



**TOWN OF NEWBURGH
PLANNING BOARD
TECHNICAL REVIEW COMMENTS**

PROJECT NAME: HILLSIDE LAND DEVELOPMENT
PROJECT NO.: 22-27
PROJECT LOCATION: SECTION 34, BLOCK 2, LOT 66/24 JEANNE DRIVE
REVIEW DATE: 9 JUNE 2023
MEETING DATE: 15 JUNE 2023
PROJECT REPRESENTATIVE: FELLENER ENGINEERING, LLP

1. The revised Stormwater Pollution Prevention Plan is acceptable. This office will coordinate a municipal authorization upon request.
2. A Stormwater Facilities Maintenance Agreement must be executed.
3. The Tree Protection Plan must be updated to identify the trees as protected and/or significant. 75% of the protected trees are allowed to be removed. Significant trees must be addressed per the Tree Ordinance.
4. All previous comments have been addressed.
5. Planning Board should discuss if a Public Hearing will be required.

Respectfully submitted,

MHE Engineering, D.P.C.

A handwritten signature in black ink, appearing to read 'Patrick J. Hines'.

Patrick J. Hines
Principal
PJH/ltn

NEW YORK OFFICE

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Principals:

Mark D. Fellenzer, P.E., LEED AP
John D. Fellenzer, P.E., MBA, LEED Green Associate

Founder:

Archie D. Fellenzer, Jr., P.E.
(1924 - 2014)

May 30, 2023

Town of Newburgh Planning Department
21 Hudson Valley Professional Plaza
Newburgh, NY 12550

Attention: Mr. John Ewasutyn, Planning Board Chairman

Subject: Hillside Land Development #2022-27
Jeanne Drive, Newburgh, NY
Fellenzer Engineering Project 19-049

Dear Mr. Chairman,

Please find attached proposed site plans in regards to the above referenced project. We have received the MHE technical review comments dated 04/28/23 and offer the following responses in italics below:

1. A revised Wetland Delineation has been added to the plan sheets. 0.03 acres of wetland disturbance is proposed. Pre-Construction notice to the Army Corps of Engineers is required to be submitted.

FE Response: A Pre-Construction notice is included with this submission and has been submitted to the Army Corps of Engineers.

2. There are many references to the Orange County Health Department on the plans regarding the subsurface sanitary sewer disposal system. No Orange County approval for the septic system is required.

FE Response: All notes regarding the Orange County Health Department have been removed from the plans.

3. The location of the percolation and deep test should be depicted on the plan sheet.

FE Response: The locations for the percolation and deep tests are now shown on sheet C-101.

**HILLSIDE LAND DEVELOPMENT – LOT #66 JEANNE DRIVE
FE PROJECT# 19-049**

4. The applicant's representatives are requested to confirm that all parking areas are to be curbed. Curbing should be called out on the plans. The applicant's representative is requested to evaluate the use of curb inlet catch basins along the curb lines.

FE Response: The site plan has been labeled to show curbing around the entire paved area and the catch basins have been updated to curb inlet catch basins.

5. All stormwater facilities which contain standing water in the Town of Newburgh must be fenced.

FE Response: A fence has been added around the stormwater pond on sheet C-402.

6. The outlet for the Cultech storm tech chambers should be labeled on the plans.

FE Response: The outlet for the Cultech chambers has been added on sheet C-402.

7. The outlet location for the pocket pond should be depicted on the plans. It is unclear where on the plan the 399 and lower elevation exists.

FE Response: The outlet is shown on stormwater pond and the elevation has been adjusted to match existing topography.

8. The Tree Preservation Law Section 172 of the code requires a calculation for various trees to be removed on the site.

FE Response: The calculation in accordance for the Tree Preservation Law is shown on sheet C-701.

9. The Tree Preservation Plan is not colorized based on existing trees to be removed. It is recommended that a report and calculation consistent with Chapter 172 of the Town Law be provided.

FE Response: On sheet C-701 the trees that will be removed have been colorized in accordance to Chapter 172 of the Town Law.

10. The employee count in the parking calculation differs from the employee count on the subsurface sanitary sewer disposal design. The applicant's representative is requested to evaluate the employee count.

FE Response: The employee count has been revised to match for both the parking count and sanitary sewer disposal design for 16 employees.

11. The water service valving for the project site should be per the Town Standard Detail, copy attached. The detail requires potable water to be terminated if fire protection water is terminated.

FE Response: The water service valving and connection now matches the Town Standard Detail as shown on sheet C-101 and the Town Standard Detail is now shown on sheet C901.

12. An 8 inch Class 52 ductile liner pipe is depicted entering the site. The size of the potable and fire flow connections should be identified on the detail.

**HILLSIDE LAND DEVELOPMENT – LOT #66 JEANNE DRIVE
FE PROJECT# 19-049**

FE Response: The size of the potable and fire flow connections are label on the detail on sheet C-901.

13. ARB approval is required.

FE Response: The ARB review form has been added with this submission.

SWPPP Technical Review Comments

1. The applicant's representative are requested to coordinate the Cultech Chamber outlet structure with the inverts and discharges within the Stormwater Management Report. Primary invert for the Cultech Chamber is identified at 401.83, the plans identify it at 400.

FE Response: The inverts have been updated in the plans to reflect the same elevations in the Stormwater Management Report.

2. A 3-inch vertical invert at elevation 400 is depicted on the plans, however not modeled in the control structure. It is unclear from a review of the plans where the influent to the Cultech system is.

FE Response: The 3-inch vertical invert has been removed from the plans.

3. Similar comments for the retention pond outlet structure detail identifies the invert for the 15-inch discharge pipe at 399.0, while the model identifies it at 399.83. The first 3-inch vertical orifice is identified at 399.0 while it is not included in the model.

FE Response: The inverts have been updated in the plans to reflect the same elevations in the Stormwater Management Report.

4. Pipe Sizes should be called out on the plans or included in the catch basin elevation schedule.

FE Response: The pipe sizes have been called out on the plans as a 15" HDPE pipe.

5. The applicant's representative is requested to evaluate the rims for catch basins 5 and 6. Finish floor elevations of 412.5 is depicted while the catch basin elevations are 413.

FE Response: The elevations for catch basins 5 and 6 have been updated to reflect the topography.

We have received the Creighton Manning technical review comments dated 05/03/23 and offer the following responses in italics below:

1. Demonstrate the truck turning radius for right turns into the sight, left turns out of the sight. Assume the truck can sweep into the opposing lane of Jeanne Drive and the site driveway on the inbound movement. Assume the driver will not scrape their tires on the curb but instead leave a 1-foot buffer.

**HILLSIDE LAND DEVELOPMENT – LOT #66 JEANNE DRIVE
FE PROJECT# 19-049**

FE Response: The plans now show on sheet C-101 a right hand turn off of Jeanne Drive into the driveway.

2. The building offers three overhead door loading docks with finished floor platforms and two drive-in overhead doors. The applicant typically uses box trucks for operations and expects two tractor trailers a day. Demonstrate the tractor-trailer circulation based on the doors they are expected to use and any circulation movements to get in and out of the loading dock area.

FE Response: The over head doors will only be used for the box trucks that the applicants uses for his business.

We have received the KALA technical review comments dated 04/28/23 and offer the following responses in italics below:

1. To shade the parking lot, show shade trees along the west side of the proposed parking lot in front of the proposed warehouse. To avoid interfering with the proposed septic field, choose a tree with a taproot such as *Nyssa Sylvatica* (Black Tupelo).

FE Response: Shade trees (Nyssa Sylvatica) have been added along west side of the building along the property line.

2. American Holly is not an acceptable parking lot tree. The objective of trees in a parking lot is to provide shade. An evergreen does not provide as much shade in a parking lot as a shade tree would. Instead propose a shade tree such as Princeton American Elm.

FE Response: Princeton American Elm have been added to the curbed islands in the parking lot instead of American Holly.

3. Japanese Andromeda are specified at nine to ten feet in height. They will never get this large. The largest they can be found at any nursey or wholesaler is generally 36". Adjust the specified size of the shrub to 36".

FE Response: The Japanese Andromeda has been revised to show 36" in height on the Plants List.

4. Intersperse the shrubs on the east side of the building with deer resistant Japanese Plum Yews or Duke Gardens Yews. In case the Japanese Andromeda does not thrive on this site, the yews will still live and grow. The additional shrubs will add some species variety and help fill in some of the space between the Andromeda.

FE Response: The Plum Yews have been added as every other shrub to alternate with the Andromeda along the building.

5. To add some ecological variety to proposed trees on site, change approximately half of the proposed Red Maples to Pin Oaks.

FE Response: Along the east property line half of the Red Maples have been changed to Pin Oaks.

**HILLSIDE LAND DEVELOPMENT – LOT #66 JEANNE DRIVE
FE PROJECT# 19-049**

6. If only street trees are proposed along Jeanne Road, add one Eastern Redbud between each proposed shade tree to add a variety of heigh, color, and interest along the road, and to provide some additional screening.

FE Response: Along Jeanne Drive, Eastern Redbud has been put in between each Red Maple.

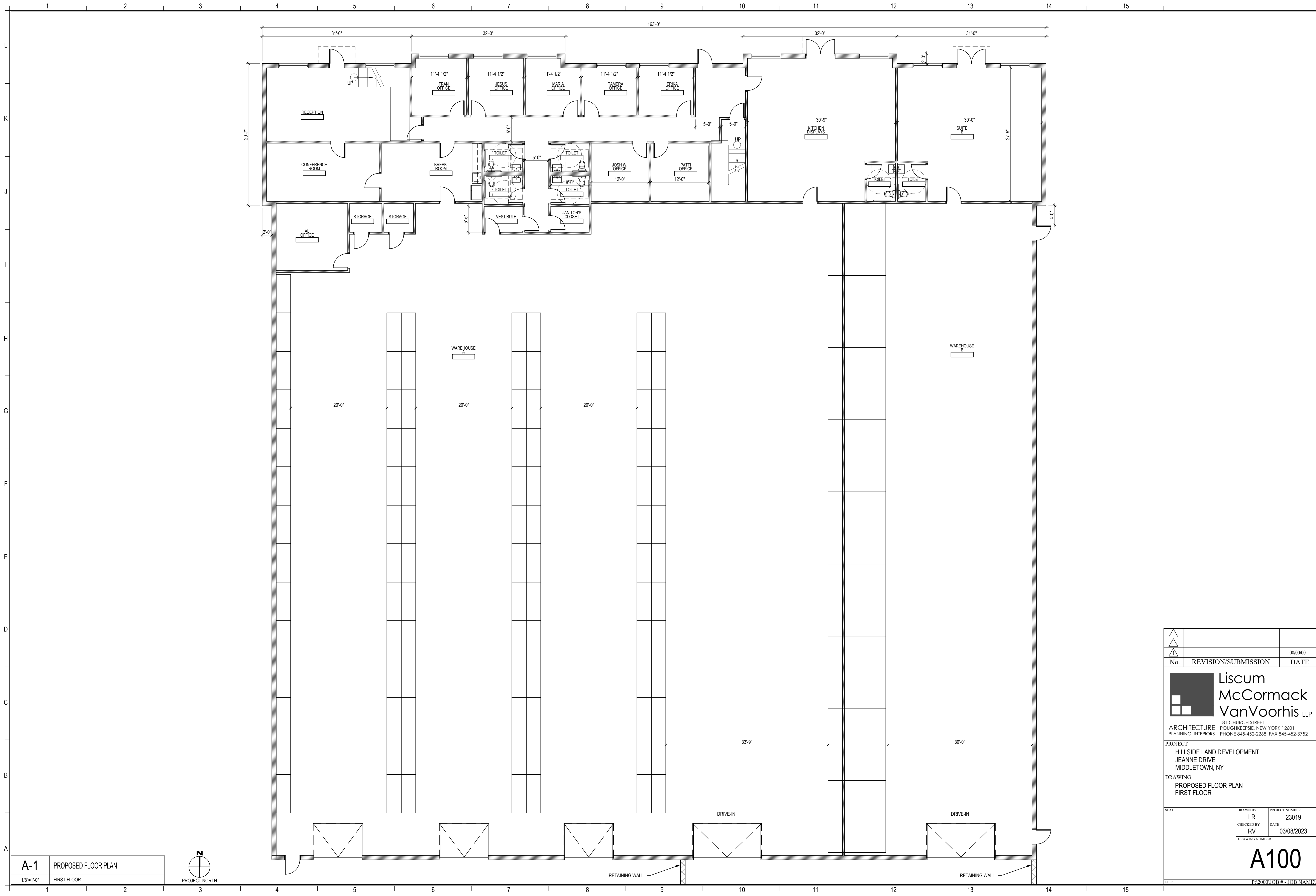
We look forward to discussing the application with you at the June 15th Planning Board meeting.

Sincerely,

A handwritten signature in black ink, appearing to read "R. Fellenzer". The signature is written in a cursive, flowing style.

Ryan D. Fellenzer, PE
Project Engineer

attachment



A-1 PROPOSED FLOOR PLAN
1/8"=1'-0" FIRST FLOOR



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| | | | 00/00/00 |

Liscum McCormack VanVoorhis LLP
 ARCHITECTURE 181 CHURCH STREET
 PLANNING INTERIORS Poughkeepsie, New York 12601
 PHONE 845-452-2268 FAX 845-452-3752

PROJECT
 HILLSIDE LAND DEVELOPMENT
 JEANNE DRIVE
 MIDDLETOWN, NY

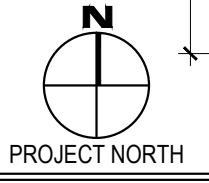
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 PROPOSED FLOOR PLAN
 FIRST FLOOR

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A-1 PROPOSED FLOOR PLAN
1/8"=1'-0" SECOND FLOOR



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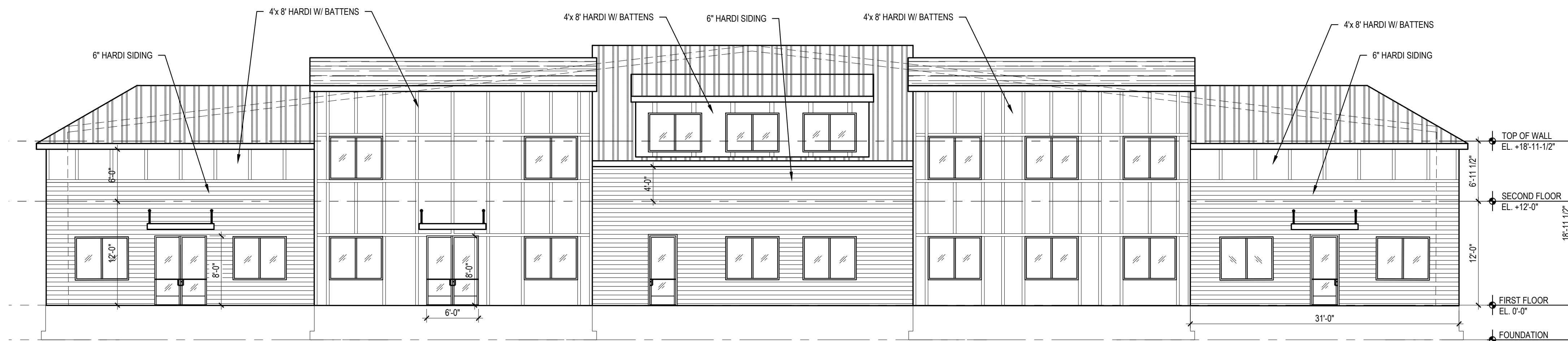
PROJECT
 HILLSIDE LAND DEVELOPMENT
 JEANNE DRIVE
 MIDDLETOWN, NY

DRAWING
 PROPOSED FLOOR PLAN
 SECOND FLOOR

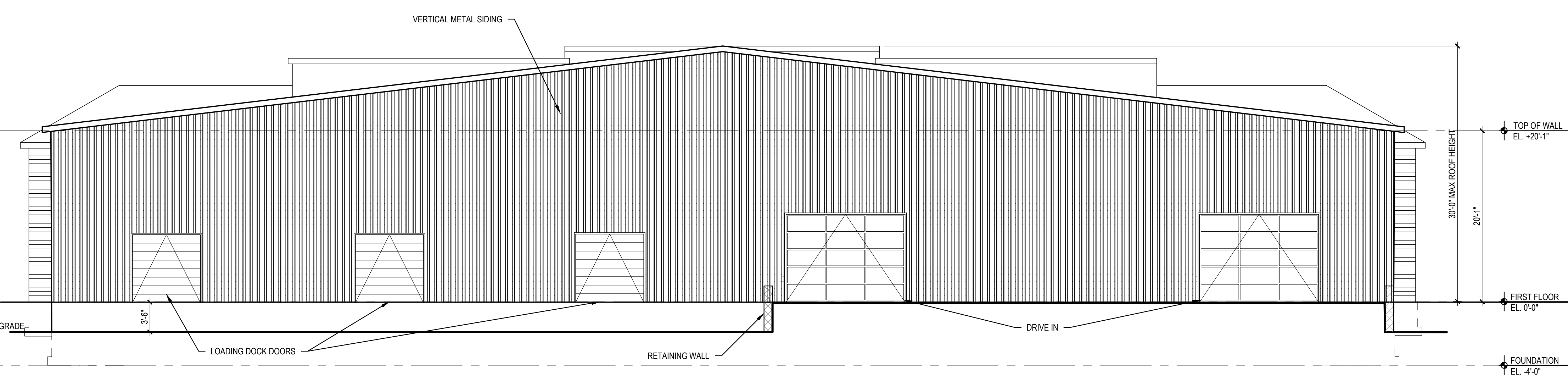
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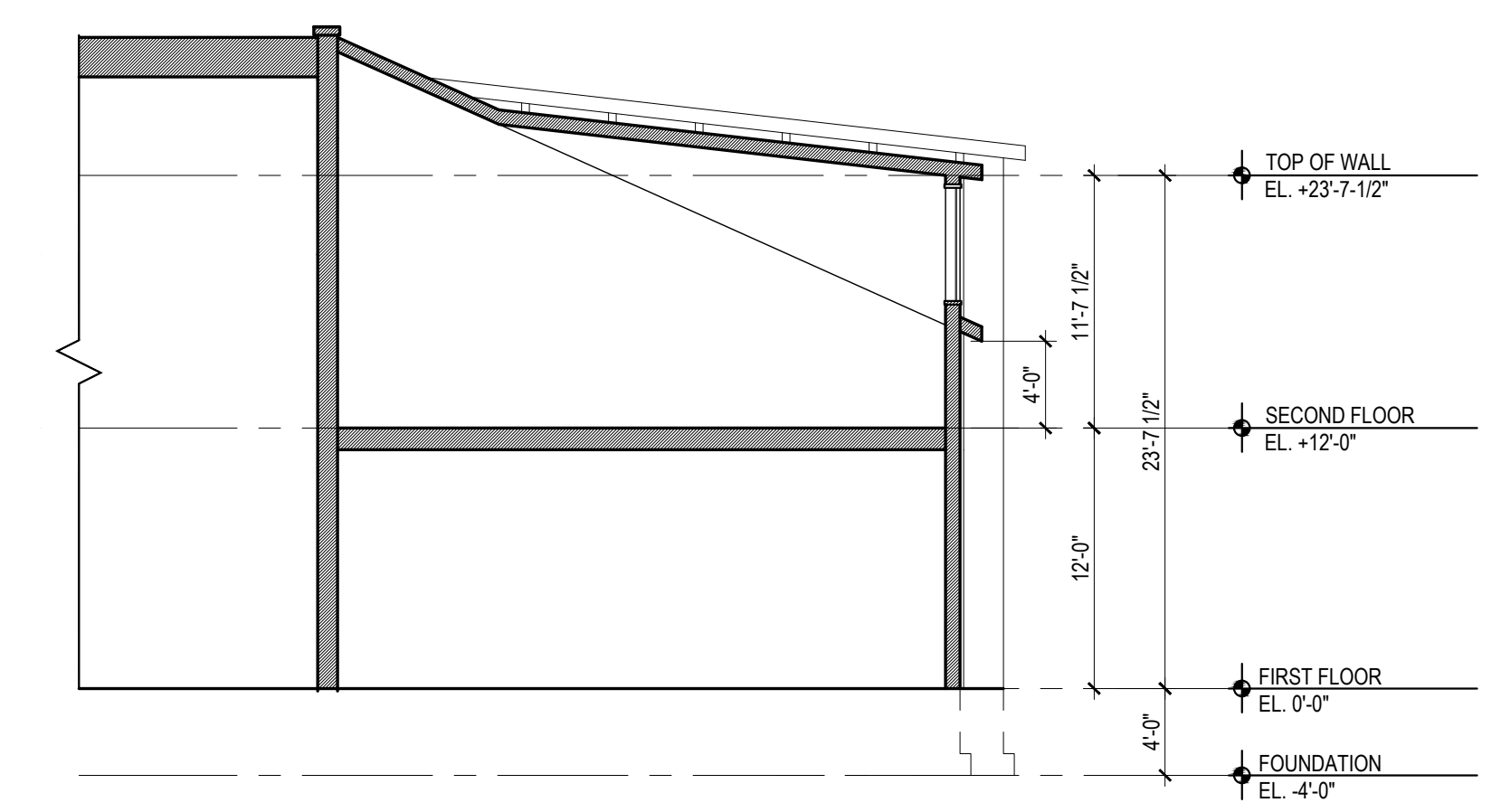
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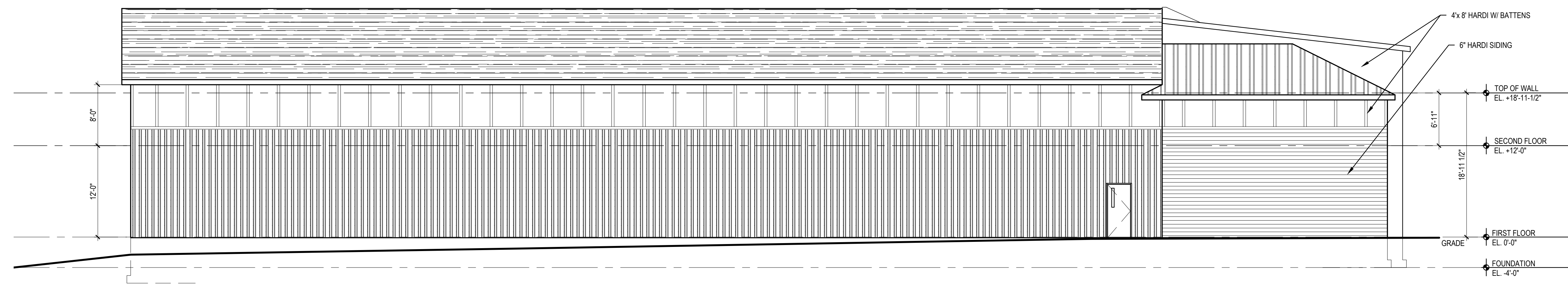
H-1 EXTERIOR ELEVATION
1/8"=1'-0" FRONT VIEW



G-1 EXTERIOR ELEVATION
1/8"=1'-0" REAR VIEW



G-13 BUILDING SECTION
1/8"=1'-0" SECTION THRU DORMER



A-1 EXTERIOR ELEVATION
1/8"=1'-0"

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| No. | REVISION/SUBMISSION | DATE |
| | | 00/00/00 |

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PROJECT
HILLSIDE LAND DEVELOPMENT
JEANNE DRIVE
MIDDLETOWN, NY

DRAWING
EXTERIOR ELEVATIONS & BLDG SECTION

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| | CHECKED BY RV | DATE 03/08/2023 |
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ARCHITECTURAL REVIEW FORM
TOWN OF NEWBURGH PLANNING BOARD

DATE: 5/25/23

NAME OF PROJECT: Hillside Land Development - 24 Jeanne Drive

The applicant is to submit in writing the following items prior to signing of the site plans.

EXTERIOR FINISH (skin of the building):

Type (steel, wood, block, split block, etc.)

Board and batten and horizontal
HARDIE BOARD Cementitious siding and metal siding

COLOR OF THE EXTERIOR OF BUILDING:

IRON GRAY and GRAY slate Hardie

ACCENT TRIM:

Location: Around windows, doors and corners

Color: Iron Gray & Gray slate

Type (material): Hardie

PARAPET (all roof top mechanicals are to be screened on all four sides):

ROOF:

Type (gabled, flat, etc.): Gabled

Material (shingles, metal, tar & sand, etc.): Partial Shingle and Metal roof in front

Color: DARK GRAY & Black

*Prc-Engineered
Metal roofing
on sides*

WINDOWS/SHUTTERS:

Color (also trim if different): NONE

Type: _____

DOORS:

Color: Black duranized metal door frames

Type (if different than standard door entrée): _____

SIGN:

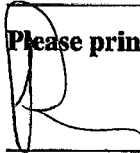
Color: _____

Material: _____

Square footage of signage of site: _____

Paul Helme President Hillside Land Development Inc.

Please print name and title (owner, agent, builder, superintendent of job, etc.)



Signature

25. Is Any Portion of the Nationwide Permit Activity Already Complete? Yes No If Yes, describe the completed work: ..

26. List the name(s) of any species listed as endangered or threatened under the Endangered Species Act that might be affected by the proposed NWP activity or utilize the designated critical habitat that might be affected by the proposed NWP activity. (see instructions)
N/A - no impact to threatened or endangered species

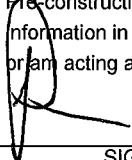
27. List any historic properties that have the potential to be affected by the proposed NWP activity or include a vicinity map indicating the location of the historic property or properties. (see instructions)
N/A - no impact to historic properties

28. For a proposed NWP activity that will occur in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a "study river" for possible inclusion in the system while the river is in an official study status, identify the Wild and Scenic River or the "study river":
N/A - activity will not occur in a National Wild and Scenic River System

29. If the proposed NWP activity also requires permission from the Corps pursuant to 33 U.S.C. 408 because it will alter or temporarily or permanently occupy or use a U.S. Army Corps of Engineers federally authorized civil works project, have you submitted a written request for section 408 permission from the Corps district having jurisdiction over that project? Yes No
If "yes", please provide the date your request was submitted to the Corps District:

30. If the terms of the NWP(s) you want to use require additional information to be included in the PCN, please include that information in this space or provide it on an additional sheet of paper marked Block 30. (see instructions)
See attached site plan set for additional information

31. Pre-construction notification is hereby made for one or more nationwide permit(s) to authorize the work described in this notification. I certify that this information in this pre-construction notification is complete and accurate. I further certify that I possess the authority to undertake the work described herein or am acting as the duly authorized agent of the applicant.

 _____ 5/17/23 _____
SIGNATURE OF APPLICANT DATE SIGNATURE OF AGENT DATE

The Pre-Construction Notification must be signed by the person who desires to undertake the proposed activity (applicant) and, if the statement in block 11 has been filled out and signed, the authorized agent.

18 U.S.C. Section 1001 provides that: Whoever, in any manner within the jurisdiction of any department or agency of the United States knowingly and willfully falsifies, conceals, or covers up any trick, scheme, or disguises a material fact or makes any false, fictitious or fraudulent statements or representations or makes or uses any false writing or document knowing same to contain any false, fictitious or fraudulent statements or entry, shall be fined not more than \$10,000 or imprisoned not more than five years or both.

**Instructions for Preparing a
Department of the Army
Nationwide Permit (NWP) Pre-Construction Notification (PCN)**

Blocks 1 through 4. To be completed by the Corps of Engineers.

Block 5. Applicant' Name. Enter the name and the e-mail address of the responsible party or parties. If the responsible party is an agency, company, corporation, or other organization, indicate the name of the organization and responsible officer and title. If more than one party is associated with the preconstruction notification, please attach a sheet of paper with the necessary information marked Block 5.

Block 6. Address of Applicant. Please provide the full address of the party or parties responsible for the PCN. If more space is needed, attach an extra sheet of paper marked Block 6.

Block 7. Applicant Telephone Number(s). Please provide the telephone number where you can usually be reached during normal business hours.

Blocks 8 through 11. To be completed, if you choose to have an agent.

Block 8. Authorized Agent's Name and Title. Indicate name of individual or agency, designated by you, to represent you in this process. An agent can be an attorney, builder, contractor, engineer, consultant, or any other person or organization. Note: An agent is not required.

Blocks 9 and 10. Agent's Address and Telephone Number. Please provide the complete mailing address of the agent, along with the telephone number where he / she can be reached during normal business hours.

Block 11. Statement of Authorization. To be completed by the applicant, if an agent is to be employed.

Block 12. Proposed Nationwide Permit Activity Name or Title. Please provide a name identifying the proposed NWP activity, e.g., Windward Marina, Rolling Hills Subdivision, or Smith Commercial Center.

Block 13. Name of Waterbody. Please provide the name (if it has a name) of any stream, lake, marsh, or other waterway to be directly impacted by the NWP activity. If it is a minor (no name) stream, identify the waterbody the minor stream enters.

Block 14. Proposed Activity Street Address. If the proposed NWP activity is located at a site having a street address (not a box number), please enter it in Block 14.

Block 15. Location of Proposed Activity. Enter the latitude and longitude of where the proposed NWP activity is located. Indicate whether the project location provided is the center of the project or whether the project location is provided as the latitude and longitude for each of the "corners" of the project area requiring evaluation. If there are multiple sites, please list the latitude and longitude of each site (center or corners) on a separate sheet of paper and mark as Block 15.

Block 16. Other Location Descriptions. If available, provide the Tax Parcel Identification number of the site, Section, Township, and Range of the site (if known), and / or local Municipality where the site is located.

Block 17. Directions to the Site. Provide directions to the site from a known location or landmark. Include highway and street numbers as well as names. Also provide distances from known locations and any other information that would assist in locating the site. You may also provide a description of the location of the proposed NWP activity, such as lot numbers, tract numbers, or you may choose to locate the proposed NWP activity site from a known point (such as the right descending bank of Smith Creek, one mile downstream from the Highway 14 bridge). If a large river or stream, include the river mile of the proposed NWP activity site if known. If there are multiple locations, please indicate directions to each location on a separate sheet of paper and mark as Block 17.

Block 18. Identify the Specific Nationwide Permit(s) You Propose to Use. List the number(s) of the Nationwide Permit(s) you want to use to authorize the proposed activity (e.g., NWP 29).

Block 19. Description of the Proposed Nationwide Permit Activity. Describe the proposed NWP activity, including the direct and indirect adverse environmental effects the activity would cause. The description of the proposed activity should be sufficiently detailed to allow the district engineer to determine that the adverse environmental effects of the activity will be no more than minimal. Identify the materials to be used in construction, as well as the methods by which the work is to be done.

Provide sketches when necessary to show that the proposed NWP activity complies with the terms of the applicable NWP(s). Sketches usually clarify the activity and result in a quicker decision. Sketches should contain sufficient detail to provide an illustrative description of the proposed NWP activity (e.g., a conceptual plan), but do not need to be detailed engineering plans.

The written descriptions and illustrations are an important part of the application. Please describe, in detail, what you wish to do. If more space is needed, attach an extra sheet of paper marked Block 19.

Block 20. Description of Proposed Mitigation Measures. Describe any proposed mitigation measures intended to reduce the adverse environmental effects caused by the proposed NWP activity. The description of any proposed mitigation measures should be sufficiently detailed to allow the district engineer to determine that the adverse environmental effects of the activity will be no more than minimal and to determine the need for compensatory mitigation or additional mitigation measures.

Block 21. Purpose of Nationwide Permit Activity. Describe the purpose and need for the proposed NWP activity. What will it be used for and why? Also include a brief description of any related activities associated with the proposed project. Provide the approximate dates you plan to begin and complete all work.

Block 22. Quantity of Wetlands, Streams, or Other Types of Waters Directly Affected by the Proposed Nationwide Permit Activity. For discharges of dredged or fill material into waters of the United States, provide the amount of wetlands, streams, or other types of waters filled, flooded, excavated, or drained by the proposed NWP activity. For structures or work in navigable waters of the United States subject to Section 10 of the Rivers and Harbors Act of 1899, provide the amount of navigable waters filled, dredged, occupied by one or more structures (e.g., aids to navigation, mooring buoys) by the proposed NWP activity.

For multiple NWPs, or for separate and distant crossings of waters of the United States authorized by NWPs 12 or 14, attach an extra sheet of paper marked Block 21 to provide the quantities of wetlands, streams, or other types of waters filled, flooded, excavated, or drained (or dredged or occupied by structures, if in waters subject to Section 10 of the Rivers and Harbors Act of 1899) for each NWP. For NWPs 12 and 14, include the amount of wetlands, streams, or other types of waters filled, flooded, excavated, or drained for each separate and distance crossing of waters or wetlands. If more space is needed, attach an extra sheet of paper marked Block 21.

Block 23. Identify Any Other Nationwide Permit(s), Regional General Permit(s), or Individual Permit(s) Used to Authorize Any Part of Proposed Activity or Any Related Activity. List any other NWP(s), regional general permit(s), or individual permit(s) used or intended to be used to authorize any part of the proposed project or any related activity. For linear projects, list other separate and distant crossings of waters and wetlands authorized by NWPs 12 or 14 that do not require PCNs. If more space is needed, attach an extra sheet of paper marked Block 22.

Block 24. Compensatory Mitigation Statement for Losses of Greater Than 1/10-Acre of Wetlands When Pre-Construction Notification is Required. Paragraph (c) of NWP general condition 23 requires compensatory mitigation at a minimum one-for-one replacement ratio will be required for all wetland losses that exceed 1/10-acre and require pre-construction notification, unless the district engineer determines in writing that either some other form of mitigation is more environmentally appropriate or the adverse environmental effects of the proposed NWP activity are no more than minimal without compensatory mitigation, and provides an activity-specific waiver of this requirement. Describe the proposed compensatory mitigation for wetland losses greater than 1/10 acre, or provide an explanation of why the district engineer should not require wetland compensatory mitigation for the proposed NWP activity. If more space is needed, attach an extra sheet of paper marked Block 23.

Block 25. Is Any Portion of the Nationwide Permit Activity Already Complete? Describe any work that has already been completed for the NWP activity.

Block 26. List the Name(s) of Any Species Listed As Endangered or Threatened under the Endangered Species Act that Might be Affected by the Nationwide Permit Activity. If you are not a federal agency, and if any listed species or designated critical habitat might be affected or is in the vicinity of the proposed NWP activity, or if the proposed NWP activity is located in designated critical habitat, list the name(s) of those endangered or threatened species that might be affected by the proposed NWP activity or utilize the designated critical habitat that might be affected by the proposed NWP activity. If you are a Federal agency, and the proposed NWP activity requires a PCN, you must provide documentation demonstrating compliance with Section 7 of the Endangered Species Act.

Block 27. List Any Historic Properties that Have the Potential to be Affected by the Nationwide Permit Activity. If you are not a federal agency, and if any historic properties have the potential to be affected by the proposed NWP activity, list the name(s) of those historic properties that have the potential to be affected by the proposed NWP activity. If you are a Federal agency, and the proposed NWP activity requires a PCN, you must provide documentation demonstrating compliance with Section 106 of the National Historic Preservation Act.

Block 28. List the Wild and Scenic River or Congressionally Designated Study River if the Nationwide Permit Activity Would Occur in such a River. If the proposed NWP activity will occur in a river in the National Wild and Scenic River System or in a river officially designated by Congress as a "study river" under the Wild and Scenic Rivers Act, provide the name of the river. For a list of Wild and Scenic Rivers and study rivers, please visit <http://www.rivers.gov/>

Block 29. Nationwide Permit Activities that also Require Permission from the Corps Under 33 U.S.C. 408. If the proposed NWP activity also requires permission from the Corps under 33 U.S.C. 408 because it will temporarily or permanently alter, occupy, or use a Corps federal authorized civil works project, indicate whether you have submitted a written request for section 408 permission from the Corps district having jurisdiction over that project.

Block 30. Other Information Required For Nationwide Permit Pre-Construction Notifications. The terms of some of the Nationwide Permits include additional information requirements for preconstruction notifications:

- * NWP 3, Maintenance –information regarding the original design capacities and configurations of the outfalls, intakes, small impoundments, and canals.
- * NWP 31, Maintenance of Existing Flood Control Facilities –a description of the maintenance baseline and the dredged material disposal site.
- * NWP 33, Temporary Construction, Access, and Dewatering –a restoration plan showing how all temporary fills and structures will be removed and the area restored to pre-project conditions.
- * NWP 44, Mining Activities –if reclamation is required by other statutes, then a copy of the final reclamation plan must be submitted with the pre-construction notification.
- * NWP 45, Repair of Uplands Damaged by Discrete Events –documentation, such as a recent topographic survey or photographs, to justify the extent of the proposed restoration.
- * NWP 48, Commercial Shellfish Aquaculture Activities –(1) a map showing the boundaries of the project area, with latitude and longitude coordinates for each corner of the project area; (2) the name(s) of the species that will be cultivated during the period this NWP is in effect; (3) whether canopy predator nets will be used; (4) whether suspended cultivation techniques will be used; and (5) general water depths in the project area (a detailed survey is not required).
- * NWP 49, Coal Remining Activities –a document describing how the overall mining plan will result in a net increase in aquatic resource functions to the district engineer and receive written authorization prior to commencing the activity.
- * NWP 50, Underground Coal Mining Activities –if reclamation is required by other statutes, then a copy of the reclamation plan must be submitted with the pre-construction notification.

If more space is needed, attach an extra sheet of paper marked Block 29.

Blocks 31 and 32. For bank stabilization activities, we are collecting information on the use of living shorelines in coastal waters and lakes to inform future NWP rulemaking efforts. If the PCN is for a proposed NWP 13 activity, and it is located in coastal waters or a lake, please check the appropriate box in block 31 to indicate whether you considered the use of a living shoreline to protect your property from erosion. If the PCN is for a proposed NWP 13 activity, and it is located in coastal waters or a lake, please check the appropriate box in block 32 to indicate whether there are contractors in your area that construct living shorelines.

Block 33. Signature of Applicant or Agent. The PCN must be signed by the person proposing to undertake the NWP activity, and if applicable, the authorized party (agent) that prepared the PCN. The signature of the person proposing to undertake the NWP activity shall be an affirmation that the party submitting the PCN possesses the requisite property rights to undertake the NWP activity (including compliance with special conditions, mitigation, etc.).

DELINEATION OF WETLANDS, OTHER SPECIAL AQUATIC SITES, AND OTHER WATERS

Each PCN must include a delineation of wetlands, other special aquatic sites, and other waters, such as lakes and ponds, and perennial, intermittent, and ephemeral streams, on the project site. Wetland delineations must be prepared in accordance with the current wetland delineation manual and regional supplement published by the Corps. The permittee may ask the Corps to delineate the special aquatic sites and other waters on the project site, but there may be a delay if the Corps does the delineation, especially if the project site is large or contains many wetlands, other special aquatic sites, and other waters. The 45 day PCN review period will not start until the delineation is submitted or has been completed by the Corps.

DRAWINGS AND ILLUSTRATIONS

General Information.

Three types of illustrations are needed to properly depict the work to be undertaken. These illustrations or drawings are identified as a Vicinity Map, a Plan View or a Typical Cross-Section Map. Identify each illustration with a figure or attachment number. For linear projects (e.g. roads, subsurface utility lines, etc.) gradient drawings should also be included. Please submit one original, or good quality copy, of all drawings on 8½x11 inch plain white paper (electronic media may be substituted). Use the fewest number of sheets necessary for your drawings or illustrations. Each illustration should identify the project, the applicant, and the type of illustration (vicinity map, plan view, or cross-section). While illustrations need not be professional (many small, private project illustrations are prepared by hand), they should be clear, accurate, and contain all necessary information.

ADDITIONAL INFORMATION AND REQUIREMENTS

For proposed NWP activities that involve discharges into waters of the United States, water quality certification from the State, Tribe, or EPA must be obtained or waived (see NWP general condition 25). Some States, Tribes, or EPA have issued water quality certification for one or more NWPs. Please check the appropriate Corps district web site to see if water quality certification has already been issued for the NWP(s) you wish to use. For proposed NWP activities in coastal states, state Coastal Zone Management Act consistency concurrence must be obtained, or a presumption of concurrence must occur (see NWP general condition 26). Some States have issued Coastal Zone Management Act consistency concurrences for one or more NWPs. Please check the appropriate Corps district web site to see if Coastal Zone Management Act consistency concurrence has already been issued for the NWP(s) you wish to use.

HILLSIDE LAND DEVELOPMENT INC.

STORMWATER POLLUTION PREVENTION PLAN (SWPPP)

JEANNE DRIVE
NEWBURGH, NY 12550



TAX LOT SECTION 34, BLOCK 2, LOT 66, 3 ACRES+/-
TOWN OF NEWBURGH, ORANGE COUNTY, NEW YORK

PREPARED BY:

FELLENZER ENGINEERING
22 MULBERRY STREET SUITE 2A
MIDDLETOWN, NEW YORK 10940
RYAN D. FELLENZER, PE
PROJECT 19-049

REPRESENTING:

HILLSIDE LAND DEVELOPMENT INC.
PO BOX 2758
NEWBURGH, NY 12550
PAUL HOFFNER, PRESIDENT

APRIL 21, 2023

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APPENDICES:

- A. USDA WEB SOIL SURVEY
- B. CONSTRUCTION SITE LOG BOOK
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QUALIFIED PROFESSIONAL'S CERTIFICATION
PRE-CONSTRUCTION SITE ASSESSMENT CHECKLIST
CONSTRUCTION DURATION INSPECTIONS
MONTHLY SUMMARY OF INSPECTION ACTIVITIES
- C. STORMWATER POND CHECKLIST
- D. PRE AND POST-DEVELOPMENT – TR-55 – 1, 10, 25 & 100 YR
- E. MS4 FORM

NARRATIVE

The applicant, Hillside Land Development, Inc. is proposing improvements on the existing site located at 24 Jeanne Drive in the Town of Newburgh, NY. Lot 34-2-66 is approximately 3 acres, within the IB District.

Existing site features include access onto Jeanne Drive and no structures. The site is mostly cleared except for the rear of the property that is covered with trees and contains federal wetlands. A new wetland delineation has been performed and is shown on the site plan.

Total project disturbance will be greater than one (1) acre; therefore, the New York State Department of Environmental Conservation requires that a Stormwater Pollution Prevention Plan (SWPPP) be completed.

To maintain runoff at or below the pre-development levels, water quality control measures and water quantity control measures will be implemented as well as provisions for soil erosion control and sediment control during construction

EXISTING SITE –

- 3.0 acre lot
- Municipal water along Jeanne Drive
- Combination of cleared land and tree coverage
- USACE wetlands located at the rear of the property

PROPOSED SITE –

- One-story warehouse (26,000 sq.ft. +/-)
- Entrance onto Jeanne Drive
- On-site septic system

- Connection to municipal water for domestic and fire suppression services
- Parking for up to (24) vehicles
- Loading spaces for (3) commercial trucks
- Stormwater detention pond and subsurface chambers
- Wetland disturbance less than 0.1 acres

The total proposed impervious coverage within the tax parcel is 55,641 sq. ft., or 41.6%. Building coverage is 19.4%.

The total area of disturbance is approximately 2.3 acres, including grading. Soil remediation will be utilized in these areas per NYSDEC. Stormwater HDPE piping, Cultech storage chambers, pre-cast catch basins and outlet structures will be used in conjunction with an on-site detention pond for storage of storm run-off. The conveyance/storage system will maintain post development storm event peak flows equal to or below those of pre-development storm events. The development of the project will also reduce total volume of run-off compared to the pre-developed site, thus fulfilling the Rrv requirement.

SOILS

The provided USDA Web Soil Survey Map (appendix B) shows that the underlying soils of the project area are:

- Erie Channery Silt Loam (EsB)
- Bourne Fine Sandy Loam (BnB)
- Udorthents (Uh)
- Mardin Silt Loam (MdB)

Areas of cut and fill to be restored per the NYSDEC “Deep Ripping and De-compaction” Requirements, January, 2015.

SPDES

As a result of the proposed improvements an area of greater than 1 acre of disturbance will be created. The SPDES General Permit for Stormwater Discharges during Construction GP-0-20-001 cover disturbances of up to 5 acres.

The following sections will identify a methodology for mitigating post construction site conditions, erosion and sediment control and construction practices, existing and post construction hydrologic data, and Erosion & Sediment Control objectives to address during construction activity. These implemented practices should limit erosion & sediment runoff and discharge impacts within the project site and the area surrounding the project site to the maximum extent practicable.

RUNOFF REDUCTION

$$RRv \text{ (in acre-feet of storage)} = [(P)(Rv^*)(A_i)(S)] /12$$

$$P = 1.4$$

$$Rv^* = 0.05+0.009(I) \text{ where } I \text{ is } 100\% \text{ impervious} = 0.95$$

$$A_{ic} = 1.3 \text{ acres}$$

$$S = \text{Hydrologic Soil Group (HSG) Specific Reduction Factor (S)} = 0.2 \text{ for D}$$

Required RRv

$$RRv \text{ (in acre-feet of storage)} = [(P)(Rv^*)(A_i)] /12 = 0.03 \text{ ac ft} = 1,307 \text{ cu ft}$$

Per the NYS Stormwater Management Design Manual, Chapter 4, Section 4.3, page 4-5, we will calculate Runoff Reduction Volume based on the Reduction of Runoff Volume by Storage Capacity of the practice.

Provided RRv

Total pond storage = 32,458 cu ft to permanent pool elevation

Therefore, at a minimum the complete project will accommodate storage of the required 1,307 cu ft.

