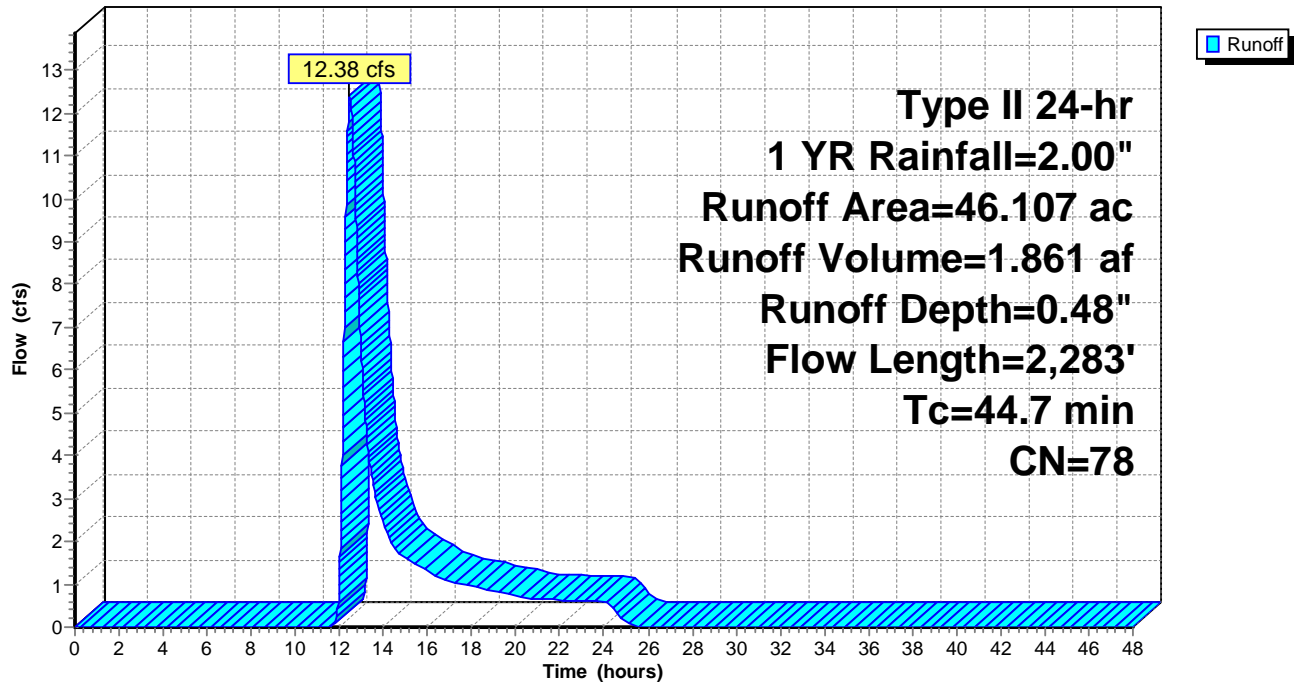
  

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
23.5	100	0.0035	0.07		<b>Sheet Flow,</b> Grass: Short n= 0.150 P2= 2.25"
5.2	562	0.0664	1.80		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
1.1	32	0.0010	0.47		<b>Shallow Concentrated Flow,</b> Grassed Waterway Kv= 15.0 fps
8.8	1,024	0.0763	1.93		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
6.1	565	0.0955	1.55		<b>Shallow Concentrated Flow,</b> Woodland Kv= 5.0 fps
44.7	2,283	Total			



Subcatchment DA-2: DA-2

Hydrograph





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Type II 24-hr 1 YR Rainfall=2.00"

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**Summary for Subcatchment DA-3: DA-3**

Runoff = 9.91 cfs @ 12.27 hrs, Volume= 1.114 af, Depth= 0.45"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs  
Type II 24-hr 1 YR Rainfall=2.00"

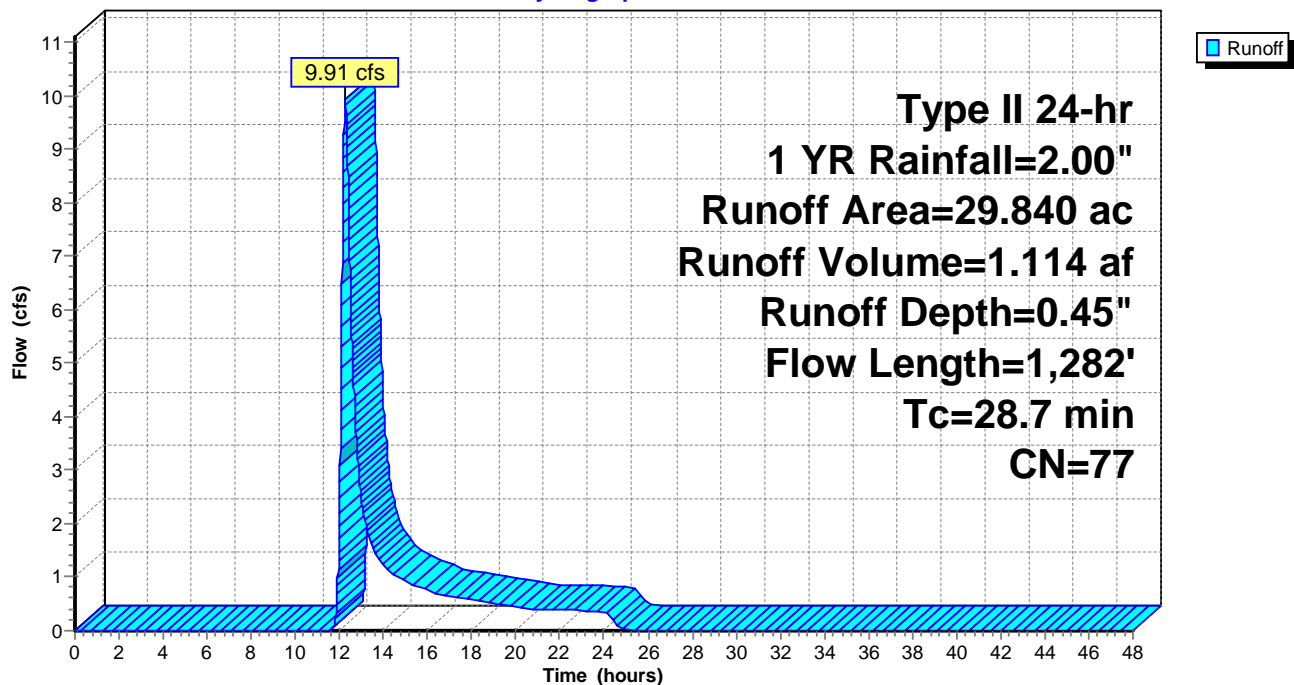
Area (ac)	CN	Description
22.271	77	Woods, Good, HSG D
7.569	78	Meadow, non-grazed, HSG D
29.840	77	Weighted Average
29.840		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.2	63	0.0605	0.20		<b>Sheet Flow,</b> Grass: Short n= 0.150 P2= 2.25"
11.3	37	0.0210	0.05		<b>Sheet Flow,</b> Woods: Light underbrush n= 0.400 P2= 2.25"
1.6	94	0.0382	0.98		<b>Shallow Concentrated Flow,</b> Woodland Kv= 5.0 fps
2.9	246	0.0411	1.42		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
7.7	842	0.1342	1.83		<b>Shallow Concentrated Flow,</b> Woodland Kv= 5.0 fps
28.7	1,282	Total			