Furthermore, the following Green Infrastructure Techniques per Chapter 5 of the New York State Stormwater Management Design Manual will be applied for additional mitigation:

Table 5.7 Green Infrastructure Techniques for Runoff Reduction

| Practice | Description | Project Application |
|--|--|--|
| Conservation of Natural Areas | Retain the pre-development hydrologic and water quality characteristics of undisturbed natural areas, stream and wetland buffers by restoring and/or permanently conserving these areas on a site | The project site contains portions of NWI PF01E, which is to be preserved as a buffer with minor disturbance allowed by a national permit (less than 0.1 acres). |
| Sheetflow to Riparian Buffers or Filter Strips | Undisturbed natural areas such as forested conservation areas and stream buffers or vegetated filter strips and riparian buffers can be used to treat and control stormwater runoff from some areas of a | Similar to “Conservation of Natural Areas” the PF01E acts as an undisturbed natural buffer and vegetated filter strip to further enhance the treatment of stormwater within the detention ponds. |

| | | |
|--------------------------|--|--|
| | development project | |
| Tree Planting / Tree Pit | Plant or conserve trees to reduce stormwater runoff, increase nutrient uptake, and provide bank stabilization. Trees can be used for applications such as landscaping, stormwater management practice areas, conservation areas and erosion and sediment control | Landscaping in the form of numerous plants, trees, and shrubs of varying species are proposed to help with visual buffering of the site as well as increasing the nutrient uptake of the site and increased runoff infiltration. |

SOIL RESTORATION

1. Soil Restoration as defined by "Deep Ripping and Compaction" (January 2015 NYSDEC) shall be performed in all areas to be re-graded (areas of cut/fill).
2. Soil restoration is not required in areas of minimal soil disturbance, such as clearing and grubbing, as per Table 5.3, NYSDEC Stormwater Design Manual, January 2015.
3. Regrading of site shall result in a balanced site, with equal cut/fill volumes.

EROSION AND SEDIMENT CONTROL

The erosion and sediment control practices and the design of erosion and sediment control plans were prepared in accordance with “New York State Standards and Specifications for Erosion and Sediment Control, 11/16 ed.”

1. Planned Erosion and Sedimentation Control Practices

a. Overall Objectives:

- (1) The overall objective of any erosion and sediment control plan is to control erosion to the maximum extent practicable at the source.
- (2) Existing vegetative cover shall be maintained to the maximum extent practicable and site disturbance shall be controlled to prevent soil disturbance beyond the “limits of disturbance” indicated on the site grading plans.
- (3) Where necessary, appropriate sediment control measures shall be installed at all existing project area drainage ways or stormwater management structures prior to the installation of erosion control measures within the project site.
- (4) All temporary erosion and sediment control measures shall be installed prior to any disturbance in any portion of the project site.
- (5) All permanent erosion and sediment control measures shall be installed as early as possible or as directed by the site engineer. The only permanent measure proposed is permanent seeding.

(6) Unless specified elsewhere below, during construction activities at the project site, all erosion and sediment control measures shall be inspected and, if necessary, maintenance performed, on a weekly basis.

b. Existing Stormwater Management Facilities:

(1) All existing stormwater management facilities, if present, shall be protected at all times. Maintenance of existing facilities is the responsibility of the owner of record.

c. Limits of Disturbance and Tree Preservation and Protection:

(1) Site disturbance shall be limited to the maximum extent practicable to "Limits of Disturbance" identified on the plans.

(2) Site conditions encountered during construction activities that point toward a need to disturb areas beyond the "Limits of Disturbance" shall be brought to the attention of the site engineer before undertaken. Engineer shall verify that the appropriate erosion & sediment control measures and BMPs are in place prior to start of work.

d. Filter Fabric Silt Fence or Silt Socks:

(1) Silt fences with woven wire backing for added support to prevent collapse are to be installed prior to the disturbance of any upslope areas, and around the entire perimeter of soil stockpiles at the end of the work day to prevent sediment from entering the drainage courses.

(2) A silt fence may be used subject to the following conditions:

a) Maximum allowable slope lengths contributing runoff to a silt fence placed on a slope are:

| Slope Maximum | Steepness Length (ft.) |
|----------------|------------------------|
| 2:1 | 25 |
| 3:1 | 50 |
| 4:1 | 75 |
| 5:1 or flatter | 100 |

b) Maximum drainage area for overland flow to a silt fence shall not exceed $\frac{1}{4}$ acre per 100 feet of fence, with maximum ponding depth of 1.5 feet behind the fence;

c) Erosion would occur in the form of sheet erosion;

d) There is no concentration of water flowing to the barrier.

(3) Inspection and maintenance shall be performed on a weekly basis and sediment material removed when “bulges” develop.

(4) Silt fences shall be removed when they are no longer needed or as directed by the site engineer.

e. Dust Control:

(1) At site access and other disturbed areas surface dust movement and dust blowing shall be controlled to the maximum extent practicable, and especially where off-site damage may occur or create a nuisance condition if dust is not controlled.

- (2) Construction operations should be scheduled to minimize the amount of area disturbed at one time.
 - (3) Buffer areas of vegetation should be left where practical.
 - (4) Temporary or permanent stabilization measures shall be installed.
 - (5) Should excessive dust be generated, it should be controlled by sprinkling.
 - (6) Dust control measures shall be continue through dry weather periods and/or until all disturbed areas are stabilized.
- f. Stabilized Construction Entrance:
- (1) A stabilized construction entrance(s) is/are to be completed prior to the start of construction activities.
 - (2) Installation Criteria:
 - a) Aggregate Size: Use a matrix of 1-4 inch stone, or reclaimed or recycled concrete equivalent.
 - b) Thickness: Not less than six (6) inches.
 - c) Width: 24-foot minimum
 - d) Length: Not less than 50 feet or as directed by the site engineer
 - e) Geotextile: To be placed over the entire area to be covered with aggregate. Piping of surface water under entrance shall be provided as required. If piping is impossible, a mountable berm with 5:1 slopes will be permitted.

- (3) The entrance shall be maintained in a condition which will prevent the tracking or flowing of sediment onto public rights-of-way or streets. This may require periodic top dressing with addition aggregate.
 - (4) All sediment spilled, dropped, washed or tracked onto public rights-of-way must be removed immediately.
 - (5) When necessary, wheels must be cleaned to remove sediment prior to entrance onto public rights-of-way.
 - (6) When washing is required, it shall be done on an area stabilized with aggregate, which drains into an approved sediment-trapping device.
 - (7) All sediment shall be prevented from entering storm drains, ditches, or watercourses.
 - (8) Inspection shall be performed weekly and needed maintenance shall be made promptly.
 - (9) The stabilized construction entrance shall be removed when it is no longer needed or as directed by the site engineer.
- g. Diversion Swales, none are proposed at this time, but if required by the construction period engineer:
- (1) Temporary swales are to be constructed to:
 - a) To divert flows from entering a disturbed area.
 - b) Intermittently across disturbed areas to shorten overland flow distances.
 - c) To direct sediment laden water along the base of slopes to a trapping device.

- d) To transport offsite flows across disturbed areas such as rights-of-way.
- (2) Swales collecting runoff from disturbed areas shall remain in place until the disturbed areas are permanently stabilized.
- (3) Where necessary, diversion swales are to be installed prior to the disturbance of areas.
- (4) Stabilization of the swale shall be completed within 7 days of installation in accordance with the appropriate standard and specifications for vegetative stabilization or stabilization with mulch as determined by the time of year.
- (5) The flow channel shall be stabilized as per the following criteria:

| Channel Grade | Type of Treatment |
|---------------|--|
| 0.5 - 5.0% | Seed and straw mulch |
| 5.0 – 8.0% | Seed and cover with RECP, sod, or line with plastic or 2 in. stone |
| 8.1 to 20% | Line with 4-8 in. stone or or geotextile |

- (6) Inspection and maintenance shall be performed on a weekly basis and repairs made promptly.
- (7) Swales shall be filled in or graded when they are no longer needed or as directed by the site engineer.

h. Check Dams

i. Soil Stockpile Areas:

- (1) Soil stockpile areas shall be established as soon as erodible material is excavated or collected.
- (2) Soil stockpile areas shall be located where shown on the plans or as directed by the site engineer.
- (3) Silt filter fencing shall be in place around the entire perimeter of the stockpile at the end of each workday.
- (4) Depending on time of year stockpiles shall be stabilized by seeding or mulch as directed by the site engineer.

j. Stabilization of Disturbed Areas:

- (1) Temporary stabilization of disturbed areas: depending on time of year shall include seeding and/or mulching applied to disturbed areas as soon as practicable or as directed by the site engineer.
- (2) Temporary stabilization of disturbed areas: type of seed and the application rates for seeding and mulching shall be as specified on the plans.
- (3) Temporary stabilization of disturbed areas: must be used on areas not under construction that will be exposed for more than 14 days.

- (4) Permanent stabilization of disturbed areas: shall include seeding and munching, and may include soil augmentation and the application of fertilizer as directed by the site engineer.
 - (5) Permanent stabilization of disturbed areas: type of seed and the application rates for seeding and mulching shall be as specified on the plans, and soil augmentation and the application rate of fertilizer shall be as directed by the site engineer.
 - (6) Permanent stabilization of disturbed areas: shall be completed as soon as possible after construction activities in an area are completed.
 - (7) Permanent stabilization of disturbed areas with seed and mulch should be undertaken from March to May and September to October 15, and temporary stabilization can be utilized through November.
- k. Permanent Erosion and Sediment Control Measures:
- (1) Permanent erosion and sediment control measure to stabilize the project site (stabilization seeding) as indicated on the site development plans should be performed as soon as possible after completion of grading.
 - (2) All permanent erosion and sediment control measures designed and implemented must be properly maintained in order to remain functional.

1. Construction Schedule

- a. Obtain plan approval and other applicable permits.
- b. Hold pre-construction conference at least one week prior to starting construction, which is to be attended by the owner and the owner's contractor and site engineer.
- c. A mailbox or other means to store the SWPPP, drawings and Inspection Reports, shall be installed on site.
- d. At least 7 days before starting any earth disturbance activities, all contractors involved in those activities shall notify the New York One Call System Incorporated at 1-800-962-7962 for buried utilities locations.
- e. Construct stabilized construction entrance(s), as required.
- f. Sediment control measures shall be installed at all existing project area drainage ways or stormwater management structures prior to the installation of erosion control measure within the project site.
- g. Flag the limits of disturbance and vegetation to be preserved and protected.
- h. Install filter fabric silt fencing or silt soxx.
- i. Tree clearing and grubbing.
- j. Rough grade site, stockpile topsoil
- k. Soil remediation per NYSDEC

- l. Finish grading as soon as rough grading is complete. Leave the surface slightly roughened and vegetate and mulch immediately.
- m. Construction of proposed building.
- n. Inspections per schedule.
- o. Construction of utility services and lighting.
- p. Pave access drives and parking areas..
- q. Complete final grading
- r. Complete final grading of grounds, topsoil critical areas, and permanently vegetate, landscape, and mulch.
- s. After the site is stabilized, remove all temporary measures
- t. Estimated time before final stabilization—3-4 months.

NOTES:

1. The operator shall assure that the approved stormwater management plan is properly and completely implemented.
2. Construction vehicles and equipment may neither enter directly nor exit directly from the site without a construction entrance. Measures must be taken to prevent soil and sediment from a vehicle's tires from being deposited onto the public road.
3. Before initiating any revisions to the approved stormwater management plan or revisions to other plans that may affect the effectiveness of the approved

plan, the operator must receive approval of the revisions from the design engineer

5. The operator shall assure that the stormwater management plan has been prepared, approved by the design engineer, and is being implemented and maintained for all soil and/or rock spoil and borrow areas, regardless of their locations.
6. The stormwater management plan mapping must display a NY ONE CALL SYSTEM INCORPORATED symbol including the site identification number. (This is a numbered symbol not a note.)
7. Immediately after earth disturbance activities cease, within 14 days, the operator shall stabilize any areas disturbed by the activities. During non-germinating periods, mulch must be applied at the specified rates. Disturbed areas which are not at finished grade and which will be redistributed within 1 year must be stabilized in accordance with the temporary vegetative stabilization specifications. Disturbed areas which are at finished grade or which will not be redistributed within 1 year must be stabilized in accordance with the permanent vegetative stabilization specifications.
8. The operator shall remove from the site, recycle, or dispose of all building materials and wastes in accordance with all applicable state and local codes. The contractor shall not illegally bury, dump, or discharge any building material or wastes at the site.

STORMWATER MANAGEMENT PLAN

OVERALL OBJECTIVES

The Erosion & Sediment control practices of the SWPPP / Erosion & Sediment Control Plan were prepared in accordance with requirements of the “New York State Standards & Specifications for Erosion & Sediment Control, November 2016”, also known as the “Blue Book”.

The only permanent erosion and sediment control measures that are to be converted into a permanent measure is the permanent stabilization / seed mixture.

RUNOFF SUMMARY

| PRE-DEVELOPMENT CONDITION | 1-yr | 10-yr | 25-yr | 100-yr |
|---------------------------------------|----------------|-----------------|-----------------|------------------|
| Precipitation (in) (type II rainfall) | 2.9 | 5.5 | 6.5 | 8.0 |
| Design Point | Q1-yr (cfs) | Q10-yr (cfs) | Q25-yr (cfs) | Q100-yr (cfs) |
| Subbasin 1 | 1.67 | 5.01 | 6.38 | 8.46 |
| Subbasin 2 | 0.64 | 2.40 | 3.17 | 4.36 |
| Subbasin 3 | 0.0 | 0.01 | 0.04 | 0.18 |

| POST-DEVELOPMENT CONDITION | 1-yr | 10-yr | 25-yr | 100-yr |
|---------------------------------------|----------------|-----------------|-----------------|------------------|
| Precipitation (in) (type II rainfall) | 2.9 | 5.5 | 6.5 | 8.0 |
| Design Point | Q1-yr (cfs) | Q10-yr (cfs) | Q25-yr (cfs) | Q100-yr (cfs) |
| Pond #1 | 0.0 | 0.07 | 0.10 | 0.23 |
| Cultec Chambers | 1.25 | 2.65 | 3.15 | 3.83 |

| PRE VS. POST REDUCTION IN CFS SHOWN IN PARENTHESES | 1-yr | 10-yr | 25-yr | 100-yr |
|---|----------------|-----------------|-----------------|------------------|
| Precipitation (in) (type II rainfall) | 2.9 | 5.5 | 6.5 | 8.0 |
| Design Point | Q1-yr (cfs) | Q10-yr (cfs) | Q25-yr (cfs) | Q100-yr (cfs) |
| Pond #1 | (0.64) | (2.34) | (3.11) | (4.31) |
| Cultec Chambers | (0.42) | (2.36) | (3.23) | (4.63) |

NO ADVERSE IMPACT

The proposed stormwater peak flow will successfully convey the 1,10, & 100 year storm events at a rate which is less than or equal to, the pre-development rates at the design point where it leaves our property. Thus, it can be reasonably concluded that there is no adverse impact to the site.

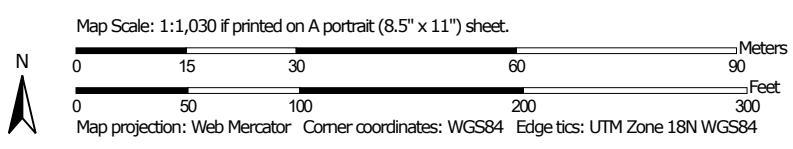
HYDROLOGICAL MODELING

HydroCAD 10.0, employing the SCS TR-20 runoff calculation method was used to model this project.

APPENDIX A

WEB SOIL SURVEY

Soil Map—Orange County, New York
(HILLSIDE LAND DEVELOPMENT)




MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils

 Soil Map Unit Polygons

 Soil Map Unit Lines

 Soil Map Unit Points

Special Point Features



Blowout



Borrow Pit



Clay Spot



Closed Depression



Gravel Pit



Gravelly Spot



Landfill



Lava Flow



Marsh or swamp



Mine or Quarry



Miscellaneous Water



Perennial Water



Rock Outcrop



Saline Spot



Sandy Spot



Severely Eroded Spot



Sinkhole



Slide or Slip



Sodic Spot



Spoil Area



Stony Spot



Very Stony Spot



Wet Spot



Other



Special Line Features

Water Features



Streams and Canals

Transportation



Rails



Interstate Highways



US Routes



Major Roads



Local Roads

Background



Aerial Photography

MAP INFORMATION

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

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

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

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

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

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

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

Soil Survey Area: Orange County, New York
Survey Area Data: Version 23, Sep 10, 2022

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

Date(s) aerial images were photographed: May 31, 2022—Oct 27, 2022

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 |
|------------------------------------|--|--------------|----------------|
| BnB | Bath-Nassau channery silt loams, 3 to 8 percent slopes | 1.0 | 26.6% |
| ESB | Erie extremely stony soils, gently sloping | 2.2 | 58.7% |
| MdB | Mardin gravelly silt loam, 3 to 8 percent slopes | 0.1 | 2.9% |
| UH | Udorthents, smoothed | 0.4 | 11.8% |
| Totals for Area of Interest | | 3.7 | 100.0% |

Orange County, New York

BnB—Bath-Nassau channery silt loams, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: 9vtn

Elevation: 600 to 1,800 feet

Mean annual precipitation: 42 to 52 inches

Mean annual air temperature: 46 to 52 degrees F

Frost-free period: 135 to 215 days

Farmland classification: Farmland of statewide importance

Map Unit Composition

Bath and similar soils: 50 percent

Nassau and similar soils: 30 percent

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

Description of Bath

Setting

Landform: Drumlinoid ridges, till plains, hills

Landform position (two-dimensional): Summit

Landform position (three-dimensional): Crest

Down-slope shape: Convex

Across-slope shape: Convex

Parent material: Loamy till derived mainly from gray and brown siltstone, sandstone, and shale

Typical profile

H1 - 0 to 9 inches: channery silt loam

H2 - 9 to 29 inches: channery silt loam

H3 - 29 to 53 inches: very channery silt loam

H4 - 53 to 57 inches: unweathered bedrock

Properties and qualities

Slope: 3 to 8 percent

Depth to restrictive feature: 22 to 38 inches to fragipan; 40 to 60 inches to lithic bedrock

Drainage class: 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 24 to 30 inches

Frequency of flooding: None

Frequency of ponding: None

Available water supply, 0 to 60 inches: Very low (about 2.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 2e

Hydrologic Soil Group: C

Ecological site: F140XY030NY - Well Drained Dense Till
Hydric soil rating: No

Description of Nassau

Setting

Landform: Till plains, ridges, benches
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Crest
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Channery loamy till derived mainly from local slate or shale

Typical profile

H1 - 0 to 10 inches: channery silt loam
H2 - 10 to 19 inches: very channery silt loam
H3 - 19 to 23 inches: unweathered bedrock

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: 10 to 20 inches to lithic bedrock
Drainage class: Somewhat excessively drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.57 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Very low (about 2.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3s
Hydrologic Soil Group: D
Ecological site: F144AY033MA - Shallow Dry Till Uplands
Hydric soil rating: No

Data Source Information

Soil Survey Area: Orange County, New York
Survey Area Data: Version 23, Sep 10, 2022

Orange County, New York

ESB—Erie extremely stony soils, gently sloping

Map Unit Setting

National map unit symbol: 9vvb

Elevation: 180 to 1,460 feet

Mean annual precipitation: 42 to 52 inches

Mean annual air temperature: 46 to 52 degrees F

Frost-free period: 135 to 215 days

Farmland classification: Not prime farmland

Map Unit Composition

Erie, extremely stony, and similar soils: 80 percent

Minor components: 5 percent

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

Description of Erie, Extremely Stony

Setting

Landform: Drumlinoid ridges, till plains, hills

Landform position (two-dimensional): Summit, footslope

Landform position (three-dimensional): Base slope

Down-slope shape: Concave

Across-slope shape: Linear

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

Typical profile

H1 - 0 to 4 inches: gravelly silt loam

H2 - 4 to 18 inches: channery silt loam

H3 - 18 to 50 inches: channery silt loam

H4 - 50 to 70 inches: channery silt loam

Properties and qualities

Slope: 3 to 8 percent

Surface area covered with cobbles, stones or boulders: 9.0 percent

Depth to restrictive feature: 10 to 21 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 0.20 in/hr)

Depth to water table: About 6 to 18 inches

Frequency of flooding: None

Frequency of ponding: None

Calcium carbonate, maximum content: 15 percent

Available water supply, 0 to 60 inches: Very low (about 2.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 7s

Hydrologic Soil Group: D

Ecological site: F144AY037MA - Moist Dense Till Uplands

Hydric soil rating: No

Minor Components

Alden

Percent of map unit: 5 percent

Landform: Depressions

Hydric soil rating: Yes

Data Source Information

Soil Survey Area: Orange County, New York

Survey Area Data: Version 23, Sep 10, 2022

Orange County, New York

MdB—Mardin gravelly silt loam, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: 2v30j

Elevation: 330 to 2,460 feet

Mean annual precipitation: 31 to 70 inches

Mean annual air temperature: 39 to 52 degrees F

Frost-free period: 105 to 180 days

Farmland classification: Farmland of statewide importance

Map Unit Composition

Mardin and similar soils: 85 percent

Minor components: 15 percent

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

Description of Mardin

Setting

Landform: Mountains, hills

Landform position (two-dimensional): Summit, shoulder

Landform position (three-dimensional): Interfluve, side slope

Down-slope shape: Convex

Across-slope shape: Convex

Parent material: Loamy till

Typical profile

Ap - 0 to 8 inches: gravelly silt loam

Bw - 8 to 15 inches: gravelly silt loam

E - 15 to 20 inches: gravelly silt loam

Bx - 20 to 72 inches: gravelly silt loam

Properties and qualities

Slope: 3 to 8 percent

Surface area covered with cobbles, stones or boulders: 0.0 percent

Depth to restrictive feature: 14 to 26 inches to fragipan

Drainage class: Moderately well drained

Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.14 in/hr)

Depth to water table: About 13 to 24 inches

Frequency of flooding: None

Frequency of ponding: None

Available water supply, 0 to 60 inches: Low (about 3.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 2w

Hydrologic Soil Group: D

Ecological site: F144AY008CT - Moist Till Uplands

Hydric soil rating: No

Minor Components

Lordstown

Percent of map unit: 5 percent

Landform: Mountains, hills

Landform position (two-dimensional): Summit, shoulder

Landform position (three-dimensional): Mountaintop, interfluve, crest

Down-slope shape: Convex

Across-slope shape: Convex

Hydric soil rating: No

Volusia

Percent of map unit: 5 percent

Landform: Mountains, hills

Landform position (two-dimensional): Summit, footslope

Landform position (three-dimensional): Interfluve, base slope, side slope

Down-slope shape: Concave

Across-slope shape: Linear

Hydric soil rating: No

Bath

Percent of map unit: 5 percent

Landform: Mountains, hills

Landform position (two-dimensional): Shoulder, backslope

Landform position (three-dimensional): Interfluve, side slope

Down-slope shape: Concave

Across-slope shape: Linear

Hydric soil rating: No

Data Source Information

Soil Survey Area: Orange County, New York

Survey Area Data: Version 23, Sep 10, 2022

Orange County, New York

UH—Udorthents, smoothed

Map Unit Setting

National map unit symbol: 9vxc

Elevation: 0 to 1,260 feet

Mean annual precipitation: 42 to 52 inches

Mean annual air temperature: 46 to 52 degrees F

Frost-free period: 135 to 215 days

Farmland classification: Not prime farmland

Map Unit Composition

Udorthents and similar soils: 75 percent

Minor components: 5 percent

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

Description of Udorthents

Typical profile

H1 - 0 to 4 inches: channery loam

H2 - 4 to 70 inches: very gravelly sandy loam

Properties and qualities

Slope: 0 to 8 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Somewhat excessively drained

Capacity of the most limiting layer to transmit water

(Ksat): Moderately low to high (0.06 to 5.95 in/hr)

Depth to water table: About 36 to 72 inches

Frequency of flooding: None

Frequency of ponding: None

Calcium carbonate, maximum content: 15 percent

Available water supply, 0 to 60 inches: Low (about 5.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 6s

Hydrologic Soil Group: A

Hydric soil rating: No

Minor Components

Alden

Percent of map unit: 5 percent

Landform: Depressions

Hydric soil rating: Yes

Data Source Information

Soil Survey Area: Orange County, New York
Survey Area Data: Version 23, Sep 10, 2022

APPENDIX B

CONSTRUCTION SITE LOG BOOK

**STATE POLLUTANT DISCHARGE ELIMINATION SYSTEM FOR
CONSTRUCTION ACTIVITIES**

CONSTRUCTION SITE LOG BOOK

Table of Contents

- I. Pre-Construction Meeting Documents
 - a. Preamble to Site Assessment and Inspections
 - b. Operator's Certification
 - c. Qualified Professional's Credentials & Certification
 - d. Pre-Construction Site Assessment Checklist
- II. Construction Duration Inspections
 - a. Directions
 - b. Modification to the SWPPP
- III. Monthly Summary Reports
- IV. Monitoring, Reporting, and Three-Month Status Reports
 - a. Operator's Compliance Response Form

Properly completing forms such as those contained in this Appendix the inspection requirement of NYSDEC SPDES GP for Construction Activities. Completed forms shall be kept on site at all times and made available to authorities upon request.

I. PRE-CONSTRUCTION MEETING DOCUMENTS

Project Name

Permit No. _____ **Date of Authorization**

Name of Operator

Prime Contractor

a. Preamble to Site Assessment and Inspections

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

The Operator agrees to have a qualified professional¹ conduct an assessment of the site prior to the commencement of construction² and certify in this inspection report that the appropriate erosion and sediment controls described in the SWPPP have been adequately installed or implemented to ensure overall preparedness of the site for the commencement of construction.

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

When construction starts, site inspections shall be conducted by the qualified professional at least every 7 calendar days and within 24 hours of the end of a storm event of 0.5 inches or greater (Construction Duration Inspections). The Operator shall maintain a record of all inspection reports in this site logbook. The site logbook shall be maintained on site and be made available to the permitting authorities upon request. The Operator shall post at the site, in a publicly accessible location, a summary of the site inspection activities on a monthly basis (Monthly Summary Report).

The operator shall also prepare a written summary of compliance with this general permit at a minimum frequency of every three months (Operator's Compliance Response Form), while coverage exists. The summary should address the status of achieving each component of the SWPPP.

Prior to filing the Notice of Termination or the end of permit term, the Operator shall have a qualified professional perform a final site inspection. The qualified professional shall certify that the site has undergone final stabilization³ using either vegetative or structural stabilization methods and that all temporary erosion and sediment controls (such as silt fencing) not needed for long-term erosion control have been removed. In addition, the Operator must identify and certify that all permanent structures described in the SWPPP have been constructed and provide the owner(s) with an operation and maintenance plan that ensures the structure(s) continuously functions as designed.

¹ "Qualified Professional means a person knowledgeable in the principles and practice of erosion and sediment controls, such as a Certified Professional in Erosion and Sediment Control (CPESC), soil scientist, licensed engineer or someone working under the direction and supervision of a licensed engineer (person must have experience in the principles and practices of erosion and sediment control).

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

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

b. Operators Certification

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. Further, I hereby certify that the SWPPP meets all Federal, State, and local erosion and sediment control requirements. I am aware that false statements made herein are punishable as a class A misdemeanor pursuant to Section 210.45 of the Penal Law.

Name (please print):

Title _____

Date: _____

Address:

Phone: _____

Email: _____

Signature:

c. Qualified Professional's Credentials & Certification

"I hereby certify that I meet the criteria set forth in the General Permit to conduct site inspections for this project and that the appropriate erosion and sediment controls described in the SWPPP and as described in the following Pre-construction Site Assessment Checklist have been adequately installed or implemented, ensuring the overall preparedness of this site for the commencement of construction."

Name (please print):

Title _____

Date: _____

Address:

Phone: _____

Email: _____

Signature:

d. Pre-construction Site Assessment Checklist

(NOTE: Provide comments below as necessary)

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

Yes No NA

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

2. Resource Protection

Yes No NA

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

3. Surface Water Protection

Yes No NA

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

4. Stabilized Construction Entrance

Yes No NA

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

5. Perimeter Sediment Controls

Yes No NA

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

6. Pollution Prevention for Waste and Hazardous Materials

Yes No NA

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

CONSTRUCTION DURATION INSPECTIONS

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

Required Elements:

- (1) On a site map, indicate the extent of all disturbed site areas and drainage pathways. Indicate site areas that are expected to undergo initial disturbance or significant site work within the next 14-day period;
- (2) Indicate on a site map all areas of the site that have undergone temporary or permanent stabilization;
- (3) Indicate all disturbed site areas that have not undergone active site work during the previous 14-day period;
- (4) Inspect all sediment control practices and record the approximate degree of sediment accumulation as a percentage of sediment storage volume (for example, 10 percent, 20 percent, 50 percent);
- (5) Inspect all erosion and sediment control practices and record all maintenance requirements such as verifying the integrity of barrier or diversion systems (earthen berms or silt fencing) and containment systems (sediment basins and sediment traps). Identify any evidence of rill or gully erosion occurring on slopes and any loss of stabilizing vegetation or seeding/mulching. Document any excessive deposition of sediment or ponding water along barrier or diversion systems. Record the depth of sediment within containment structures, any erosion near outlet and overflow structures, and verify the ability of rock filters around perforated riser pipes to pass water; and
- (6) Immediately report to the Operator any deficiencies that are identified with the implementation of the SWPPP.

CONSTRUCTION DURATION INSPECTIONS Page 1 of _____

SITE PLAN/SKETCH

Inspector (print name)

Date of Inspection

Qualified Professional (print name)

Qualified Professional Signature

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 Page 2 of _____

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
- New York Standards and Specifications Page H.8 August 2005 For Erosion and Sediment Control

CONSTRUCTION DURATION INSPECTIONS Page 3 of _____

Runoff Control Practices (continued)

4. Stone Check Dam

Yes No NA

Is channel stable? (flow is not eroding soil underneath or around the structure).

Check is in good condition (rocks in place and no permanent pools behind the structure).

Has accumulated sediment been removed?.

5. Rock Outlet Protection

Yes No NA

Installed per plan.

Installed concurrently with pipe installation.

Soil Stabilization

1. Topsoil and Spoil Stockpiles

Yes No NA

Stockpiles are stabilized with vegetation and/or mulch.

Sediment control is installed at the toe of the slope.

2. Revegetation

Yes No NA

Temporary seedings and mulch have been applied to idle areas.

4 inches minimum of topsoil has been applied under permanent seedings

Sediment Control Practices

1. 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.

CONSTRUCTION DURATION INSPECTIONS Page 4 of _____
Sediment Control Practices (continued)

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.

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.

New York Standards and Specifications Page H.10 August 2005
For Erosion and Sediment Control

CONSTRUCTION DURATION INSPECTIONS Page 5 of ____

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

The Operator shall amend the SWPPP whenever:

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

Modification & Reason:

APPENDIX C

STORMWATER POND CHECKLIST

STORMWATER POND MAINTENANCE, MANAGEMENT, INSPECTION
 CHECKLIST

Project: _____

Location: _____

Site Status: _____

Date: _____

Time: _____

Inspector: _____

| Maintenance Item | Satisfactory/ Unsatisfactory | Comments |
|--|---------------------------------|----------|
| 1. Embankment and emergency spillway (Annual, After Major Storms) | | |
| 1. Vegetation and ground cover adequate | | |
| 2. Embankment erosion | | |
| 3. Animal burrows | | |
| 4. Unauthorized planting | | |
| 5. Cracking, bulging, or sliding of dam | | |
| a. Upstream face | | |
| b. Downstream face | | |
| c. At or beyond toe | | |
| downstream | | |
| upstream | | |
| d. Emergency spillway | | |
| 6. Pond, toe & chimney drains clear and functioning | | |
| 7. Seeps/leaks on downstream face | | |
| 8. Slope protection or riprap failure | | |
| 9. Vertical/horizontal alignment of top of dam "As-Built" | | |
| 10. Emergency spillway clear of obstructions and debris | | |
| 11. Other (specify) | | |

| Maintenance Item | Satisfactory/Unsatisfactory | Comments |
|---|-----------------------------|----------|
| 2. Riser and principal spillway (Annual) | | |
| Type: Reinforced concrete _____ Corrugated pipe _____ Masonry _____ | | |
| 1. Low flow orifice obstructed | | |
| 2. Low flow trash rack. | | |
| a. Debris removal necessary | | |
| b. Corrosion control | | |
| 3. Weir trash rack maintenance | | |
| a. Debris removal necessary | | |
| b. corrosion control | | |
| 4. Excessive sediment accumulation insider riser | | |
| 5. Concrete/masonry condition riser and barrels | | |
| a. cracks or displacement | | |
| b. Minor spalling (<1") | | |
| c. Major spalling (rebars exposed) | | |
| d. Joint failures | | |
| e. Water tightness | | |
| 6. Metal pipe condition | | |
| 7. Control valve | | |
| a. Operational/exercised | | |
| b. Chained and locked | | |
| 8. Pond drain valve | | |
| a. Operational/exercised | | |
| b. Chained and locked | | |
| 9. Outfall channels functioning | | |
| 10. Other (specify) | Page 39 | |

| Maintenance Item | Satisfactory/Unsatisfactory | Comments |
|---|-----------------------------|----------|
| 3. Permanent Pool (Wet Ponds) (monthly) | | |
| 1. Undesirable vegetative growth | | |
| 2. Floating or floatable debris removal required | | |
| 3. Visible pollution | | |
| 4. Shoreline problem | | |
| 5. Other (specify) | | |
| 4. Sediment Forebays | | |
| 1. Sedimentation noted | | |
| 2. Sediment cleanout when depth < 50% design depth | | |
| 5. Dry Pond Areas | | |
| 1. Vegetation adequate | | |
| 2. Undesirable vegetative growth | | |
| 3. Undesirable woody vegetation | | |
| 4. Low flow channels clear of obstructions | | |
| 5. Standing water or wet spots | | |
| 6. Sediment and / or trash accumulation | | |
| 7. Other (specify) | | |
| 6. Condition of Outfalls (Annual , After Major Storms) | | |
| 1. Riprap failures | | |
| 2. Slope erosion | | |
| 3. Storm drain pipes | | |
| 4. Endwalls/Headwalls | | |
| 5. Other (specify) | | |
| 7. Other (Monthly) | | |
| 1. Encroachment on pond, wetland or easement area | | |

| Maintenance Item | Satisfactory/Unsatisfactory | Comments |
|--|-----------------------------|----------|
| 2. Complaints from residents | | |
| 3. Aesthetics | | |
| a. Grass growing required | | |
| b. Graffiti removal needed | | |
| c. Other (specify) | | |
| 4. Conditions of maintenance access routes. | | |
| 5. Signs of hydrocarbon build-up | | |
| 6. Any public hazards (specify) | | |
| 8. Wetland Vegetation (Annual) | | |
| 1. Vegetation healthy and growing wetland maintaining 50% surface area coverage of wetland plants after the second growing season. (If unsatisfactory, reinforcement plantings needed) | | |
| 2. Dominant wetland plants: Survival of desired wetland plant species Distribution according to landscaping plan? | | |
| 3. Evidence of invasive species | | |
| 4. Maintenance of adequate water depths for desired wetland plant species | | |
| 5. Harvesting of emergent plantings needed | | |
| 6. Have sediment accumulations reduced pool volume significantly or are plants “choked” with sediment | | |
| 7. Eutrophication level of the wetland. | | |
| 8. Other (specify) | | |

APPENDIX D

HYDROCAD PRE AND POST DEVELOPMENT RUNOFF



Sub Basin #1



Sub Basin #2



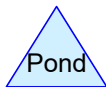
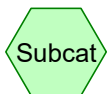
Sub Basin #3



(new Reach)



(new Reach)



Routing Diagram for 19-049 PRE Development
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19-049 PRE Development

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Project Notes

Defined 9 rainfall events from NY-Newburgh IDF

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Page 3

Area Listing (all nodes)

| Area (acres) | CN | Description (subcatchment-numbers) |
|-----------------|-----------|---------------------------------------|
| 0.300 | 36 | Woods, Fair, HSG A (3S) |
| 1.226 | 73 | Woods, Fair, HSG C (2S) |
| 1.547 | 79 | Woods, Fair, HSG D (1S) |
| 3.074 | 72 | TOTAL AREA |

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Soil Listing (all nodes)

| Area (acres) | Soil Group | Subcatchment Numbers |
|-----------------|---------------|-------------------------|
| 0.300 | HSG A | 3S |
| 0.000 | HSG B | |
| 1.226 | HSG C | 2S |
| 1.547 | HSG D | 1S |
| 0.000 | Other | |
| 3.074 | | TOTAL AREA |

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Ground Covers (all nodes)

| HSG-A (acres) | HSG-B (acres) | HSG-C (acres) | HSG-D (acres) | Other (acres) | Total (acres) | Ground Cover | Subcatchment Numbers |
|------------------|------------------|------------------|------------------|------------------|------------------|-------------------|-------------------------|
| 0.300 | 0.000 | 1.226 | 1.547 | 0.000 | 3.074 | Woods, Fair | 1S, 2S, 3S |
| 0.300 | 0.000 | 1.226 | 1.547 | 0.000 | 3.074 | TOTAL AREA | |

19-049 PRE Development

Type II 24-hr 1-yr Rainfall=2.90"

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Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: Sub Basin #1

Runoff Area=67,399 sf 0.00% Impervious Runoff Depth>1.01"
Flow Length=475' Tc=23.8 min CN=79 Runoff=1.67 cfs 0.130 af

Subcatchment 2S: Sub Basin #2

Runoff Area=53,403 sf 0.00% Impervious Runoff Depth>0.70"
Flow Length=553' Tc=38.0 min CN=73 Runoff=0.64 cfs 0.072 af

Subcatchment 3S: Sub Basin #3

Runoff Area=13,080 sf 0.00% Impervious Runoff Depth=0.00"
Flow Length=157' Tc=17.5 min CN=36 Runoff=0.00 cfs 0.000 af

Reach 7R: (new Reach)

Inflow=2.14 cfs 0.201 af
Outflow=2.14 cfs 0.201 af

Reach 8R: (new Reach)

Inflow=0.00 cfs 0.000 af
Outflow=0.00 cfs 0.000 af

Total Runoff Area = 3.074 ac Runoff Volume = 0.201 af Average Runoff Depth = 0.79"
100.00% Pervious = 3.074 ac 0.00% Impervious = 0.000 ac

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Type II 24-hr 1-yr Rainfall=2.90"

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Summary for Subcatchment 1S: Sub Basin #1

Runoff = 1.67 cfs @ 12.18 hrs, Volume= 0.130 af, Depth> 1.01"

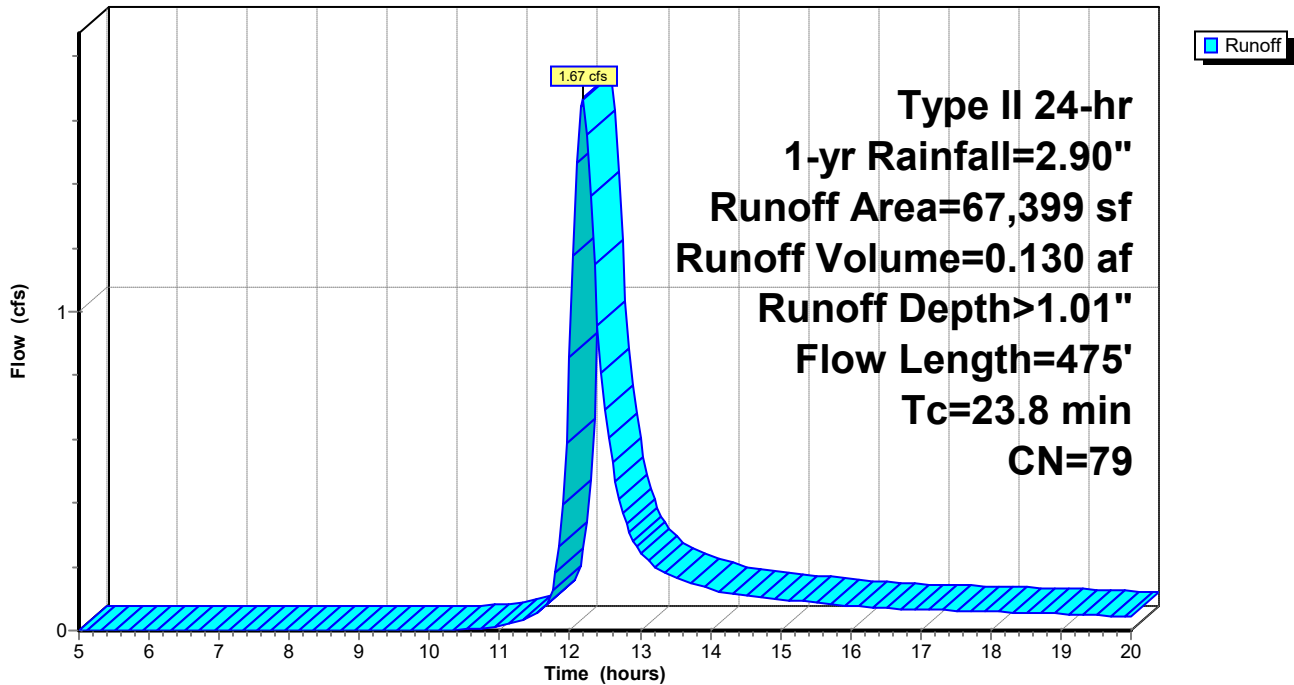
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Type II 24-hr 1-yr Rainfall=2.90"

| Area (sf) | CN | Description |
|-----------|----|-----------------------|
| 67,399 | 79 | Woods, Fair, HSG D |
| 67,399 | | 100.00% Pervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|----------|---------------|---------------|-------------------|----------------|---|
| 15.0 | 100 | 0.0500 | 0.11 | | Sheet Flow, Initiated from top of knoll @ 414' |
| 8.8 | 375 | 0.0200 | 0.71 | | Woods: Light underbrush n= 0.400 P2= 3.15' Shallow Concentrated Flow, Shallow Conc. to wetland |
| | | | | | Woodland Kv= 5.0 fps |
| 23.8 | 475 | Total | | | |

Subcatchment 1S: Sub Basin #1

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Type II 24-hr 1-yr Rainfall=2.90"

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Summary for Subcatchment 2S: Sub Basin #2

Runoff = 0.64 cfs @ 12.38 hrs, Volume= 0.072 af, Depth> 0.70"

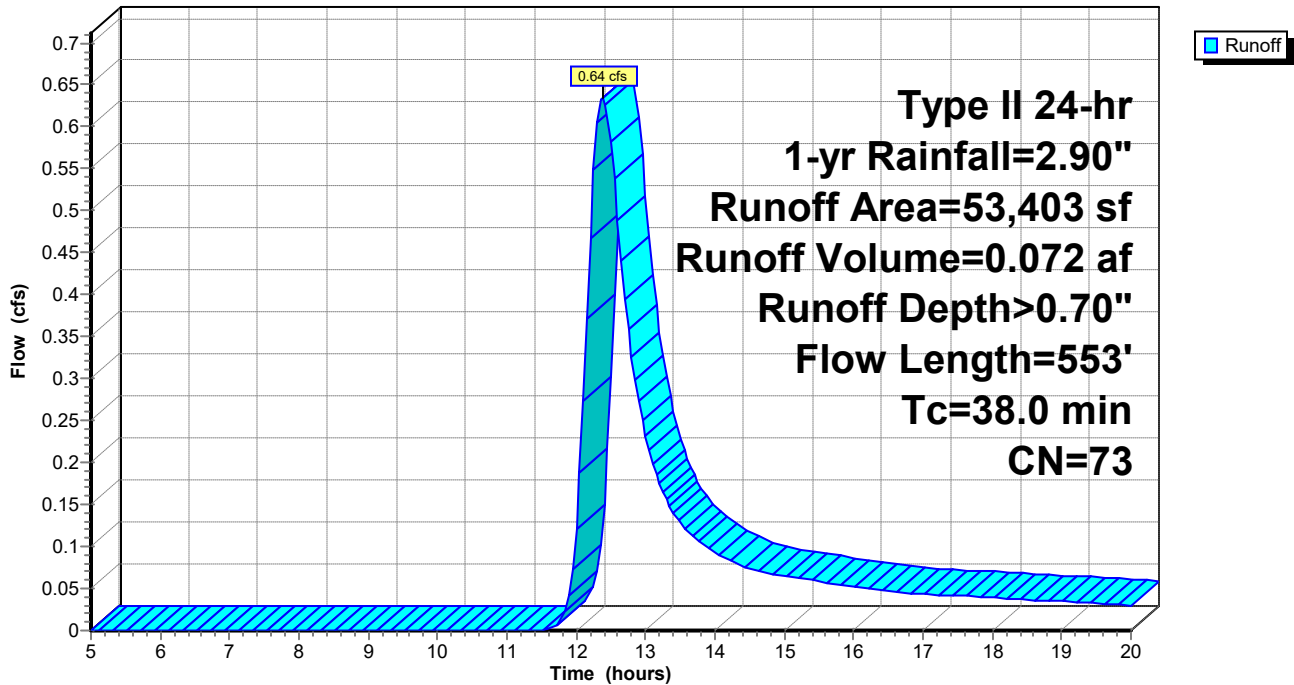
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-yr Rainfall=2.90"

| Area (sf) | CN | Description |
|-----------|----|-----------------------|
| 53,403 | 73 | Woods, Fair, HSG C |
| 53,403 | | 100.00% Pervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|----------|---------------|---------------|-------------------|----------------|---|
| 28.6 | 100 | 0.0100 | 0.06 | | Sheet Flow, Initiated from knoll @ 414' |
| 9.4 | 453 | 0.0260 | 0.81 | | Woods: Light underbrush n= 0.400 P2= 3.15' |
| | | | | | Shallow Concentrated Flow, To wetland |
| | | | | | Woodland Kv= 5.0 fps |
| 38.0 | 553 | Total | | | |

Subcatchment 2S: Sub Basin #2

Hydrograph



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Type II 24-hr 1-yr Rainfall=2.90"

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Summary for Subcatchment 3S: Sub Basin #3

[45] Hint: Runoff=Zero

Runoff = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af, Depth= 0.00"