**Subcatchment DA-3: DA-3**

Hydrograph



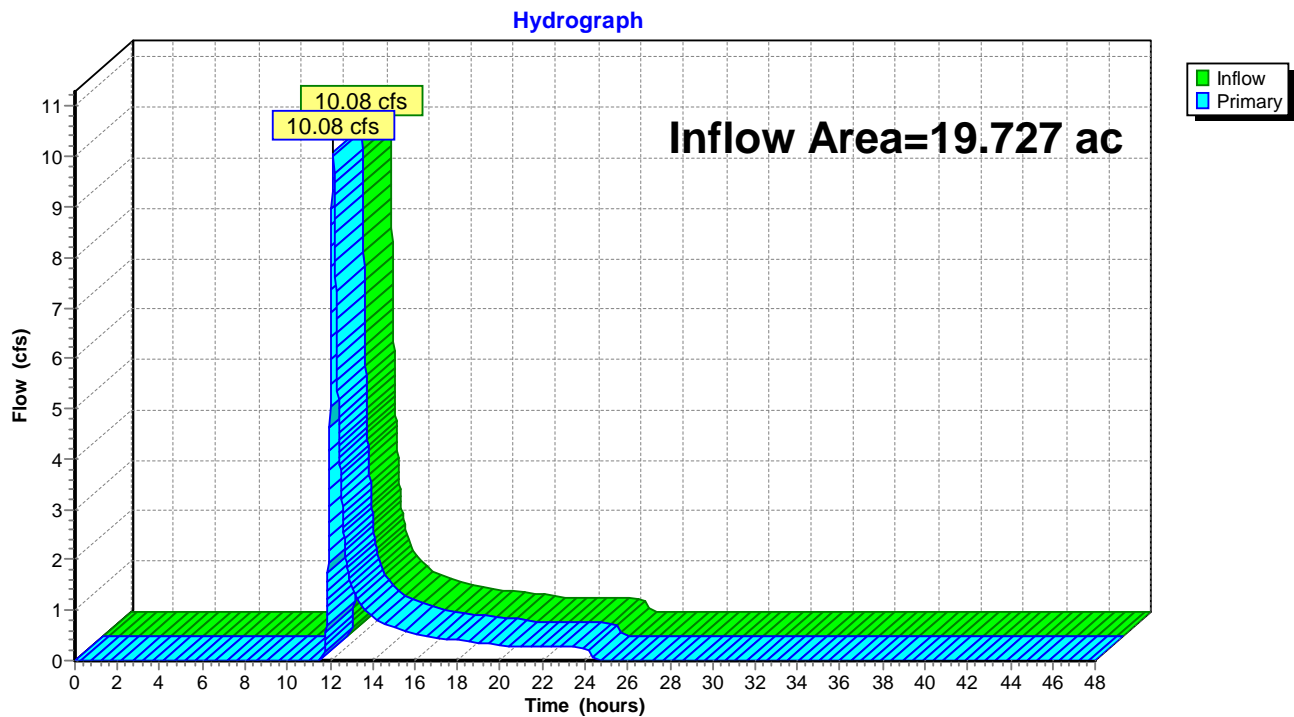


### Summary for Link DP-1: Design Point #1

Inflow Area = 19.727 ac, 3.48% Impervious, Inflow Depth = 0.52" for 1 YR event  
 Inflow = 10.08 cfs @ 12.16 hrs, Volume= 0.859 af  
 Primary = 10.08 cfs @ 12.16 hrs, Volume= 0.859 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

### Link DP-1: Design Point #1

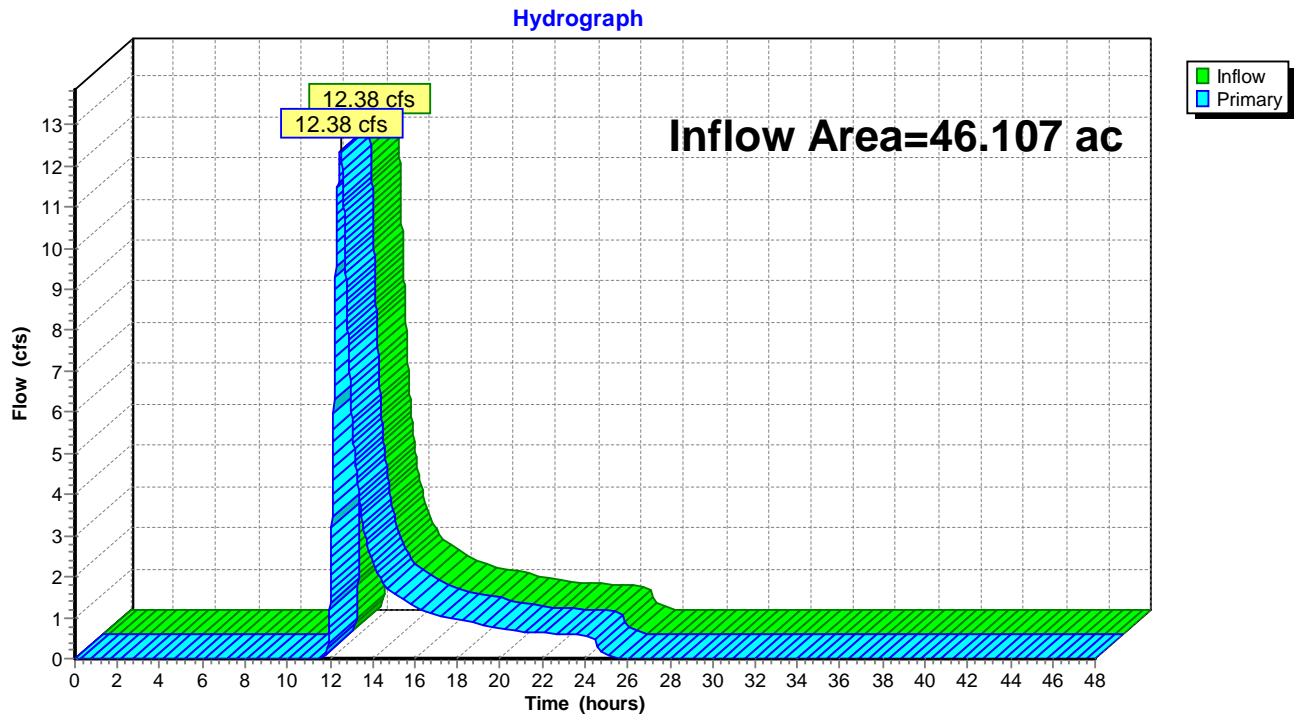




**Summary for Link DP-2: Design Point #2**

Inflow Area = 46.107 ac, 0.54% Impervious, Inflow Depth = 0.48" for 1 YR event  
Inflow = 12.38 cfs @ 12.47 hrs, Volume= 1.861 af  
Primary = 12.38 cfs @ 12.47 hrs, Volume= 1.861 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

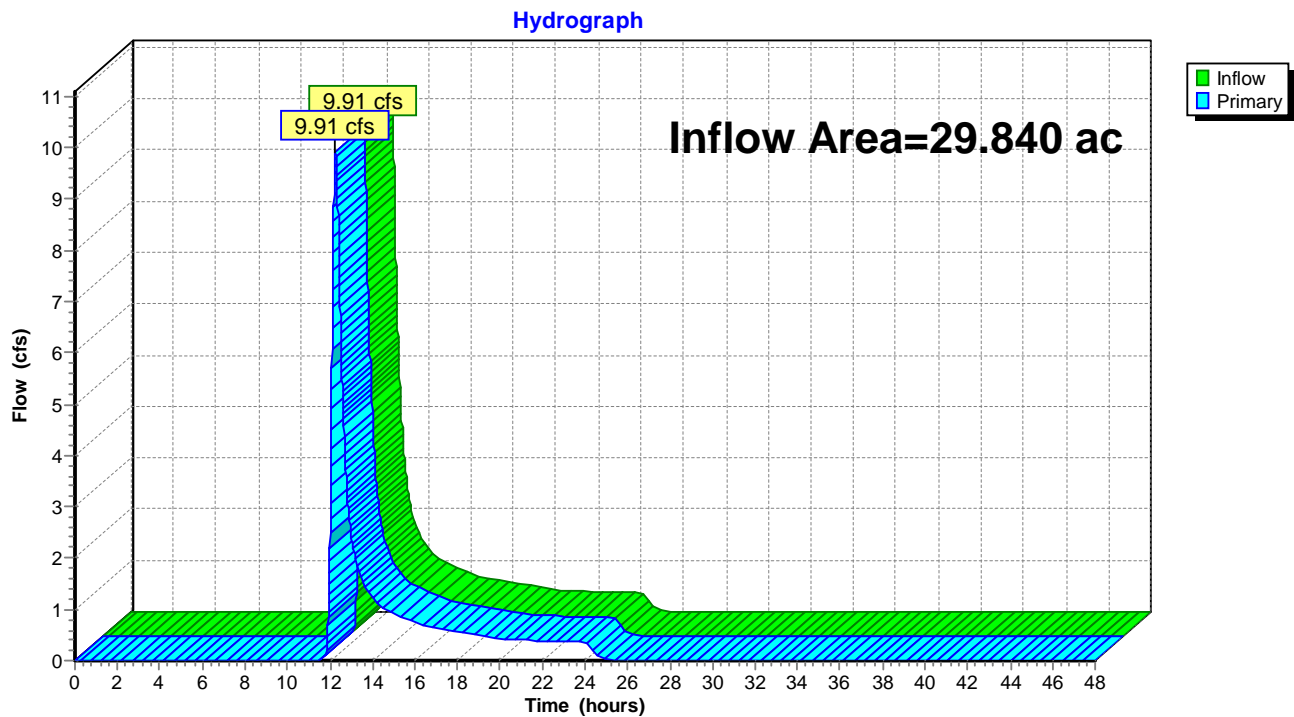
**Link DP-2: Design Point #2**



**Summary for Link DP-3: Design Point #3**

Inflow Area = 29.840 ac, 0.00% Impervious, Inflow Depth = 0.45" for 1 YR event  
Inflow = 9.91 cfs @ 12.27 hrs, Volume= 1.114 af  
Primary = 9.91 cfs @ 12.27 hrs, Volume= 1.114 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

**Link DP-3: Design Point #3**



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Type II 24-hr 10 YR Rainfall=3.50"

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**Summary for Subcatchment DA-1: DA-1**

Runoff = 33.35 cfs @ 12.14 hrs, Volume= 2.574 af, Depth= 1.57"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs  
Type II 24-hr 10 YR Rainfall=3.50"

Area (ac)	CN	Description
2.626	77	Woods, Good, HSG D
16.233	78	Meadow, non-grazed, HSG D
0.218	98	Roofs, HSG D
0.144	93	Paved roads w/open ditches, 50% imp, HSG D
0.396	98	Water Surface, HSG D
0.043	96	Gravel surface, HSG D
* 0.067	77	Palustrine Forest Wetland
19.727	79	Weighted Average
19.041		96.52% Pervious Area
0.686		3.48% Impervious Area

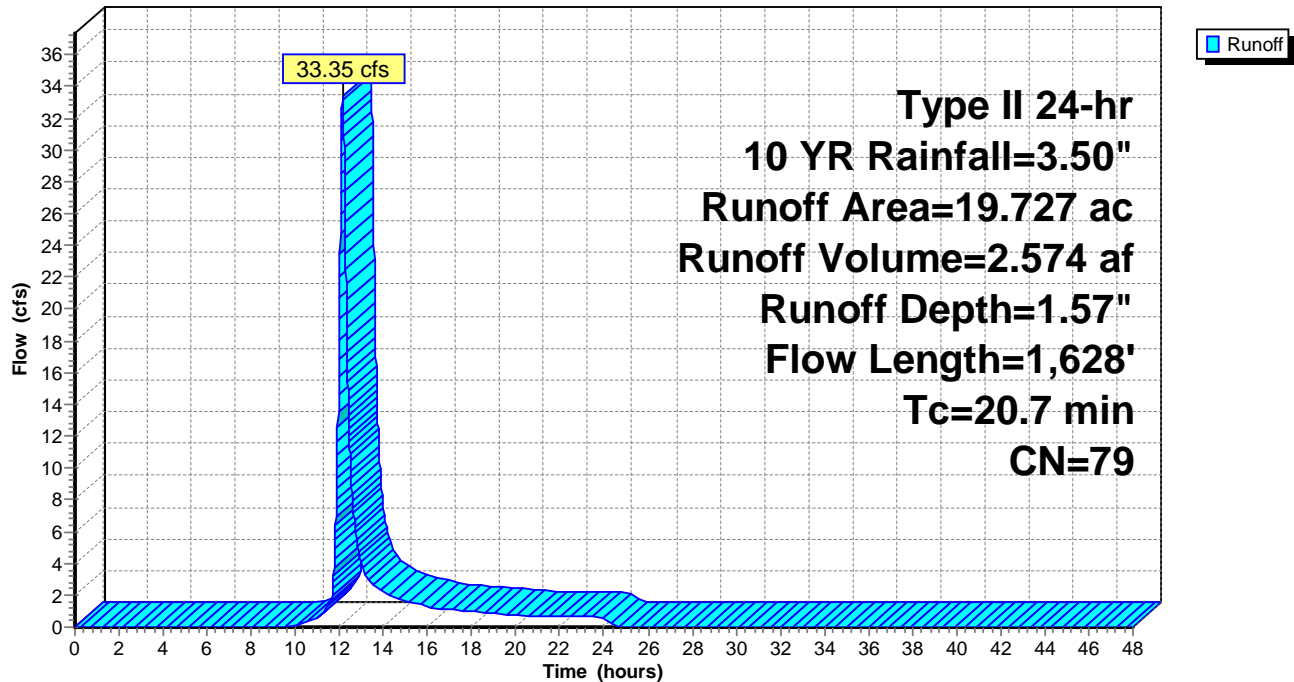
  

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.2	100	0.0990	0.27		<b>Sheet Flow,</b> Grass: Short n= 0.150 P2= 2.25"
2.8	369	0.0972	2.18		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
1.9	445	0.0704	3.98		<b>Shallow Concentrated Flow,</b> Grassed Waterway Kv= 15.0 fps
1.9	208	0.0656	1.79		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
7.9	506	0.0452	1.06		<b>Shallow Concentrated Flow,</b> Woodland Kv= 5.0 fps
20.7	1,628	Total			



Subcatchment DA-1: DA-1

Hydrograph





**Post (JH)**

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Type II 24-hr 10 YR Rainfall=3.50"

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**Summary for Subcatchment DA-2: DA-2**

Runoff = 44.35 cfs @ 12.46 hrs, Volume= 5.753 af, Depth= 1.50"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs  
Type II 24-hr 10 YR Rainfall=3.50"

Area (ac)	CN	Description
9.353	77	Woods, Good, HSG D
35.238	78	Meadow, non-grazed, HSG D
0.099	98	Roofs, HSG D
0.268	93	Paved roads w/open ditches, 50% imp, HSG D
0.015	96	Gravel surface, HSG D
* 0.131	77	Palustrine Forest Wetland
* 0.018	98	Concrete Equipment Pad
* 0.985	75	Limited Use Pervious Gravel Driveway
46.107	78	Weighted Average
45.856		99.46% Pervious Area
0.251		0.54% Impervious Area

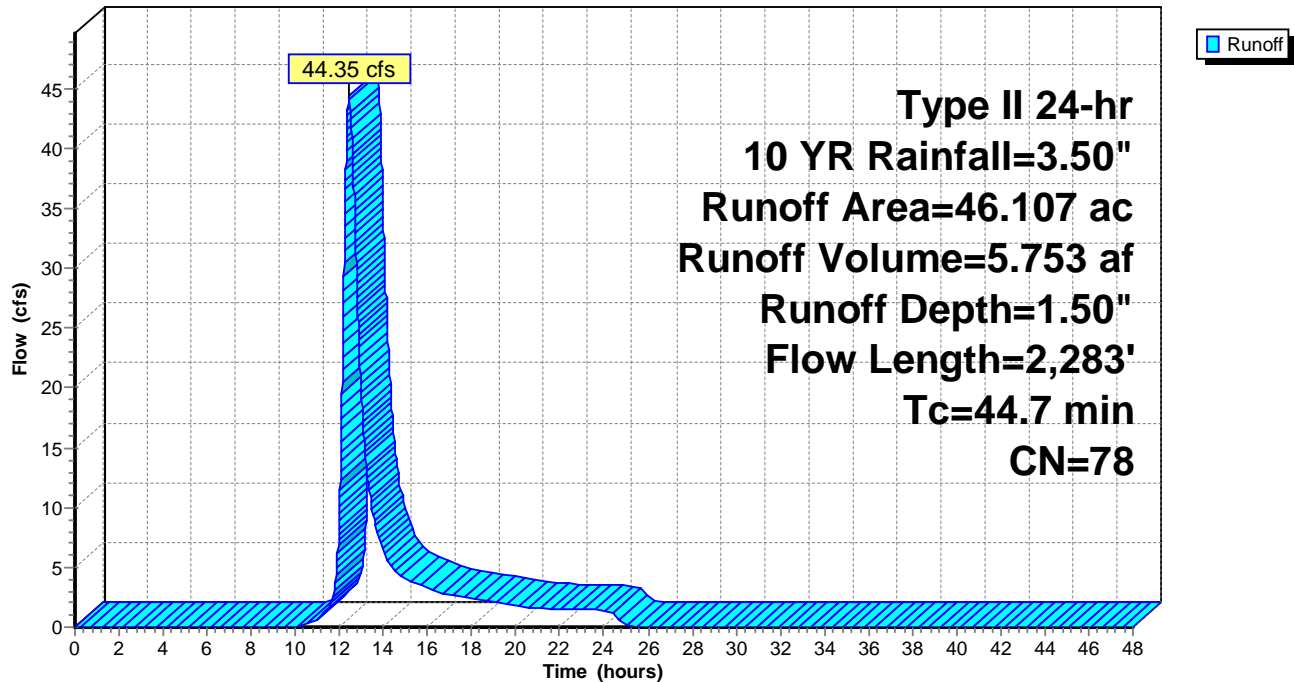
  

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
23.5	100	0.0035	0.07		<b>Sheet Flow,</b> Grass: Short n= 0.150 P2= 2.25"
5.2	562	0.0664	1.80		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
1.1	32	0.0010	0.47		<b>Shallow Concentrated Flow,</b> Grassed Waterway Kv= 15.0 fps
8.8	1,024	0.0763	1.93		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
6.1	565	0.0955	1.55		<b>Shallow Concentrated Flow,</b> Woodland Kv= 5.0 fps
44.7	2,283	Total			