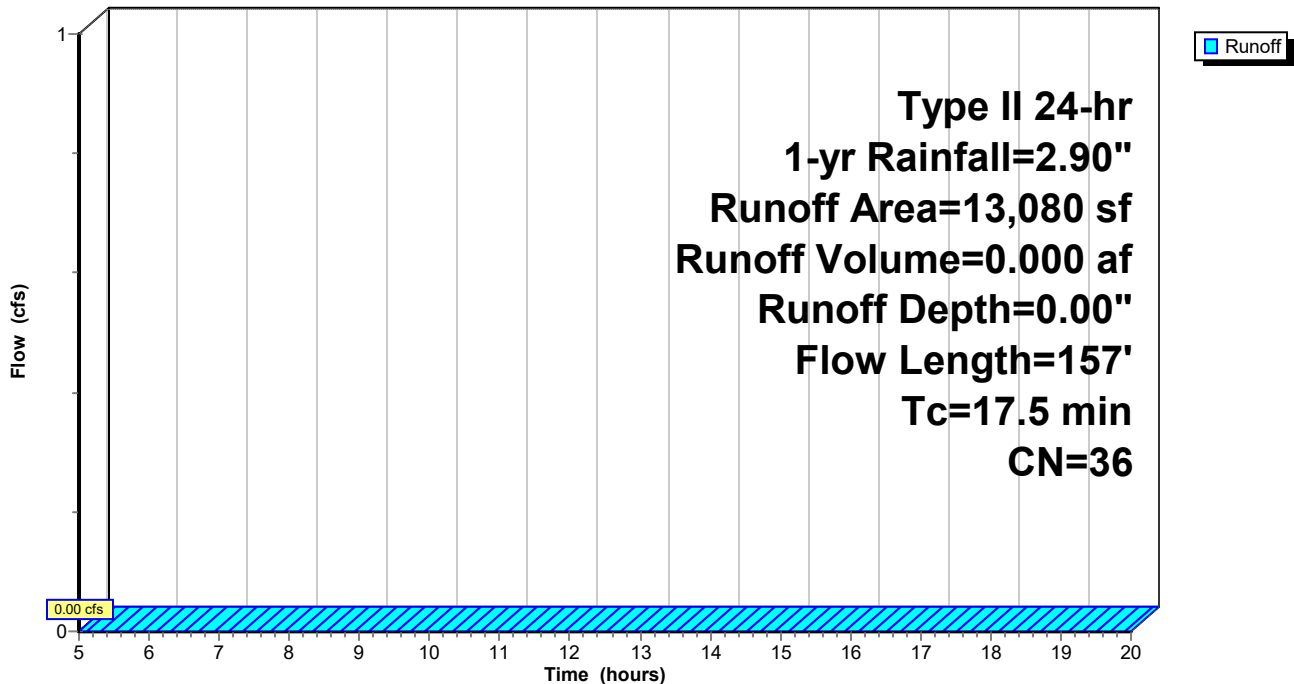
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Type II 24-hr 1-yr Rainfall=2.90"

| Area (sf) | CN | Description |
|-----------|----|-----------------------|
| * 13,080 | 36 | Woods, Fair, HSG A |
| 13,080 | | 100.00% Pervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|----------|---------------|---------------|-------------------|----------------|---|
| 16.4 | 100 | 0.0400 | 0.10 | | Sheet Flow, Initiated at knoll @ 414' |
| 1.1 | 57 | 0.0307 | 0.88 | | Woods: Light underbrush n= 0.400 P2= 3.15" Shallow Concentrated Flow, To Jeanne Dr. |
| 17.5 | 157 | Total | | | Woodland Kv= 5.0 fps |

Subcatchment 3S: Sub Basin #3

Hydrograph



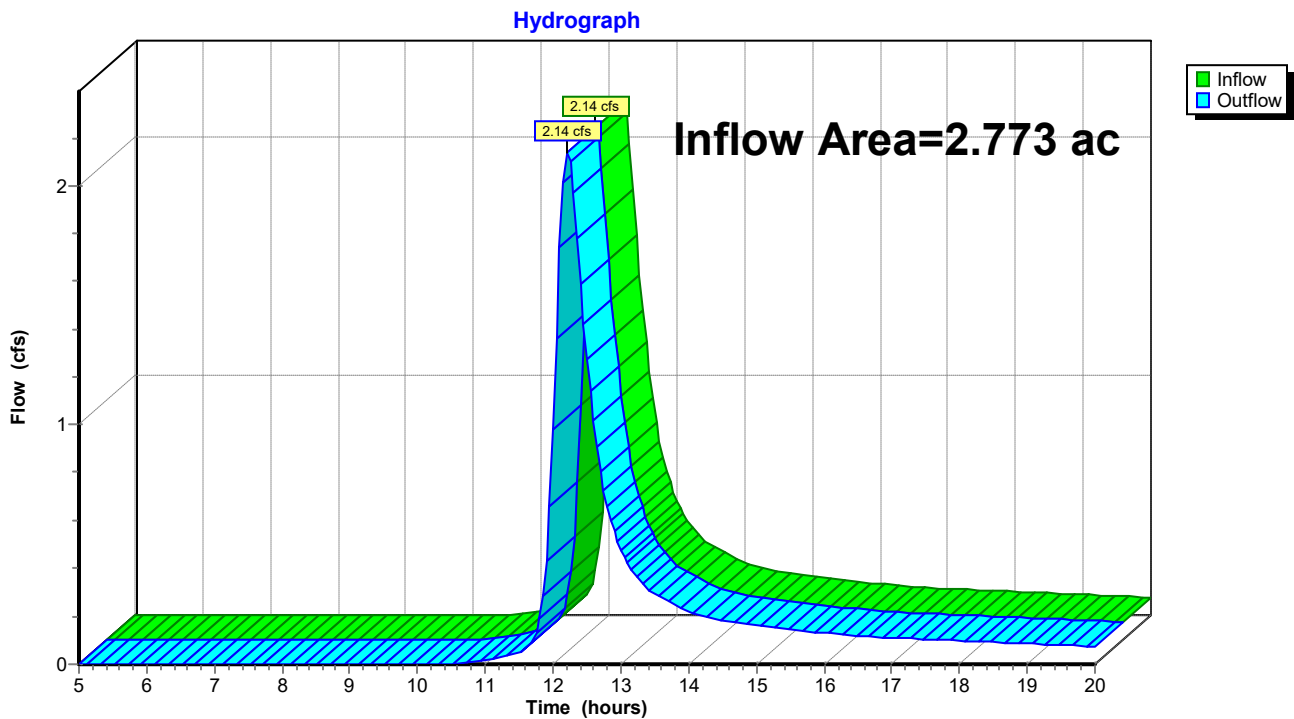
Summary for Reach 7R: (new Reach)

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 2.773 ac, 0.00% Impervious, Inflow Depth > 0.87" for 1-yr event
Inflow = 2.14 cfs @ 12.21 hrs, Volume= 0.201 af
Outflow = 2.14 cfs @ 12.21 hrs, Volume= 0.201 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach 7R: (new Reach)



Summary for Reach 8R: (new Reach)

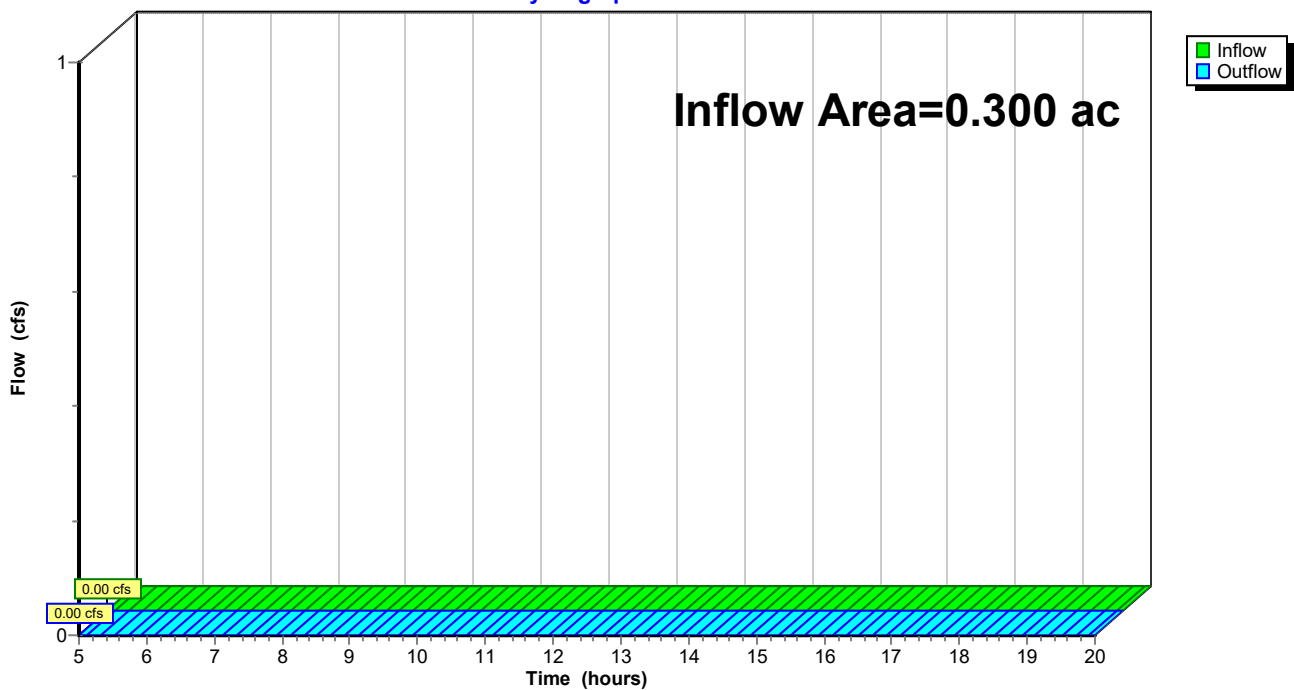
[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 0.300 ac, 0.00% Impervious, Inflow Depth = 0.00" for 1-yr event
Inflow = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af
Outflow = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach 8R: (new Reach)

Hydrograph



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Type II 24-hr 10-yr Rainfall=5.50"

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Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: Sub Basin #1

Runoff Area=67,399 sf 0.00% Impervious Runoff Depth>2.98"
Flow Length=475' Tc=23.8 min CN=79 Runoff=5.01 cfs 0.385 af

Subcatchment 2S: Sub Basin #2

Runoff Area=53,403 sf 0.00% Impervious Runoff Depth>2.43"
Flow Length=553' Tc=38.0 min CN=73 Runoff=2.40 cfs 0.249 af

Subcatchment 3S: Sub Basin #3

Runoff Area=13,080 sf 0.00% Impervious Runoff Depth>0.14"
Flow Length=157' Tc=17.5 min CN=36 Runoff=0.01 cfs 0.004 af

Reach 7R: (new Reach)

Inflow=6.90 cfs 0.633 af
Outflow=6.90 cfs 0.633 af

Reach 8R: (new Reach)

Inflow=0.01 cfs 0.004 af
Outflow=0.01 cfs 0.004 af

Total Runoff Area = 3.074 ac Runoff Volume = 0.637 af Average Runoff Depth = 2.49"
100.00% Pervious = 3.074 ac 0.00% Impervious = 0.000 ac

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Type II 24-hr 10-yr Rainfall=5.50"

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Summary for Subcatchment 1S: Sub Basin #1

Runoff = 5.01 cfs @ 12.17 hrs, Volume= 0.385 af, Depth> 2.98"

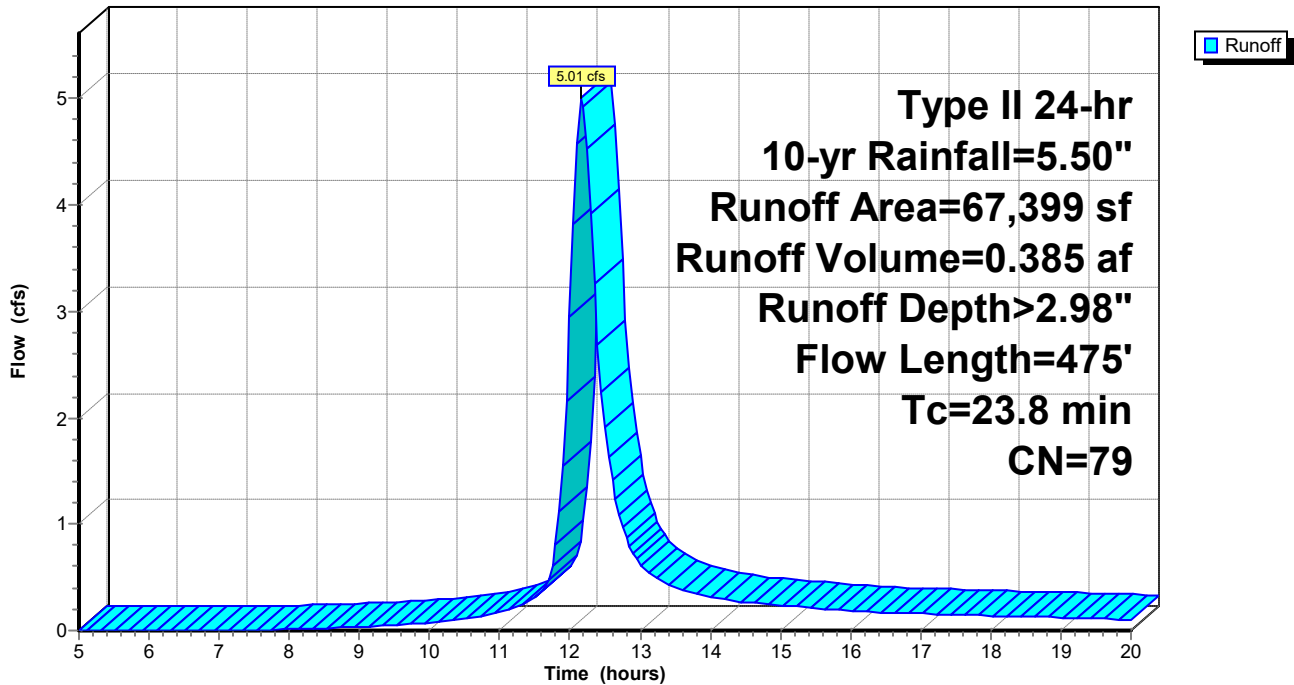
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-yr Rainfall=5.50"

| Area (sf) | CN | Description |
|-----------|----|-----------------------|
| 67,399 | 79 | Woods, Fair, HSG D |
| 67,399 | | 100.00% Pervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|----------|---------------|---------------|-------------------|----------------|--|
| 15.0 | 100 | 0.0500 | 0.11 | | Sheet Flow, Initiated from top of knoll @ 414' |
| 8.8 | 375 | 0.0200 | 0.71 | | Shallow Concentrated Flow, Shallow Conc. to wetland |
| 23.8 | 475 | Total | | | Woodland Kv= 5.0 fps |

Subcatchment 1S: Sub Basin #1

Hydrograph



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Type II 24-hr 10-yr Rainfall=5.50"

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Summary for Subcatchment 2S: Sub Basin #2

Runoff = 2.40 cfs @ 12.35 hrs, Volume= 0.249 af, Depth> 2.43"

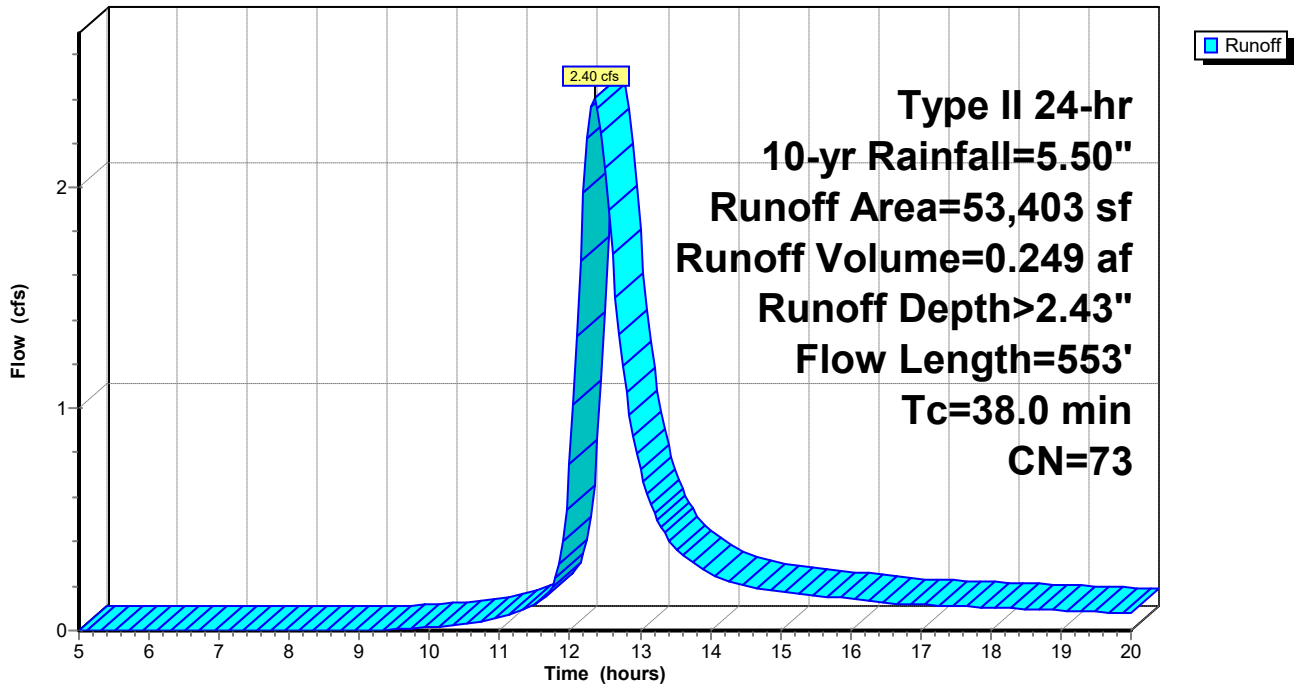
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-yr Rainfall=5.50"

| Area (sf) | CN | Description |
|-----------|----|-----------------------|
| 53,403 | 73 | Woods, Fair, HSG C |
| 53,403 | | 100.00% Pervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|----------|---------------|---------------|-------------------|----------------|--|
| 28.6 | 100 | 0.0100 | 0.06 | | Sheet Flow, Initiated from knoll @ 414' |
| 9.4 | 453 | 0.0260 | 0.81 | | Shallow Concentrated Flow, To wetland |
| 38.0 | 553 | Total | | | Woodland Kv= 5.0 fps |

Subcatchment 2S: Sub Basin #2

Hydrograph



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Type II 24-hr 10-yr Rainfall=5.50"

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Summary for Subcatchment 3S: Sub Basin #3

Runoff = 0.01 cfs @ 12.62 hrs, Volume= 0.004 af, Depth> 0.14"

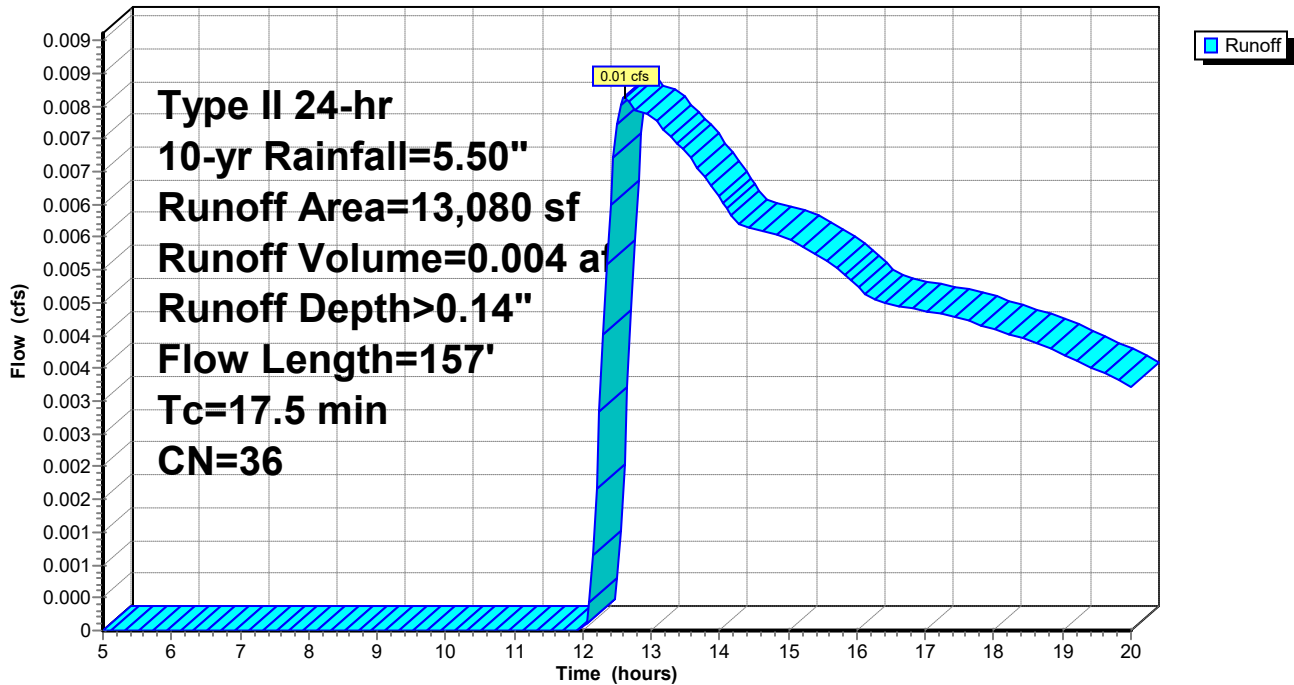
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-yr Rainfall=5.50"

| Area (sf) | CN | Description |
|-----------|----|-----------------------|
| * 13,080 | 36 | Woods, Fair, HSG A |
| 13,080 | | 100.00% Pervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|----------|---------------|---------------|-------------------|----------------|---|
| 16.4 | 100 | 0.0400 | 0.10 | | Sheet Flow, Initiated at knoll @ 414' |
| 1.1 | 57 | 0.0307 | 0.88 | | Woods: Light underbrush n= 0.400 P2= 3.15" Shallow Concentrated Flow, To Jeanne Dr. |
| 17.5 | 157 | Total | | | Woodland Kv= 5.0 fps |

Subcatchment 3S: Sub Basin #3

Hydrograph



Summary for Reach 7R: (new Reach)

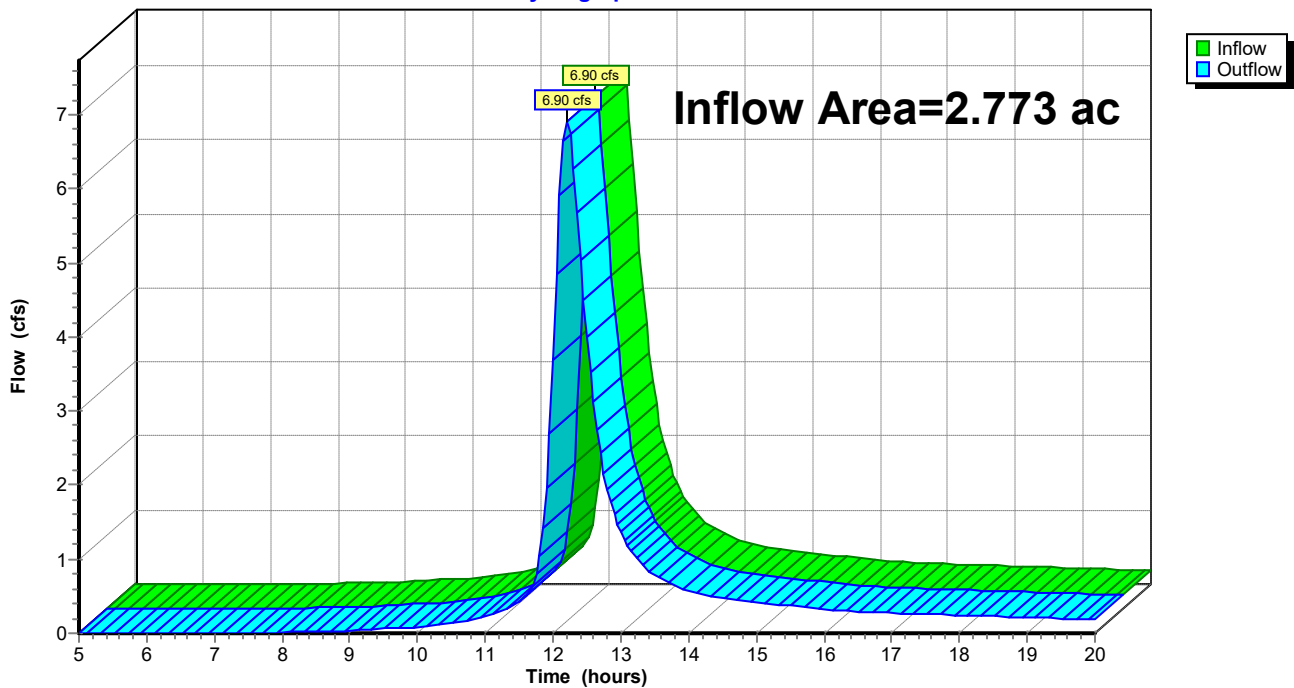
[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 2.773 ac, 0.00% Impervious, Inflow Depth > 2.74" for 10-yr event
Inflow = 6.90 cfs @ 12.21 hrs, Volume= 0.633 af
Outflow = 6.90 cfs @ 12.21 hrs, Volume= 0.633 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach 7R: (new Reach)

Hydrograph



Summary for Reach 8R: (new Reach)

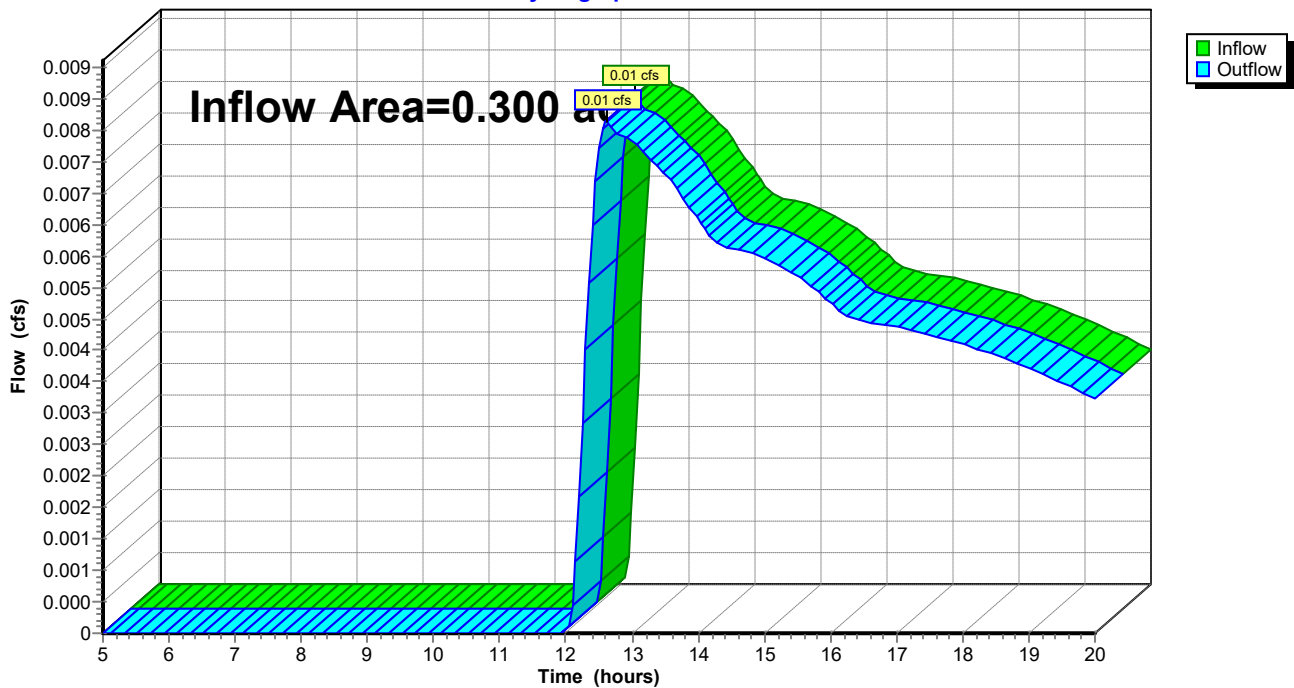
[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 0.300 ac, 0.00% Impervious, Inflow Depth > 0.14" for 10-yr event
Inflow = 0.01 cfs @ 12.62 hrs, Volume= 0.004 af
Outflow = 0.01 cfs @ 12.62 hrs, Volume= 0.004 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach 8R: (new Reach)

Hydrograph



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Type II 24-hr 25-yr Rainfall=6.50"

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Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: Sub Basin #1

Runoff Area=67,399 sf 0.00% Impervious Runoff Depth>3.82"
Flow Length=475' Tc=23.8 min CN=79 Runoff=6.38 cfs 0.493 af

Subcatchment 2S: Sub Basin #2

Runoff Area=53,403 sf 0.00% Impervious Runoff Depth>3.20"
Flow Length=553' Tc=38.0 min CN=73 Runoff=3.17 cfs 0.327 af

Subcatchment 3S: Sub Basin #3

Runoff Area=13,080 sf 0.00% Impervious Runoff Depth>0.33"
Flow Length=157' Tc=17.5 min CN=36 Runoff=0.04 cfs 0.008 af

Reach 7R: (new Reach)

Inflow=8.90 cfs 0.820 af
Outflow=8.90 cfs 0.820 af

Reach 8R: (new Reach)

Inflow=0.04 cfs 0.008 af
Outflow=0.04 cfs 0.008 af

Total Runoff Area = 3.074 ac Runoff Volume = 0.828 af Average Runoff Depth = 3.23"
100.00% Pervious = 3.074 ac 0.00% Impervious = 0.000 ac

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Type II 24-hr 25-yr Rainfall=6.50"

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Summary for Subcatchment 1S: Sub Basin #1

Runoff = 6.38 cfs @ 12.17 hrs, Volume= 0.493 af, Depth> 3.82"

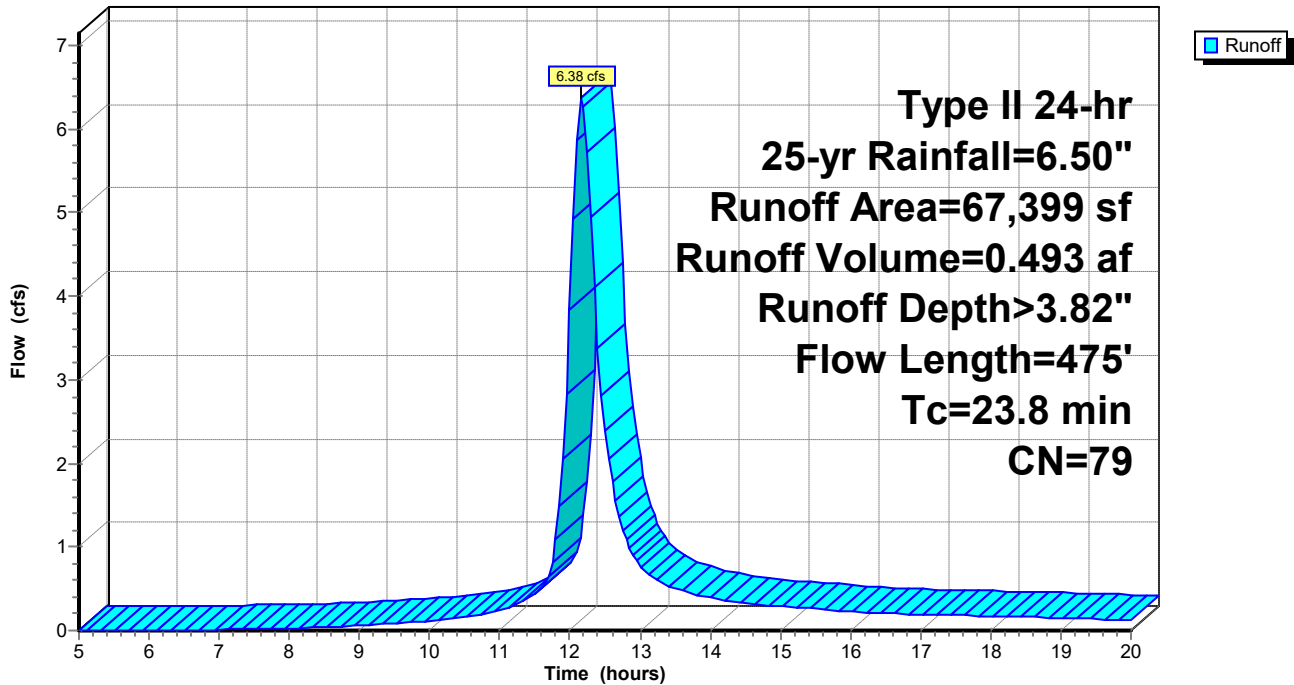
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 25-yr Rainfall=6.50"

| Area (sf) | CN | Description |
|-----------|----|-----------------------|
| 67,399 | 79 | Woods, Fair, HSG D |
| 67,399 | | 100.00% Pervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|----------|---------------|---------------|-------------------|----------------|--|
| 15.0 | 100 | 0.0500 | 0.11 | | Sheet Flow, Initiated from top of knoll @ 414' |
| 8.8 | 375 | 0.0200 | 0.71 | | Shallow Concentrated Flow, Shallow Conc. to wetland |
| 23.8 | 475 | Total | | | Woodland Kv= 5.0 fps |

Subcatchment 1S: Sub Basin #1

Hydrograph



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Type II 24-hr 25-yr Rainfall=6.50"

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Summary for Subcatchment 2S: Sub Basin #2

Runoff = 3.17 cfs @ 12.34 hrs, Volume= 0.327 af, Depth> 3.20"

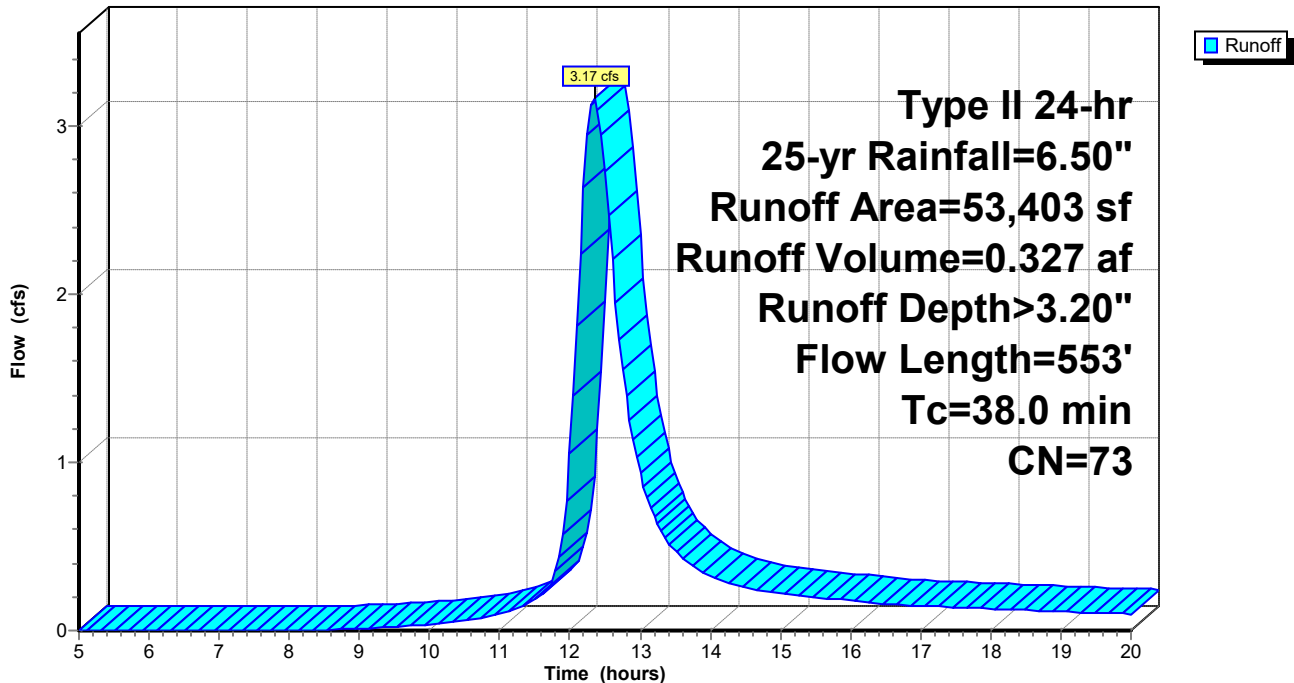
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 25-yr Rainfall=6.50"

| Area (sf) | CN | Description |
|-----------|----|-----------------------|
| 53,403 | 73 | Woods, Fair, HSG C |
| 53,403 | | 100.00% Pervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|----------|---------------|---------------|-------------------|----------------|--|
| 28.6 | 100 | 0.0100 | 0.06 | | Sheet Flow, Initiated from knoll @ 414' |
| | | | | | Woods: Light underbrush n= 0.400 P2= 3.15" |
| 9.4 | 453 | 0.0260 | 0.81 | | Shallow Concentrated Flow, To wetland |
| | | | | | Woodland Kv= 5.0 fps |
| 38.0 | 553 | Total | | | |

Subcatchment 2S: Sub Basin #2

Hydrograph



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Type II 24-hr 25-yr Rainfall=6.50"

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Summary for Subcatchment 3S: Sub Basin #3

Runoff = 0.04 cfs @ 12.21 hrs, Volume= 0.008 af, Depth> 0.33"

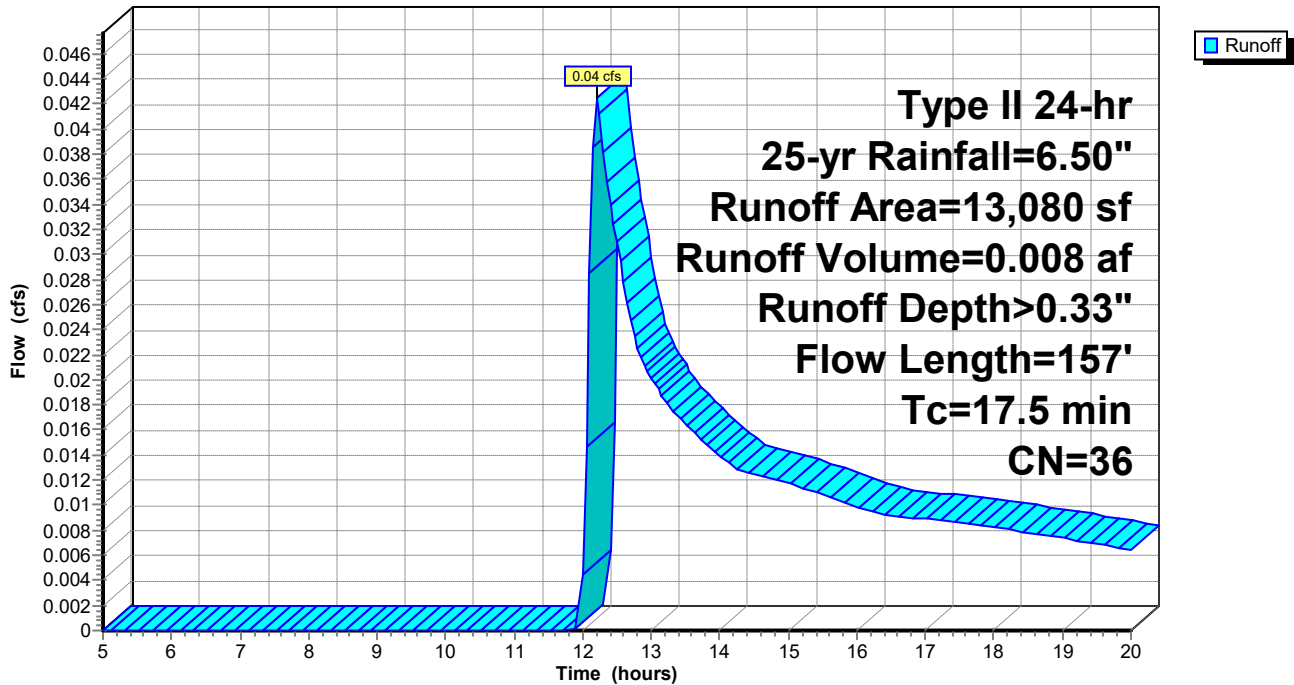
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 25-yr Rainfall=6.50"

| Area (sf) | CN | Description |
|-----------|----|-----------------------|
| * 13,080 | 36 | Woods, Fair, HSG A |
| 13,080 | | 100.00% Pervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|----------|---------------|---------------|-------------------|----------------|---|
| 16.4 | 100 | 0.0400 | 0.10 | | Sheet Flow, Initiated at knoll @ 414' |
| 1.1 | 57 | 0.0307 | 0.88 | | Woods: Light underbrush n= 0.400 P2= 3.15" Shallow Concentrated Flow, To Jeanne Dr. |
| 17.5 | 157 | Total | | | Woodland Kv= 5.0 fps |

Subcatchment 3S: Sub Basin #3

Hydrograph



Summary for Reach 7R: (new Reach)

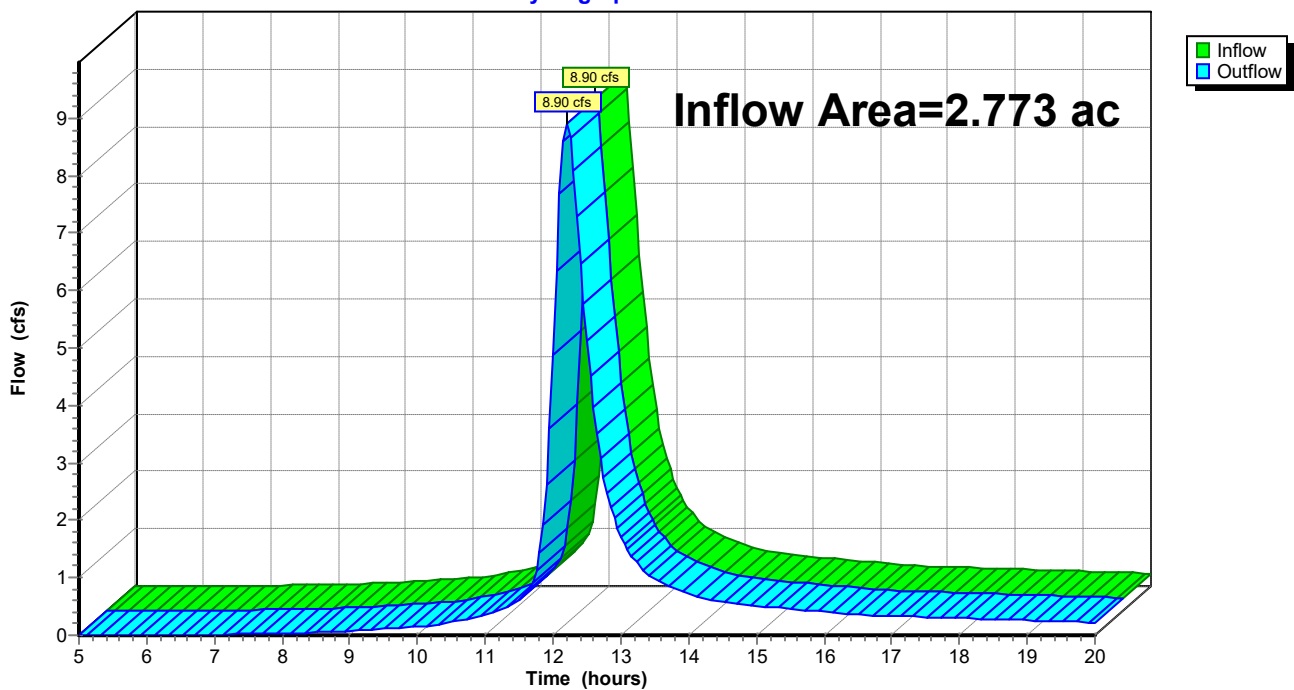
[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 2.773 ac, 0.00% Impervious, Inflow Depth > 3.55" for 25-yr event
Inflow = 8.90 cfs @ 12.20 hrs, Volume= 0.820 af
Outflow = 8.90 cfs @ 12.20 hrs, Volume= 0.820 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach 7R: (new Reach)

Hydrograph



Summary for Reach 8R: (new Reach)

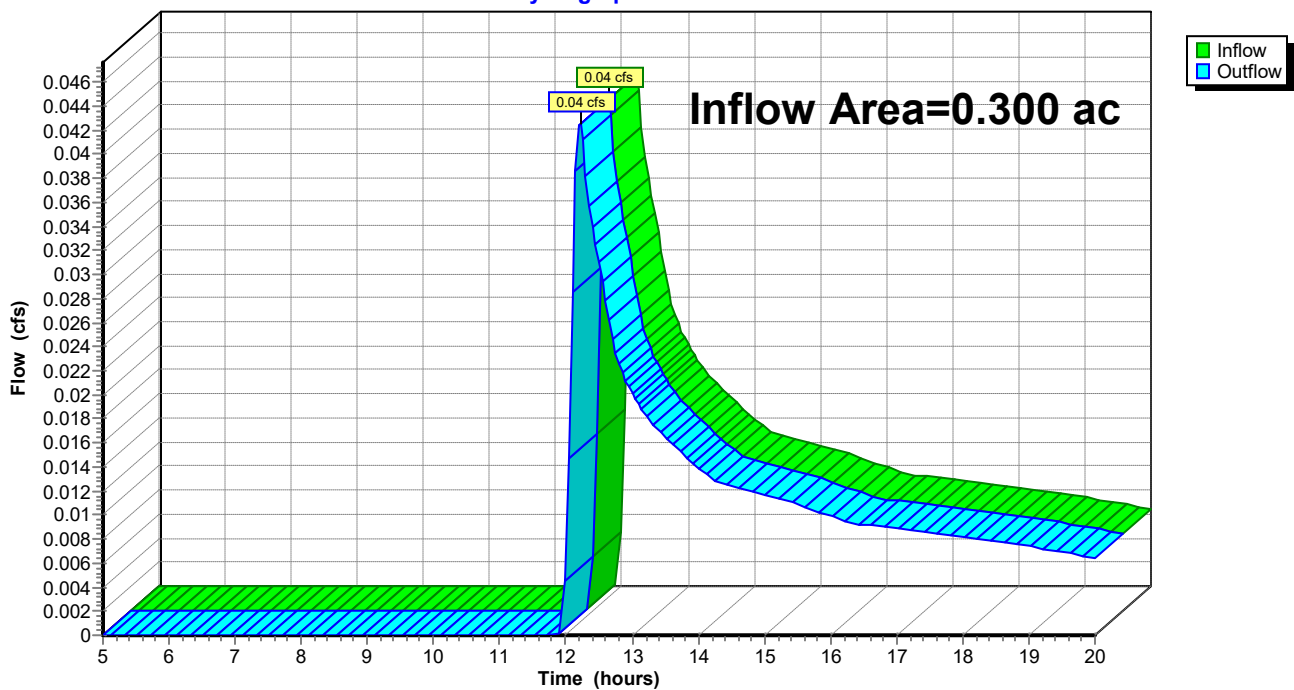
[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 0.300 ac, 0.00% Impervious, Inflow Depth > 0.33" for 25-yr event
Inflow = 0.04 cfs @ 12.21 hrs, Volume= 0.008 af
Outflow = 0.04 cfs @ 12.21 hrs, Volume= 0.008 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach 8R: (new Reach)