Subcatchment DA-2: DA-2

Hydrograph





**Post (JH)**

Prepared by Bergmann

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Type II 24-hr 10 YR Rainfall=3.50"

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**Summary for Subcatchment DA-3: DA-3**

Runoff = 37.09 cfs @ 12.24 hrs, Volume= 3.557 af, Depth= 1.43"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs  
Type II 24-hr 10 YR Rainfall=3.50"

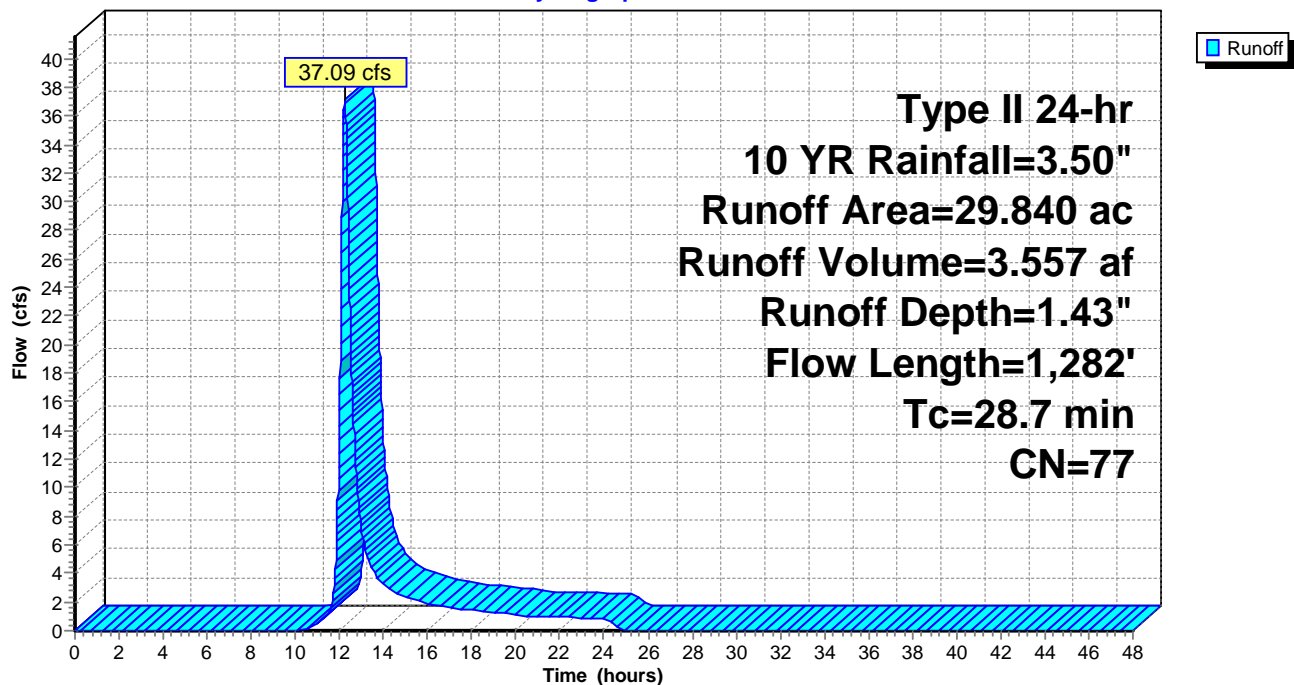
Area (ac)	CN	Description
22.271	77	Woods, Good, HSG D
7.569	78	Meadow, non-grazed, HSG D
29.840	77	Weighted Average
29.840		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.2	63	0.0605	0.20		<b>Sheet Flow,</b> Grass: Short n= 0.150 P2= 2.25"
11.3	37	0.0210	0.05		<b>Sheet Flow,</b> Woods: Light underbrush n= 0.400 P2= 2.25"
1.6	94	0.0382	0.98		<b>Shallow Concentrated Flow,</b> Woodland Kv= 5.0 fps
2.9	246	0.0411	1.42		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
7.7	842	0.1342	1.83		<b>Shallow Concentrated Flow,</b> Woodland Kv= 5.0 fps
28.7	1,282	Total			

**Subcatchment DA-3: DA-3**

Hydrograph

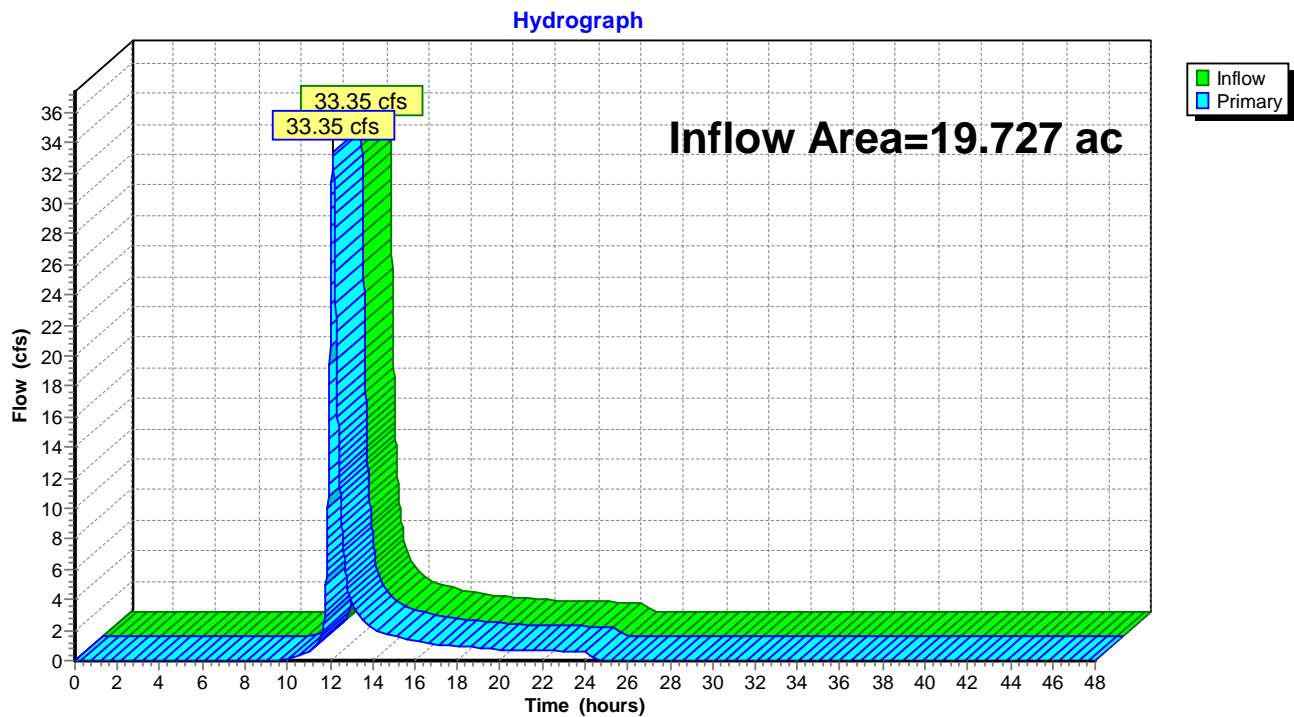




**Summary for Link DP-1: Design Point #1**

Inflow Area = 19.727 ac, 3.48% Impervious, Inflow Depth = 1.57" for 10 YR event  
Inflow = 33.35 cfs @ 12.14 hrs, Volume= 2.574 af  
Primary = 33.35 cfs @ 12.14 hrs, Volume= 2.574 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