Hydrograph



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Type II 24-hr 100-yr Rainfall=8.00"

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Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: Sub Basin #1

Runoff Area=67,399 sf 0.00% Impervious Runoff Depth>5.12"
Flow Length=475' Tc=23.8 min CN=79 Runoff=8.46 cfs 0.660 af

Subcatchment 2S: Sub Basin #2

Runoff Area=53,403 sf 0.00% Impervious Runoff Depth>4.42"
Flow Length=553' Tc=38.0 min CN=73 Runoff=4.36 cfs 0.451 af

Subcatchment 3S: Sub Basin #3

Runoff Area=13,080 sf 0.00% Impervious Runoff Depth>0.75"
Flow Length=157' Tc=17.5 min CN=36 Runoff=0.18 cfs 0.019 af

Reach 7R: (new Reach)

Inflow=11.96 cfs 1.111 af
Outflow=11.96 cfs 1.111 af

Reach 8R: (new Reach)

Inflow=0.18 cfs 0.019 af
Outflow=0.18 cfs 0.019 af

Total Runoff Area = 3.074 ac Runoff Volume = 1.130 af Average Runoff Depth = 4.41"
100.00% Pervious = 3.074 ac 0.00% Impervious = 0.000 ac

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Type II 24-hr 100-yr Rainfall=8.00"

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Summary for Subcatchment 1S: Sub Basin #1

Runoff = 8.46 cfs @ 12.17 hrs, Volume= 0.660 af, Depth> 5.12"

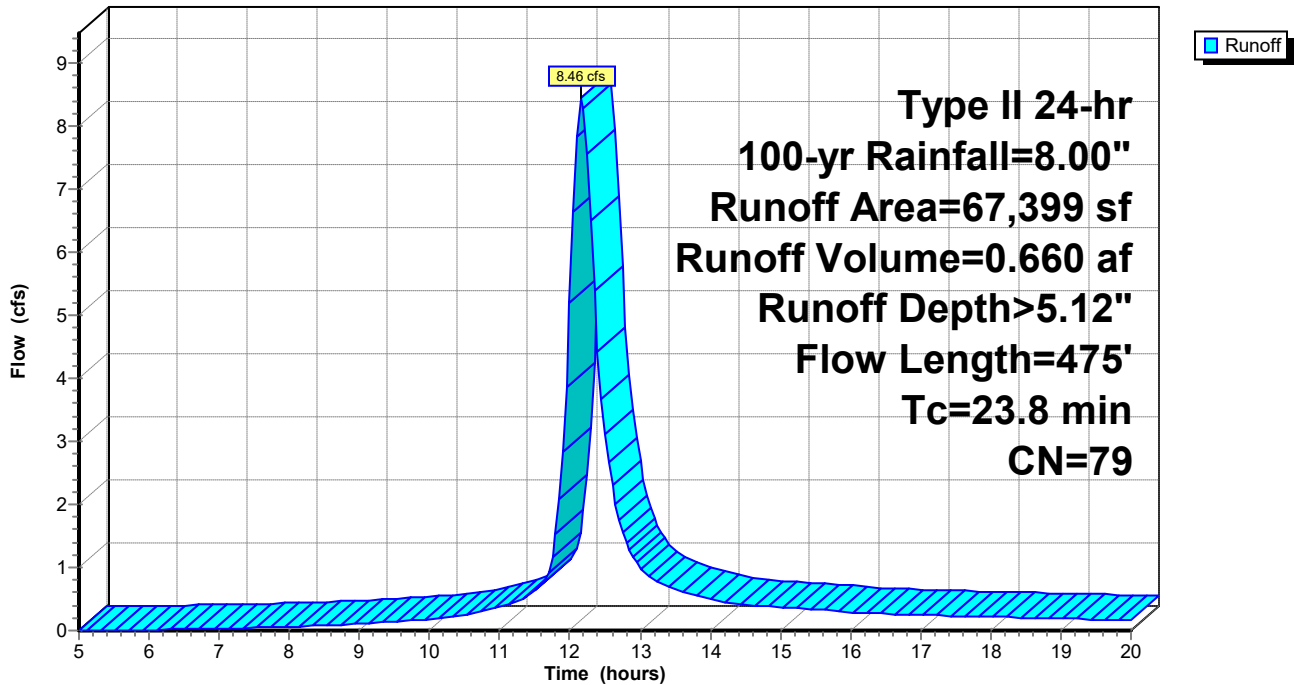
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-yr Rainfall=8.00"

| Area (sf) | CN | Description |
|-----------|----|-----------------------|
| 67,399 | 79 | Woods, Fair, HSG D |
| 67,399 | | 100.00% Pervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|----------|---------------|---------------|-------------------|----------------|--|
| 15.0 | 100 | 0.0500 | 0.11 | | Sheet Flow, Initiated from top of knoll @ 414' |
| 8.8 | 375 | 0.0200 | 0.71 | | Woods: Light underbrush n= 0.400 P2= 3.15" Shallow Concentrated Flow, Shallow Conc. to wetland Woodland Kv= 5.0 fps |
| 23.8 | 475 | Total | | | |

Subcatchment 1S: Sub Basin #1

Hydrograph



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Type II 24-hr 100-yr Rainfall=8.00"

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Summary for Subcatchment 2S: Sub Basin #2

Runoff = 4.36 cfs @ 12.34 hrs, Volume= 0.451 af, Depth> 4.42"

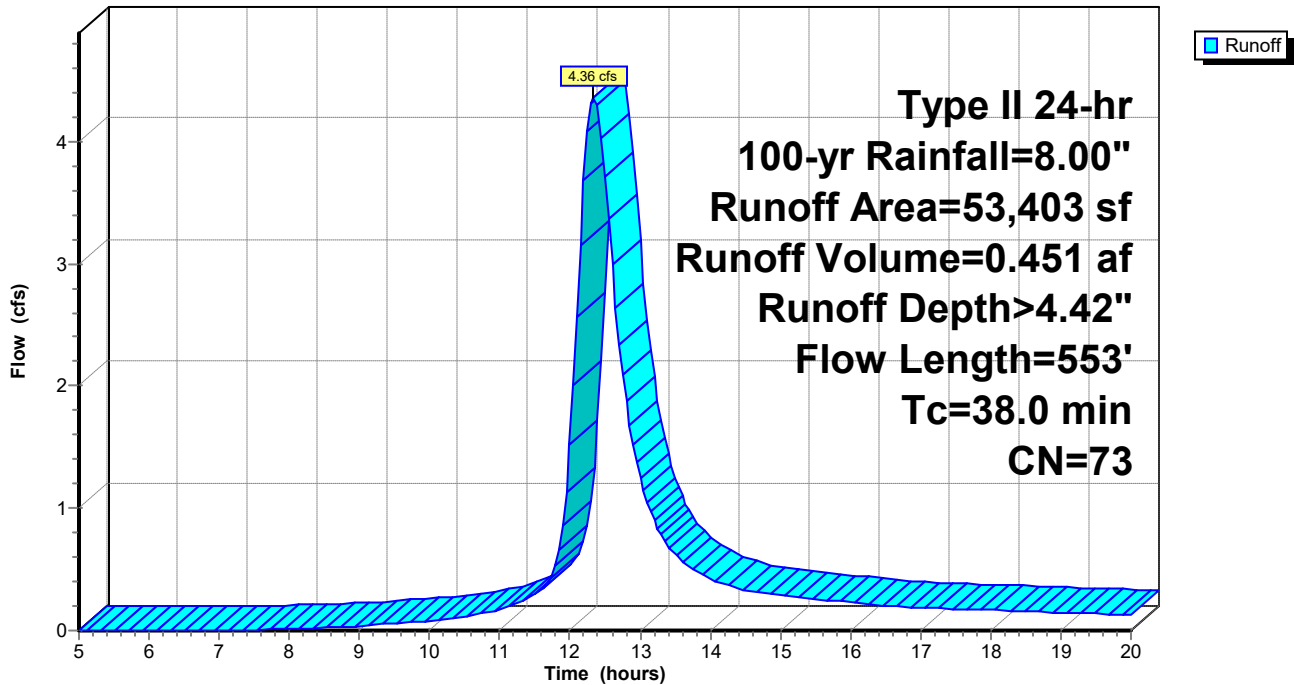
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-yr Rainfall=8.00"

| Area (sf) | CN | Description |
|-----------|----|-----------------------|
| 53,403 | 73 | Woods, Fair, HSG C |
| 53,403 | | 100.00% Pervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|----------|---------------|---------------|-------------------|----------------|--|
| 28.6 | 100 | 0.0100 | 0.06 | | Sheet Flow, Initiated from knoll @ 414' |
| 9.4 | 453 | 0.0260 | 0.81 | | Shallow Concentrated Flow, To wetland |
| | | | | | Woodland Kv= 5.0 fps |
| 38.0 | 553 | Total | | | |

Subcatchment 2S: Sub Basin #2

Hydrograph



19-049 PRE Development

Type II 24-hr 100-yr Rainfall=8.00"

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Summary for Subcatchment 3S: Sub Basin #3

Runoff = 0.18 cfs @ 12.16 hrs, Volume= 0.019 af, Depth> 0.75"

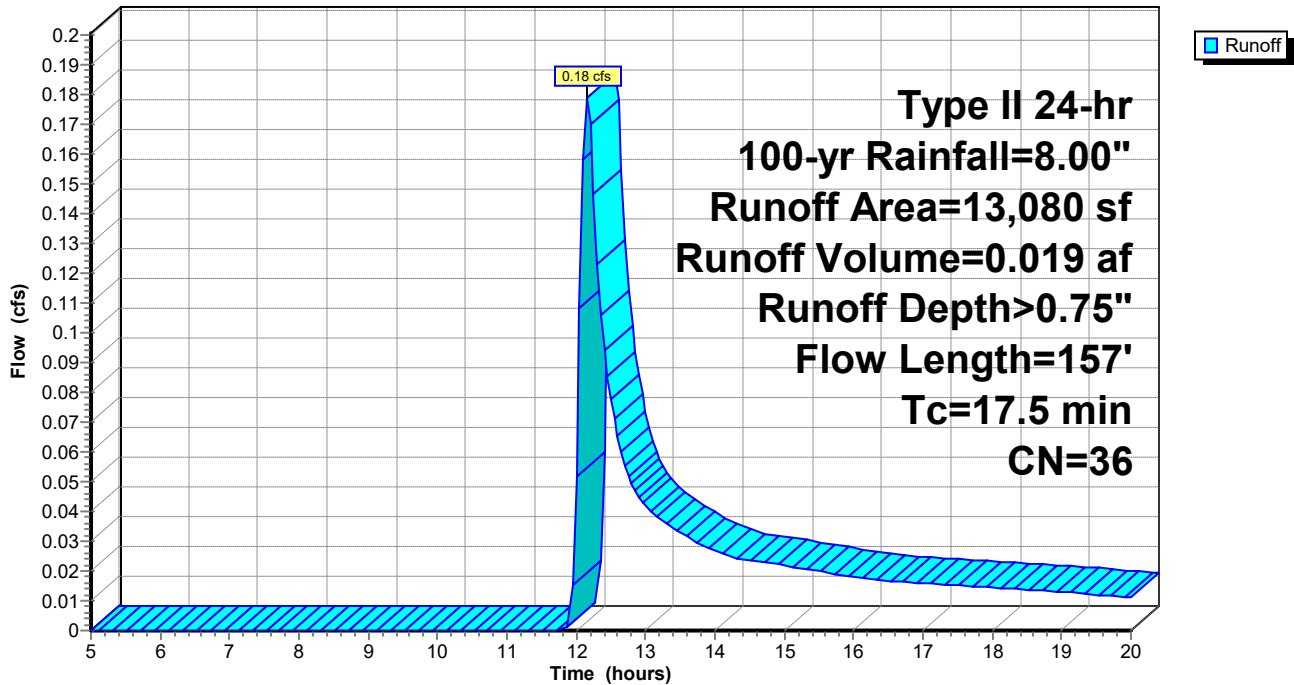
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Type II 24-hr 100-yr Rainfall=8.00"

| Area (sf) | CN | Description |
|-----------|----|-----------------------|
| * 13,080 | 36 | Woods, Fair, HSG A |
| 13,080 | | 100.00% Pervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|----------|---------------|---------------|-------------------|----------------|---|
| 16.4 | 100 | 0.0400 | 0.10 | | Sheet Flow, Initiated at knoll @ 414' |
| | | | | | Woods: Light underbrush n= 0.400 P2= 3.15" |
| 1.1 | 57 | 0.0307 | 0.88 | | Shallow Concentrated Flow, To Jeanne Dr. |
| | | | | | Woodland Kv= 5.0 fps |
| 17.5 | 157 | Total | | | |

Subcatchment 3S: Sub Basin #3

Hydrograph



Summary for Reach 7R: (new Reach)

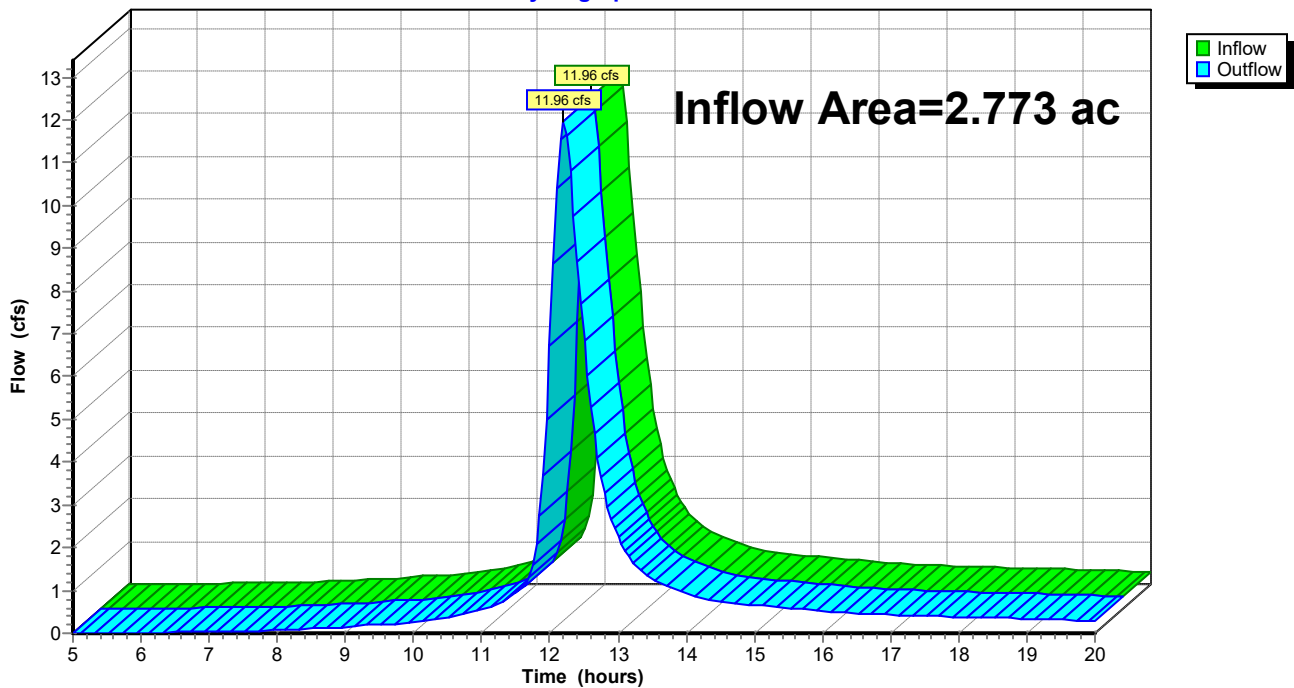
[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 2.773 ac, 0.00% Impervious, Inflow Depth > 4.81" for 100-yr event
Inflow = 11.96 cfs @ 12.20 hrs, Volume= 1.111 af
Outflow = 11.96 cfs @ 12.20 hrs, Volume= 1.111 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach 7R: (new Reach)

Hydrograph



Summary for Reach 8R: (new Reach)

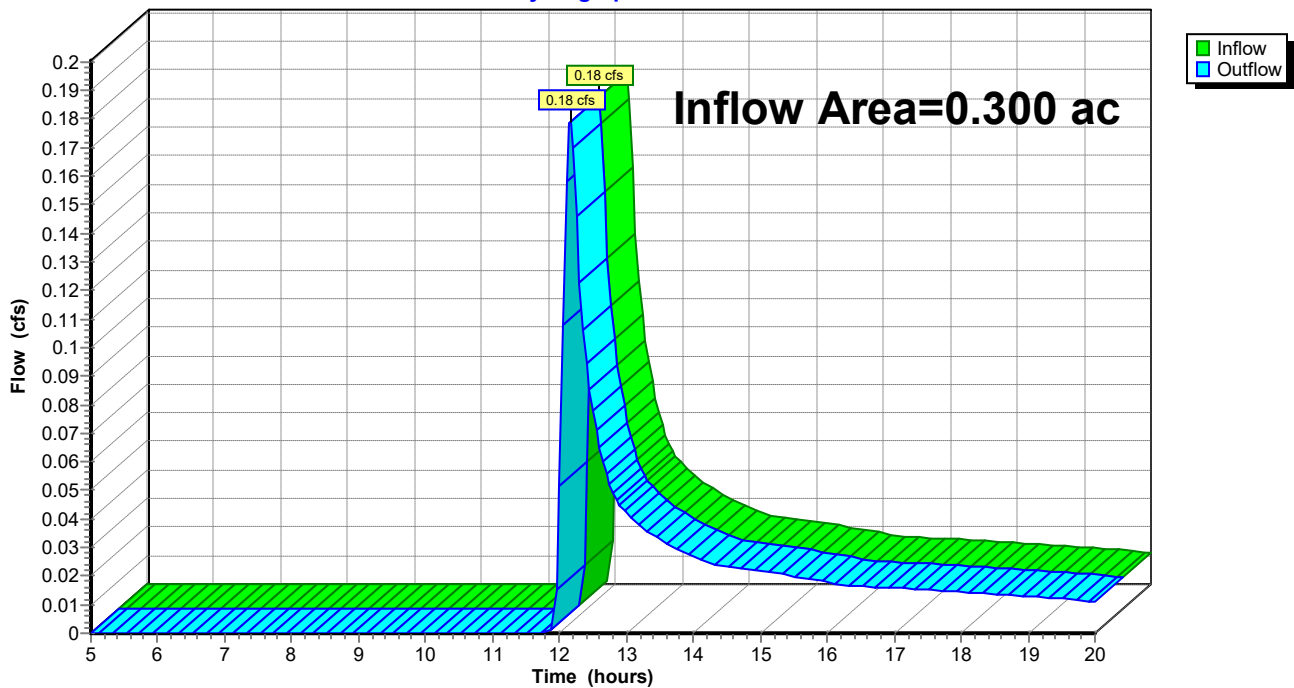
[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 0.300 ac, 0.00% Impervious, Inflow Depth > 0.75" for 100-yr event
Inflow = 0.18 cfs @ 12.16 hrs, Volume= 0.019 af
Outflow = 0.18 cfs @ 12.16 hrs, Volume= 0.019 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach 8R: (new Reach)

Hydrograph





Sub Basin #1 Full Building



Cultec 902HD chambers



Combined Sub Basin #2 and #3



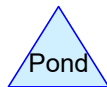
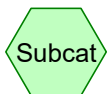
Forbay



Pond #1



Discharge



Routing Diagram for 23-0419.00 - 24 Jeanne Dr, Newburgh, NY - POST Development HydroCAD with Cultec

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Project Notes

Defined 9 rainfall events from NY-Newburgh IDF

23-0419.00 - 24 Jeanne Dr, Newburgh, NY - POST Development HydroCAD with Cultec

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Area Listing (all nodes)

| Area (acres) | CN | Description (subcatchment-numbers) |
|-----------------|-----------|---------------------------------------|
| 1.277 | 98 | Roofs, HSG A (1S, 9S) |
| 0.574 | 72 | Woods/grass comb., Good, HSG C (9S) |
| 1.220 | 79 | Woods/grass comb., Good, HSG D (1S) |
| 3.072 | 86 | TOTAL AREA |

Soil Listing (all nodes)

| Area (acres) | Soil Group | Subcatchment Numbers |
|-----------------|---------------|-------------------------|
| 1.277 | HSG A | 1S, 9S |
| 0.000 | HSG B | |
| 0.574 | HSG C | 9S |
| 1.220 | HSG D | 1S |
| 0.000 | Other | |
| 3.072 | | TOTAL AREA |

23-0419.00 - 24 Jeanne Dr, Newburgh, NY - POST Development HydroCAD with Cultec

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Ground Covers (all nodes)

| HSG-A (acres) | HSG-B (acres) | HSG-C (acres) | HSG-D (acres) | Other (acres) | Total (acres) | Ground Cover | Subcatchment Numbers |
|------------------|------------------|------------------|------------------|------------------|------------------|-------------------------|-------------------------|
| 1.277 | 0.000 | 0.000 | 0.000 | 0.000 | 1.277 | Roofs | 1S, 9S |
| 0.000 | 0.000 | 0.574 | 1.220 | 0.000 | 1.794 | Woods/grass comb., Good | 1S, 9S |
| 1.277 | 0.000 | 0.574 | 1.220 | 0.000 | 3.072 | TOTAL AREA | |

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Pipe Listing (all nodes)

| Line# | Node Number | In-Invert (feet) | Out-Invert (feet) | Length (feet) | Slope (ft/ft) | n | Diam/Width (inches) | Height (inches) | Inside-Fill (inches) |
|-------|-------------|------------------|-------------------|---------------|---------------|-------|---------------------|-----------------|----------------------|
| 1 | 9S | 0.00 | 0.00 | 560.0 | 0.0100 | 0.010 | 15.0 | 0.0 | 12.0 |
| 2 | 7P | 400.50 | 400.00 | 40.0 | 0.0125 | 0.010 | 15.0 | 0.0 | 10.0 |
| 3 | 8P | 401.00 | 400.00 | 30.0 | 0.0333 | 0.010 | 15.0 | 0.0 | 10.0 |

Time span=3.00-20.00 hrs, dt=0.05 hrs, 341 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: Sub Basin #1 Full Runoff Area=79,133 sf 32.82% Impervious Runoff Depth>1.38"
Flow Length=380' Slope=0.0200 '/' Tc=14.6 min CN=85 Runoff=3.56 cfs 0.209 af

Subcatchment 9S: Combined Sub Basin Runoff Area=54,663 sf 54.28% Impervious Runoff Depth>1.46"
Flow Length=620' Tc=4.8 min CN=86 Runoff=3.57 cfs 0.152 af

Reach 8R: Discharge Inflow=1.25 cfs 0.181 af
Outflow=1.25 cfs 0.181 af

Pond 5P: Forbay Peak Elev=403.19' Storage=2,207 cf Inflow=3.57 cfs 0.152 af
Outflow=3.17 cfs 0.109 af

Pond 7P: Pond #1 Peak Elev=400.92' Storage=4,764 cf Inflow=3.17 cfs 0.109 af
Primary=0.00 cfs 0.000 af Secondary=0.00 cfs 0.000 af Outflow=0.00 cfs 0.000 af

Pond 8P: Cultec 902HD chambers Peak Elev=402.54' Storage=3,624 cf Inflow=3.56 cfs 0.209 af
Outflow=1.25 cfs 0.181 af

Total Runoff Area = 3.072 ac Runoff Volume = 0.362 af Average Runoff Depth = 1.41"
58.41% Pervious = 1.794 ac 41.59% Impervious = 1.277 ac

Summary for Subcatchment 1S: Sub Basin #1 Full Building

Runoff = 3.56 cfs @ 12.07 hrs, Volume= 0.209 af, Depth> 1.38"

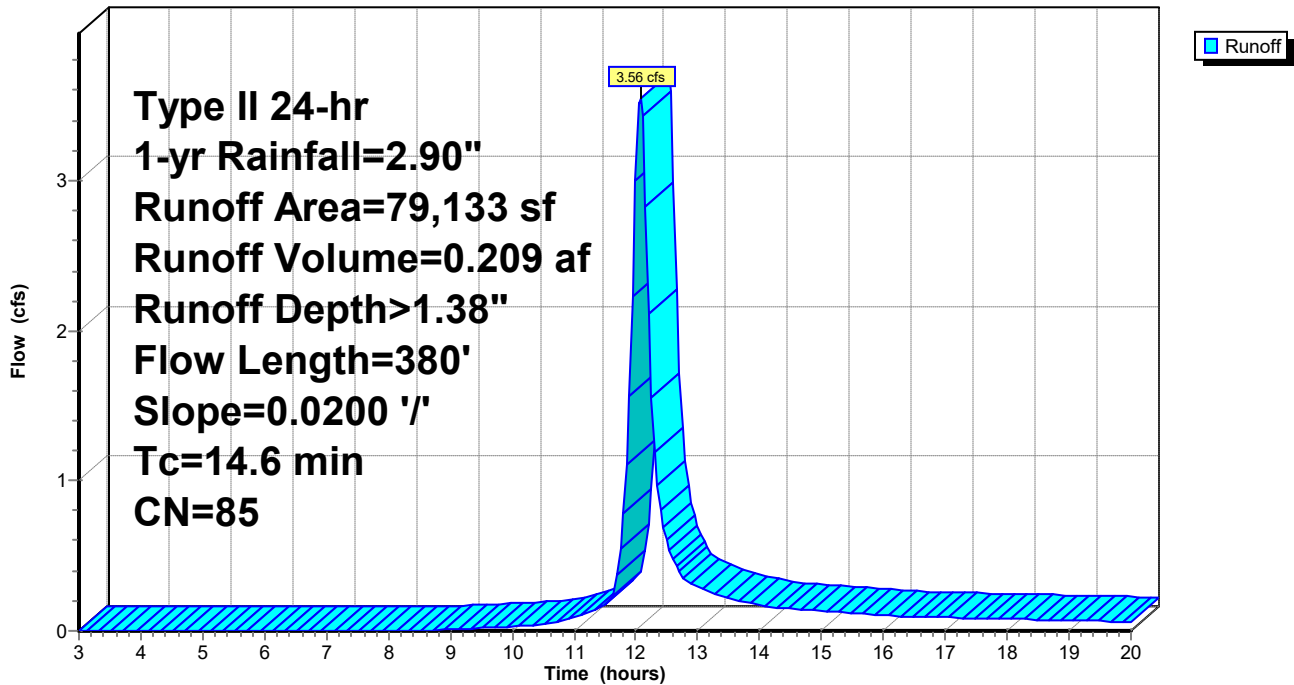
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 3.00-20.00 hrs, dt= 0.05 hrs
 Type II 24-hr 1-yr Rainfall=2.90"

| Area (sf) | CN | Description |
|-----------|----|--------------------------------|
| 53,162 | 79 | Woods/grass comb., Good, HSG D |
| 25,971 | 98 | Roofs, HSG A |
| 79,133 | 85 | Weighted Average |
| 53,162 | | 67.18% Pervious Area |
| 25,971 | | 32.82% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|----------|---------------|---------------|-------------------|----------------|--|
| 9.9 | 100 | 0.0200 | 0.17 | | Sheet Flow, Initiated from top of knoll @ 414' Grass: Short n= 0.150 P2= 3.15" |
| 4.7 | 280 | 0.0200 | 0.99 | | Shallow Concentrated Flow, Shallow Conc. to Pond Short Grass Pasture Kv= 7.0 fps |
| 14.6 | 380 | Total | | | |

Subcatchment 1S: Sub Basin #1 Full Building

Hydrograph



Summary for Subcatchment 9S: Combined Sub Basin #2 and #3

[49] Hint: $T_c < 2dt$ may require smaller dt

Runoff = 3.57 cfs @ 11.95 hrs, Volume= 0.152 af, Depth> 1.46"

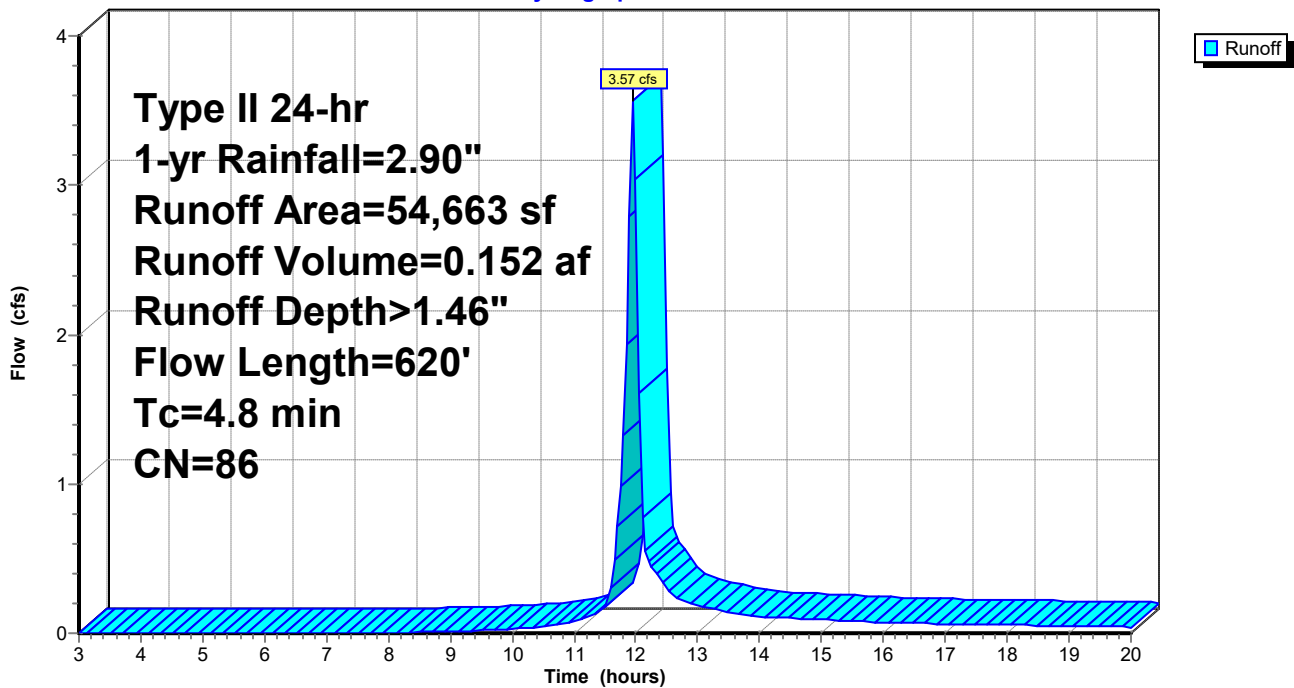
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 3.00-20.00 hrs, dt= 0.05 hrs
 Type II 24-hr 1-yr Rainfall=2.90"

| Area (sf) | CN | Description |
|-----------|----|--------------------------------|
| 24,993 | 72 | Woods/grass comb., Good, HSG C |
| 29,670 | 98 | Roofs, HSG A |
| 54,663 | 86 | Weighted Average |
| 24,993 | | 45.72% Pervious Area |
| 29,670 | | 54.28% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|----------|---------------|---------------|-------------------|----------------|---|
| 1.4 | 60 | 0.0050 | 0.71 | | Sheet Flow, Sheet to CB Smooth surfaces n= 0.011 P2= 3.15" |
| 3.4 | 560 | 0.0100 | 2.78 | 0.49 | Pipe Channel, CB to Swale 15.0" Round w/ 12.0" inside fill Area= 0.2 sf Perim= 2.2' r= 0.08' n= 0.010 Corrugated PE, smooth interior |
| 4.8 | 620 | Total | | | |

Subcatchment 9S: Combined Sub Basin #2 and #3

Hydrograph



Summary for Reach 8R: Discharge

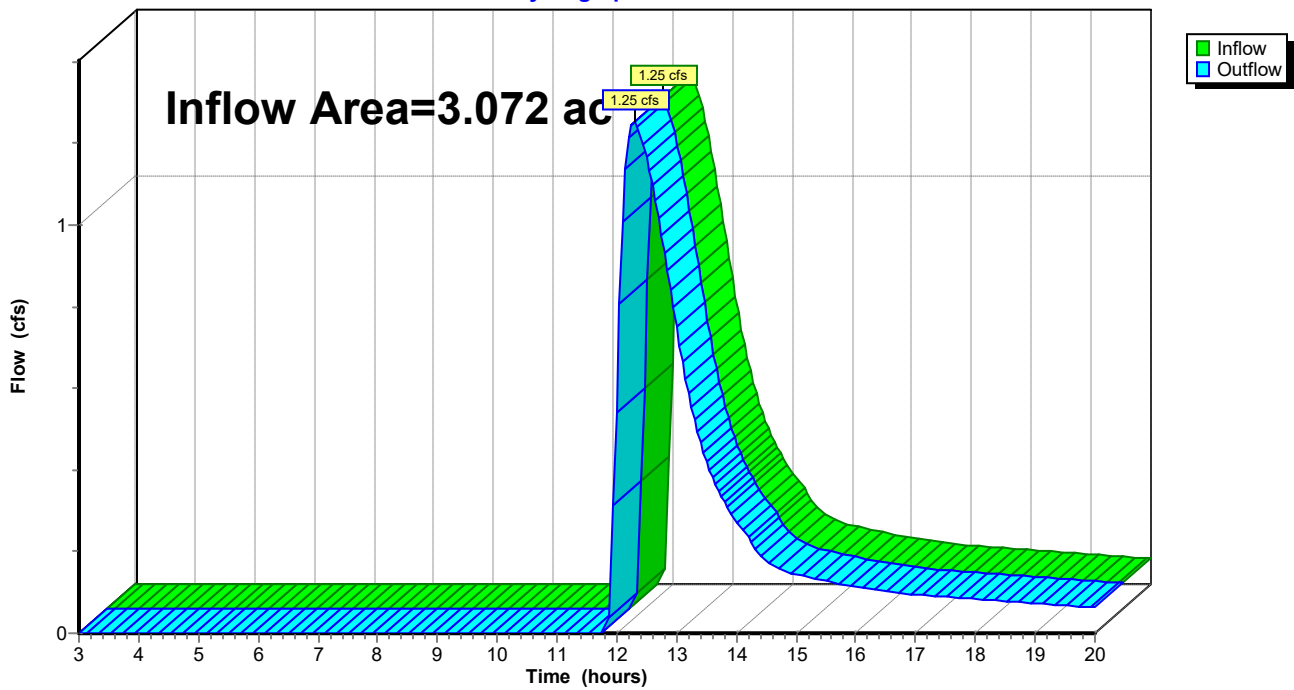
[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 3.072 ac, 41.59% Impervious, Inflow Depth > 0.71" for 1-yr event
Inflow = 1.25 cfs @ 12.30 hrs, Volume= 0.181 af
Outflow = 1.25 cfs @ 12.30 hrs, Volume= 0.181 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 3.00-20.00 hrs, dt= 0.05 hrs

Reach 8R: Discharge

Hydrograph



Summary for Pond 5P: Forbay

Inflow Area = 1.255 ac, 54.28% Impervious, Inflow Depth > 1.46" for 1-yr event
 Inflow = 3.57 cfs @ 11.95 hrs, Volume= 0.152 af
 Outflow = 3.17 cfs @ 11.99 hrs, Volume= 0.109 af, Atten= 11%, Lag= 2.3 min
 Primary = 3.17 cfs @ 11.99 hrs, Volume= 0.109 af

Routing by Stor-Ind method, Time Span= 3.00-20.00 hrs, dt= 0.05 hrs / 3
 Peak Elev= 403.19' @ 11.99 hrs Surf.Area= 2,014 sf Storage= 2,207 cf

Plug-Flow detention time= 104.8 min calculated for 0.109 af (72% of inflow)
 Center-of-Mass det. time= 38.4 min (820.4 - 782.0)

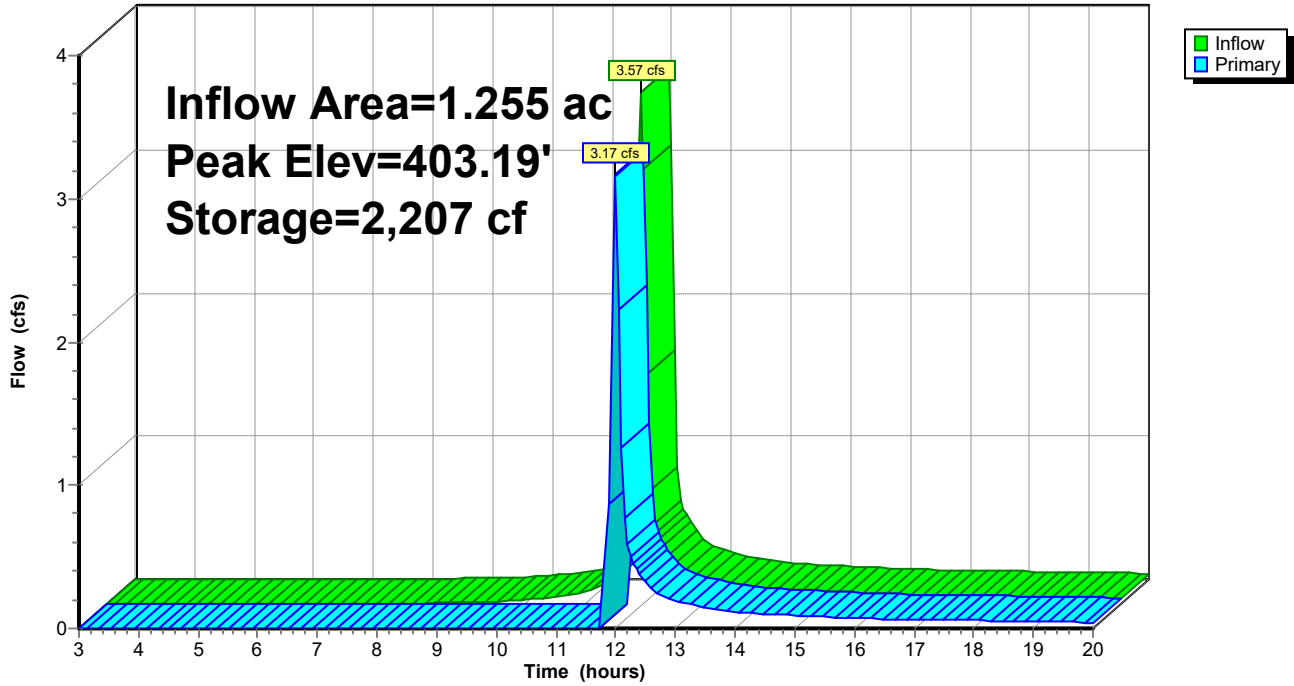
| Volume | Invert | Avail.Storage | Storage Description | | | |
|------------------|-------------------|---------------|--|------------------------|------------------|--|
| #1 | 401.00' | 4,089 cf | Custom Stage Data (Irregular) Listed below (Recalc) | | | |
| Elevation (feet) | Surf.Area (sq-ft) | Perim. (feet) | Inc.Store (cubic-feet) | Cum.Store (cubic-feet) | Wet.Area (sq-ft) | |
| 401.00 | 174 | 90.0 | 0 | 0 | 174 | |
| 402.00 | 885 | 191.0 | 484 | 484 | 2,437 | |
| 403.00 | 1,872 | 242.0 | 1,348 | 1,832 | 4,207 | |
| 404.00 | 2,666 | 286.0 | 2,257 | 4,089 | 6,075 | |

| Device | Routing | Invert | Outlet Devices | | | | | | | | | |
|--------|---------|---------|--|--|--|--|--|--|--|--|--|--|
| #1 | Primary | 403.00' | 15.0' long x 10.0' breadth Broad-Crested Rectangular Weir | | | | | | | | | |
| | | | Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 | | | | | | | | | |
| | | | Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64 | | | | | | | | | |

Primary OutFlow Max=3.08 cfs @ 11.99 hrs HW=403.19' TW=402.00' (Fixed TW Elev= 402.00')
 ↑1=Broad-Crested Rectangular Weir (Weir Controls 3.08 cfs @ 1.08 fps)

Pond 5P: Forbay

Hydrograph



Summary for Pond 7P: Pond #1

Inflow Area = 1.255 ac, 54.28% Impervious, Inflow Depth > 1.05" for 1-yr event
 Inflow = 3.17 cfs @ 11.99 hrs, Volume= 0.109 af
 Outflow = 0.00 cfs @ 3.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min
 Primary = 0.00 cfs @ 3.00 hrs, Volume= 0.000 af
 Secondary = 0.00 cfs @ 3.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 3.00-20.00 hrs, dt= 0.05 hrs / 3
 Peak Elev= 400.92' @ 20.00 hrs Surf.Area= 7,291 sf Storage= 4,764 cf

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
 Center-of-Mass det. time= (not calculated: no outflow)

| Volume | Invert | Avail.Storage | Storage Description | | |
|------------------|-------------------|---------------|--|------------------------|------------------|
| #1 | 400.00' | 35,384 cf | Custom Stage Data (Irregular) Listed below (Recalc) | | |
| Elevation (feet) | Surf.Area (sq-ft) | Perim. (feet) | Inc.Store (cubic-feet) | Cum.Store (cubic-feet) | Wet.Area (sq-ft) |
| 400.00 | 3,312 | 238.0 | 0 | 0 | 3,312 |
| 401.00 | 7,705 | 347.0 | 5,356 | 5,356 | 8,395 |
| 402.00 | 9,173 | 380.0 | 8,428 | 13,785 | 10,338 |
| 403.00 | 10,783 | 414.0 | 9,967 | 23,752 | 12,523 |
| 404.00 | 12,502 | 422.0 | 11,632 | 35,384 | 13,200 |

| Device | Routing | Invert | Outlet Devices | | | |
|--------|-----------|---------|--|--|--|--|
| #1 | Primary | 401.33' | 15.0" Round Culvert w/ 10.0" inside fill L= 40.0' Ke= 0.500 Inlet / Outlet Invert= 400.50' / 400.00' S= 0.0125'/' Cc= 0.900 n= 0.010, Flow Area= 0.36 sf | | | |
| #2 | Device 1 | 401.50' | 2.0" Vert. Orifice/Grate C= 0.600 | | | |
| #3 | Device 1 | 402.25' | 3.0" Vert. Orifice/Grate C= 0.600 | | | |
| #4 | Device 1 | 402.75' | 7.5' long Sharp-Crested Rectangular Weir 0 End Contraction(s) 0.5' Crest Height | | | |
| #5 | Secondary | 403.00' | 15.0' long x 10.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64 | | | |

Primary OutFlow Max=0.00 cfs @ 3.00 hrs HW=400.00' (Free Discharge)

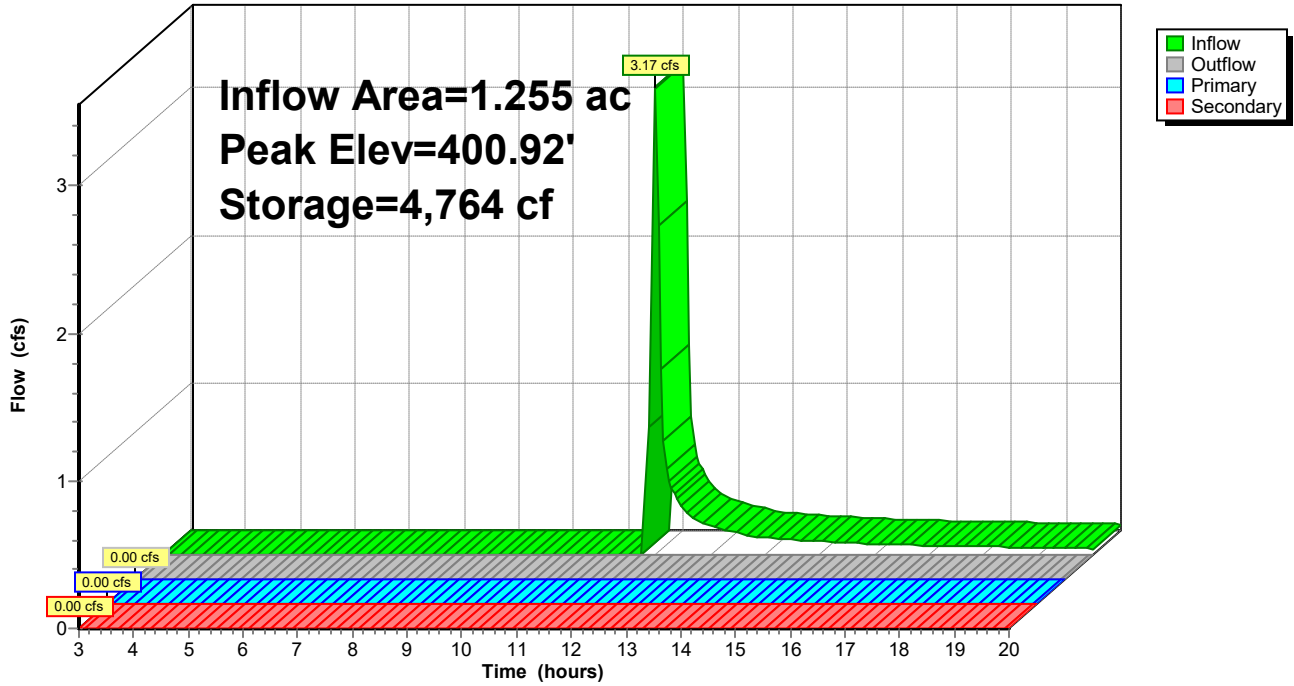
- ↑ 1=Culvert (Controls 0.00 cfs)
- ↑ 2=Orifice/Grate (Controls 0.00 cfs)
- ↑ 3=Orifice/Grate (Controls 0.00 cfs)
- ↑ 4=Sharp-Crested Rectangular Weir (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 3.00 hrs HW=400.00' (Free Discharge)

- ↑ 5=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Pond 7P: Pond #1

Hydrograph



Summary for Pond 8P: Cultec 902HD chambers

Inflow Area = 1.817 ac, 32.82% Impervious, Inflow Depth > 1.38" for 1-yr event
 Inflow = 3.56 cfs @ 12.07 hrs, Volume= 0.209 af
 Outflow = 1.25 cfs @ 12.30 hrs, Volume= 0.181 af, Atten= 65%, Lag= 13.7 min
 Primary = 1.25 cfs @ 12.30 hrs, Volume= 0.181 af

Routing by Stor-Ind method, Time Span= 3.00-20.00 hrs, dt= 0.05 hrs
 Peak Elev= 402.54' @ 12.30 hrs Surf.Area= 4,800 sf Storage= 3,624 cf

Plug-Flow detention time= 80.0 min calculated for 0.180 af (86% of inflow)
 Center-of-Mass det. time= 38.2 min (830.7 - 792.5)

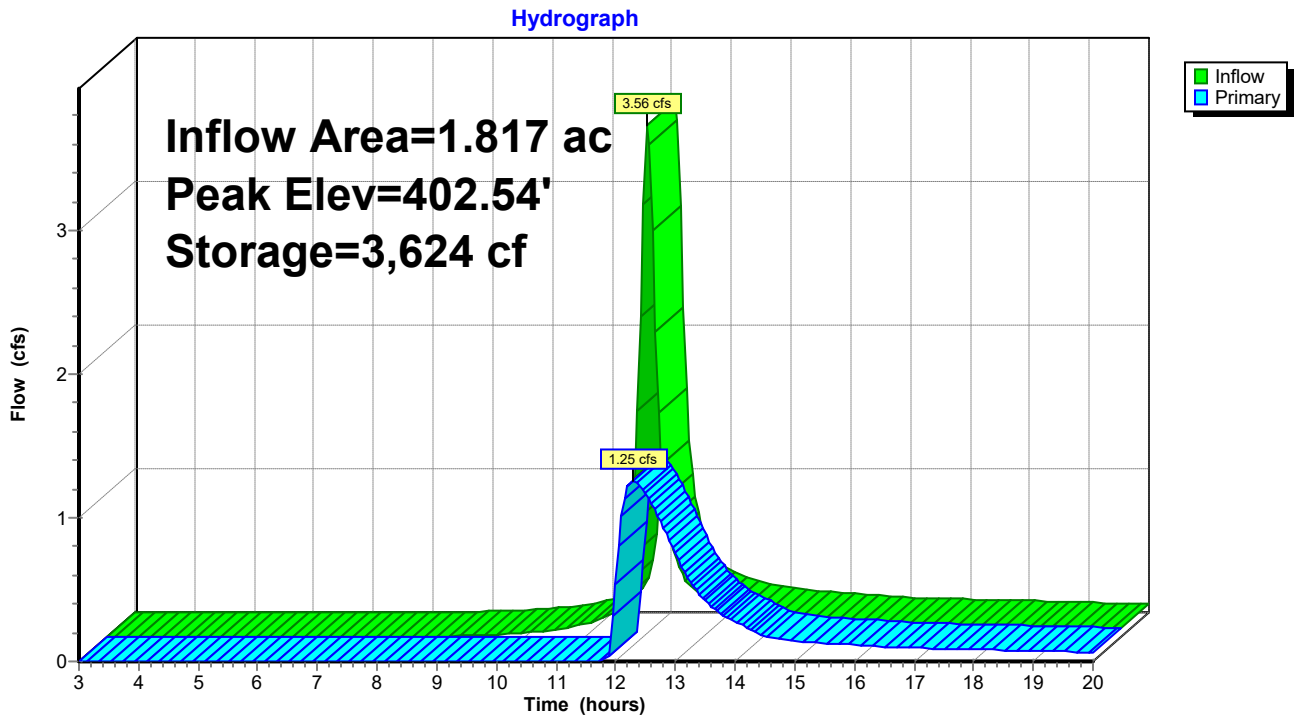
| Volume | Invert | Avail.Storage | Storage Description |
|--------|---------|---------------|---|
| #1 | 401.25' | 6,677 cf | Stone Envelope (Prismatic) Listed below (Recalc) 27,600 cf Overall - 10,909 cf Embedded = 16,691 cf x 40.0% Voids |
| #2 | 402.00' | 10,909 cf | Cultec R-902HD x 168 Inside #1 Effective Size= 69.8"W x 48.0"H => 17.65 sf x 3.67'L = 64.7 cf Overall Size= 78.0"W x 48.0"H x 4.10'L with 0.44' Overlap 168 Chambers in 6 Rows Cap Storage= +2.8 cf x 2 x 6 rows = 33.1 cf |
| | | 17,585 cf | Total Available Storage |

| Elevation (feet) | Surf.Area (sq-ft) | Inc.Store (cubic-feet) | Cum.Store (cubic-feet) |
|------------------|-------------------|------------------------|------------------------|
| 401.25 | 4,800 | 0 | 0 |
| 407.00 | 4,800 | 27,600 | 27,600 |

| Device | Routing | Invert | Outlet Devices |
|--------|---------|---------|--|
| #1 | Primary | 401.83' | 15.0" Round Culvert w/ 10.0" inside fill L= 30.0' Ke= 0.500 Inlet / Outlet Invert= 401.00' / 400.00' S= 0.0333 '/' Cc= 0.900 n= 0.010, Flow Area= 0.36 sf |
| #2 | Primary | 403.00' | 3.0" Vert. Orifice/Grate C= 0.600 |
| #3 | Primary | 404.00' | 2.0" Vert. Orifice/Grate C= 0.600 |

Primary OutFlow Max=1.25 cfs @ 12.30 hrs HW=402.54' (Free Discharge)
 1=Culvert (Inlet Controls 1.25 cfs @ 3.50 fps)
 2=Orifice/Grate (Controls 0.00 cfs)
 3=Orifice/Grate (Controls 0.00 cfs)

Pond 8P: Cultec 902HD chambers



Time span=3.00-20.00 hrs, dt=0.05 hrs, 341 points
 Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
 Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: Sub Basin #1 Full Runoff Area=79,133 sf 32.82% Impervious Runoff Depth>3.57"
 Flow Length=380' Slope=0.0200 '/' Tc=14.6 min CN=85 Runoff=8.89 cfs 0.541 af

Subcatchment 9S: Combined Sub Basin Runoff Area=54,663 sf 54.28% Impervious Runoff Depth>3.68"
 Flow Length=620' Tc=4.8 min CN=86 Runoff=8.56 cfs 0.385 af

Reach 8R: Discharge Inflow=2.65 cfs 0.543 af
 Outflow=2.65 cfs 0.543 af

Pond 5P: Forbay Peak Elev=403.36' Storage=2,545 cf Inflow=8.56 cfs 0.385 af
 Outflow=8.11 cfs 0.343 af

Pond 7P: Pond #1 Peak Elev=401.97' Storage=13,498 cf Inflow=8.11 cfs 0.343 af
 Primary=0.07 cfs 0.033 af Secondary=0.00 cfs 0.000 af Outflow=0.07 cfs 0.033 af

Pond 8P: Cultec 902HD chambers Peak Elev=404.00' Storage=9,306 cf Inflow=8.89 cfs 0.541 af
 Outflow=2.65 cfs 0.510 af

Total Runoff Area = 3.072 ac Runoff Volume = 0.926 af Average Runoff Depth = 3.62"
58.41% Pervious = 1.794 ac 41.59% Impervious = 1.277 ac

Summary for Subcatchment 1S: Sub Basin #1 Full Building

Runoff = 8.89 cfs @ 12.06 hrs, Volume= 0.541 af, Depth> 3.57"

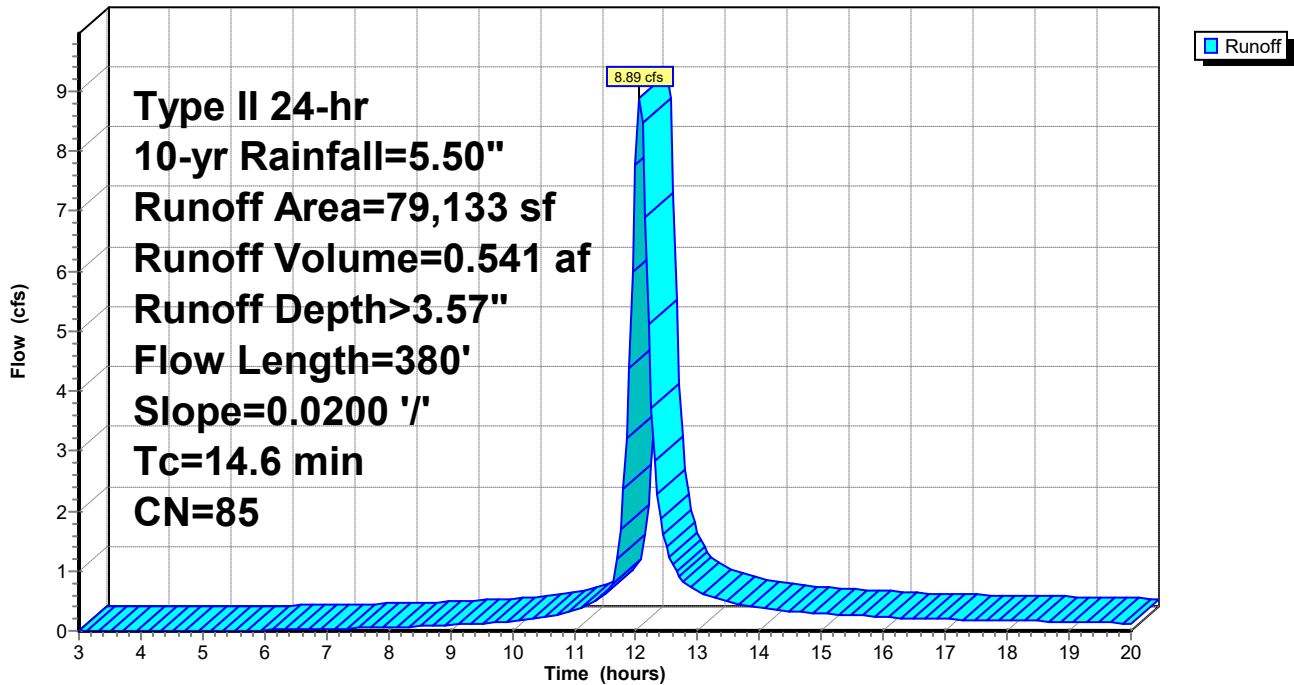
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 3.00-20.00 hrs, dt= 0.05 hrs
 Type II 24-hr 10-yr Rainfall=5.50"

| Area (sf) | CN | Description |
|-----------|----|--------------------------------|
| 53,162 | 79 | Woods/grass comb., Good, HSG D |
| 25,971 | 98 | Roofs, HSG A |
| 79,133 | 85 | Weighted Average |
| 53,162 | | 67.18% Pervious Area |
| 25,971 | | 32.82% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|----------|---------------|---------------|-------------------|----------------|--|
| 9.9 | 100 | 0.0200 | 0.17 | | Sheet Flow, Initiated from top of knoll @ 414' Grass: Short n= 0.150 P2= 3.15" |
| 4.7 | 280 | 0.0200 | 0.99 | | Shallow Concentrated Flow, Shallow Conc. to Pond Short Grass Pasture Kv= 7.0 fps |
| 14.6 | 380 | Total | | | |

Subcatchment 1S: Sub Basin #1 Full Building

Hydrograph



Summary for Subcatchment 9S: Combined Sub Basin #2 and #3

[49] Hint: Tc<2dt may require smaller dt

Runoff = 8.56 cfs @ 11.95 hrs, Volume= 0.385 af, Depth> 3.68"

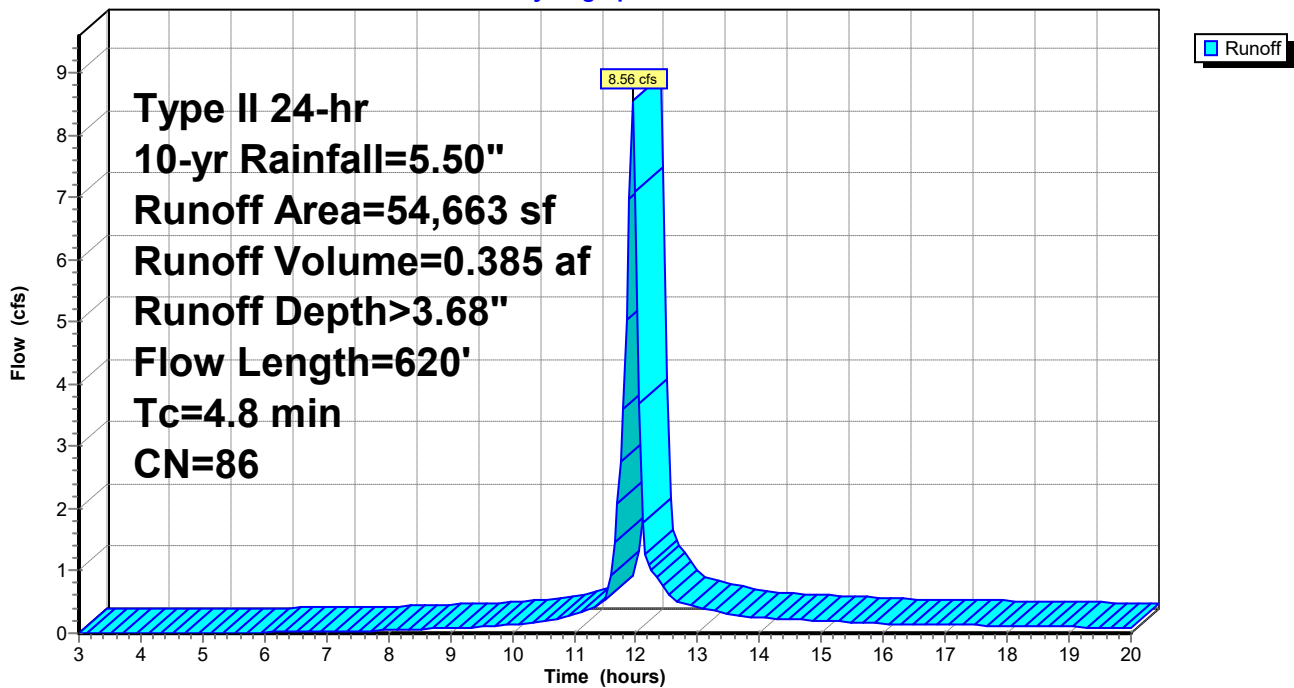
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 3.00-20.00 hrs, dt= 0.05 hrs
 Type II 24-hr 10-yr Rainfall=5.50"

| Area (sf) | CN | Description |
|-----------|----|--------------------------------|
| 24,993 | 72 | Woods/grass comb., Good, HSG C |
| 29,670 | 98 | Roofs, HSG A |
| 54,663 | 86 | Weighted Average |
| 24,993 | | 45.72% Pervious Area |
| 29,670 | | 54.28% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|----------|---------------|---------------|-------------------|----------------|---|
| 1.4 | 60 | 0.0050 | 0.71 | | Sheet Flow, Sheet to CB Smooth surfaces n= 0.011 P2= 3.15" |
| 3.4 | 560 | 0.0100 | 2.78 | 0.49 | Pipe Channel, CB to Swale 15.0" Round w/ 12.0" inside fill Area= 0.2 sf Perim= 2.2' r= 0.08' n= 0.010 Corrugated PE, smooth interior |
| 4.8 | 620 | Total | | | |

Subcatchment 9S: Combined Sub Basin #2 and #3

Hydrograph



Summary for Reach 8R: Discharge

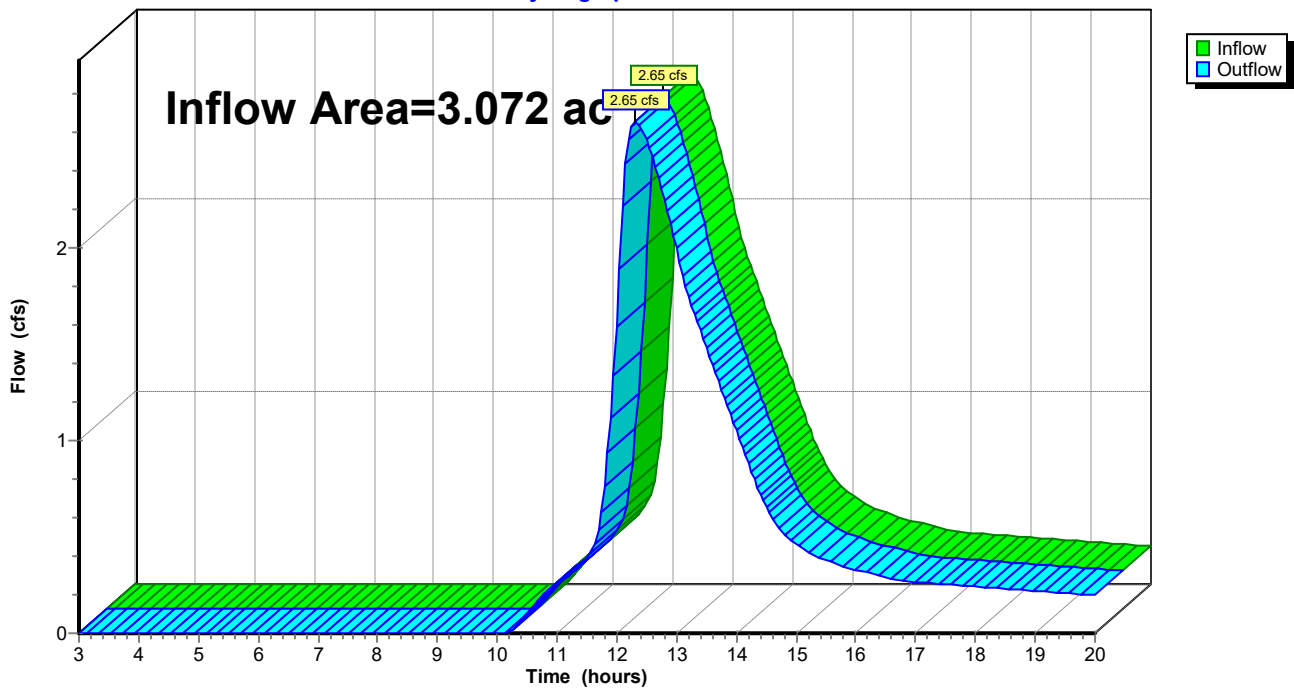
[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 3.072 ac, 41.59% Impervious, Inflow Depth > 2.12" for 10-yr event
Inflow = 2.65 cfs @ 12.32 hrs, Volume= 0.543 af
Outflow = 2.65 cfs @ 12.32 hrs, Volume= 0.543 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 3.00-20.00 hrs, dt= 0.05 hrs

Reach 8R: Discharge

Hydrograph



Summary for Pond 5P: Forbay

Inflow Area = 1.255 ac, 54.28% Impervious, Inflow Depth > 3.68" for 10-yr event
 Inflow = 8.56 cfs @ 11.95 hrs, Volume= 0.385 af
 Outflow = 8.11 cfs @ 11.96 hrs, Volume= 0.343 af, Atten= 5%, Lag= 0.8 min
 Primary = 8.11 cfs @ 11.96 hrs, Volume= 0.343 af

Routing by Stor-Ind method, Time Span= 3.00-20.00 hrs, dt= 0.05 hrs / 3
 Peak Elev= 403.36' @ 11.97 hrs Surf.Area= 2,139 sf Storage= 2,545 cf

Plug-Flow detention time= 60.8 min calculated for 0.343 af (89% of inflow)
 Center-of-Mass det. time= 24.0 min (784.9 - 760.9)

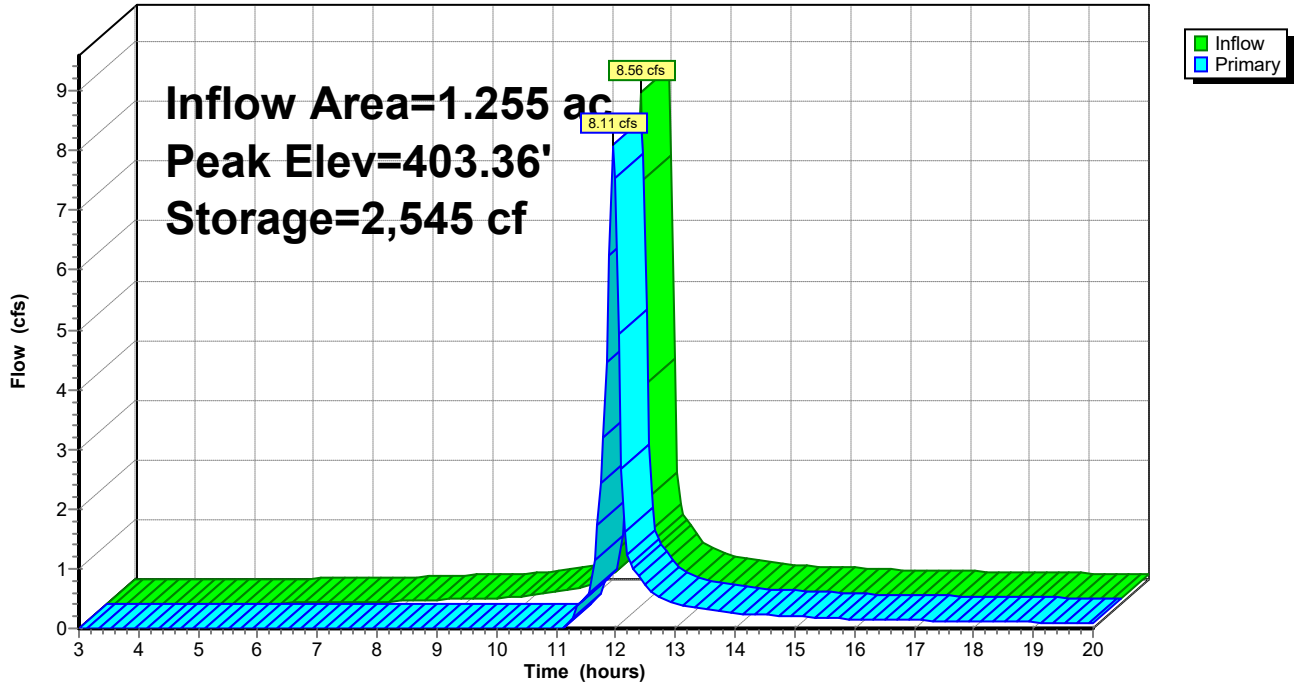
| Volume | Invert | Avail.Storage | Storage Description | | | |
|------------------|-------------------|---------------|--|------------------------|------------------|--|
| #1 | 401.00' | 4,089 cf | Custom Stage Data (Irregular) Listed below (Recalc) | | | |
| Elevation (feet) | Surf.Area (sq-ft) | Perim. (feet) | Inc.Store (cubic-feet) | Cum.Store (cubic-feet) | Wet.Area (sq-ft) | |
| 401.00 | 174 | 90.0 | 0 | 0 | 174 | |
| 402.00 | 885 | 191.0 | 484 | 484 | 2,437 | |
| 403.00 | 1,872 | 242.0 | 1,348 | 1,832 | 4,207 | |
| 404.00 | 2,666 | 286.0 | 2,257 | 4,089 | 6,075 | |

| Device | Routing | Invert | Outlet Devices | | | | | | | | | |
|--------|---------|---------|--|--|--|--|--|--|--|--|--|--|
| #1 | Primary | 403.00' | 15.0' long x 10.0' breadth Broad-Crested Rectangular Weir | | | | | | | | | |
| | | | Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 | | | | | | | | | |
| | | | Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64 | | | | | | | | | |

Primary OutFlow Max=7.87 cfs @ 11.96 hrs HW=403.35' TW=402.00' (Fixed TW Elev= 402.00')
 ↑1=Broad-Crested Rectangular Weir (Weir Controls 7.87 cfs @ 1.50 fps)

Pond 5P: Forbay

Hydrograph



Summary for Pond 7P: Pond #1

Inflow Area = 1.255 ac, 54.28% Impervious, Inflow Depth > 3.28" for 10-yr event
 Inflow = 8.11 cfs @ 11.96 hrs, Volume= 0.343 af
 Outflow = 0.07 cfs @ 20.00 hrs, Volume= 0.033 af, Atten= 99%, Lag= 482.1 min
 Primary = 0.07 cfs @ 20.00 hrs, Volume= 0.033 af
 Secondary = 0.00 cfs @ 3.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 3.00-20.00 hrs, dt= 0.05 hrs / 3
 Peak Elev= 401.97' @ 20.00 hrs Surf.Area= 9,125 sf Storage= 13,498 cf

Plug-Flow detention time= 310.1 min calculated for 0.033 af (10% of inflow)
 Center-of-Mass det. time= 221.6 min (1,006.5 - 784.9)

| Volume | Invert | Avail.Storage | Storage Description | | |
|------------------|-------------------|---------------|--|------------------------|------------------|
| #1 | 400.00' | 35,384 cf | Custom Stage Data (Irregular) Listed below (Recalc) | | |
| Elevation (feet) | Surf.Area (sq-ft) | Perim. (feet) | Inc.Store (cubic-feet) | Cum.Store (cubic-feet) | Wet.Area (sq-ft) |
| 400.00 | 3,312 | 238.0 | 0 | 0 | 3,312 |
| 401.00 | 7,705 | 347.0 | 5,356 | 5,356 | 8,395 |
| 402.00 | 9,173 | 380.0 | 8,428 | 13,785 | 10,338 |
| 403.00 | 10,783 | 414.0 | 9,967 | 23,752 | 12,523 |
| 404.00 | 12,502 | 422.0 | 11,632 | 35,384 | 13,200 |

| Device | Routing | Invert | Outlet Devices | | | |
|--------|-----------|---------|--|--|--|--|
| #1 | Primary | 401.33' | 15.0" Round Culvert w/ 10.0" inside fill L= 40.0' Ke= 0.500 Inlet / Outlet Invert= 400.50' / 400.00' S= 0.0125 '/' Cc= 0.900 n= 0.010, Flow Area= 0.36 sf | | | |
| #2 | Device 1 | 401.50' | 2.0" Vert. Orifice/Grate C= 0.600 | | | |
| #3 | Device 1 | 402.25' | 3.0" Vert. Orifice/Grate C= 0.600 | | | |
| #4 | Device 1 | 402.75' | 7.5' long Sharp-Crested Rectangular Weir 0 End Contraction(s) 0.5' Crest Height | | | |
| #5 | Secondary | 403.00' | 15.0' long x 10.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64 | | | |

Primary OutFlow Max=0.07 cfs @ 20.00 hrs HW=401.97' (Free Discharge)

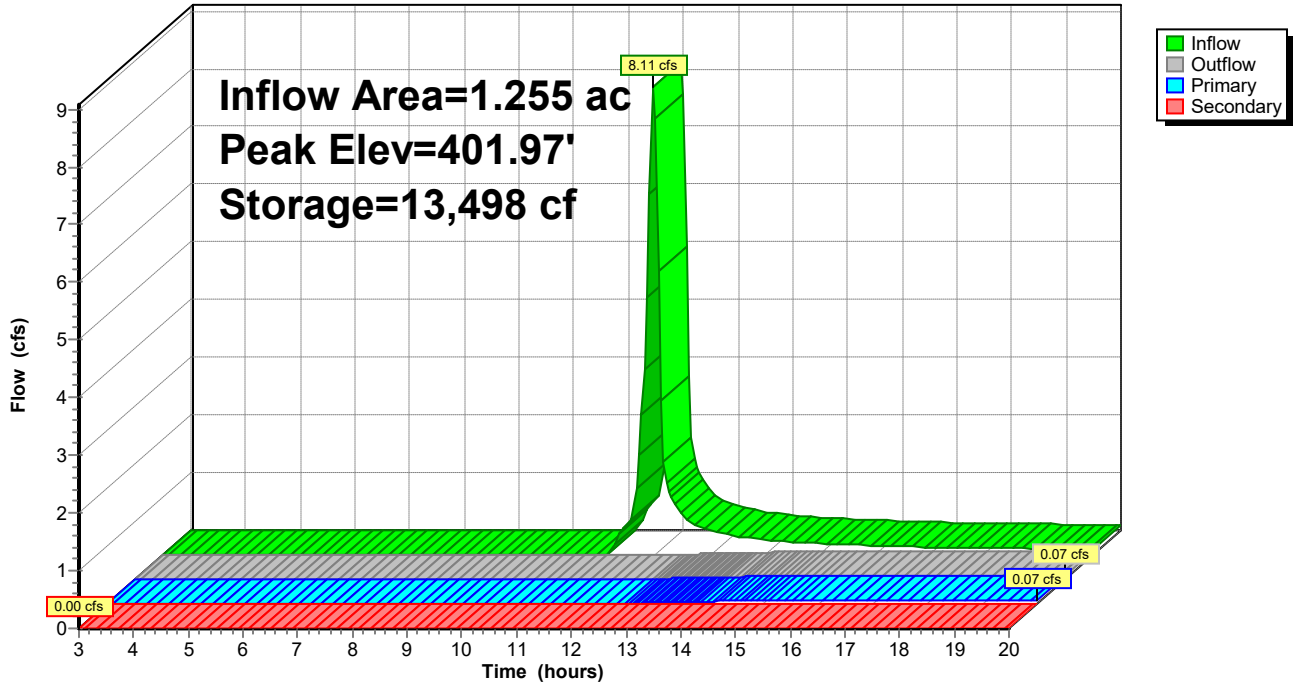
- ↑ 1=Culvert (Passes 0.07 cfs of 1.16 cfs potential flow)
- ↑ 2=Orifice/Grate (Orifice Controls 0.07 cfs @ 2.99 fps)
- ↑ 3=Orifice/Grate (Controls 0.00 cfs)
- ↑ 4=Sharp-Crested Rectangular Weir (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 3.00 hrs HW=400.00' (Free Discharge)

- ↑ 5=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Pond 7P: Pond #1

Hydrograph



Summary for Pond 8P: Cultec 902HD chambers

Inflow Area = 1.817 ac, 32.82% Impervious, Inflow Depth > 3.57" for 10-yr event
 Inflow = 8.89 cfs @ 12.06 hrs, Volume= 0.541 af
 Outflow = 2.65 cfs @ 12.32 hrs, Volume= 0.510 af, Atten= 70%, Lag= 15.4 min
 Primary = 2.65 cfs @ 12.32 hrs, Volume= 0.510 af

Routing by Stor-Ind method, Time Span= 3.00-20.00 hrs, dt= 0.05 hrs
 Peak Elev= 404.00' @ 12.32 hrs Surf.Area= 4,800 sf Storage= 9,306 cf

Plug-Flow detention time= 66.1 min calculated for 0.510 af (94% of inflow)
 Center-of-Mass det. time= 45.3 min (816.6 - 771.3)

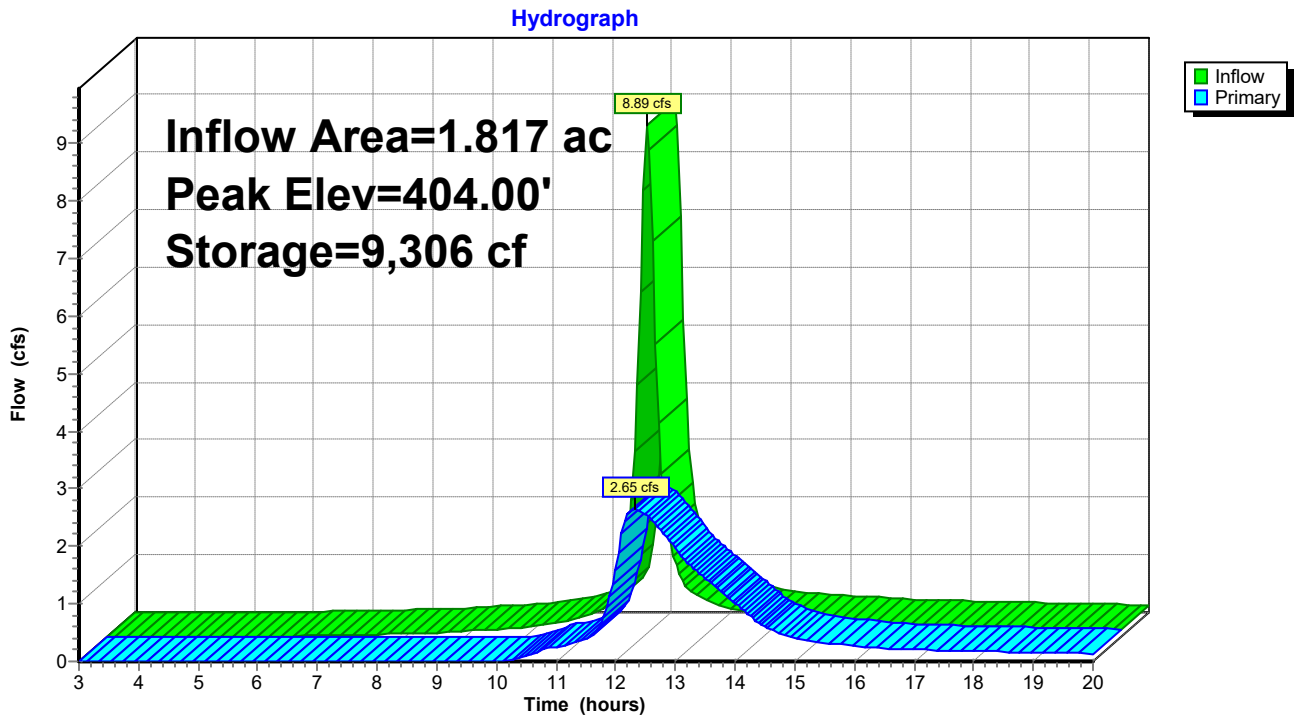
| Volume | Invert | Avail.Storage | Storage Description |
|--------|---------|---------------|---|
| #1 | 401.25' | 6,677 cf | Stone Envelope (Prismatic) Listed below (Recalc) 27,600 cf Overall - 10,909 cf Embedded = 16,691 cf x 40.0% Voids |
| #2 | 402.00' | 10,909 cf | Cultec R-902HD x 168 Inside #1 Effective Size= 69.8"W x 48.0"H => 17.65 sf x 3.67'L = 64.7 cf Overall Size= 78.0"W x 48.0"H x 4.10'L with 0.44' Overlap 168 Chambers in 6 Rows Cap Storage= +2.8 cf x 2 x 6 rows = 33.1 cf |
| | | 17,585 cf | Total Available Storage |

| Elevation (feet) | Surf.Area (sq-ft) | Inc.Store (cubic-feet) | Cum.Store (cubic-feet) |
|------------------|-------------------|------------------------|------------------------|
| 401.25 | 4,800 | 0 | 0 |
| 407.00 | 4,800 | 27,600 | 27,600 |

| Device | Routing | Invert | Outlet Devices |
|--------|---------|---------|--|
| #1 | Primary | 401.83' | 15.0" Round Culvert w/ 10.0" inside fill L= 30.0' Ke= 0.500 Inlet / Outlet Invert= 401.00' / 400.00' S= 0.0333 '/' Cc= 0.900 n= 0.010, Flow Area= 0.36 sf |
| #2 | Primary | 403.00' | 3.0" Vert. Orifice/Grate C= 0.600 |
| #3 | Primary | 404.00' | 2.0" Vert. Orifice/Grate C= 0.600 |

Primary OutFlow Max=2.65 cfs @ 12.32 hrs HW=403.99' (Free Discharge)
 1=Culvert (Inlet Controls 2.43 cfs @ 6.79 fps)
 2=Orifice/Grate (Orifice Controls 0.22 cfs @ 4.49 fps)
 3=Orifice/Grate (Controls 0.00 cfs)

Pond 8P: Cultec 902HD chambers



Time span=3.00-20.00 hrs, dt=0.05 hrs, 341 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: Sub Basin #1 Full Runoff Area=79,133 sf 32.82% Impervious Runoff Depth>4.46"
Flow Length=380' Slope=0.0200 '/' Tc=14.6 min CN=85 Runoff=10.97 cfs 0.676 af

Subcatchment 9S: Combined Sub Basin Runoff Area=54,663 sf 54.28% Impervious Runoff Depth>4.58"
Flow Length=620' Tc=4.8 min CN=86 Runoff=10.49 cfs 0.479 af

Reach 8R: Discharge Inflow=3.20 cfs 0.698 af
Outflow=3.20 cfs 0.698 af

Pond 5P: Forbay Peak Elev=403.41' Storage=2,655 cf Inflow=10.49 cfs 0.479 af
Outflow=9.97 cfs 0.437 af

Pond 7P: Pond #1 Peak Elev=402.31' Storage=16,678 cf Inflow=9.97 cfs 0.437 af
Primary=0.10 cfs 0.054 af Secondary=0.00 cfs 0.000 af Outflow=0.10 cfs 0.054 af

Pond 8P: Cultec 902HD chambers Peak Elev=404.61' Storage=11,559 cf Inflow=10.97 cfs 0.676 af
Outflow=3.15 cfs 0.645 af

Total Runoff Area = 3.072 ac Runoff Volume = 1.155 af Average Runoff Depth = 4.51"
58.41% Pervious = 1.794 ac 41.59% Impervious = 1.277 ac

Summary for Subcatchment 1S: Sub Basin #1 Full Building

Runoff = 10.97 cfs @ 12.06 hrs, Volume= 0.676 af, Depth> 4.46"

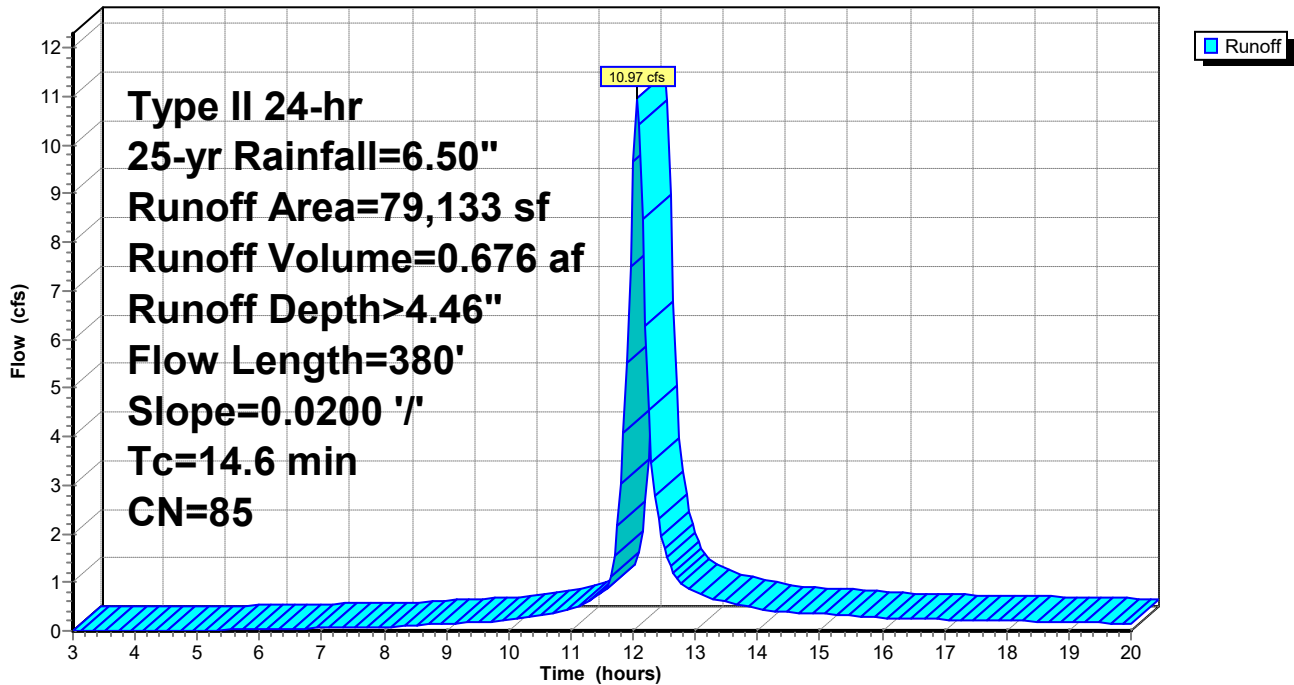
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 3.00-20.00 hrs, dt= 0.05 hrs
 Type II 24-hr 25-yr Rainfall=6.50"

| Area (sf) | CN | Description |
|-----------|----|--------------------------------|
| 53,162 | 79 | Woods/grass comb., Good, HSG D |
| 25,971 | 98 | Roofs, HSG A |
| 79,133 | 85 | Weighted Average |
| 53,162 | | 67.18% Pervious Area |
| 25,971 | | 32.82% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|----------|---------------|---------------|-------------------|----------------|--|
| 9.9 | 100 | 0.0200 | 0.17 | | Sheet Flow, Initiated from top of knoll @ 414' Grass: Short n= 0.150 P2= 3.15" |
| 4.7 | 280 | 0.0200 | 0.99 | | Shallow Concentrated Flow, Shallow Conc. to Pond Short Grass Pasture Kv= 7.0 fps |
| 14.6 | 380 | Total | | | |

Subcatchment 1S: Sub Basin #1 Full Building

Hydrograph



Summary for Subcatchment 9S: Combined Sub Basin #2 and #3

[49] Hint: Tc<2dt may require smaller dt

Runoff = 10.49 cfs @ 11.95 hrs, Volume= 0.479 af, Depth> 4.58"

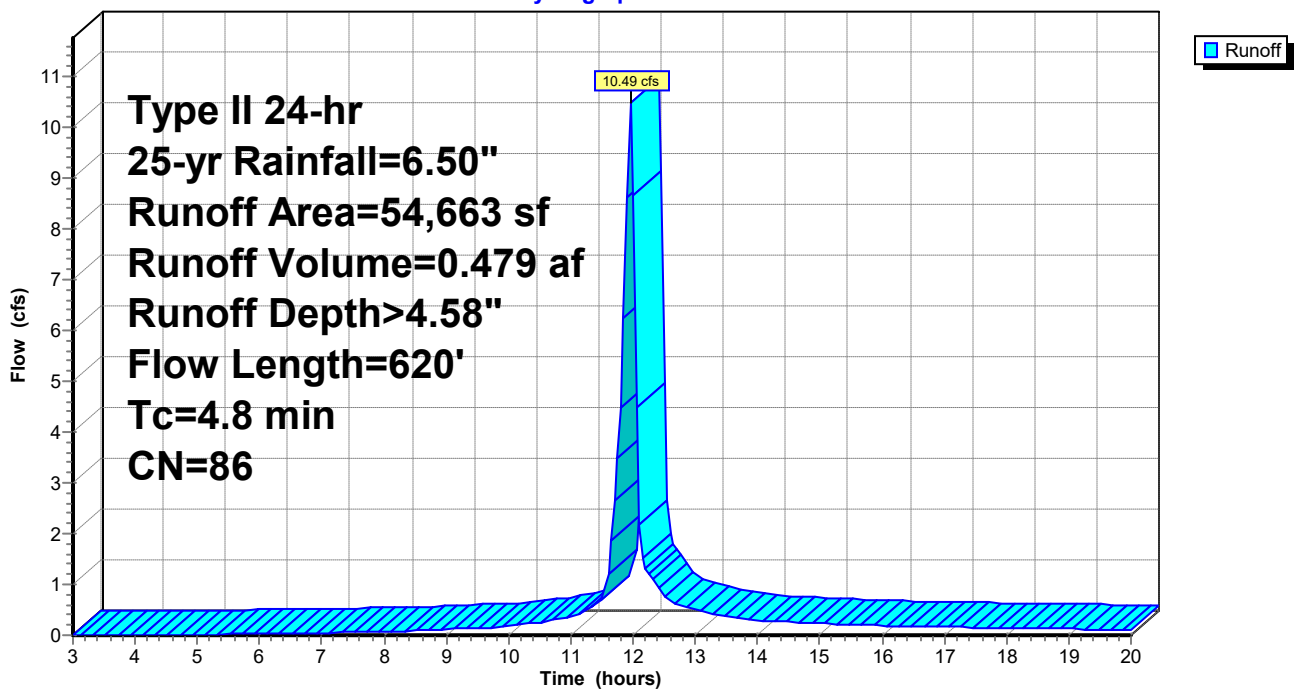
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 3.00-20.00 hrs, dt= 0.05 hrs
 Type II 24-hr 25-yr Rainfall=6.50"

| Area (sf) | CN | Description |
|-----------|----|--------------------------------|
| 24,993 | 72 | Woods/grass comb., Good, HSG C |
| 29,670 | 98 | Roofs, HSG A |
| 54,663 | 86 | Weighted Average |
| 24,993 | | 45.72% Pervious Area |
| 29,670 | | 54.28% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|----------|---------------|---------------|-------------------|----------------|---|
| 1.4 | 60 | 0.0050 | 0.71 | | Sheet Flow, Sheet to CB Smooth surfaces n= 0.011 P2= 3.15" |
| 3.4 | 560 | 0.0100 | 2.78 | 0.49 | Pipe Channel, CB to Swale 15.0" Round w/ 12.0" inside fill Area= 0.2 sf Perim= 2.2' r= 0.08' n= 0.010 Corrugated PE, smooth interior |
| 4.8 | 620 | Total | | | |