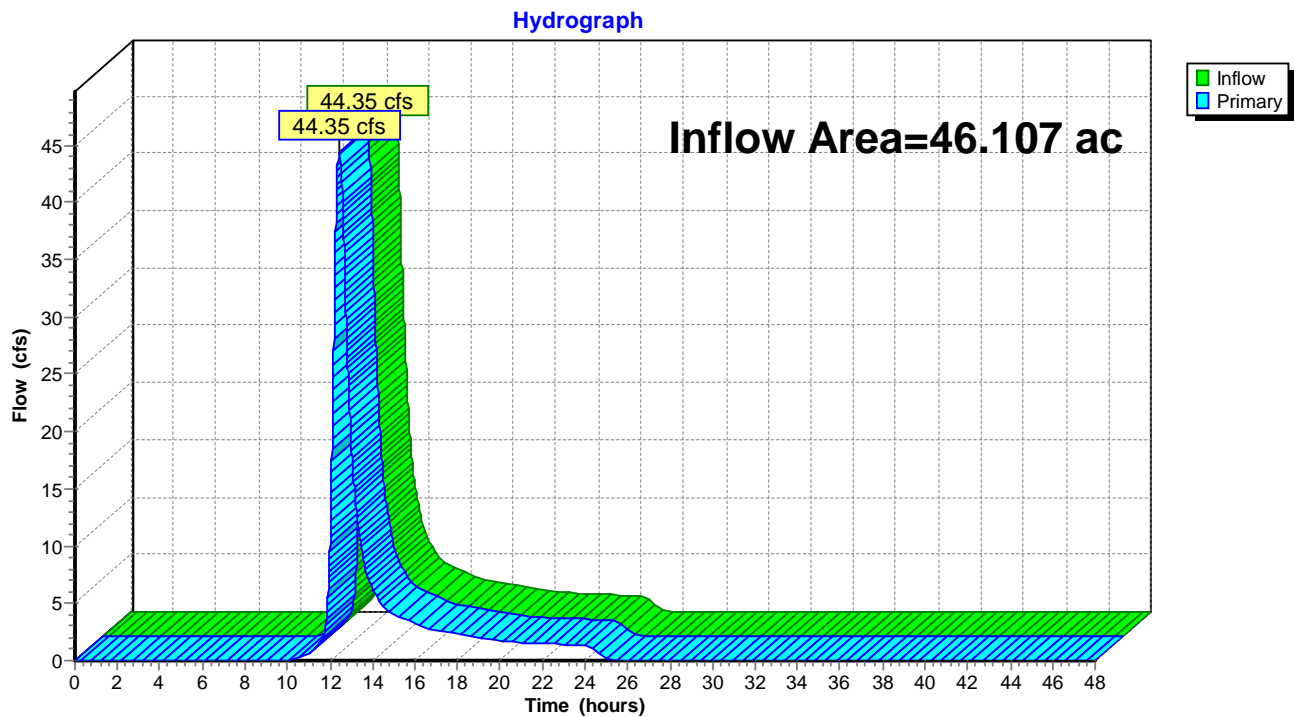
**Link DP-1: Design Point #1**



**Summary for Link DP-2: Design Point #2**

Inflow Area = 46.107 ac, 0.54% Impervious, Inflow Depth = 1.50" for 10 YR event  
Inflow = 44.35 cfs @ 12.46 hrs, Volume= 5.753 af  
Primary = 44.35 cfs @ 12.46 hrs, Volume= 5.753 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

**Link DP-2: Design Point #2**

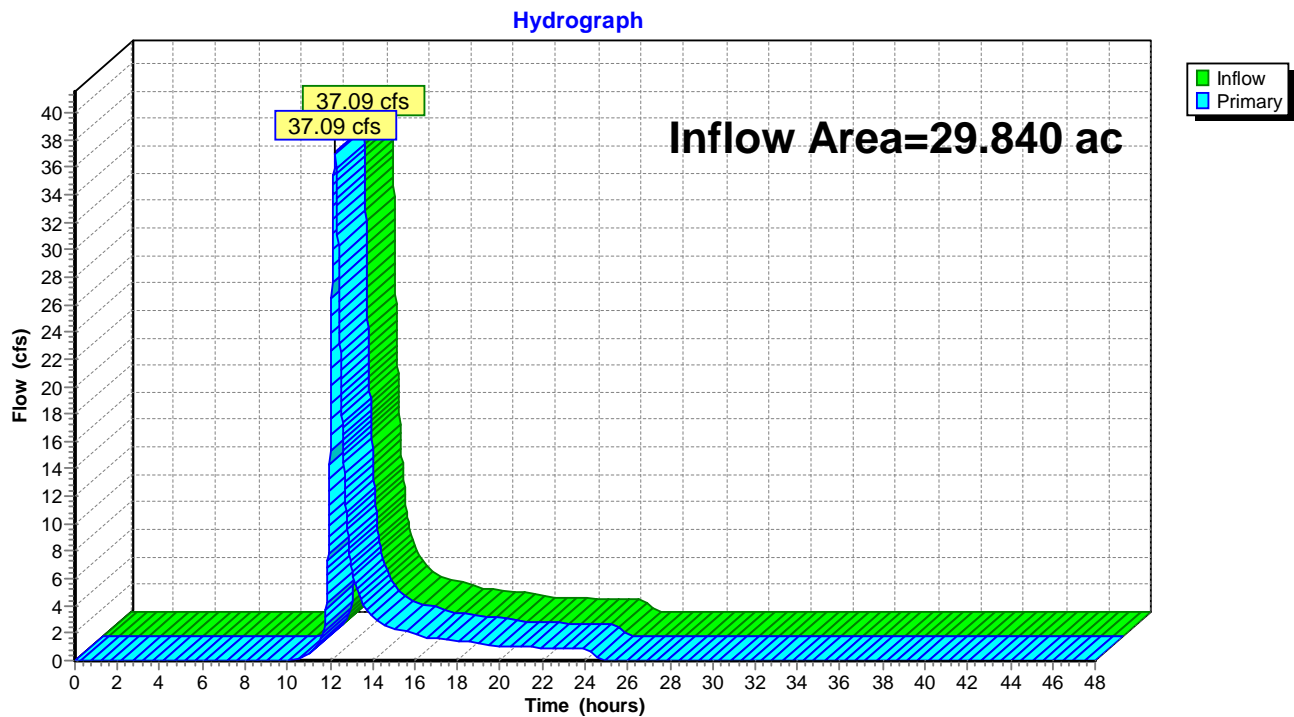


### Summary for Link DP-3: Design Point #3

Inflow Area = 29.840 ac, 0.00% Impervious, Inflow Depth = 1.43" for 10 YR event  
 Inflow = 37.09 cfs @ 12.24 hrs, Volume= 3.557 af  
 Primary = 37.09 cfs @ 12.24 hrs, Volume= 3.557 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

### Link DP-3: Design Point #3





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Type II 24-hr 100 YR Rainfall=6.50"

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**Summary for Subcatchment DA-1: DA-1**

Runoff = 88.53 cfs @ 12.13 hrs, Volume= 6.788 af, Depth= 4.13"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs  
Type II 24-hr 100 YR Rainfall=6.50"

Area (ac)	CN	Description
2.626	77	Woods, Good, HSG D
16.233	78	Meadow, non-grazed, HSG D
0.218	98	Roofs, HSG D
0.144	93	Paved roads w/open ditches, 50% imp, HSG D
0.396	98	Water Surface, HSG D
0.043	96	Gravel surface, HSG D
* 0.067	77	Palustrine Forest Wetland
19.727	79	Weighted Average
19.041		96.52% Pervious Area
0.686		3.48% Impervious Area