Subcatchment 9S: Combined Sub Basin #2 and #3

Hydrograph



Summary for Reach 8R: Discharge

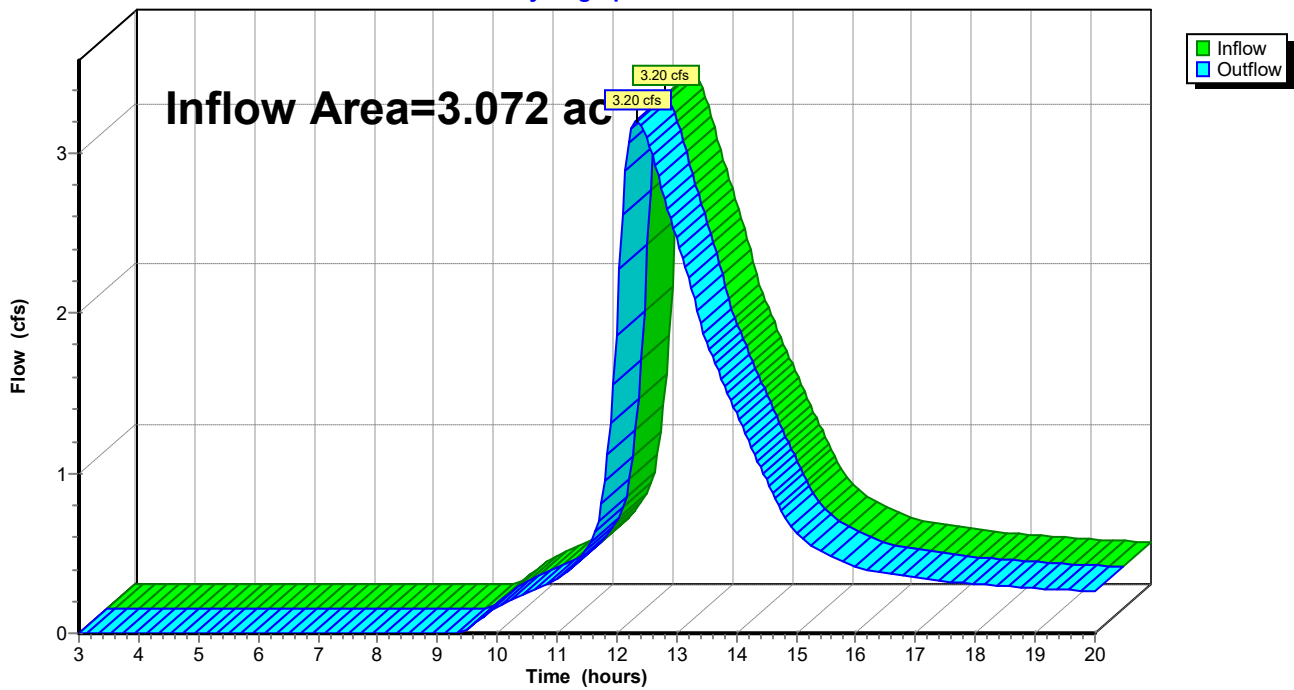
[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 3.072 ac, 41.59% Impervious, Inflow Depth > 2.73" for 25-yr event
Inflow = 3.20 cfs @ 12.33 hrs, Volume= 0.698 af
Outflow = 3.20 cfs @ 12.33 hrs, Volume= 0.698 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 3.00-20.00 hrs, dt= 0.05 hrs

Reach 8R: Discharge

Hydrograph



Summary for Pond 5P: Forbay

Inflow Area = 1.255 ac, 54.28% Impervious, Inflow Depth > 4.58" for 25-yr event
 Inflow = 10.49 cfs @ 11.95 hrs, Volume= 0.479 af
 Outflow = 9.97 cfs @ 11.96 hrs, Volume= 0.437 af, Atten= 5%, Lag= 0.8 min
 Primary = 9.97 cfs @ 11.96 hrs, Volume= 0.437 af

Routing by Stor-Ind method, Time Span= 3.00-20.00 hrs, dt= 0.05 hrs / 3
 Peak Elev= 403.41' @ 11.96 hrs Surf.Area= 2,178 sf Storage= 2,655 cf

Plug-Flow detention time= 54.2 min calculated for 0.437 af (91% of inflow)
 Center-of-Mass det. time= 23.0 min (778.7 - 755.7)

| Volume | Invert | Avail.Storage | Storage Description |
|--------|---------|---------------|--|
| #1 | 401.00' | 4,089 cf | Custom Stage Data (Irregular) Listed below (Recalc) |

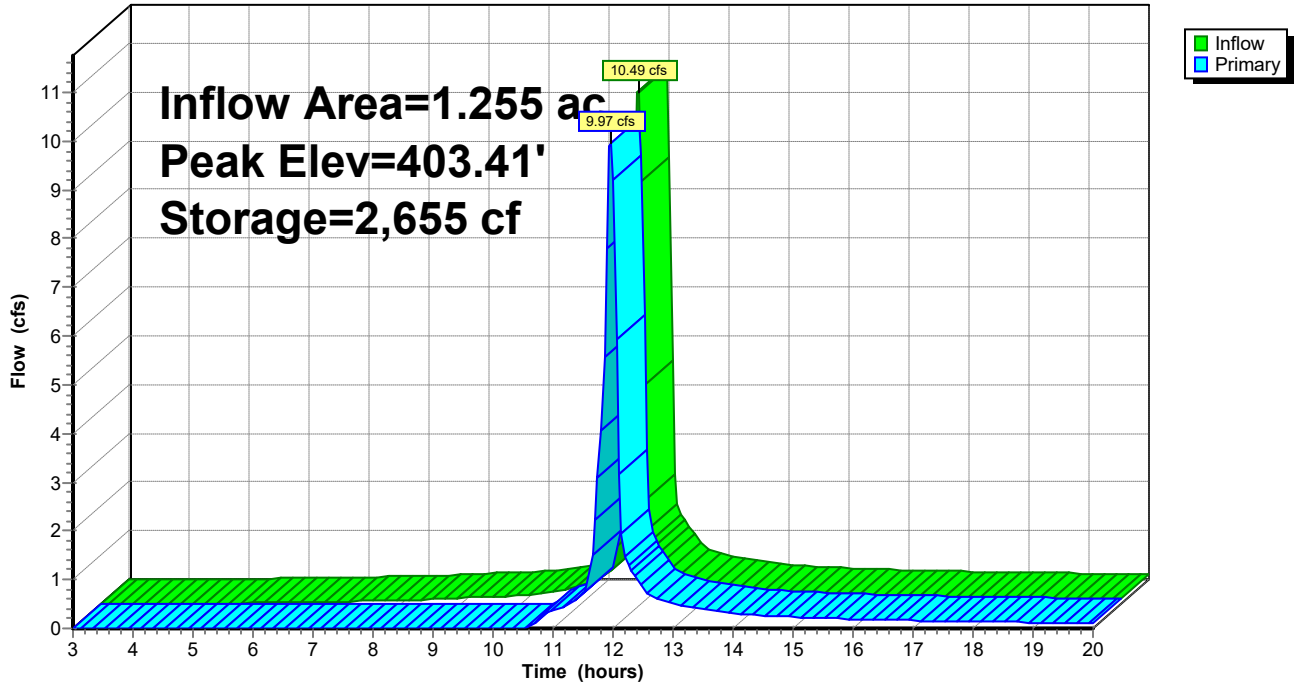
| Elevation (feet) | Surf.Area (sq-ft) | Perim. (feet) | Inc.Store (cubic-feet) | Cum.Store (cubic-feet) | Wet.Area (sq-ft) |
|------------------|-------------------|---------------|------------------------|------------------------|------------------|
| 401.00 | 174 | 90.0 | 0 | 0 | 174 |
| 402.00 | 885 | 191.0 | 484 | 484 | 2,437 |
| 403.00 | 1,872 | 242.0 | 1,348 | 1,832 | 4,207 |
| 404.00 | 2,666 | 286.0 | 2,257 | 4,089 | 6,075 |

| Device | Routing | Invert | Outlet Devices |
|--------|---------|---------|--|
| #1 | Primary | 403.00' | 15.0' long x 10.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64 |

Primary OutFlow Max=9.69 cfs @ 11.96 hrs HW=403.40' TW=402.00' (Fixed TW Elev= 402.00')
 ↑1=Broad-Crested Rectangular Weir (Weir Controls 9.69 cfs @ 1.62 fps)

Pond 5P: Forbay

Hydrograph



Summary for Pond 7P: Pond #1

Inflow Area = 1.255 ac, 54.28% Impervious, Inflow Depth > 4.18" for 25-yr event
 Inflow = 9.97 cfs @ 11.96 hrs, Volume= 0.437 af
 Outflow = 0.10 cfs @ 20.00 hrs, Volume= 0.054 af, Atten= 99%, Lag= 482.2 min
 Primary = 0.10 cfs @ 20.00 hrs, Volume= 0.054 af
 Secondary = 0.00 cfs @ 3.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 3.00-20.00 hrs, dt= 0.05 hrs / 3
 Peak Elev= 402.31' @ 20.00 hrs Surf.Area= 9,654 sf Storage= 16,678 cf

Plug-Flow detention time= 297.7 min calculated for 0.054 af (12% of inflow)
 Center-of-Mass det. time= 204.1 min (982.8 - 778.7)

| Volume | Invert | Avail.Storage | Storage Description |
|--------|---------|---------------|--|
| #1 | 400.00' | 35,384 cf | Custom Stage Data (Irregular) Listed below (Recalc) |

| Elevation (feet) | Surf.Area (sq-ft) | Perim. (feet) | Inc.Store (cubic-feet) | Cum.Store (cubic-feet) | Wet.Area (sq-ft) |
|------------------|-------------------|---------------|------------------------|------------------------|------------------|
| 400.00 | 3,312 | 238.0 | 0 | 0 | 3,312 |
| 401.00 | 7,705 | 347.0 | 5,356 | 5,356 | 8,395 |
| 402.00 | 9,173 | 380.0 | 8,428 | 13,785 | 10,338 |
| 403.00 | 10,783 | 414.0 | 9,967 | 23,752 | 12,523 |
| 404.00 | 12,502 | 422.0 | 11,632 | 35,384 | 13,200 |

| Device | Routing | Invert | Outlet Devices |
|--------|-----------|---------|--|
| #1 | Primary | 401.33' | 15.0" Round Culvert w/ 10.0" inside fill L= 40.0' Ke= 0.500 Inlet / Outlet Invert= 400.50' / 400.00' S= 0.0125 '/' Cc= 0.900 n= 0.010, Flow Area= 0.36 sf |
| #2 | Device 1 | 401.50' | 2.0" Vert. Orifice/Grate C= 0.600 |
| #3 | Device 1 | 402.25' | 3.0" Vert. Orifice/Grate C= 0.600 |
| #4 | Device 1 | 402.75' | 7.5' long Sharp-Crested Rectangular Weir 0 End Contraction(s) 0.5' Crest Height |
| #5 | Secondary | 403.00' | 15.0' long x 10.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64 |

Primary OutFlow Max=0.10 cfs @ 20.00 hrs HW=402.31' (Free Discharge)

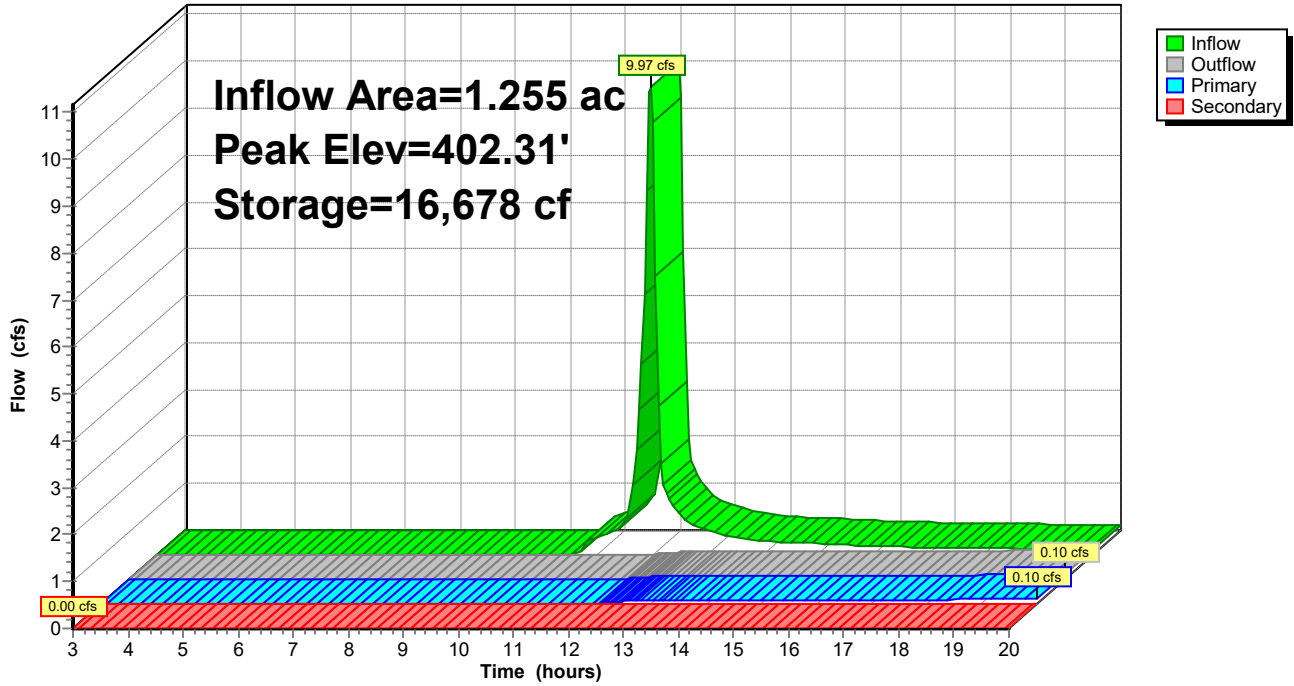
- ↑ 1=Culvert (Passes 0.10 cfs of 1.54 cfs potential flow)
- ↑ 2=Orifice/Grate (Orifice Controls 0.09 cfs @ 4.10 fps)
- ↑ 3=Orifice/Grate (Orifice Controls 0.01 cfs @ 0.82 fps)
- ↑ 4=Sharp-Crested Rectangular Weir (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 3.00 hrs HW=400.00' (Free Discharge)

- ↑ 5=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Pond 7P: Pond #1

Hydrograph



Summary for Pond 8P: Cultec 902HD chambers

Inflow Area = 1.817 ac, 32.82% Impervious, Inflow Depth > 4.46" for 25-yr event
 Inflow = 10.97 cfs @ 12.06 hrs, Volume= 0.676 af
 Outflow = 3.15 cfs @ 12.32 hrs, Volume= 0.645 af, Atten= 71%, Lag= 15.8 min
 Primary = 3.15 cfs @ 12.32 hrs, Volume= 0.645 af

Routing by Stor-Ind method, Time Span= 3.00-20.00 hrs, dt= 0.05 hrs
 Peak Elev= 404.61' @ 12.32 hrs Surf.Area= 4,800 sf Storage= 11,559 cf

Plug-Flow detention time= 64.6 min calculated for 0.643 af (95% of inflow)
 Center-of-Mass det. time= 47.3 min (813.4 - 766.1)

| Volume | Invert | Avail.Storage | Storage Description |
|--------|---------|---------------|---|
| #1 | 401.25' | 6,677 cf | Stone Envelope (Prismatic) Listed below (Recalc) 27,600 cf Overall - 10,909 cf Embedded = 16,691 cf x 40.0% Voids |
| #2 | 402.00' | 10,909 cf | Cultec R-902HD x 168 Inside #1 Effective Size= 69.8"W x 48.0"H => 17.65 sf x 3.67'L = 64.7 cf Overall Size= 78.0"W x 48.0"H x 4.10'L with 0.44' Overlap 168 Chambers in 6 Rows Cap Storage= +2.8 cf x 2 x 6 rows = 33.1 cf |
| | | 17,585 cf | Total Available Storage |

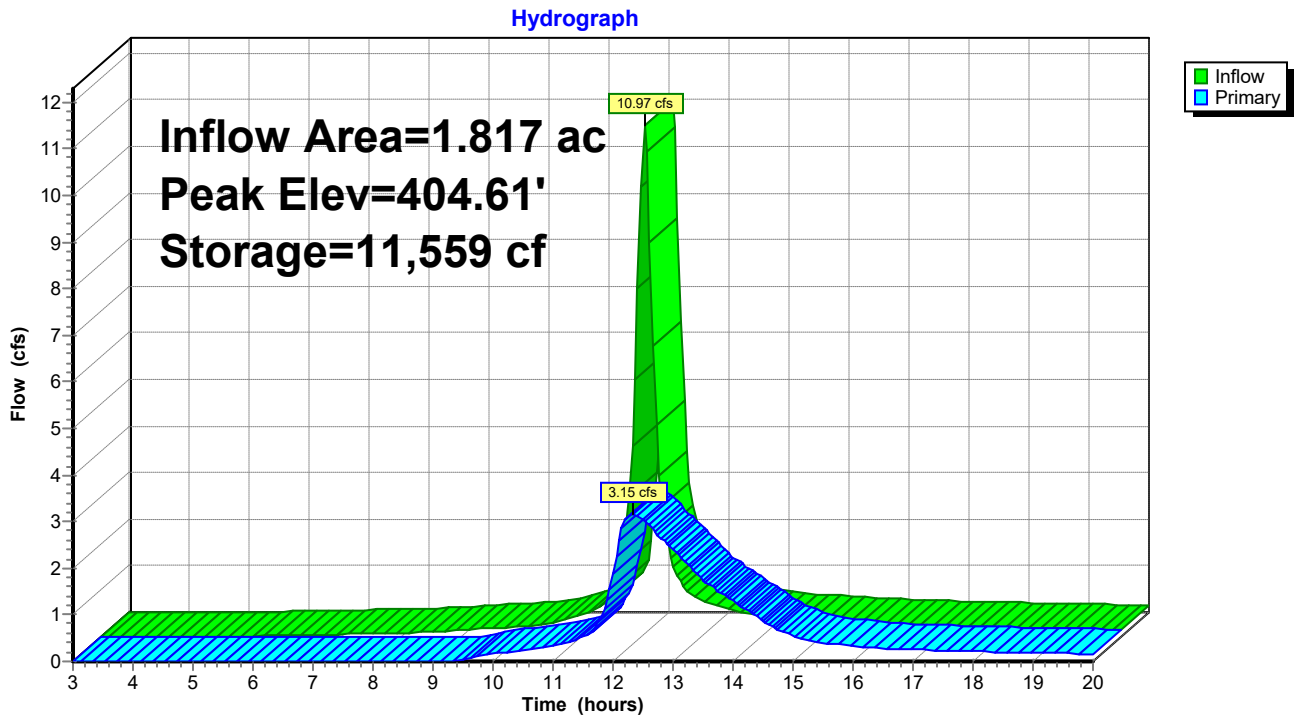
| Elevation (feet) | Surf.Area (sq-ft) | Inc.Store (cubic-feet) | Cum.Store (cubic-feet) |
|---------------------|----------------------|---------------------------|---------------------------|
| 401.25 | 4,800 | 0 | 0 |
| 407.00 | 4,800 | 27,600 | 27,600 |

| Device | Routing | Invert | Outlet Devices |
|--------|---------|---------|--|
| #1 | Primary | 401.83' | 15.0" Round Culvert w/ 10.0" inside fill L= 30.0' Ke= 0.500 Inlet / Outlet Invert= 401.00' / 400.00' S= 0.0333 '/' Cc= 0.900 n= 0.010, Flow Area= 0.36 sf |
| #2 | Primary | 403.00' | 3.0" Vert. Orifice/Grate C= 0.600 |
| #3 | Primary | 404.00' | 2.0" Vert. Orifice/Grate C= 0.600 |

Primary OutFlow Max=3.14 cfs @ 12.32 hrs HW=404.61' (Free Discharge)

- 1=Culvert (Inlet Controls 2.78 cfs @ 7.76 fps)
- 2=Orifice/Grate (Orifice Controls 0.29 cfs @ 5.86 fps)
- 3=Orifice/Grate (Orifice Controls 0.08 cfs @ 3.48 fps)

Pond 8P: Cultec 902HD chambers



Time span=3.00-20.00 hrs, dt=0.05 hrs, 341 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: Sub Basin #1 Full Runoff Area=79,133 sf 32.82% Impervious Runoff Depth>5.82"
Flow Length=380' Slope=0.0200 '/' Tc=14.6 min CN=85 Runoff=14.09 cfs 0.881 af

Subcatchment 9S: Combined Sub Basin Runoff Area=54,663 sf 54.28% Impervious Runoff Depth>5.95"
Flow Length=620' Tc=4.8 min CN=86 Runoff=13.37 cfs 0.623 af

Reach 8R: Discharge Inflow=3.92 cfs 0.986 af
Outflow=3.92 cfs 0.986 af

Pond 5P: Forbay Peak Elev=403.47' Storage=2,803 cf Inflow=13.37 cfs 0.623 af
Outflow=12.77 cfs 0.580 af

Pond 7P: Pond #1 Peak Elev=402.64' Storage=19,930 cf Inflow=12.77 cfs 0.580 af
Primary=0.23 cfs 0.137 af Secondary=0.00 cfs 0.000 af Outflow=0.23 cfs 0.137 af

Pond 8P: Cultec 902HD chambers Peak Elev=405.71' Storage=15,031 cf Inflow=14.09 cfs 0.881 af
Outflow=3.83 cfs 0.849 af

Total Runoff Area = 3.072 ac Runoff Volume = 1.504 af Average Runoff Depth = 5.88"
58.41% Pervious = 1.794 ac 41.59% Impervious = 1.277 ac

Summary for Subcatchment 1S: Sub Basin #1 Full Building

Runoff = 14.09 cfs @ 12.06 hrs, Volume= 0.881 af, Depth> 5.82"

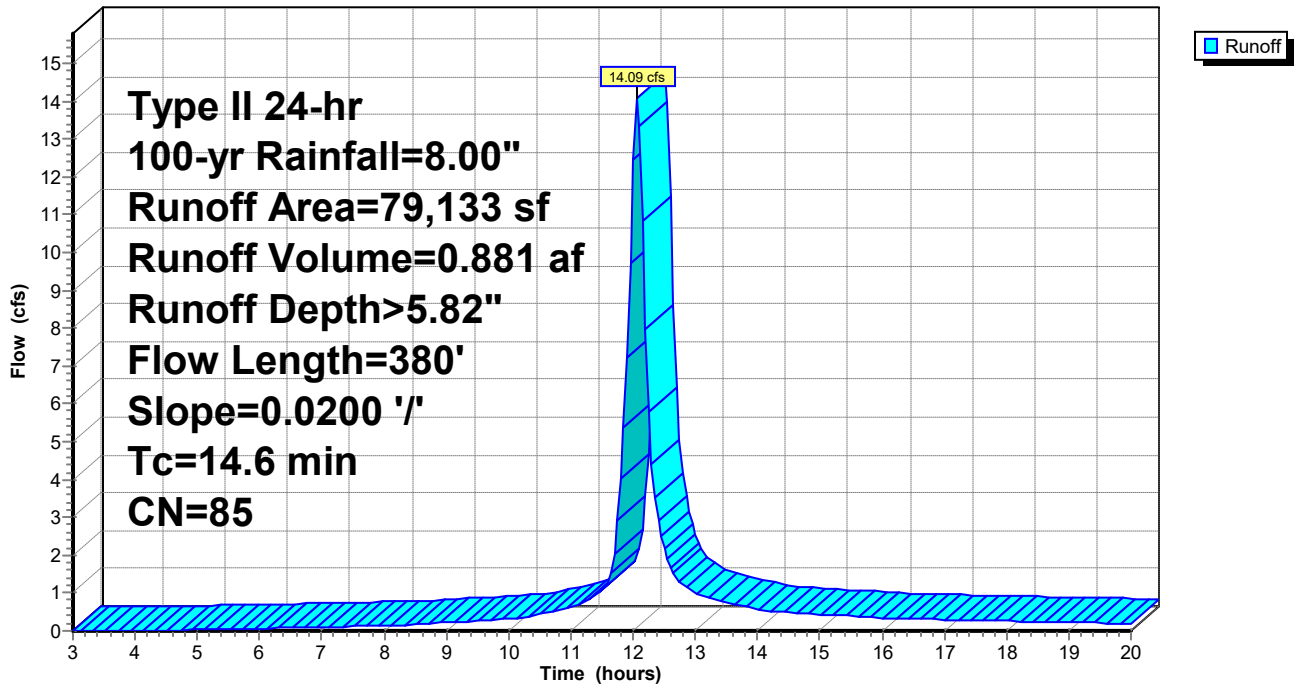
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 3.00-20.00 hrs, dt= 0.05 hrs
 Type II 24-hr 100-yr Rainfall=8.00"

| Area (sf) | CN | Description |
|-----------|----|--------------------------------|
| 53,162 | 79 | Woods/grass comb., Good, HSG D |
| 25,971 | 98 | Roofs, HSG A |
| 79,133 | 85 | Weighted Average |
| 53,162 | | 67.18% Pervious Area |
| 25,971 | | 32.82% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|----------|---------------|---------------|-------------------|----------------|--|
| 9.9 | 100 | 0.0200 | 0.17 | | Sheet Flow, Initiated from top of knoll @ 414' Grass: Short n= 0.150 P2= 3.15" |
| 4.7 | 280 | 0.0200 | 0.99 | | Shallow Concentrated Flow, Shallow Conc. to Pond Short Grass Pasture Kv= 7.0 fps |
| 14.6 | 380 | Total | | | |

Subcatchment 1S: Sub Basin #1 Full Building

Hydrograph



Summary for Subcatchment 9S: Combined Sub Basin #2 and #3

[49] Hint: Tc<2dt may require smaller dt

Runoff = 13.37 cfs @ 11.95 hrs, Volume= 0.623 af, Depth> 5.95"

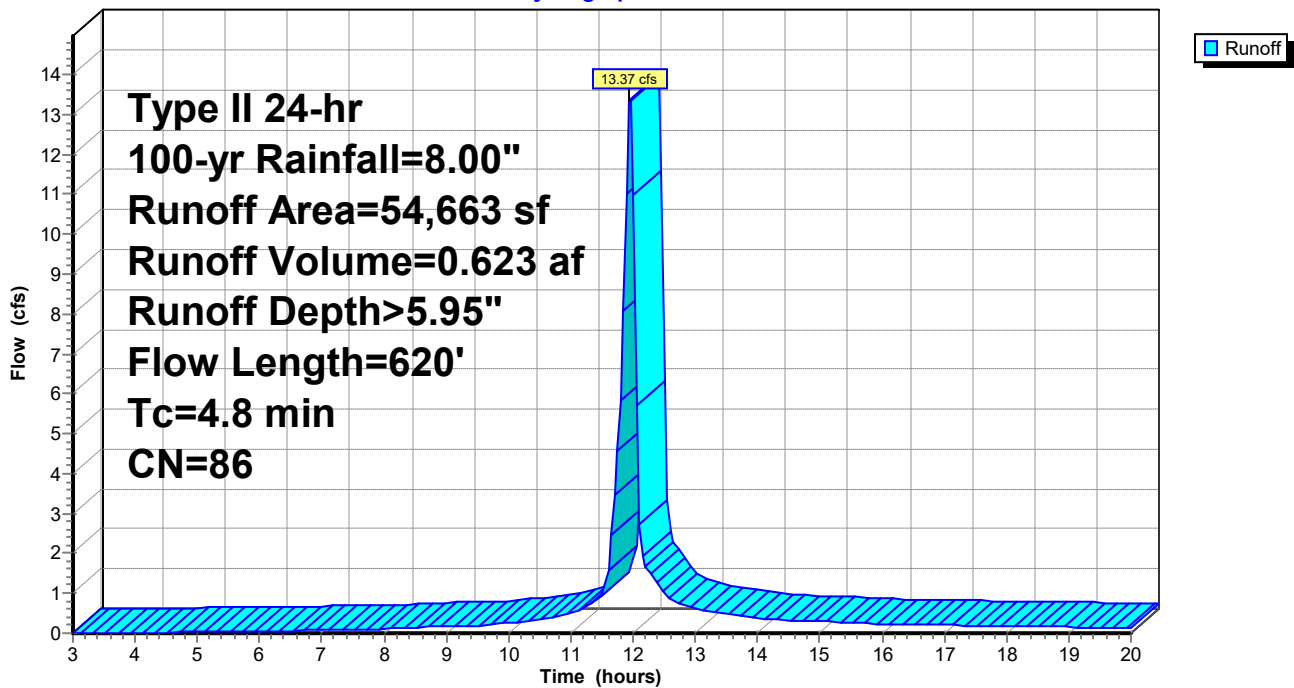
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 3.00-20.00 hrs, dt= 0.05 hrs
 Type II 24-hr 100-yr Rainfall=8.00"

| Area (sf) | CN | Description |
|-----------|----|--------------------------------|
| 24,993 | 72 | Woods/grass comb., Good, HSG C |
| 29,670 | 98 | Roofs, HSG A |
| 54,663 | 86 | Weighted Average |
| 24,993 | | 45.72% Pervious Area |
| 29,670 | | 54.28% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|----------|---------------|---------------|-------------------|----------------|---|
| 1.4 | 60 | 0.0050 | 0.71 | | Sheet Flow, Sheet to CB Smooth surfaces n= 0.011 P2= 3.15" |
| 3.4 | 560 | 0.0100 | 2.78 | 0.49 | Pipe Channel, CB to Swale 15.0" Round w/ 12.0" inside fill Area= 0.2 sf Perim= 2.2' r= 0.08' n= 0.010 Corrugated PE, smooth interior |
| 4.8 | 620 | Total | | | |

Subcatchment 9S: Combined Sub Basin #2 and #3

Hydrograph



Summary for Reach 8R: Discharge

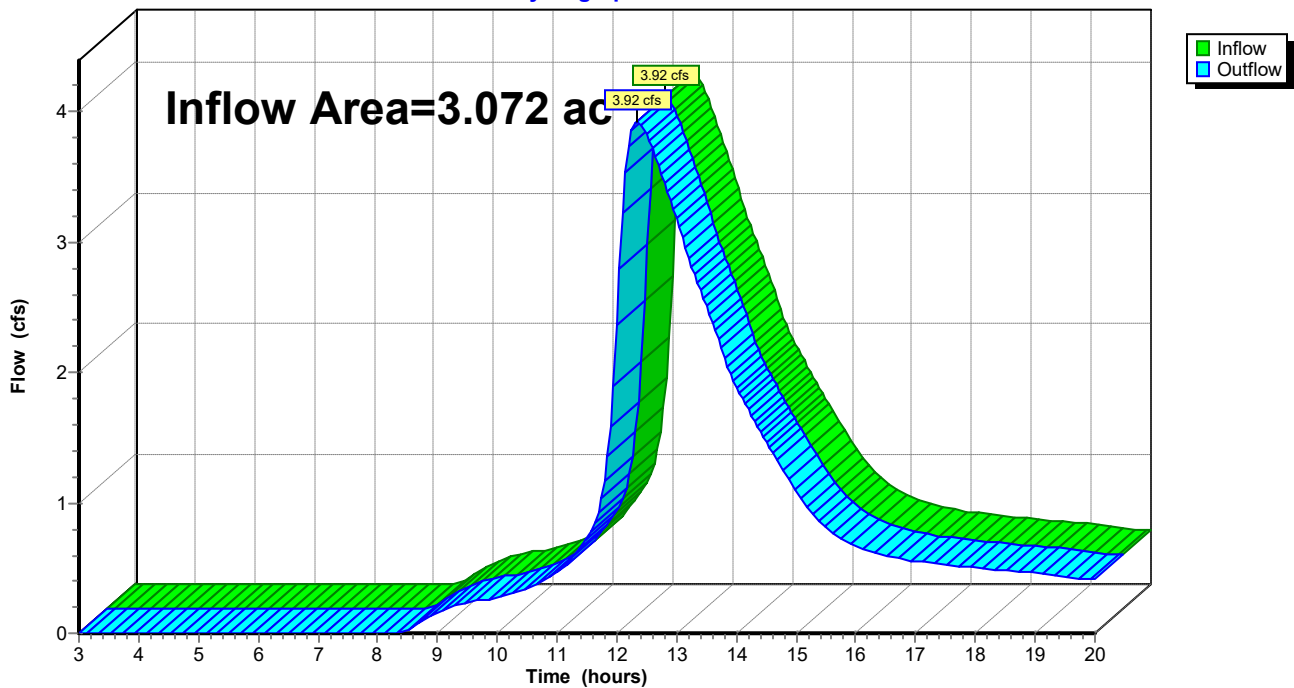
[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 3.072 ac, 41.59% Impervious, Inflow Depth > 3.85" for 100-yr event
Inflow = 3.92 cfs @ 12.34 hrs, Volume= 0.986 af
Outflow = 3.92 cfs @ 12.34 hrs, Volume= 0.986 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 3.00-20.00 hrs, dt= 0.05 hrs

Reach 8R: Discharge

Hydrograph



Summary for Pond 5P: Forbay

Inflow Area = 1.255 ac, 54.28% Impervious, Inflow Depth > 5.95" for 100-yr event
 Inflow = 13.37 cfs @ 11.95 hrs, Volume= 0.623 af
 Outflow = 12.77 cfs @ 11.96 hrs, Volume= 0.580 af, Atten= 4%, Lag= 0.7 min
 Primary = 12.77 cfs @ 11.96 hrs, Volume= 0.580 af

Routing by Stor-Ind method, Time Span= 3.00-20.00 hrs, dt= 0.05 hrs / 3
 Peak Elev= 403.47' @ 11.96 hrs Surf.Area= 2,231 sf Storage= 2,803 cf

Plug-Flow detention time= 46.6 min calculated for 0.578 af (93% of inflow)
 Center-of-Mass det. time= 21.6 min (771.1 - 749.5)

| Volume | Invert | Avail.Storage | Storage Description |
|--------|---------|---------------|--|
| #1 | 401.00' | 4,089 cf | Custom Stage Data (Irregular) Listed below (Recalc) |

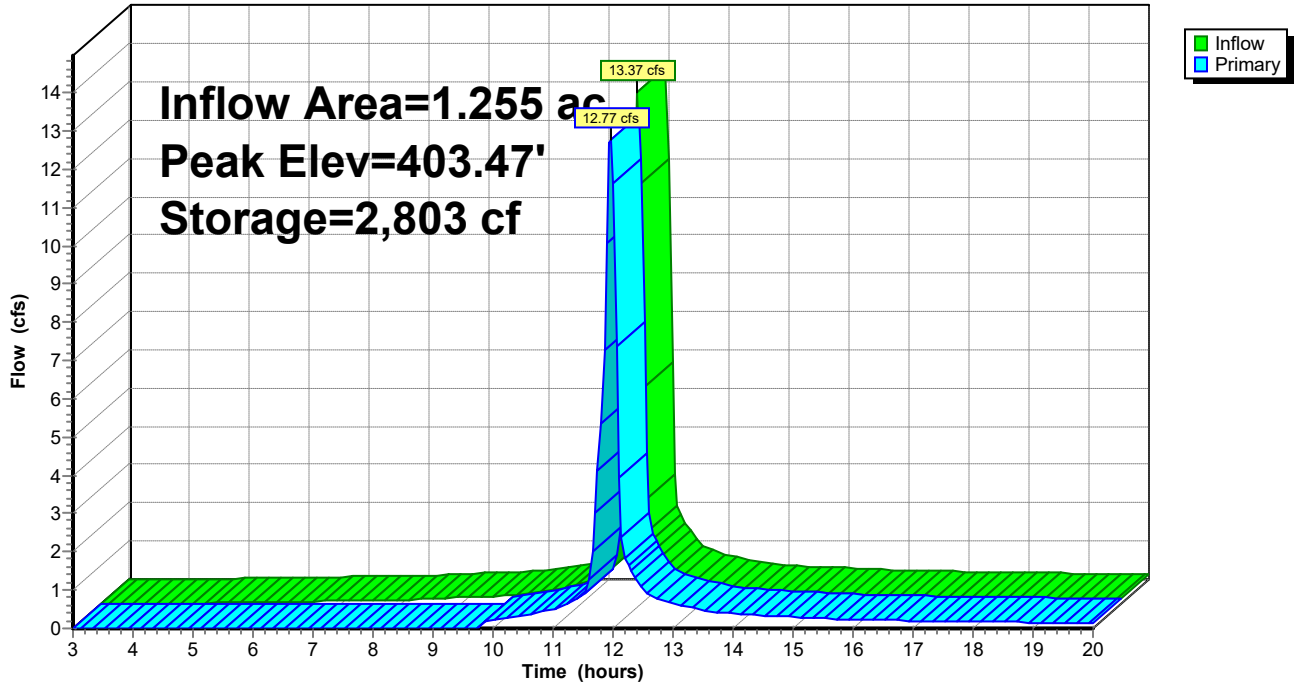
| Elevation (feet) | Surf.Area (sq-ft) | Perim. (feet) | Inc.Store (cubic-feet) | Cum.Store (cubic-feet) | Wet.Area (sq-ft) |
|------------------|-------------------|---------------|------------------------|------------------------|------------------|
| 401.00 | 174 | 90.0 | 0 | 0 | 174 |
| 402.00 | 885 | 191.0 | 484 | 484 | 2,437 |
| 403.00 | 1,872 | 242.0 | 1,348 | 1,832 | 4,207 |
| 404.00 | 2,666 | 286.0 | 2,257 | 4,089 | 6,075 |

| Device | Routing | Invert | Outlet Devices |
|--------|---------|---------|--|
| #1 | Primary | 403.00' | 15.0' long x 10.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64 |

Primary OutFlow Max=12.46 cfs @ 11.96 hrs HW=403.47' TW=402.00' (Fixed TW Elev= 402.00')
 ↑1=Broad-Crested Rectangular Weir (Weir Controls 12.46 cfs @ 1.78 fps)

Pond 5P: Forbay

Hydrograph



Summary for Pond 7P: Pond #1

Inflow Area = 1.255 ac, 54.28% Impervious, Inflow Depth > 5.55" for 100-yr event
 Inflow = 12.77 cfs @ 11.96 hrs, Volume= 0.580 af
 Outflow = 0.23 cfs @ 16.07 hrs, Volume= 0.137 af, Atten= 98%, Lag= 246.8 min
 Primary = 0.23 cfs @ 16.07 hrs, Volume= 0.137 af
 Secondary = 0.00 cfs @ 3.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 3.00-20.00 hrs, dt= 0.05 hrs / 3
 Peak Elev= 402.64' @ 16.07 hrs Surf.Area= 10,181 sf Storage= 19,930 cf

Plug-Flow detention time= 294.6 min calculated for 0.137 af (24% of inflow)
 Center-of-Mass det. time= 204.9 min (975.9 - 771.1)

| Volume | Invert | Avail.Storage | Storage Description |
|--------|---------|---------------|--|
| #1 | 400.00' | 35,384 cf | Custom Stage Data (Irregular) Listed below (Recalc) |

| Elevation (feet) | Surf.Area (sq-ft) | Perim. (feet) | Inc.Store (cubic-feet) | Cum.Store (cubic-feet) | Wet.Area (sq-ft) |
|------------------|-------------------|---------------|------------------------|------------------------|------------------|
| 400.00 | 3,312 | 238.0 | 0 | 0 | 3,312 |
| 401.00 | 7,705 | 347.0 | 5,356 | 5,356 | 8,395 |
| 402.00 | 9,173 | 380.0 | 8,428 | 13,785 | 10,338 |
| 403.00 | 10,783 | 414.0 | 9,967 | 23,752 | 12,523 |
| 404.00 | 12,502 | 422.0 | 11,632 | 35,384 | 13,200 |

| Device | Routing | Invert | Outlet Devices |
|--------|-----------|---------|--|
| #1 | Primary | 401.33' | 15.0" Round Culvert w/ 10.0" inside fill L= 40.0' Ke= 0.500 Inlet / Outlet Invert= 400.50' / 400.00' S= 0.0125 '/' Cc= 0.900 n= 0.010, Flow Area= 0.36 sf |
| #2 | Device 1 | 401.50' | 2.0" Vert. Orifice/Grate C= 0.600 |
| #3 | Device 1 | 402.25' | 3.0" Vert. Orifice/Grate C= 0.600 |
| #4 | Device 1 | 402.75' | 7.5' long Sharp-Crested Rectangular Weir 0 End Contraction(s) 0.5' Crest Height |
| #5 | Secondary | 403.00' | 15.0' long x 10.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64 |

Primary OutFlow Max=0.23 cfs @ 16.07 hrs HW=402.64' (Free Discharge)

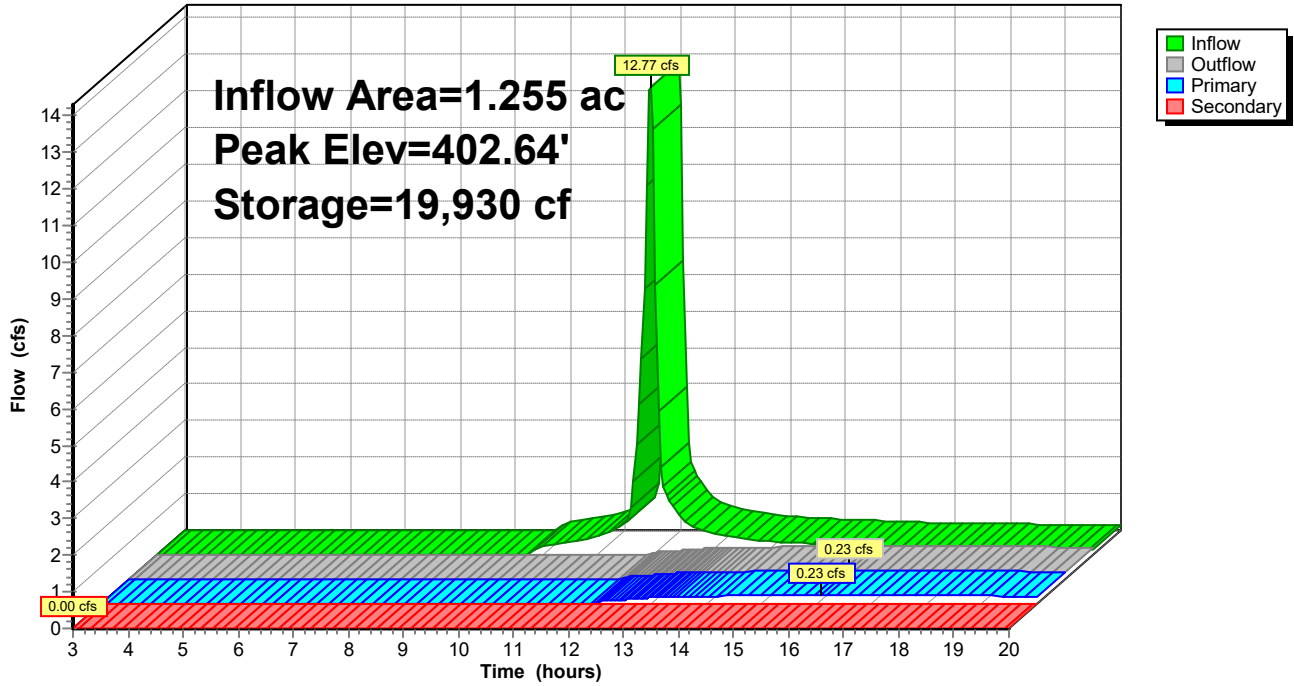
- ↑ 1=Culvert (Passes 0.23 cfs of 1.83 cfs potential flow)
- ↑ 2=Orifice/Grate (Orifice Controls 0.11 cfs @ 4.94 fps)
- ↑ 3=Orifice/Grate (Orifice Controls 0.12 cfs @ 2.46 fps)
- ↑ 4=Sharp-Crested Rectangular Weir (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 3.00 hrs HW=400.00' (Free Discharge)

- ↑ 5=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Pond 7P: Pond #1

Hydrograph



Summary for Pond 8P: Cultec 902HD chambers

Inflow Area = 1.817 ac, 32.82% Impervious, Inflow Depth > 5.82" for 100-yr event
 Inflow = 14.09 cfs @ 12.06 hrs, Volume= 0.881 af
 Outflow = 3.83 cfs @ 12.33 hrs, Volume= 0.849 af, Atten= 73%, Lag= 16.5 min
 Primary = 3.83 cfs @ 12.33 hrs, Volume= 0.849 af

Routing by Stor-Ind method, Time Span= 3.00-20.00 hrs, dt= 0.05 hrs
 Peak Elev= 405.71' @ 12.33 hrs Surf.Area= 4,800 sf Storage= 15,031 cf

Plug-Flow detention time= 63.9 min calculated for 0.847 af (96% of inflow)
 Center-of-Mass det. time= 49.8 min (809.6 - 759.8)

| Volume | Invert | Avail.Storage | Storage Description |
|--------|---------|---------------|---|
| #1 | 401.25' | 6,677 cf | Stone Envelope (Prismatic) Listed below (Recalc) 27,600 cf Overall - 10,909 cf Embedded = 16,691 cf x 40.0% Voids |
| #2 | 402.00' | 10,909 cf | Cultec R-902HD x 168 Inside #1 Effective Size= 69.8"W x 48.0"H => 17.65 sf x 3.67'L = 64.7 cf Overall Size= 78.0"W x 48.0"H x 4.10'L with 0.44' Overlap 168 Chambers in 6 Rows Cap Storage= +2.8 cf x 2 x 6 rows = 33.1 cf |
| | | 17,585 cf | Total Available Storage |