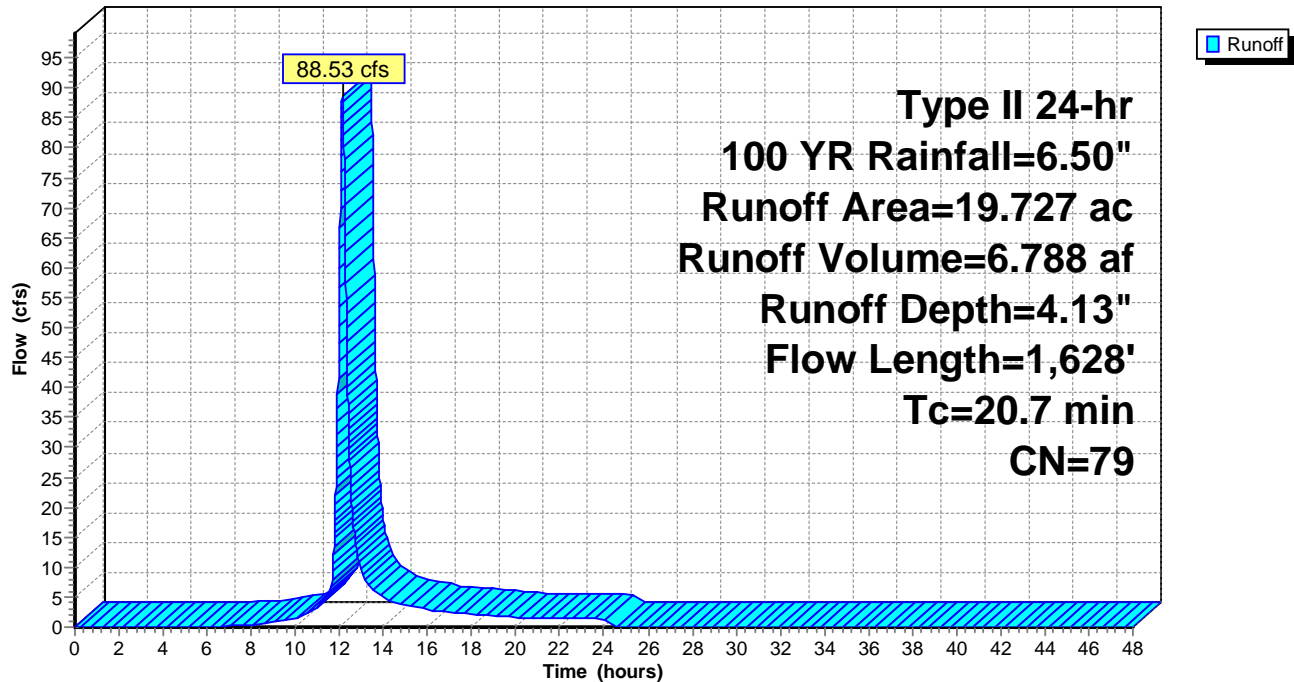
  

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.2	100	0.0990	0.27		<b>Sheet Flow,</b> Grass: Short n= 0.150 P2= 2.25"
2.8	369	0.0972	2.18		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
1.9	445	0.0704	3.98		<b>Shallow Concentrated Flow,</b> Grassed Waterway Kv= 15.0 fps
1.9	208	0.0656	1.79		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
7.9	506	0.0452	1.06		<b>Shallow Concentrated Flow,</b> Woodland Kv= 5.0 fps
20.7	1,628	Total			



Subcatchment DA-1: DA-1

Hydrograph





**Post (JH)**

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Type II 24-hr 100 YR Rainfall=6.50"

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**Summary for Subcatchment DA-2: DA-2**

Runoff = 122.59 cfs @ 12.42 hrs, Volume= 15.461 af, Depth= 4.02"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs  
Type II 24-hr 100 YR Rainfall=6.50"

Area (ac)	CN	Description
9.353	77	Woods, Good, HSG D
35.238	78	Meadow, non-grazed, HSG D
0.099	98	Roofs, HSG D
0.268	93	Paved roads w/open ditches, 50% imp, HSG D
0.015	96	Gravel surface, HSG D
* 0.131	77	Palustrine Forest Wetland
* 0.018	98	Concrete Equipment Pad
* 0.985	75	Limited Use Pervious Gravel Driveway
46.107	78	Weighted Average
45.856		99.46% Pervious Area
0.251		0.54% Impervious Area

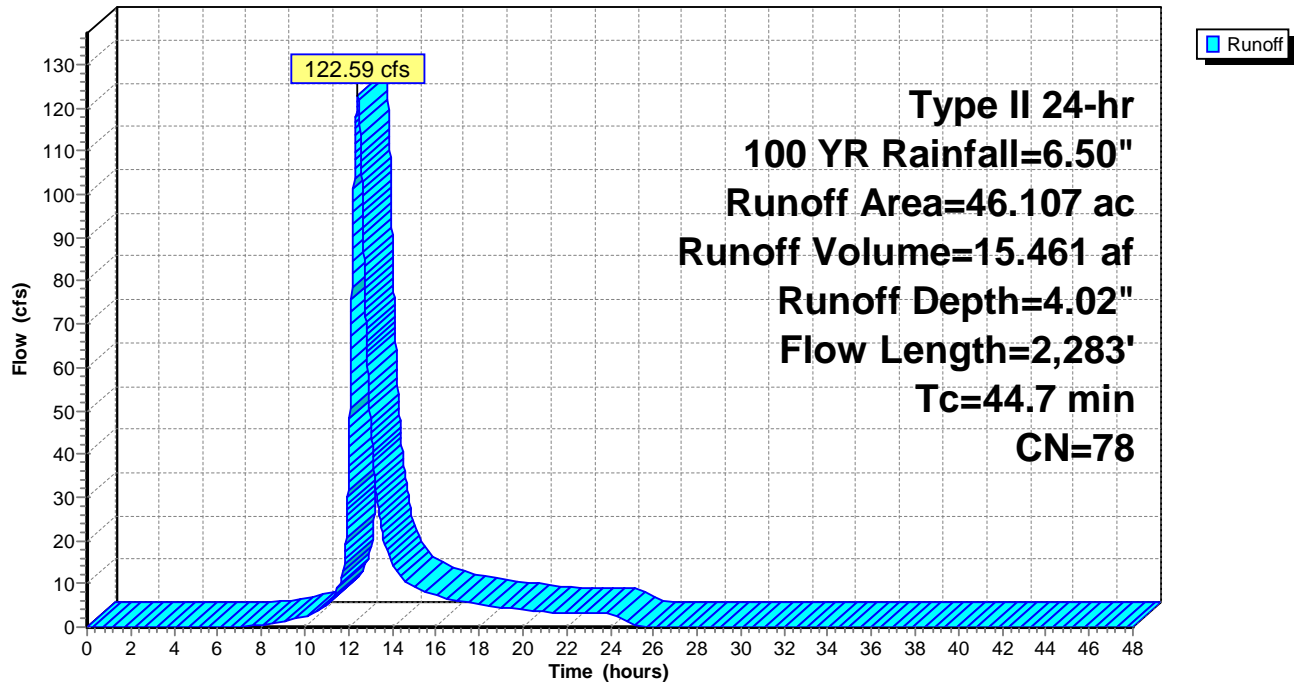
  

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
23.5	100	0.0035	0.07		<b>Sheet Flow,</b> Grass: Short n= 0.150 P2= 2.25"
5.2	562	0.0664	1.80		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
1.1	32	0.0010	0.47		<b>Shallow Concentrated Flow,</b> Grassed Waterway Kv= 15.0 fps
8.8	1,024	0.0763	1.93		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
6.1	565	0.0955	1.55		<b>Shallow Concentrated Flow,</b> Woodland Kv= 5.0 fps
44.7	2,283	Total			



Subcatchment DA-2: DA-2

Hydrograph





**Post (JH)**

Prepared by Bergmann

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Type II 24-hr 100 YR Rainfall=6.50"

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**Summary for Subcatchment DA-3: DA-3**

Runoff = 104.67 cfs @ 12.22 hrs, Volume= 9.746 af, Depth= 3.92"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs  
Type II 24-hr 100 YR Rainfall=6.50"

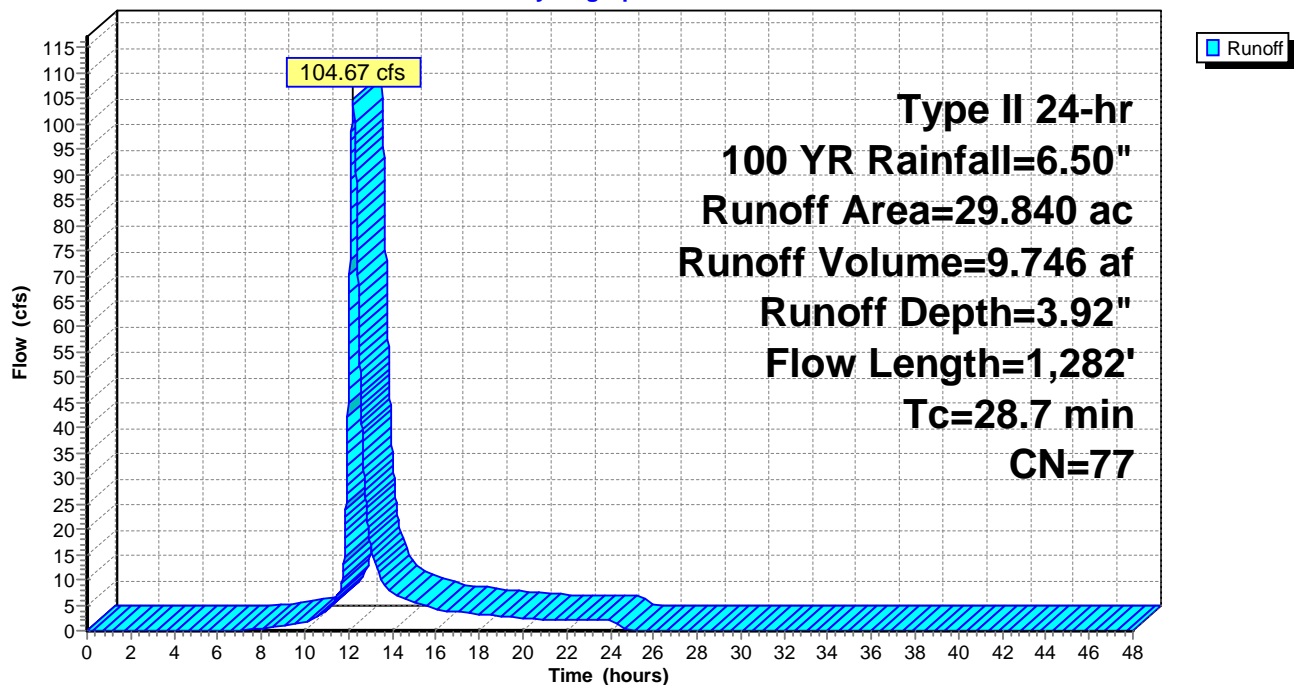
Area (ac)	CN	Description
22.271	77	Woods, Good, HSG D
7.569	78	Meadow, non-grazed, HSG D
29.840	77	Weighted Average
29.840		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.2	63	0.0605	0.20		<b>Sheet Flow,</b> Grass: Short n= 0.150 P2= 2.25"
11.3	37	0.0210	0.05		<b>Sheet Flow,</b> Woods: Light underbrush n= 0.400 P2= 2.25"
1.6	94	0.0382	0.98		<b>Shallow Concentrated Flow,</b> Woodland Kv= 5.0 fps
2.9	246	0.0411	1.42		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
7.7	842	0.1342	1.83		<b>Shallow Concentrated Flow,</b> Woodland Kv= 5.0 fps
28.7	1,282	Total			

**Subcatchment DA-3: DA-3**

Hydrograph



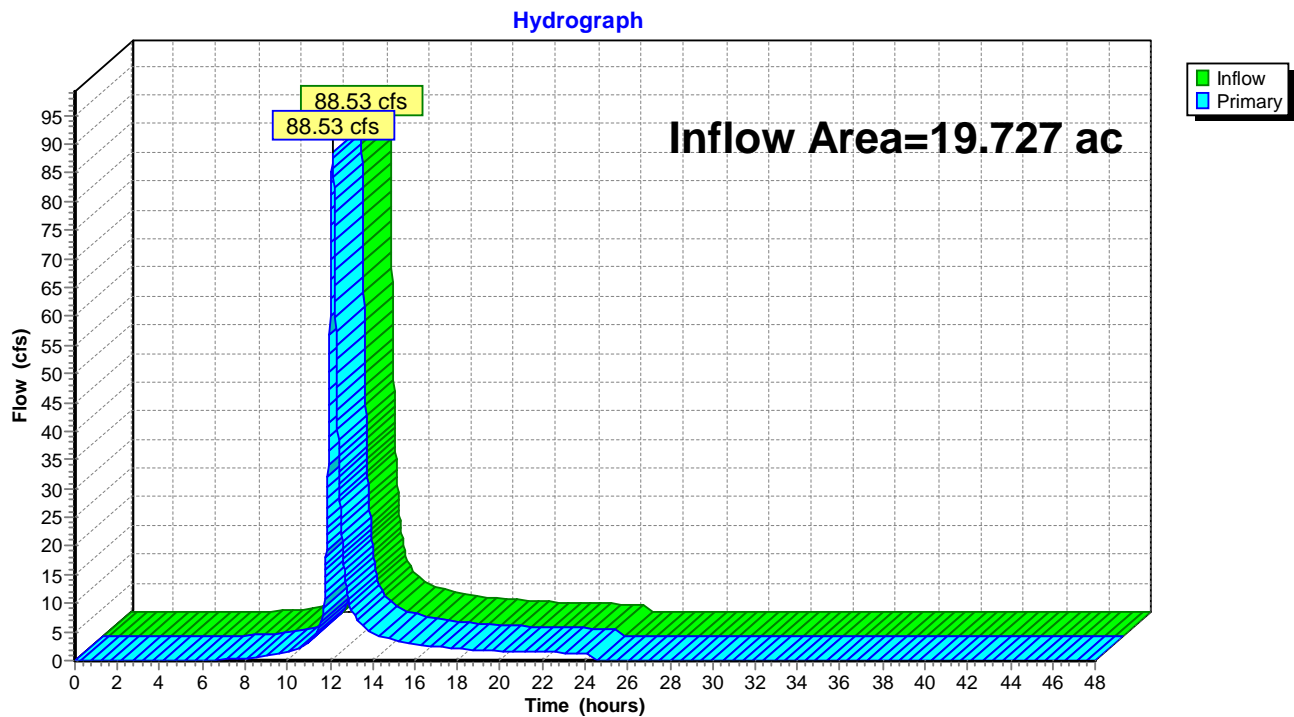


### Summary for Link DP-1: Design Point #1

Inflow Area = 19.727 ac, 3.48% Impervious, Inflow Depth = 4.13" for 100 YR event  
 Inflow = 88.53 cfs @ 12.13 hrs, Volume= 6.788 af  
 Primary = 88.53 cfs @ 12.13 hrs, Volume= 6.788 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