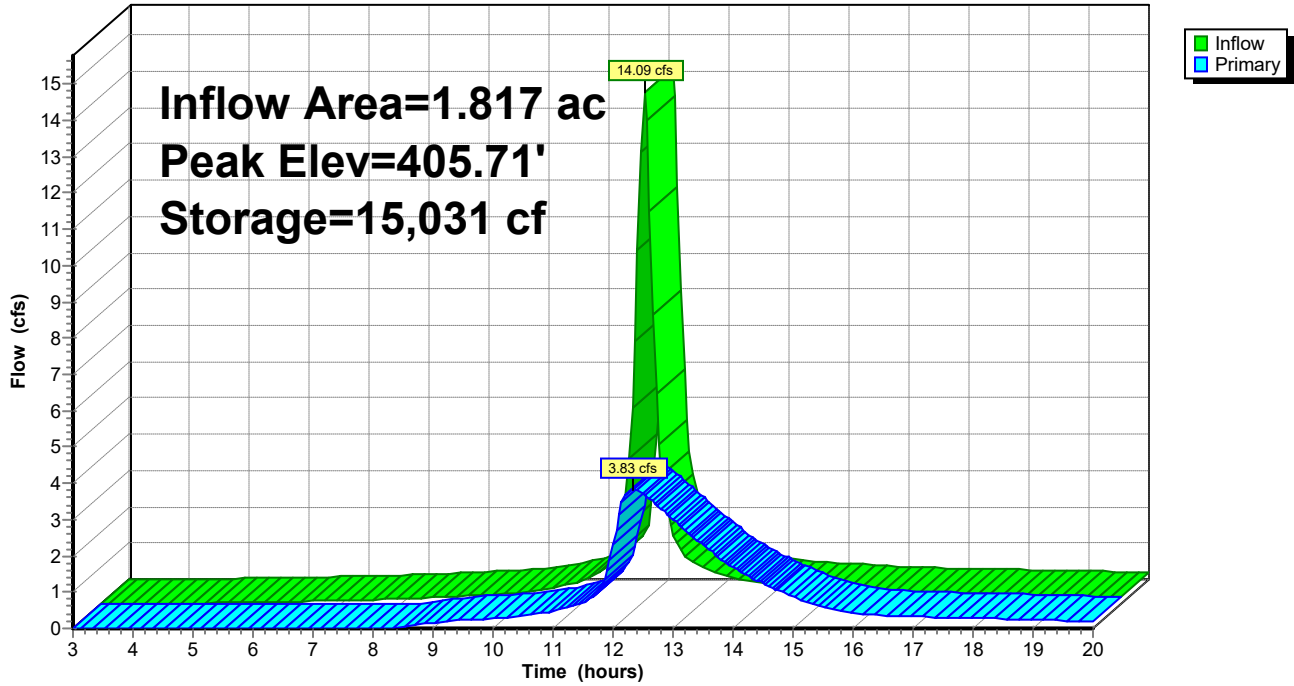
| Elevation (feet) | Surf.Area (sq-ft) | Inc.Store (cubic-feet) | Cum.Store (cubic-feet) |
|------------------|-------------------|------------------------|------------------------|
| 401.25 | 4,800 | 0 | 0 |
| 407.00 | 4,800 | 27,600 | 27,600 |

| Device | Routing | Invert | Outlet Devices |
|--------|---------|---------|--|
| #1 | Primary | 401.83' | 15.0" Round Culvert w/ 10.0" inside fill L= 30.0' Ke= 0.500 Inlet / Outlet Invert= 401.00' / 400.00' S= 0.0333 '/' Cc= 0.900 n= 0.010, Flow Area= 0.36 sf |
| #2 | Primary | 403.00' | 3.0" Vert. Orifice/Grate C= 0.600 |
| #3 | Primary | 404.00' | 2.0" Vert. Orifice/Grate C= 0.600 |

Primary OutFlow Max=3.83 cfs @ 12.33 hrs HW=405.70' (Free Discharge)
 1=Culvert (Inlet Controls 3.31 cfs @ 9.26 fps)
 2=Orifice/Grate (Orifice Controls 0.38 cfs @ 7.73 fps)
 3=Orifice/Grate (Orifice Controls 0.13 cfs @ 6.13 fps)

Pond 8P: Cultec 902HD chambers

Hydrograph



APPENDIX E

MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4) FORM



Department of
Environmental
Conservation

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

MS4 Stormwater Pollution Prevention Plan (SWPPP) Acceptance Form

for

Construction Activities Seeking Authorization Under SPDES General Permit

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

I. Project Owner/Operator Information

1. Owner/Operator Name:

2. Contact Person:

3. Street Address:

4. City/State/Zip:

II. Project Site Information

5. Project/Site Name:

6. Street Address:

7. City/State/Zip:

III. Stormwater Pollution Prevention Plan (SWPPP) Review and Acceptance Information

8. SWPPP Reviewed by:

9. Title/Position:

10. Date Final SWPPP Reviewed and Accepted:

IV. Regulated MS4 Information

11. Name of MS4:

12. MS4 SPDES Permit Identification Number: NYR20A

13. Contact Person:

14. Street Address:

15. City/State/Zip:

16. Telephone Number:

MS4 SWPPP Acceptance Form - continued

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

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

Printed Name:

Title/Position:

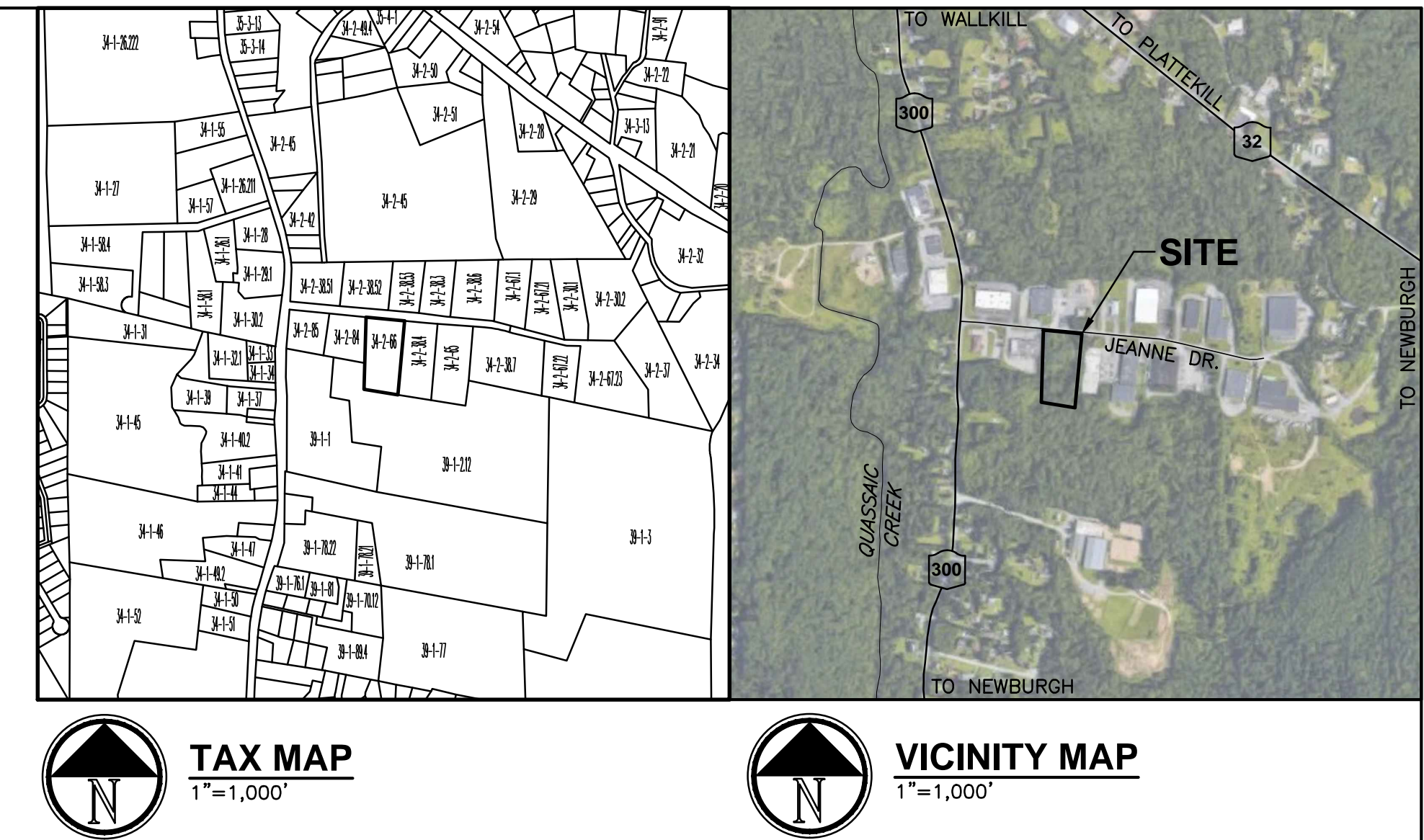
Signature:

Date:

VI. Additional Information

File Name: C:\Users\jmb\AppData\Local\Temp\AcPublish_11232_TS.dwg (Layout: TS)
 Date: Tue, May 30, 2023 - 8:45 AM (Name: vmb)

SITE PLAN FOR HILLSIDE LAND DEVELOPMENT JEANNE DRIVE NEWBURGH, NY



BULK REQUIREMENTS TOWN OF NEWBURGH 1B DISTRICT BULK TABLE REQUIREMENTS

| BULK ITEM | MINIMUM REQUIRED | PROVIDED |
|--------------------|------------------|----------|
| | | |
| LOT AREA (AC) | 40,000 | 133,889 |
| LOT WIDTH (FT) | 150 | 257 |
| LOT DEPTH (FT) | 150 | 520 |
| FRONT SETBACK (FT) | 50 | 78 |
| REAR SETBACK (FT) | 60 | 270 |
| ONE SIDE (FT) | 30 | 30 |
| BOTH SIDES (FT) | 80 | 94 |

| BULK ITEM | MAXIMUM PERMITTED | PROVIDED |
|--------------------------|-------------------|----------|
| | | |
| BUILDING COVERAGE (%) | 40 | 19.4 |
| BUILDING HEIGHT (FT) | 40 | 30 |
| LOT SURFACE COVERAGE (%) | 60 | 41.6 |

| |
|--|
| PROPERTY ADDRESS JEANNE DRIVE NEWBURGH, NY 12550 |
| TAX MAP SECTION 34, BLOCK 2, LOT 66 TOWN OF NEWBURGH, NY |
| OWNER & DEVELOPER ATTN: PAUL HOFFNER 142 ROUTE 17K NEWBURGH, NY 12550 |
| EXISTING USE VACANT |
| PROPOSED USE WAREHOUSE |
| REFERENCE "MAP OF SURVEY FOR THE LANDS OF HILLSIDE LAND DEVELOPMENT" BY OSWALD & GILLESPIE CONSULTING ENGINEERS AND SURVEYORS DATED: JULY 18, 2003 |

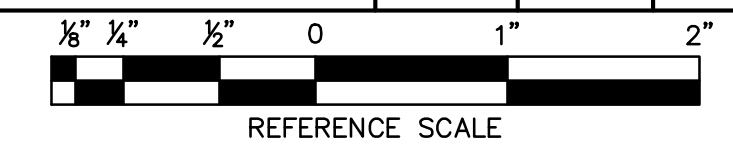
DRAWINGS LIST:

| PAGE | SHEET | SHEET TITLE |
|------|-------|---------------------|
| 1. | TS-1 | TITLE SHEET |
| 2. | C-001 | GENERAL NOTES SHEET |
| 3. | C-002 | EXISTING CONDITIONS |
| 4. | C-101 | SITE PLAN |
| 5. | C-401 | STORMWATER PLAN |
| 6. | C-402 | STORMWATER PLAN |
| 7. | C-701 | LANDSCAPING PLAN |
| 8. | C-901 | DETAILS |
| 9. | C-902 | DETAILS |
| 10. | C-903 | DETAILS |

NOTES:

- INDIVIDUAL SEWAGE DISPOSAL SYSTEMS SHALL NO LONGER BE CONDUCTED OR USED WHEN PUBLIC FACILITIES BECOME AVAILABLE. CONNECTION TO THE PUBLIC SEWER SYSTEM IS REQUIRED WITHIN 1 YEAR OF AVAILABILITY.
- U DIG NY MUST BE CONTACTED PRIOR TO ANY EXCAVATION OR DEMOLITION (DIAL 811 OR www.UdigNY.org).

| REV # | DATE | REMARKS: | ISSUE # | DATE | ISSUED FOR: |
|-------|---------|-------------------------|---------|------|-------------|
| 3 | 5/30/23 | REVISED PER PB COMMENTS | | | |
| 2 | 4/21/23 | REVISED PER PB COMMENTS | | | |
| 1 | 1/18/23 | REVISED PER PB COMMENTS | | | |



UNAUTHORIZED ALTERATION OR ADDITION TO A PLAN BEARING A LICENSED PROFESSIONAL ENGINEER'S SEAL IS A VIOLATION OF SECTION 7209, SUB-DIVISION 2 OF THE N.Y. STATE EDUCATION LAW.

FELLENZER ENGINEERING LLP
 www.felip.com

22 Mulberry St., Suite 2A, Middletown, NY 10940
 1845-343-1481 fx 845-343-4986

181 Church St., Suite 100, Poughkeepsie, NY 12601
 1845-454-9704 fx 855-320-8735

| | | | |
|--------------------------------------|--------------------|---|-----------------------------|
| STAMP: | | PROJECT TITLE: JEANNE DRIVE SITE PLAN | |
| DRAWING TITLE: TITLE SHEET | | SECTION 34, BLOCK 2, LOT 66. | |
| DESIGNED BY: JB | DRAWN BY: JCL | APPROVED BY P.E.: RDF | APPROVED BY P.C.: MDF |
| DATE: 11/01/2022 | SCALE: AS SHOWN | FE PROJECT #: 19-049 | TS-1 PAGE 1 OF 10 |



PROGRESS PRINT
 5/30/23
 NOT FOR
 CONSTRUCTION

SEPTIC SYSTEM NOTES:

- THERE WILL BE NO REGRADING OR COMPACTING IN THE AREA OF THE PROPOSED TILE FIELD. HEAVY EQUIPMENT SHALL BE KEPT OFF THE AREA OF THE TILE FIELD EXCEPT FOR THE ACTUAL CONSTRUCTION OF THE FIELD. THERE SHALL BE NO UNNECESSARY MOVEMENT OF CONSTRUCTION EQUIPMENT IN THE TILE FIELD AREA BEFORE, DURING OR AFTER CONSTRUCTION.
- SANITARY FACILITIES ARE NOT TO BE RELOCATED OR REDESIGNED WITHOUT REVIEW BY THE TOWN OF NEWBURGH.
- CELLAR, ROOF AND FOOTING DRAINS SHALL NOT BE DISCHARGED INTO THE SEPTIC SYSTEM OR IN THE VICINITY OF THE TILE FIELD.
- CONSTRUCTION OF THE SANITARY FACILITIES SHALL BE PERFORMED UNDER THE GUIDANCE OF A PROFESSIONAL ENGINEER LICENSED TO PRACTICE IN NEW YORK STATE. CERTIFICATION THAT THE INSTALLATION WAS MADE IN ACCORDANCE WITH APPROVED PLANS WILL BE MADE TO THE LOCAL CODE ENFORCEMENT OFFICER. THE CERTIFICATION SHALL INCLUDE THAT THE SEPTIC TANK JOINTS HAVE BEEN SEALED AND TESTED FOR WATER TIGHTNESS AND THAT THE TANK WAS INSTALLED IN ACCORDANCE WITH APPENDIX 75-A.
- NO SWIMMING POOLS, DRIVEWAYS OR OTHER STRUCTURES THAT MAY COMPACT THE GROUND SHALL BE PLACED OVER ANY PORTION OF THE TILE FIELD.
- THERE MUST BE AN UNINTERRUPTED POSITIVE SLOPE FROM THE SEPTIC TANK TO THE BUILDING, ALLOWING SEPTIC GASES TO DISCHARGE THROUGH THE STACK VENT.
- THE SEPTIC TANK SHALL BE A 1,000 GALLON CONCRETE TANK AS SHOWN ON PLANS, BY WOODARDS CONCRETE PRODUCTS, BULLVILLE, NEW YORK OR AN APPROVED EQUAL. A CERTIFICATION SHALL BE INCLUDED THAT THE SEPTIC TANK JOINTS HAVE BEEN SEALED AND TESTED FOR WATER TIGHTNESS AND THAT THE TANK WAS INSTALLED IN ACCORDANCE WITH APPENDIX 75-A.
- ANY CHANGE IN DIRECTION OF SOLID TILE SEWAGE PIPE WILL REQUIRE A CLEANOUT.
- THE SEWAGE DISPOSAL SYSTEM HAS NOT BEEN DESIGNED TO ACCOMMODATE GARBAGE GRINDERS, JACUZZI TYPE TUB OVER 100 GALLONS OR WATER SOFTENERS. AS SUCH, THESE ITEMS SHOULD NOT BE INSTALLED UNLESS THE SEWAGE DISPOSAL SYSTEM IS REDESIGNED TO ACCOUNT FOR THEM AND APPROVED BY THE TOWN OF NEWBURGH.
- THE TOWN OF NEWBURGH SANITARY REVIEW ENGINEER MUST BE CONTACTED 24 HOURS PRIOR TO THE BEGINNING OF ANY CONSTRUCTION TO SCHEDULE A REVIEW OF THE INSTALLATION.
- CONTRACTOR TO VERIFY EXISTING CONDITIONS AND ELEVATIONS BEFORE SUBMITTING BID.
- CONTRACTOR SHALL VERIFY INVERTS OF ALL NEW UNITS INSTALLED BY THIS CONTRACT. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS TO ENGINEER SHOWING INVERT ELEVATIONS PRIOR TO STARTING CONSTRUCTION.
- ALL PLUMBING SHALL CONFORM TO THE NEW YORK STATE PLUMBING CODE. LATEST EDITION.
- ANY MODIFICATIONS OR ADDITIONS TO THIS DESIGN MUST RECEIVE APPROVAL BY THE TOWN OF NEWBURGH PRIOR TO EXECUTION BY CONTRACTOR.
- ALL JOINTS BETWEEN PIPING AND SEPTIC SYSTEM COMPONENTS (i.e. SEPTIC TANK & DISTRIBUTION BOXES) SHALL BE SEALED WATERTIGHT WITH NONSHRINK GROUT.
- TRENCH SHALL NOT BE INSTALLED IN WET SOIL. THE SIDES AND BOTTOM OF TRENCHES MUST BE RAKED. THE ENDS OF THE LATERALS MUST BE CAPPED.
- THE OWNER/APPLICANT SHALL BE PROVIDED WITH A COPY OF THE APPROVED PLANS AND ACCURATE AS-BUILT DRAWING OF ANY EXISTING SANITARY FACILITIES.
- BACKFILL INTO ANY TRENCH SHALL NOT HAVE ANY DIMENSION EXCEEDING 4". FILL TO BE ACCEPTABLE BY THE ENGINEER.
- SEWAGE DISPOSAL SYSTEM SHALL ONLY RECEIVE SANITARY WASTES.
- PRIOR TO COMMENCEMENT OF OPERATION, A LETTER MUST BE SUBMITTED TO THE TOWN OF NEWBURGH BY A N.Y.S. LICENSED PROFESSIONAL ENGINEER CERTIFYING THE ARRANGEMENTS OF THIS SEWAGE DISPOSAL SYSTEM IS INSTALLED IN ACCORDANCE WITH THESE PLANS.
- UTILIZATION OF THE EXPANSION AREA REQUIRES A NEW DESIGN BY A NEW YORK STATE LICENSED PROFESSIONAL ENGINEER AND THE PERMISSION OF THE TOWN OF NEWBURGH.
- SEPTIC TANKS SHALL BE INSPECTED PERIODICALLY AND PUMPED EVERY 2-3 YEARS. DISTRIBUTION BOXES SHALL BE INSPECTED ANNUALLY TO ASSURE THAT THEY ARE LEVEL AND OPERATING PROPERLY.
- MINIMUM DISTANCE FROM ANY WELL TO ANY SEPTIC SYSTEM AT A HIGHER ELEVATION SHALL BE 300'. NO KNOWN WELLS EXIST WITHIN 200' OF S.D.S.
- THE MINIMUM DISTANCE FROM ANY SEPTIC SYSTEM TO ANY PRIVATE WELL IS 100' WHEN THE WELL IS AT A HIGHER ELEVATION.
- MINIMUM DISTANCE FROM SEPTIC SYSTEM TO ANY PUBLIC WELL SHALL BE 200 FT.
- THE FIRST 10' OF ALL OUTLET PIPES FROM THE DISTRIBUTION BOX MUST HAVE THE SAME INVERT AND THE SAME EXISTING SLOPE. SPEED LEVELERS SHALL BE USED IN EACH LATERAL TO ENSURE ALL INVERTS ARE THE SAME WITHIN THE DISTRIBUTION BOX.
- THE TOPS OF THE SEPTIC TANK AND THE DISTRIBUTION BOX SHALL BE NO MORE THAN 12" BELOW THE FINISHED GRADE WHEN ALL WORK IS COMPLETE. ORIGINAL GRADE SHALL BE MODIFIED ACCORDINGLY TO PROVIDE 12" OF COVER AT ALL INVERT ELEVATIONS.
- ALL OUTLET PIPES FROM DISTRIBUTOR BOX MUST HAVE THE SAME INVERT AND THE SAME EXISTING SLOPE FOR AT LEAST THE FIRST 10 FEET.

TOWN OF NEWBURGH NOTES:

- CONSTRUCTION OF POTABLE WATER UTILITIES AND CONNECTION TO THE TOWN OF NEWBURGH WATER SYSTEM REQUIRES A PERMIT FROM THE TOWN OF NEWBURGH WATER DEPARTMENT. ALL WORK AND MATERIALS SHALL CONFORM TO THE REQUIREMENTS OF THE NYSDOH AND THE TOWN OF NEWBURGH.
- ALL WATER SERVICE LINES FOUR (4) INCHES AND LARGER IN DIAMETER SHALL BE CEMENT LINED CLASS 52 DUCTILE IRON PIPE CONFORMING TO ANSI/AWWA C151/A21.51 FOR DUCTILE IRON PIPE, LATEST REVISION. JOINTS SHALL BE EITHER PUSH-ON OR MECHANICAL JOINT AS REQUIRED.
- THRUST RESTRAINT OF THE PIPE SHALL BE THROUGH THE USE OF JOINT RESTRAINT. THRUST BLOCKS ARE NOT ACCEPTABLE. JOINT RESTRAINT SHALL BE THROUGH THE USE OF MECHANICAL JOINT PIPE WITH RETAINER GLANDS. ALL FITTINGS AND VALVES SHALL ALSO BE INSTALLED WITH RETAINER GLANDS FOR JOINT RESTRAINT. RETAINER GLANDS SHALL BE EBBA IRON MEGALUG SERIES 1100 OR APPROVED EQUAL. THE USE OF A MANUFACTURED RESTRAINED JOINT PIPE IS ACCEPTABLE WITH PRIOR APPROVAL OF THE WATER DEPARTMENT.
- ALL FITTINGS SHALL BE CAST IRON OR DUCTILE IRON, MECHANICAL JOINT, CLASS 250 AND CONFORM TO ANSI/AWWA C110/A21.10 FOR DUCTILE AND GRAY IRON FITTINGS OR ANSI/AWWA C153/A21.53 FOR DUCTILE IRON COMPACT FITTINGS, LATEST REVISION.
- ALL VALVES 4 TO 12 INCHES SHALL BE RESILIENT WEDGE GATE VALVES CONFORMING TO ANSI/AWWA C509 SUCH AS MUELLER MODEL A-2360-23 OR APPROVED EQUAL. ALL GATE VALVES SHALL OPEN LEFT (COUNTERCLOCKWISE).
- TAPPING SLEEVE SHALL BE MECHANICAL JOINT SUCH AS MUELLER H-615 OR EQUAL. TAPPING VALVES 4 TO 12 INCHES SHALL BE RESILIENT WEDGE GATE VALVES CONFORMING TO ANSI/AWWA C509 SUCH AS MUELLER MODEL T-2360-19 OR APPROVED EQUAL. ALL TAPPING SLEEVES AND VALVES SHALL BE TESTED TO 150 PSI MINIMUM; TESTING OF THE TAPPING SLEEVE AND VALVE MUST BE WITNESSED AND ACCEPTED BY THE TOWN OF NEWBURGH WATER DEPARTMENT PRIOR TO CUTTING INTO THE PIPE.
- ALL HYDRANTS SHALL BE CLOW-EDDY F-2640 CONFORMING TO AWWA STANDARD C-502, LATEST REVISION. ALL HYDRANTS SHALL INCLUDE A 5 1/2 INCH MAIN VALVE OPENING, TWO 2 1/2 INCH DIAMETER NPT HOSE NOZZLES, ONE 4 INCH NPT STEAMER NOZZLE, A 6 INCH DIAMETER INLET CONNECTION AND A 1 1/2 INCH PENTAGON OPERATING NUT. ALL HYDRANTS SHALL OPEN LEFT (COUNTER-CLOCKWISE). HYDRANTS ON MAINS TO BE DEDICATED TO THE TOWN SHALL BE EQUIPMENT YELLOW. HYDRANTS LOCATED ON PRIVATE PROPERTY SHALL BE RED.
- ALL WATER SERVICE LINES TWO (2) INCHES IN DIAMETER AND SMALLER SHALL BE TYPE K COPPER TUBING. CORPORATION STOPS SHALL BE MUELLER H-1502ON FOR 3/4 AND 1 INCH, MUELLER H-1500ON OR B-2500ON FOR 1 1/2 AND 2 INCH SIZES. CURB VALVES SHALL BE MUELLER H-1502-2N FOR 3/4 AND 1 INCH AND MUELLER B-25204N FOR 1 1/2 AND 2 INCH SIZES. CURB BOXES SHALL BE MUELLER H-10314N FOR 3/4 AND 1 INCH AND MUELLER H-1031ON FOR 1 1/2 AND 2 INCH SIZES.
- ALL PIPE INSTALLATION SHALL BE SUBJECT TO INSPECTION BY THE TOWN OF NEWBURGH WATER DEPARTMENT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL INSPECTIONS AS REQUIRED WITH THE TOWN OF NEWBURGH WATER DEPARTMENT.
- THE WATER MAIN SHALL BE TESTED, DISINFECTED AND FLUSHED IN ACCORDANCE WITH THE TOWN OF NEWBURGH REQUIREMENTS. ALL TESTING, DISINFECTION AND FLUSHING SHALL BE COORDINATED WITH THE TOWN OF NEWBURGH WATER DEPARTMENT. PRIOR TO PUTTING THE WATER MAIN IN SERVICE SATISFACTORY SANITARY RESULTS FROM A CERTIFIED LAB MUST BE SUBMITTED TO THE TOWN OF NEWBURGH WATER DEPARTMENT. THE TEST SAMPLES MUST BE COLLECTED BY A REPRESENTATIVE OF THE TESTING LABORATORY AND WITNESSED BY THE WATER DEPARTMENT.
- THE FINAL LAYOUT OF THE PROPOSED WATER AND/OR SEWER CONNECTION, INCLUDING ALL MATERIALS, SIZE AND LOCATION OF SERVICE AND ALL APPURTENANCES, IS SUBJECT TO THE REVIEW AND APPROVAL OF THE TOWN OF NEWBURGH WATER AND/OR SEWER DEPARTMENT. NO PERMITS SHALL BE ISSUED FOR A WATER AND/OR SEWER CONNECTION UNTIL A FINAL LAYOUT IS APPROVED BY THE RESPECTIVE DEPARTMENT.

TOWN SEWER SYSTEM NOTES:

- CONSTRUCTION OF SANITARY SEWER FACILITIES AND CONNECTION TO THE TOWN OF NEWBURGH SANITARY SEWER SYSTEM REQUIRES A PERMIT FROM THE TOWN OF NEWBURGH SEWER DEPARTMENT. ALL CONSTRUCTION SHALL CONFORM TO THE REQUIREMENTS OF THE NYSDEC AND THE TOWN OF NEWBURGH.
- ALL SEWER PIPE INSTALLATION SHALL BE SUBJECT TO INSPECTION BY THE TOWN OF NEWBURGH SEWER DEPARTMENT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL INSPECTIONS AS REQUIRED WITH THE TOWN OF NEWBURGH SEWER DEPARTMENT.
- ALL GRAVITY SANITARY SEWER SERVICE LINES SHALL BE 4 INCHES IN DIAMETER OR LARGER AND SHALL BE SDR-35 PVC PIPE CONFORMING TO ASTM D-3034-89. JOINTS SHALL BE PUSH-ON WITH ELASTOMERIC RING GASKET CONFORMING ASTM D-3212. FITTINGS SHALL BE AS MANUFACTURED BY THE PIPE SUPPLIER OR EQUAL AND SHALL HAVE A BELL AND SPIGOT CONFIGURATION COMPATIBLE WITH THE PIPE.
- THE SEWER MAIN SHALL BE TESTED IN ACCORDANCE WITH TOWN OF NEWBURGH REQUIREMENTS. ALL TESTING SHALL BE COORDINATED WITH THE TOWN OF NEWBURGH SEWER DEPARTMENT.
- THE FINAL LAYOUT OF THE PROPOSED WATER AND/OR SEWER CONNECTION, INCLUDING ALL MATERIALS, SIZE AND LOCATION OF SERVICE AND ALL APPURTENANCES, IS SUBJECT TO THE REVIEW AND APPROVAL OF THE TOWN OF NEWBURGH WATER AND/OR SEWER DEPARTMENT. NO PERMITS SHALL BE ISSUED FOR A WATER AND/OR SEWER CONNECTION UNTIL A FINAL LAYOUT IS APPROVED BY THE RESPECTIVE DEPARTMENT.

SITE - CIVIL GENERAL NOTES:

- CONTRACTOR, AT THEIR OWN EXPENSE, SHALL ABIDE BY THE LATEST EDITIONS OF ALL OSHA REGULATIONS AND REQUIREMENTS.
- THERE SHALL BE NO CLAIMS AGAINST ORANGE COUNTY FOR WORK STOPPAGES DUE TO ACTS OF GOD, WEATHER CONDITIONS, STOP WORK ORDERS (VERBAL AND/OR WRITTEN), UNDERESTIMATION OF WORK, ESTIMATED QUANTITIES, MATERIALS, SUPPLIES, TOOLS, CORRECTION OF SAFETY PROBLEMS, OR ANY OTHER REASON.
- ALL QUANTITIES SHOWN ON THE DRAWING ARE ESTIMATED QUANTITIES ONLY. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO FIELD VERIFY AND ASCERTAIN ALL EXISTING CONDITIONS, DIMENSIONS AND QUANTITIES.
- ALL WORK SHALL BE PERFORMED BY THOSE WHO ARE SKILLED IN THEIR TRADE TO PRODUCE A FIRST CLASS JOB. THE CONTRACTOR IS ADVISED THAT WORK DEEMED UNSUITABLE, UNACCEPTABLE, SECOND CLASS IN NATURE BY BIG SHINE WORLDWIDE SHALL BE DEEMED NON-ACCEPTABLE AND THE CONTRACTOR SHALL REMOVE, REPLACE, RE-DO, TO THE SATISFACTION OF BIG SHINE WORLDWIDE, THE UNACCEPTABLE WORK AT NO ADDITIONAL COST TO THE OWNER. THERE SHALL BE NO ADDITIONAL CLAIMS AGAINST BIG SHINE WORLDWIDE FOR THE ABOVE.
- ROAD WAYS, BUILDING EMERGENCY ACCESS AREAS, AND BUILDING ENTRY AND EXITS AREAS ARE TO BE KEPT CLEAR AT ALL TIMES.
- CONTRACTOR SHALL USE DIG SAFELY NY. "CALL 811".
- CONTRACTOR SHALL BE RESPONSIBLE TO VERIFY AND ASCERTAIN IN THE FIELD, ALL EXISTING UTILITIES, EXISTING CONDITIONS, FIELD MEASUREMENTS, DIMENSIONS, AND QUANTITIES RELATED TO THE PROJECT.
- THE CONTRACTOR SHALL BE RESPONSIBLE TO VERIFY AND ASCERTAIN THE LOCATION, DEPTH, DIRECTION, AND SIZE OF ANY AND ALL UTILITIES EXISTING IN THE GENERAL VICINITY OF THE WORK AREA.
- IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO REPAIR ANY UTILITY DISRUPTED, BROKEN OR OTHERWISE RENDERED NON-FUNCTIONAL DUE TO THE WORK PERFORMED AT NO ADDITIONAL COST TO BIG SHINE WORLDWIDE DURING THIS COURSE OF WORK.
- THE CONTRACTOR SHALL IDENTIFY ANY NON-FUNCTIONING UTILITY/SYSTEM, PRIOR TO THE START OF WORK TO ORANGE COUNTY. IDENTIFICATION OF SUCH AFTER THE START OF WORK SHALL BE DEEMED AS DISTURBED/DAMAGED BY THE CONTRACTOR AND SHALL BE REPAIRED AT THE EXPENSE OF THE CONTRACTOR.
- IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROPERLY SUPPORT ANY UTILITY ENCOUNTERED IN THE COURSE OF THIS WORK.
- THE CONTRACTOR SHALL BE RESPONSIBLE TO REPAIR ANY DAMAGE CAUSED BY CONSTRUCTION OF THIS PROJECT AT THE CONTRACTOR'S EXPENSE.
- THE CONTRACTOR SHALL ADD BARRIERS, SECURE ALL EXTERIOR WORK AND STAGING AREAS WITH ACCEPTABLE FENCING.
- THE CONTRACTOR SHALL NOT LEAVE THE WORK AREA UNATTENDED FOR ANY REASON, UNLESS SAFETY PARTITIONS, SAFETY FENCING AND COVERING FOR ALL OPEN TRENCHES ARE INSTALLED AND SECURED.
- THE CONTRACTOR SHALL LEAVE THE WORK SITE CLEAN AND SECURED AT THE END OF EACH WORKING DAY. THE WORK SITE SHALL NOT BE LEFT UNATTENDED AT ANY TIME BY THE CONTRACTOR UNLESS THE WORK AREA IS PROPERLY SECURED BY THE CONTRACTOR.
- THE CONTRACTOR IS ADVISED THAT THEY ARE SOLELY RESPONSIBLE FOR THE SAFETY OF THE WORK SITE AND SHALL TAKE ALL ACTIONS TO ELIMINATE ANY SAFETY HAZARDS THAT SHALL EXIST AND POSE A THREAT OF HARM TO STUDENTS, EMPLOYEES OF BIG SHINE WORLDWIDE, EMPLOYEES OF THE CONTRACTOR OR OTHER(S). IT SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO TAKE IMMEDIATE ACTION TO ALLEVIATE ANY SAFETY HAZARD THAT MAY EXIST WITHOUT DIRECTION FROM BIG SHINE WORLDWIDE.
- CONTRACTOR SHALL SAW CUT WITH PROPER BLADE ANY ROADS, CURBS AND SIDEWALKS ENCOUNTERED IN THE COURSE OF THIS WORK.
- ALL HOLES SHALL BE CORE-DRILLED WITH DIAMOND CORE BITS.
- CONTRACTOR SHALL BE RESPONSIBLE TO REMOVE ANY AND ALL DEBRIS FROM THE SITE DAILY AND DISPOSE OF SAME OFF SITE IN ACCORDANCE WITH ALL LOCAL AND STATE REGULATIONS.
- THE CONTRACTOR SHALL MAINTAIN THE WORK SITE IN A NEAT AND CLEAN CONDITION. THE WORK SITE SHALL BE CLEANED DAILY OF CONSTRUCTION DEBRIS
- SUB-GRADE FILL TO BE COMPACTED TO 95% STANDARD PROCTOR RELATIVE DENSITY AND PAVEMENT AREAS SHALL HAVE SUB-GRADE COMPACTED TO 95% MODIFIED RELATIVE DENSITY PER AASHTO REQUIREMENTS.
- ALL ESTABLISHED EGRESS ROUTES SHALL REMAIN CLEAR AT ALL TIMES.
- ALL WORK SHALL BE CONDUCTED WITHIN THE APPROVED FENCING PLAN AREA.
- ALL CONSTRUCTION VEHICLES WILL HAVE A FUNCTIONING BACKUP ALARM.
- CONTRACTOR TO VERIFY LOCATION AND LSE FOR ALL BUILDINGS PRIOR TO START OF CONSTRUCTION. LSE NOT LISTED ARE ASSUMED TO BE APPROXIMATELY 4' BELOW GRADE.
- CONTRACTOR SHALL OBTAIN ALL NECESSARY LOCAL AND STATE PERMITS PRIOR TO COMMENCEMENT OF WORK.

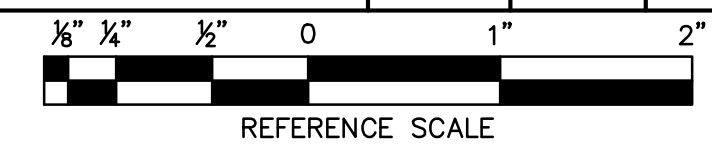
E&S NOTES:

- THE OPERATOR SHALL ASSURE THAT THE APPROVED EROSION AND SEDIMENT CONTROL PLAN IS PROPERLY AND COMPLETELY IMPLEMENTED.
- CONSTRUCTION VEHICLES AND EQUIPMENT ENTERING AND EXITING THE SITE MUST ENTER AND EXIT AT THE STABILIZED CONSTRUCTION ENTRANCE LOCATION(S) ONLY. MEASURES MUST BE TAKEN TO PREVENT SOIL AND SEDIMENT FROM A VEHICLE'S TIRES FROM BEING DEPOSITED ONTO THE PUBLIC ROADS.
- UNTIL THE SITE ACHIEVES FINAL STABILIZATION, THE OPERATOR SHALL ASSURE THAT THE BEST MANAGEMENT PRACTICES ARE IMPLEMENTED, OPERATED, AND MAINTAINED PROPERLY AND COMPLETELY. MAINTENANCE SHALL INCLUDE INSPECTIONS OF ALL BEST MANAGEMENT PRACTICE FACILITIES. THE OPERATOR WILL MAINTAIN AND MAKE AVAILABLE TO THE TOWN OF NEWBURGH COMPLETE, WRITTEN INSPECTION LOGS OF ALL THOSE INSPECTIONS. ALL MAINTENANCE WORK, INCLUDING CLEANING, REPAIR, REPLACEMENT, REGRADING, AND RESTABILIZATION SHALL BE PERFORMED IMMEDIATELY.
- IMMEDIATELY UPON DISCOVERING UNFORESEEN CIRCUMSTANCES POSING THE POTENTIAL FOR ACCELERATED EROSION AND/OR SEDIMENT POLLUTION, THE OPERATOR SHALL IMPLEMENT APPROPRIATE BEST MANAGEMENT PRACTICES TO ELIMINATE POTENTIAL FOR ACCELERATED EROSION AND/OR SEDIMENT POLLUTION.
- BEFORE INITIATING ANY REVISIONS TO THE APPROVED EROSION AND SEDIMENT CONTROL PLAN OR REVISIONS TO OTHER PLANS THAT MAY AFFECT THE EFFECTIVENESS OF THE APPROVED E&S CONTROL PLAN, THE OPERATOR MUST RECEIVE APPROVAL OF THE REVISIONS FROM THE TOWN OF NEWBURGH.
- THE OPERATOR SHALL ASSURE THAT AN EROSION AND SEDIMENT CONTROL PLAN HAS BEEN PREPARED, APPROVED BY THE TOWN OF NEWBURGH, AND IS BEING IMPLEMENTED AND MAINTAINED FOR ALL SOIL AND/OR ROCK SPOIL AND BORROW AREAS, REGARDLESS OF THEIR LOCATIONS.
- A COPY OF THE APPROVED EROSION AND SEDIMENT CONTROL PLAN MUST BE AVAILABLE AT THE PROJECT SITE AT ALL TIMES.
- THE E&S CONTROL PLAN MAPPING MUST DISPLAY A NY ONE CALL SYSTEM INCORPORATED SYMBOL INCLUDING THE SITE IDENTIFICATION NUMBER. (THIS IS A NUMBERED SYMBOL NOT A NOTE.)
- EROSION AND SEDIMENT BMPs (BEST MANAGEMENT PRACTICES) MUST BE CONSTRUCTED, STABILIZED, AND FUNCTIONAL BEFORE SITE DISTURBANCE BEGINS WITHIN THE TRIBUTARY AREAS OF THOSE BMPs.
- IMMEDIATELY AFTER EARTH DISTURBANCE ACTIVITIES CEASE, THE OPERATOR SHALL STABILIZE ANY AREAS DISTURBED BY THE ACTIVITIES. DURING NON-GERMINATING PERIODS, MULCH MUST BE APPLIED AT THE SPECIFIED RATES. DISTURBED AREAS WHICH ARE NOT AT FINISHED GRADE AND WHICH WILL BE REDISTURBED WITHIN 1 YEAR MUST BE STABILIZED IN ACCORDANCE WITH THE TEMPORARY VEGETATIVE STABILIZATION SPECIFICATIONS. DISTURBED AREAS WHICH ARE AT FINISHED GRADE OR WHICH WILL NOT BE REDISTURBED WITHIN 1 YEAR MUST BE STABILIZED IN ACCORDANCE WITH THE PERMANENT VEGETATIVE STABILIZATION SPECIFICATIONS.
- UNTIL THE SITE IS STABILIZED, ALL EROSION AND SEDIMENT BMPs MUST BE MAINTAINED PROPERLY. MAINTENANCE MUST INCLUDE INSPECTIONS OF ALL EROSION AND SEDIMENT CONTROL BMPs AFTER EACH RUNOFF EVENT AND ON A WEEKLY BASIS. ALL PREVENTATIVE AND REMEDIAL MAINTENANCE WORK, INCLUDING CLEAN OUT, REPAIR, REPLACEMENT, REGRADING, RESEEDING, REMULCHING, AND RENETTING, MUST BE PERFORMED IMMEDIATELY. IF EROSION AND SEDIMENT CONTROL BMPs FAIL TO PERFORM AS EXPECTED, REPLACEMENT BMPs, OR MODIFICATIONS OF THOSE INSTALLED WILL BE REQUIRED.
- SEDIMENT REMOVED FROM BMPs SHALL BE DISPOSED OF IN LANDSCAPED AREAS OUTSIDE OF STEEP SLOPES, WETLANDS, FLOODPLAINS OR DRAINAGE SWALES AND IMMEDIATELY STABILIZED, OR PLACED IN TOPSOIL STOCKPILES.
- THE OPERATOR SHALL REMOVE FROM THE SITE, RECYCLE, OR DISPOSE OF ALL BUILDING MATERIALS AND WASTES IN ACCORDANCE WITH ALL APPLICABLE STATE AND LOCAL CODES. THE CONTRACTOR SHALL NOT ILLEGALLY BURY, DUMP, OR DISCHARGE ANY BUILDING MATERIAL OR WASTES AT THE SITE.