### Link DP-1: Design Point #1

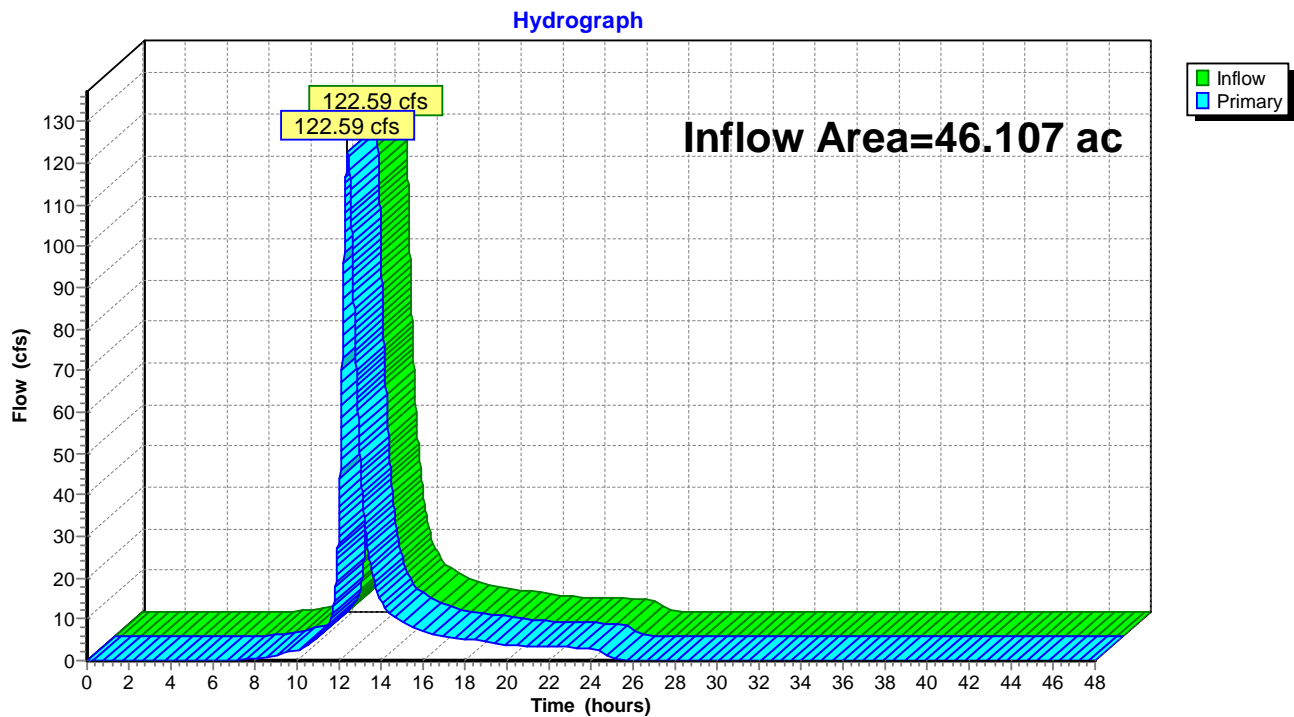




**Summary for Link DP-2: Design Point #2**

Inflow Area = 46.107 ac, 0.54% Impervious, Inflow Depth = 4.02" for 100 YR event  
Inflow = 122.59 cfs @ 12.42 hrs, Volume= 15.461 af  
Primary = 122.59 cfs @ 12.42 hrs, Volume= 15.461 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

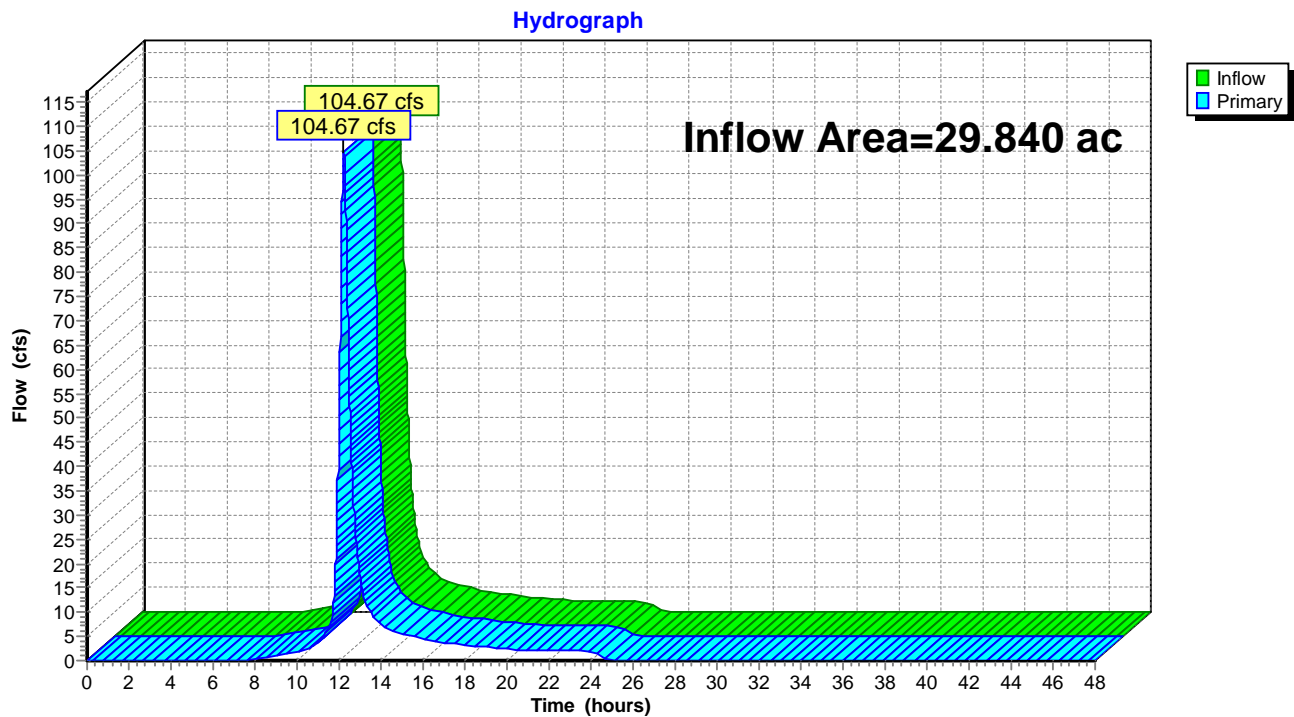
**Link DP-2: Design Point #2**



**Summary for Link DP-3: Design Point #3**

Inflow Area = 29.840 ac, 0.00% Impervious, Inflow Depth = 3.92" for 100 YR event  
Inflow = 104.67 cfs @ 12.22 hrs, Volume= 9.746 af  
Primary = 104.67 cfs @ 12.22 hrs, Volume= 9.746 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

**Link DP-3: Design Point #3**





## Appendix T-3

# Grass Filter Strip Analysis



# Filter Strip

Design Point:	1						
Enter Site Data For Drainage Area to be Treated by Practice							
Catchment Number	Total Area (Acres)	Impervious Area (Acres)	Percent Impervious %	Rv	WQv (ft <sup>3</sup> )	Precipitation (in)	Description
1	0.13	0.02	0.14	0.17	91.40	1.10	Filter Strips
Design Elements							
Is another area based practice applied to this area?			No	Y/N			
Amended Soils & Dense Turf Cover?			No	Y/N			
Is area protected from compaction from heavy equipment during construction?			Yes	Y/N			
Small Area of Impervious Area & close to source?			Yes	Y/N			
Composte Amendments?			Yes	Y/N			
Boundary Spreader?			Yes	Y/N	Gravel Diaphram at top Permeable Berm at bottom		
Boundary Zone?			Yes	Y/N	25 feet of level grass		
Specify how sheet flow will be ensured.			Level Spreader		level spreader shall be used for buffer slopes ranging from 3-15%		
Average contributing slope			6.5	%	3% maximum unless a level spreader is used.		
Slope of first 10 feet of Filter Strip			1.5	%	2% maximum		
Overall Slope			6.85	%	8% maximum		
Contributing Length of Pervious Areas (PC)			81	ft	150 ft maximum		
Contributing Length of Impervious areas (IC)			72	ft	75 ft maximum		
Maximum PC Contributing Length for combination of PC & IC			78	ft			
Soil Group (HSG)			D				
Filter Strip Width			50	ft	50 ft minimum for slopes 0-8% 75 ft minimum for slopes 8-12% 100 ft minimum for slopes 12-15% HSG C or D increase by 15-20%		
Are All Criteria for Filter Strips in Section 5.3.2 met?			Yes				
Area Reduction Adjustments							
Subtract			0.13	Acres from total Area			
Subtract			0.02	Acres from total Impervious Area			





## Appendix U

# Cultural/Historic Resources Review





**Parks, Recreation,  
and Historic Preservation**

**ANDREW M. CUOMO**  
Governor

**ERIK KULLESEID**  
Commissioner

July 16, 2021

Stephanie Parsons  
Natural Resource Scientist  
Bergmann  
280 East Broad Street  
Suite 200  
Rochester, NY 14604

Re: USACE  
Jericho Hill Road Solar Farm Project (5MW/27.56 Acres of 162.10 Acre Parcel)  
5568 Jericho Hill Road (Parcel ID: 164.-1-8.1)  
Alfred, Allegany County, NY  
21PR03110

Dear Stephanie Parsons:

Thank you for requesting the comments of the New York State Historic Preservation Office (SHPO). We have reviewed the submitted materials in accordance with Section 106 of the National Historic Preservation Act of 1966.

The project is near to one National Register eligible resource, the Alfred University President's House. We have reviewed the project for its potential impact on the Presidents House.

We understand that the solar farm project will not be visible from the President's House. It is the opinion of SHPO that the project will have No Adverse Effect on historic resources.

If you have any questions, I can be reached at [sloane.bullough@parks.ny.gov](mailto:sloane.bullough@parks.ny.gov).

Sincerely,

A handwritten signature in black ink that reads "Sloane Bullough".

Sloane Bullough  
Historic Sites Restoration Coordinator      by email only