BMPs - AFTER DISTURBANCE

- WITHIN FOURTEEN (14) DAYS OF ACHIEVING FINAL SITE STABILIZATION, TEMPORARY EROSION AND SEDIMENT BMPs CONTROLS MUST BE REMOVED. AREAS DISTURBED DURING REMOVAL OF THE BMPs MUST BE STABILIZED IMMEDIATELY.
- AN AREA SHALL BE CONSIDERED TO HAVE ACHIEVED FINAL STABILIZATION WHEN IT HAS A MINIMUM UNIFORM 80% PERENNIAL VEGETATIVE COVER OR OTHER PERMANENT NON-VEGETATIVE COVER WITH A DENSITY SUFFICIENT TO RESIST ACCELERATED SURFACE EROSION AND SUBSURFACE CHARACTERISTICS SUFFICIENT TO RESIST SLIDING AND OTHER MOVEMENTS.

| 3 | 5/30/23 | REVISED PER PB COMMENTS | | | |
|-------|---------|-------------------------|---------|------|-------------|
| 2 | 4/21/23 | REVISED PER PB COMMENTS | | | |
| 1 | 1/18/23 | REVISED PER PB COMMENTS | | | |
| REV # | DATE | REMARKS: | ISSUE # | DATE | ISSUED FOR: |



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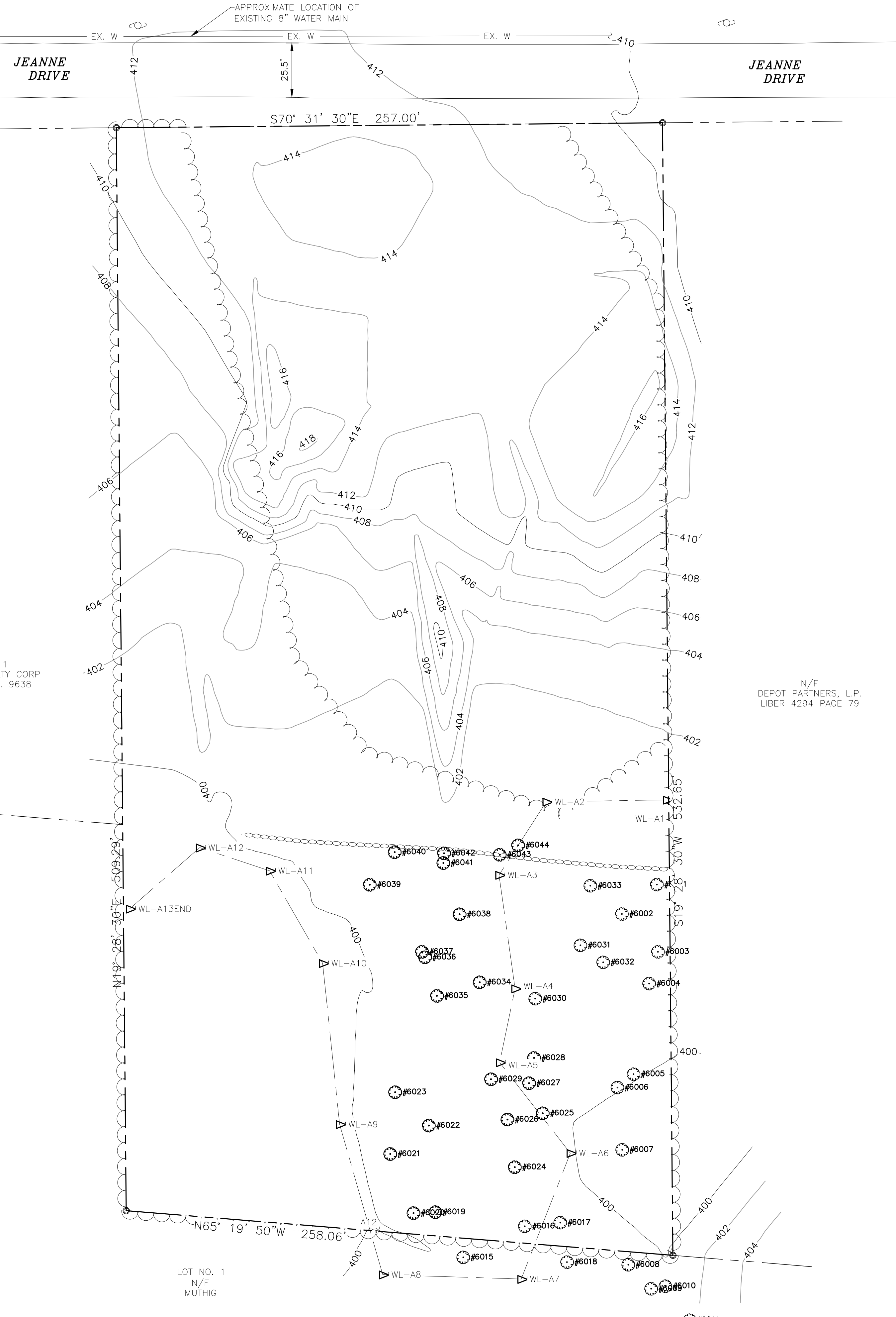
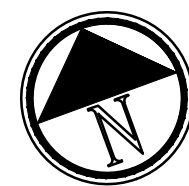
FELLENZER III
ENGINEERING LLP www.felpp.com

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181 Church St., Suite 100, Poughkeepsie, NY 12601 | 845-454-9704 | 855-320-8735

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|--------------|----------------|-----------------------------------|-------------------|------------|--------------|
| STAMP: | PROJECT TITLE: | JEANNE DRIVE SITE PLAN | | | |
| | | SECTION 34, BLOCK 2, LOT 66. | | | |
| | DRAWING TITLE: | GENERAL NOTES SHEET | | | |
| DESIGNED BY: | DRAWN BY: | APPROVED BY P.M.: | APPROVED BY P.C.: | DRAWING #: | |
| JB | VMB | RDF | MDF | | C-000 |
| DATE: | SCALE: | FE PROJECT #: | | | |
| 11/01/2022 | AS SHOWN | 19-049 | | | PAGE 2 OF 10 |



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5/30/23
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LEGEND

- EXISTING PROPERTY LINE
- PROPERTY LINE SETBACK
- EXISTING MAJOR CONTOUR ELEVATION
- EXISTING MINOR CONTOUR ELEVATION
- EXISTING WETLAND BOUNDARY
- EXISTING HYDROLOGIC SUB BASIN BOUNDARY
- WATER LINE
- STORM LINE
- SUB-BASIN
- EXISTING STONE WALL
- SILT FENCE
- TREELINE
- EXISTING WETLAND FLAG
- EXISTING UTILITY POLE
- CATCH BASIN
- EXISTING TREE TO REMAIN
- EXISTING TREE TO BE REMOVED

TREE LEGEND

| TREE# | SPECIES | SIZE |
|-------|----------------|------------------|
| 6001 | TULIP TREE | 15" |
| 6002 | RED MAPLE TREE | 11" |
| 6003 | RED MAPLE TREE | 12" + 16" DOUBLE |
| 6004 | RED MAPLE TREE | 16" + 18" DOUBLE |
| 6005 | OAK TREE | 21" |
| 6006 | RED MAPLE TREE | 16" |
| 6007 | RED MAPLE TREE | 18" |
| 6008 | OAK TREE | 20" |
| 6009 | RED MAPLE TREE | 18" |
| 6010 | RED MAPLE TREE | 14" |
| 6011 | OAK TREE | 18" |
| 6012 | RED MAPLE TREE | 20" |
| 6013 | OAK TREE | 24" |
| 6014 | RED MAPLE TREE | 16" |
| 6015 | OAK TREE | 14" |
| 6016 | OAK TREE | 12" |
| 6017 | RED MAPLE TREE | 29" DOUBLE |
| 6018 | OAK TREE | 18" |
| 6019 | OAK TREE | 19" |
| 6020 | OAK TREE | 18" |
| 6021 | OAK TREE | 16" |
| 6022 | OAK TREE | 14" |
| 6023 | HICKORY TREE | 22" |
| 6024 | HICKORY TREE | 12" |
| 6025 | OAK TREE | 20" |
| 6026 | OAK TREE | 24" |
| 6027 | RED MAPLE TREE | 12" |
| 6028 | RED MAPLE TREE | 16" |
| 6029 | RED MAPLE TREE | 12" |
| 6030 | RED MAPLE TREE | 14" HOLLOW |
| 6031 | RED MAPLE TREE | 12" |
| 6032 | RED MAPLE TREE | 11" |
| 6033 | OAK TREE | 28" |
| 6034 | RED MAPLE TREE | 12" |
| 6035 | OAK TREE | 16" |
| 6036 | OAK TREE | 12" |
| 6037 | OAK TREE | 14" |
| 6038 | RED MAPLE TREE | 11" |
| 6039 | RED MAPLE TREE | 22" |
| 6040 | RED MAPLE TREE | 18" HOLLOW |
| 6041 | OAK TREE | 14" |
| 6042 | OAK TREE | 11" |
| 6043 | RED MAPLE TREE | 20" |
| 6044 | TULIP TREE | 11" |

GENERAL NOTES

- PROPERTY LINE AND TOPOGRAPHY SHOWN HEREON IS BASED ON A FIELD SURVEY BY OSWALD & GILLESPIE, PC DATED COMPLETED ON JULY 2003. WETLAND AND TREE LOCATION IS BASED ON A FIELD SURVEY BY TECTONIC ENGINEERING CONSULTANTS, GEOLOGISTS & LAND SURVEYORS, D.P.C. COMPLETED ON 03/21/23.
- VERTICAL DATUM: REFERENCE 4(A).
- ANGLES OR BEARINGS SHOWN HEREON ARE FORMATTED IN DEGREES, MINUTES, AND SECONDS. DISTANCES OR ELEVATIONS SHOWN HEREON ARE IN U.S. SURVEY FEET, UNLESS NOTED OTHERWISE.
- REFERENCES:
 - (A) HILLSIDE LAND DEVELOPMENT INC. PREPARED BY OSWALD AND GILLESPIE P.C. EFFECTIVE DATE FEBRUARY 10, 2004
 - (B) SUBSURFACE SEWAGE DISPOSAL SYSTEM PLAN FOR HILLSIDE LAND DEVELOPMENT INC. SECTION 34 BLOCK 2 LOT 66 PREPARED BY MASTER SOLUTIONS P.A. EFFECTIVE DATE NOVEMBER 22, 2006
 - (C) MAP OF SURVEY FOR THE LANDS OF HILLSIDE LAND DEVELOPMENT INC. PREPARED BY OSWALD AND GILLESPIE P.C. EFFECTIVE DATE JULY 18, 2003
- THIS SURVEY IS SUBJECT TO A COMPLETE AND UP TO DATE ABSTRACT OF TITLE. COVENANTS, EASEMENTS, GRANTS AND RIGHTS-OF-WAY NOT VISIBLE AND NOT REFERENCED ARE NOT SHOWN. TECTONIC ENGINEERING CONSULTANTS, GEOLOGISTS & LAND SURVEYORS, D.P.C. SHALL NOT BE LIABLE FOR THE DISTURBANCE TO ANYONE'S RIGHT TO THE USE OF THE PROPERTY OR THE DISTURBANCE OF ANY UTILITIES NOT SHOWN OR REFERENCED ON THIS SURVEY PLAT.
- UNDERGROUND IMPROVEMENTS IF ANY AND NOT VISIBLE AT THE TIME OF THE SURVEY, HAVE NOT BEEN LOCATED IN THE FIELD OR SHOWN HEREON.
- LOCATIONS OF ALL UTILITIES AND SUBSTRUCTURES ARE APPROXIMATE ONLY BASED ON SURFACE EVIDENCE AND EXISTING PLANS. THE INFORMATION GIVEN ON THE SURVEY PERTAINING TO UTILITIES AND SUBSTRUCTURES IS NOT CERTIFIED TO ACCURACY OR COMPLETENESS. CONSULT WITH THE APPROPRIATE COMPANY OR AGENCY BEFORE DESIGNING OR CONSTRUCTING IMPROVEMENTS. TECTONIC ENGINEERING CONSULTANTS, GEOLOGISTS & LAND SURVEYORS, D.P.C. WILL NOT BE RESPONSIBLE FOR ANY DAMAGE SUBSEQUENTLY CAUSED TO PERSONNEL, STRUCTURES, OR UTILITIES.
- THIS SURVEY PLAT IS FOR SITE PLAN/ENGINEERING PURPOSES ONLY AND IS NOT INTENDED TO BE USED FOR THE TRANSFER OF TITLE.
- THE SUBJECT PROPERTY FALLS WITHIN FLOOD ZONE "NOT PRINTED" AS PER THE NATIONAL FLOOD INSURANCE RATE MAP FOR THE TOWN OF DEPOSIT, COUNTY OF DELAWARE, STATE OF NEW YORK, COMMUNITY PANEL NO # 36025C0705D, EFFECTIVE DATE OF 06/19/2012. THIS DETERMINATION IS BASED ON SCALED MAP LOCATION AND GRAPHIC PLOTTING.
- WETLAND FLAGS SHOWN AS DELINEATED BY MICHAEL NOWICKI ON 02/06/23, AND FIELD SURVEYED BY TECTONIC ENGINEERING CONSULTANTS, GEOLOGISTS & LAND SURVEYORS, D.P.C. ON xx/xx/xx.

NOTES:

- WETLAND DELINEATION CONDUCTED BY MICHAEL NOWICKI OF ECOLOGICAL SOLUTIONS, LLC ON FEBRUARY 6, 2023.
- TREE INVENTORY CONDUCTED BY TOM'S LANDSCAPING, LTD DATED MARCH 2, 2023 AS PER SECTION 172-5 OF THE TOWN CODE.

1 EXISTING CONDITIONS
1"=30'

| 3 | 5/30/23 | REVISED PER PB COMMENTS | | | |
|-------|---------|-------------------------|---------|------|-------------|
| 2 | 4/21/23 | REVISED PER PB COMMENTS | | | |
| 1 | 1/18/23 | REVISED PER PB COMMENTS | | | |
| REV # | DATE | REMARKS: | ISSUE # | DATE | ISSUED FOR: |

REFERENCE SCALE

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JEANNE DRIVE SITE PLAN
 SECTION 34, BLOCK 2, LOT 66.

EXISTING CONDITIONS

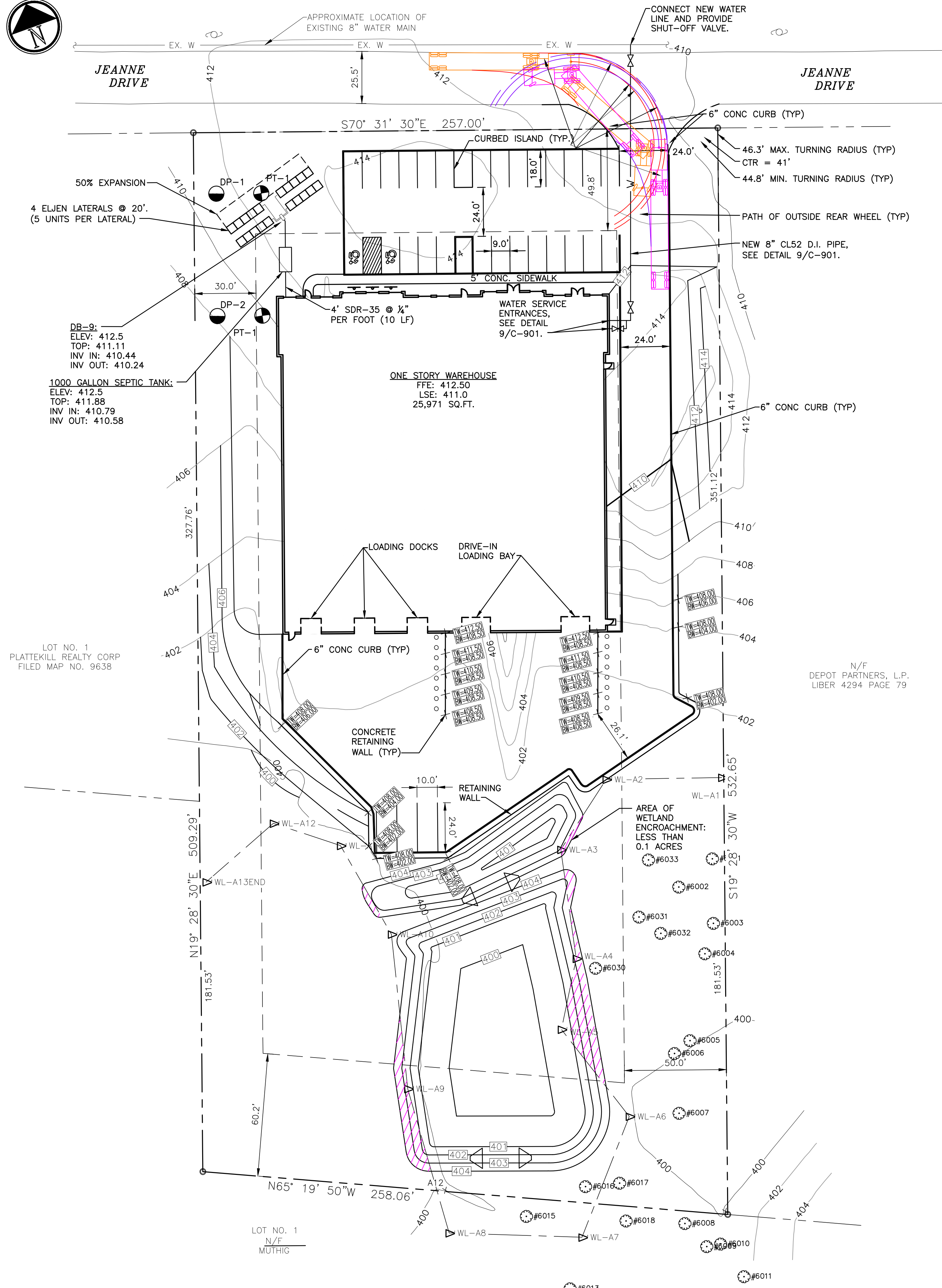
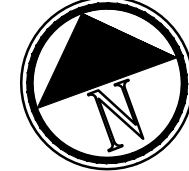
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| DESIGNED BY: JB | DRAWN BY: VMB | APPROVED BY P.M.: RDF | APPROVED BY P.I.C.: MDF | DRAWING #: |
| DATE: 11/01/2022 | SCALE: AS SHOWN | FE PROJECT #: | 19-049 | C-001 |

PAGE 3 OF 10

File Name: F:\2019\19-049 Jeanne Drive Site Plan\C-001.dwg (Layout: C-001)
 Date: Tue, May 30, 2023 8:46 AM (Name: vmb)



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1 SITE PLAN
1"=30'

LEGEND

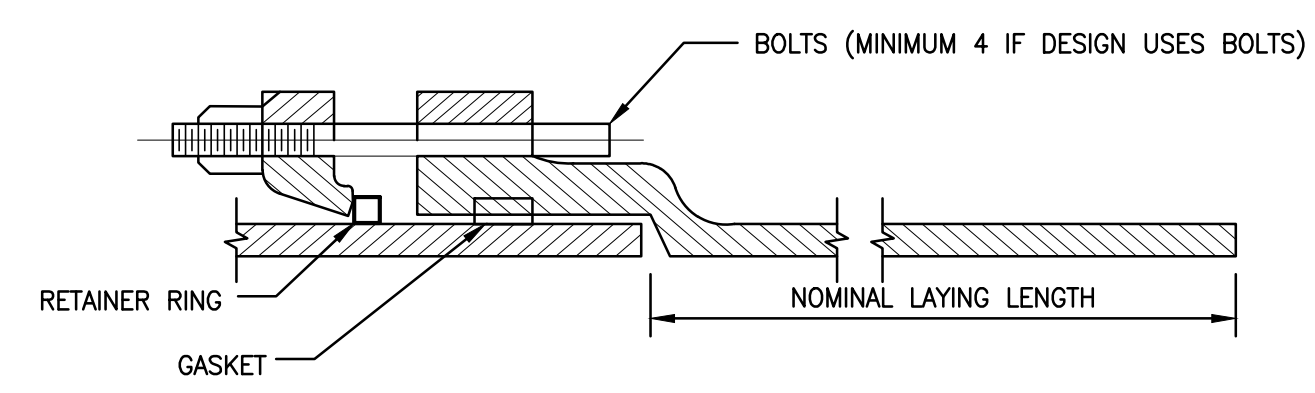
- EXISTING PROPERTY LINE
- - - - PROPERTY LINE SETBACK
- 410 EXISTING MAJOR CONTOUR ELEVATION
- 416 EXISTING MINOR CONTOUR ELEVATION
- - - - EXISTING WETLAND BOUNDARY
- - - - EXISTING HYDROLOGIC SUB BASIN BOUNDARY
- W WATER LINE
- ST STORM LINE
- - - - SUB-BASIN
- - - - EXISTING STONE WALL
- - - - EXISTING UTILITY POLE
- - - - SILT FENCE
- - - - CHAIN LINK FENCE
- - - - TREELINE
- ▶ WL-A7 EXISTING WETLAND FLAG
- EXISTING TREE TO REMAIN
- EXISTING TREE TO BE REMOVED

PARKING CALCULATIONS:

TOTAL REQUIRED PARKING SPACES = 16 EMPLOYEES X 2 PARKING SPACES/3 EMPLOYEES = 11
 TOTAL PROVIDED PARKING SPACES = 25
 REQUIRED ADA PARKING SPACES = 2
 PROVIDED ADA PARKING SPACES = 2
 * OFF-STREET PARKING REQUIREMENTS PER SECTION 185-13.C(B) FOR WAREHOUSE USE
 TOTAL REQUIRED TRUCK LOADING SPACES = 25,000 - 39,999SF = 2
 TOTAL PROVIDED TRUCK LOADING SPACES = 3
 * OFF-STREET TRUCK LOADING PARKING REQUIREMENTS PER SECTION 185-13.B.6

WETLAND DISTURBANCE CALCULATIONS:

WETLAND AREA = 1,128FT² = 0.03 ACRES

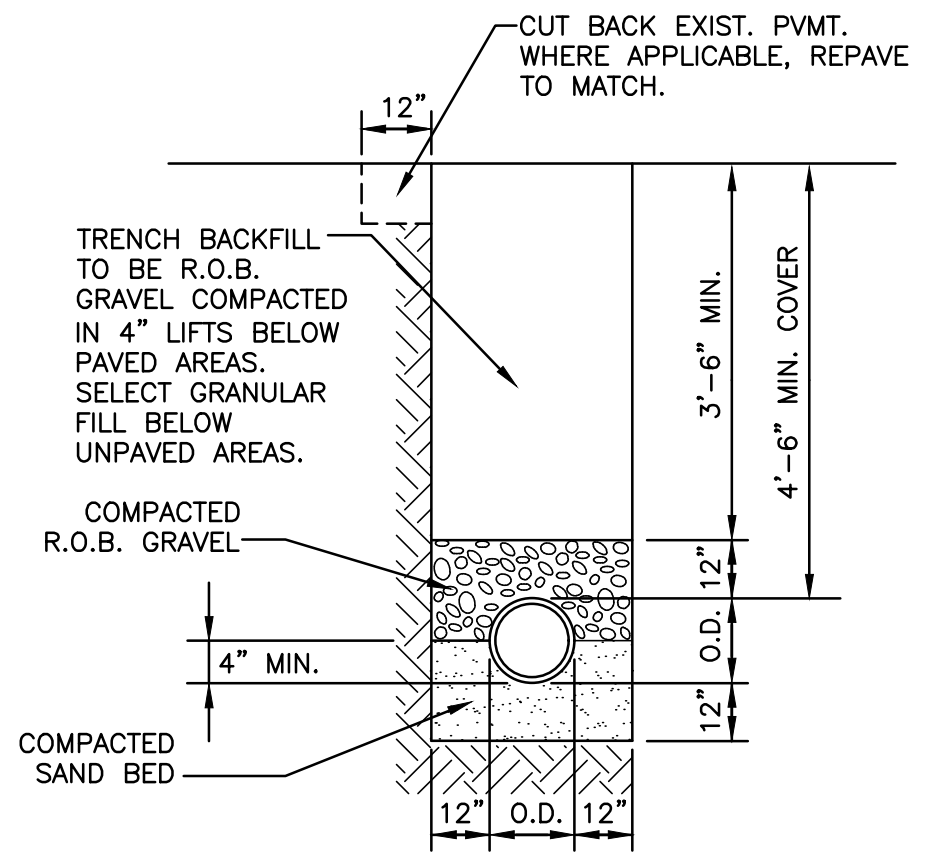


RESTRAINED MECHANICAL JOINT FOR DUCTILE IRON PIPE AND FITTINGS
 NOTE: WILL VARY WITH SIZE AND MANUFACTURER

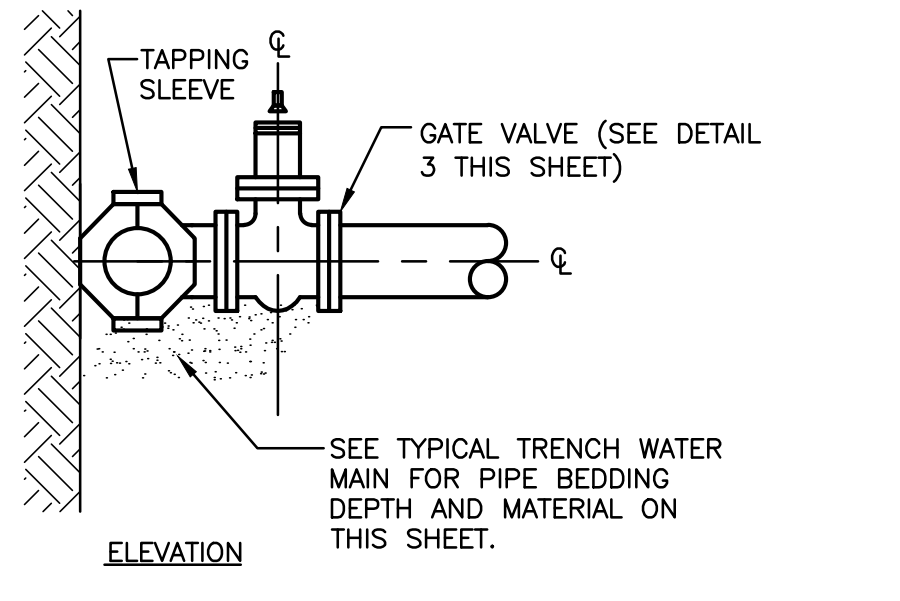
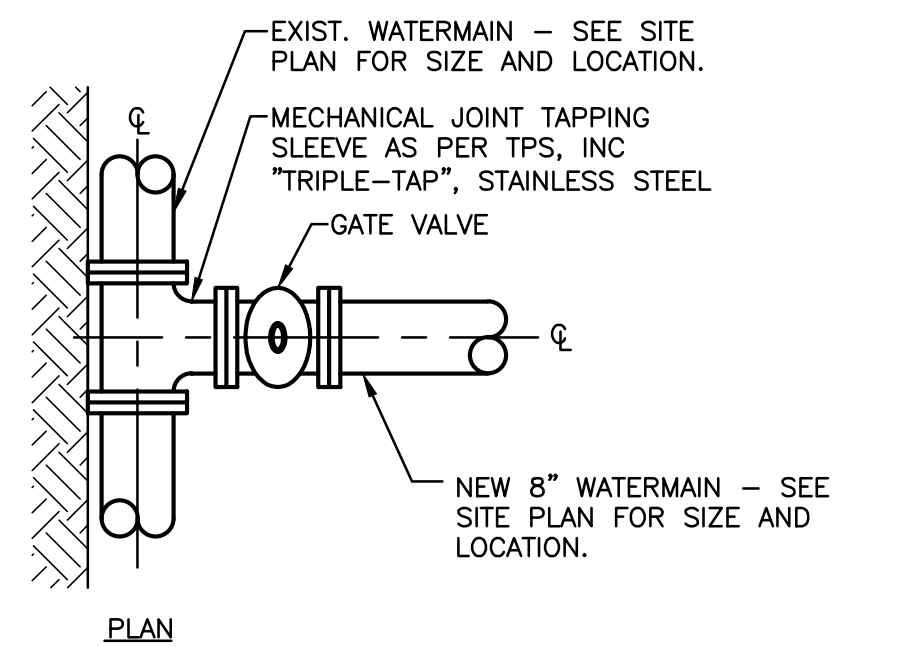
| MECHANICAL JOINT BOLT TORQUE | | |
|------------------------------|-----------|-----------------|
| NPS SIZE | BOLT SIZE | TORQUE (LBF-FT) |
| 4-24 | 3/4" | 75-90 |

2 RESTRAINED MECHANICAL JOINT DETAIL
N.T.S.

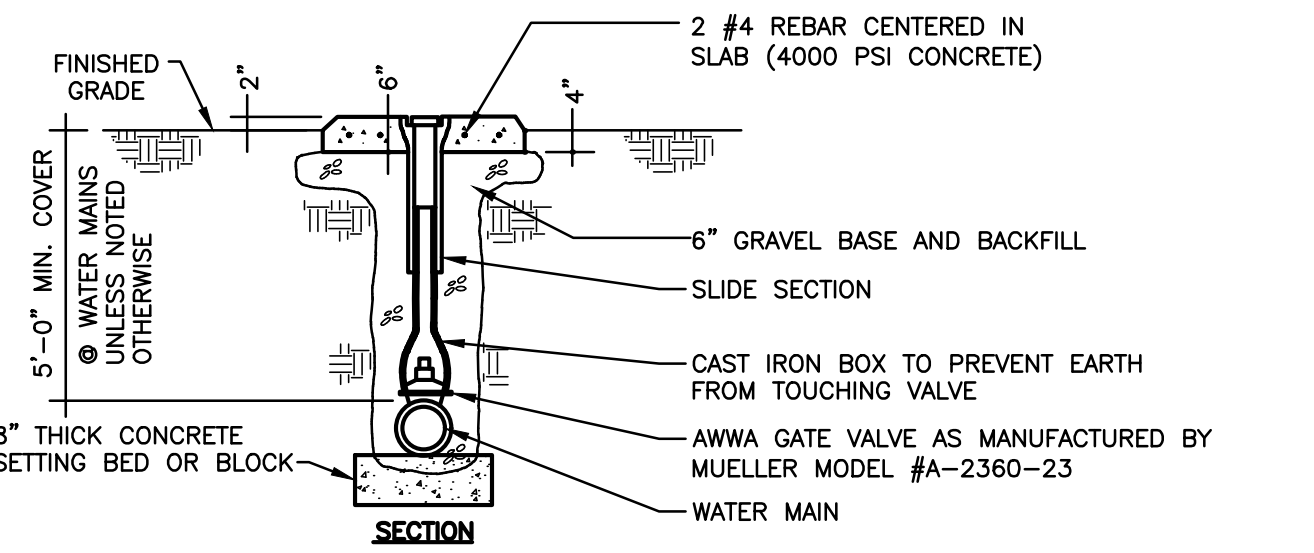
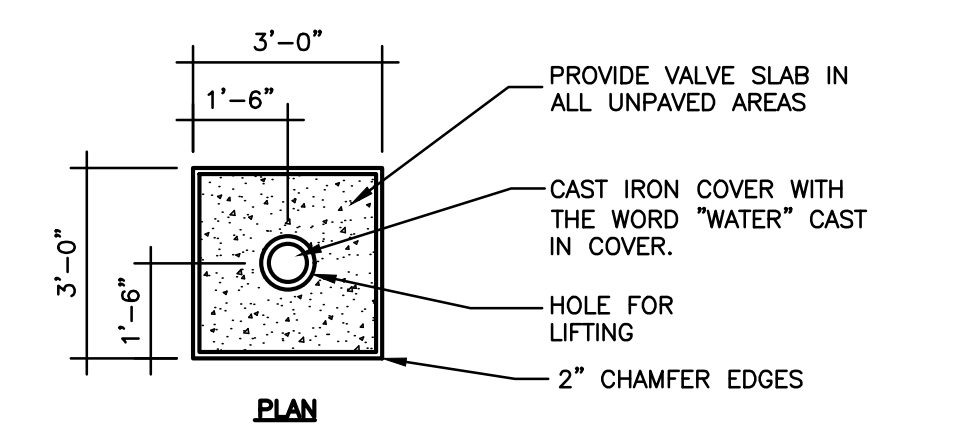
NOTE:
 1. RETAINER GLANDS SHALL BE EBBA IRON MEGALUG SERIES 1100 OR APPROVED EQUIVALENT



4 TYPICAL TRENCH - WATER MAIN DETAIL
N.T.S.



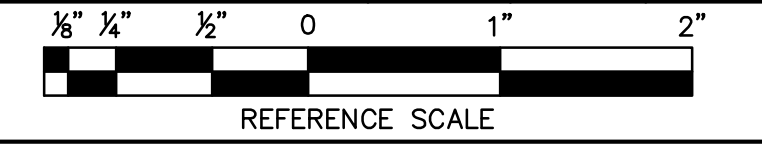
1 TAPPING SLEEVE & GATE VALVE DETAIL
N.T.S.



3 VALVE BOX AND VALVE SLAB
N.T.S.

NOTE:
 1. ALL VALVES TO INCLUDE MEGA-LUG RETAINER GLANDS AND BE RODDED BACK TO ADJACENT TEE IN THE WATER MAIN WITH 3/4" GALVANIZED STEEL RODS.

| REV # | DATE | REMARKS: | ISSUE # | DATE | ISSUED FOR: |
|-------|---------|-------------------------|---------|------|-------------|
| 3 | 5/30/23 | REVISED PER PB COMMENTS | | | |
| 2 | 4/21/23 | REVISED PER PB COMMENTS | | | |
| 1 | 1/18/23 | REVISED PER PB COMMENTS | | | |



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STAMP: PROJECT TITLE: **JEANNE DRIVE SITE PLAN SECTION 34, BLOCK 2, LOT 66.**

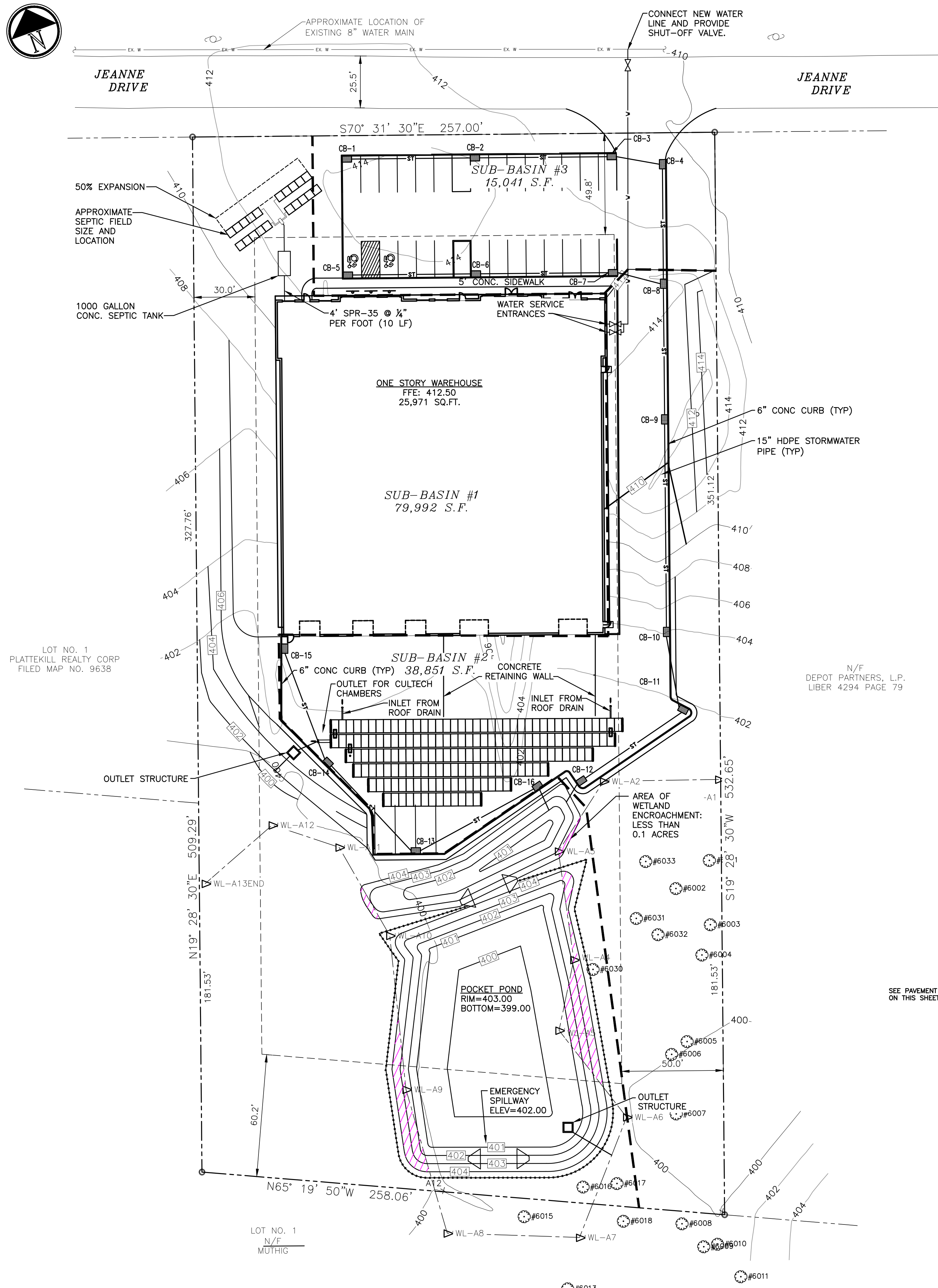
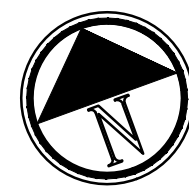
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| | | | | |
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| DESIGNED BY: JB | DRAWN BY: JCL | APPROVED BY P.M.: RDF | APPROVED BY P.I.C.: MDF | DRAWING #: C-101 |
| DATE: 11/01/2022 | SCALE: AS SHOWN | FE PROJECT #: | 19-049 | PAGE 4 OF 10 |

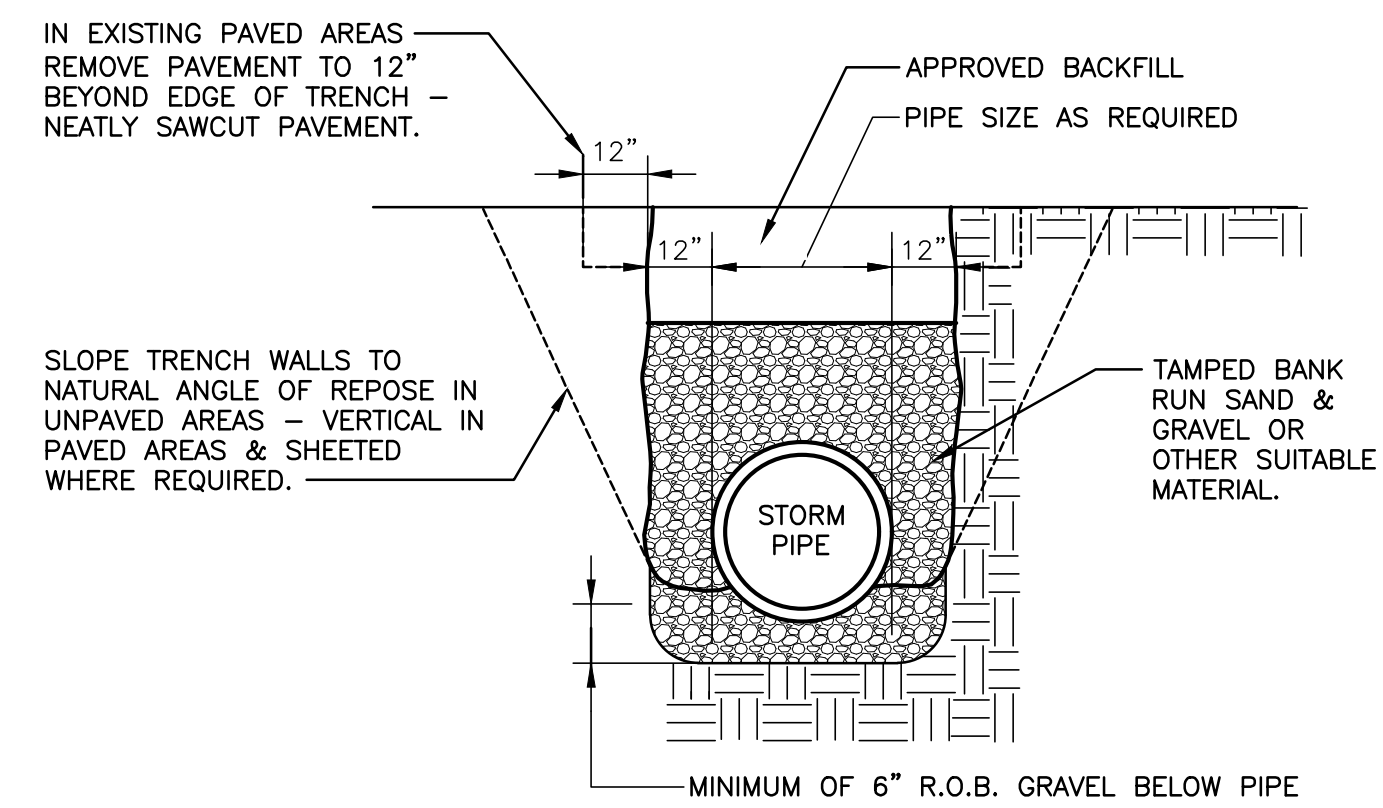
Call 811 before you dig

PROGRESS PRINT
 5/30/23
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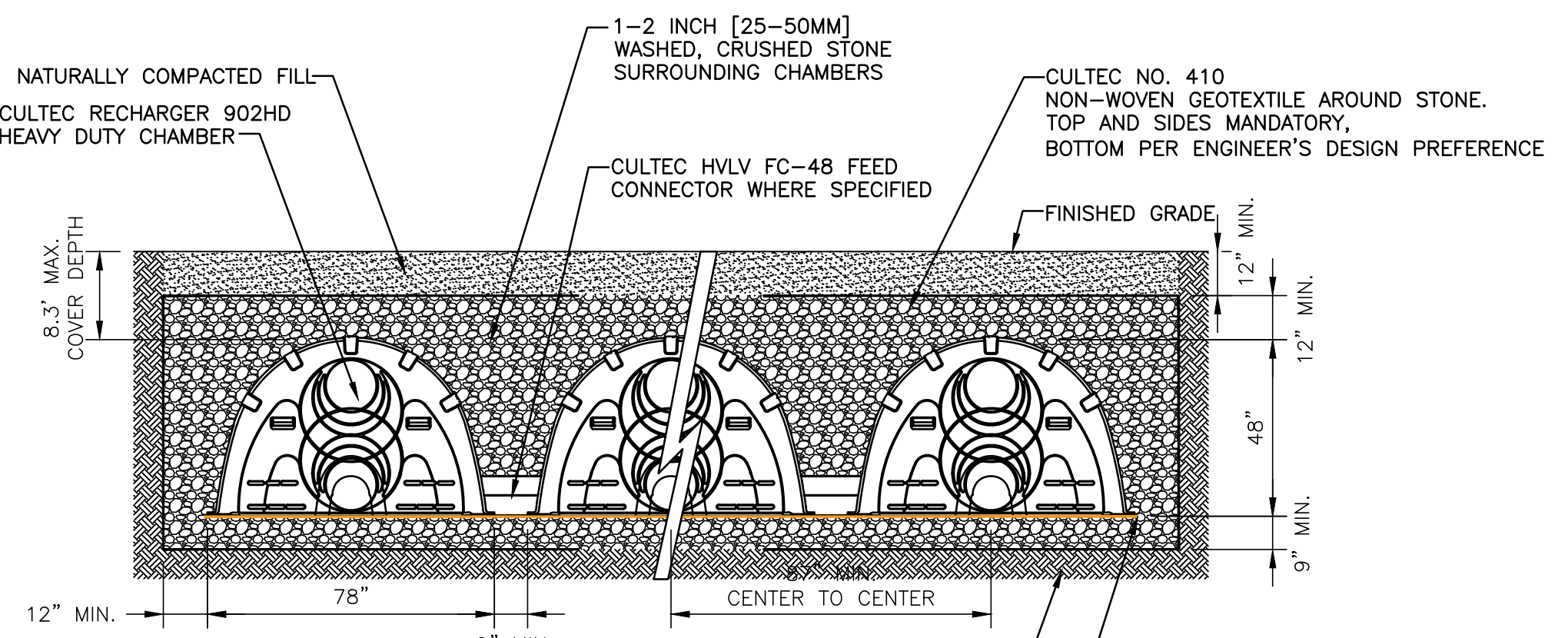
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 Date: Tue, May 30, 2023 8:46 AM (Name: vmb)



1 STORMWATER PLAN
1"=30'

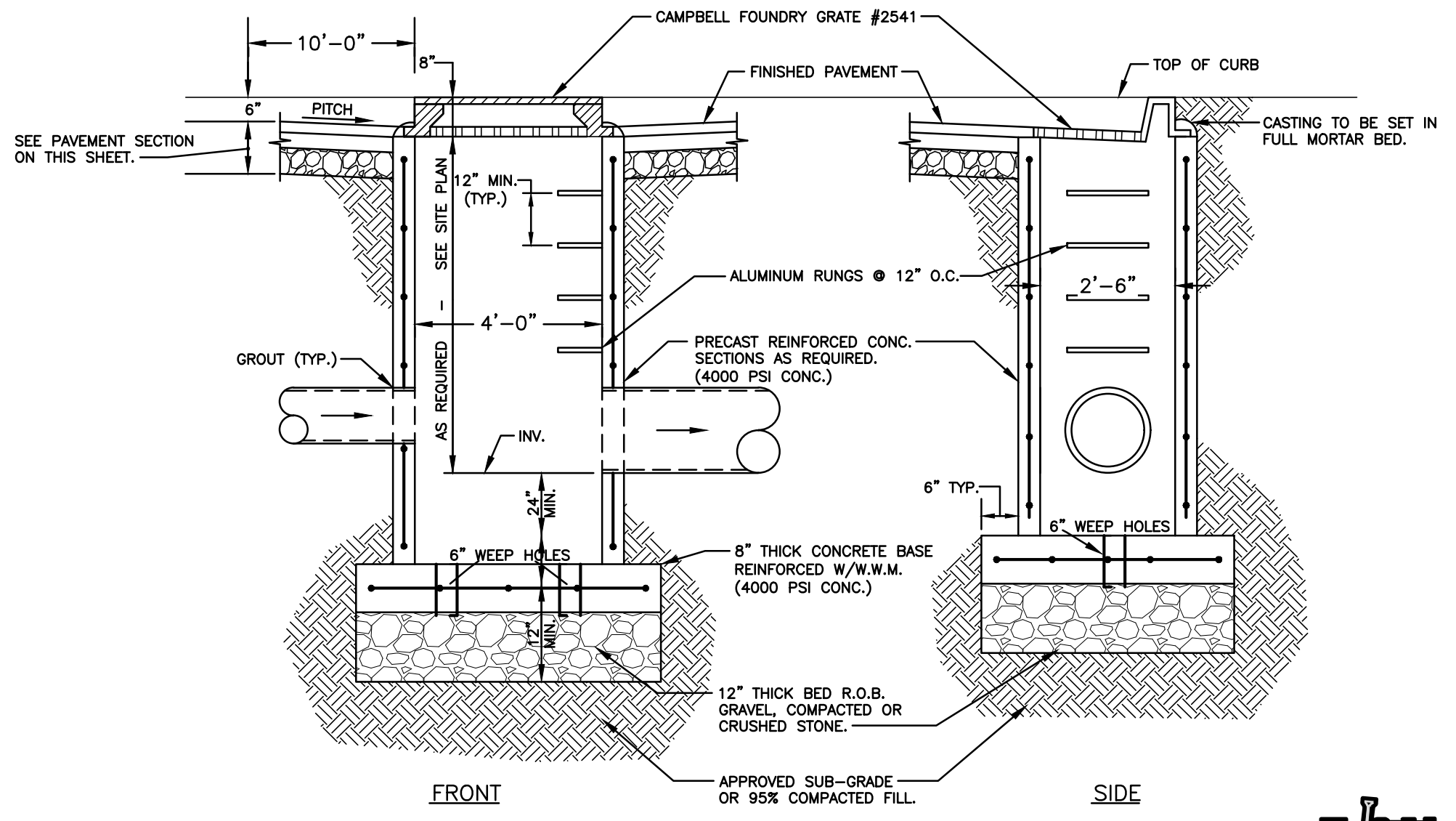


1 TYPICAL TRENCH - STORM DRAINAGE
N.T.S.



- PROJECT ENGINEER OF RECORD OR GEOTECHNICAL CONSULTANT IS RESPONSIBLE FOR ENSURING THAT THE REQUIRED BEARING CAPACITY OF SUB-GRADE SOILS HAS BEEN MET
- CULTEC NO. 4800 WOVEN GEOTEXTILE TO BE PLACED BENEATH INTERNAL MANIFOLD FEATURE AND BENEATH ALL INLET/OUTLET PIPES (FOR SCOUR PROTECTION)
- NOTES:
- THE CHAMBERS SHALL BE DESIGNED AND TESTED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS." THE LOAD CONFIGURATION SHALL INCLUDE:
 - INSTANTANEOUS AASHTO DESIGN TRUCK LIVE LOAD AT MINIMUM COVER
 - MAXIMUM PERMANENT (50-YEAR) COVER LOAD
 - 1-WEEK PARKED AASHTO DESIGN TRUCK LOAD
 - THE CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F3430-20 "STANDARD SPECIFICATION FOR CELLULAR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS"
 - THE INSTALLED CHAMBER SYSTEM SHALL PROVIDE RESISTANCE TO THE LOADS AND LOAD FACTORS AS DEFINED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS SECTION 12.12, WHEN INSTALLED ACCORDING TO CULTEC'S RECOMMENDED INSTALLATION INSTRUCTIONS. THE STRUCTURAL DESIGN OF THE CHAMBERS SHALL INCLUDE THE FOLLOWING:
 - THE CREEP MODULUS SHALL BE 50-YEAR AS SPECIFIED IN ASTM F3430
 - THE MINIMUM SAFETY FACTOR FOR LIVE LOADS SHALL BE 1.75
 - THE MINIMUM SAFETY FACTOR FOR DEAD LOADS SHALL BE 1.95

2 CULTEC STORMTECH CHAMBERS CROSS SECTION
N.T.S.



3 TYPICAL CURB INLET CATCH BASIN DETAILS
N.T.S.

IMPERVIOUS COVERAGE CALCULATIONS:
BUILDING AREA = 25,971 SQFT
PAVEMENT AREA = 28,901 SQFT
TOTAL IMPERVIOUS COVERAGE = 54,872 SQFT

WETLAND DISTURBANCE CALCULATIONS:
WETLAND AREA = 1,128FT² = 0.03 ACRES

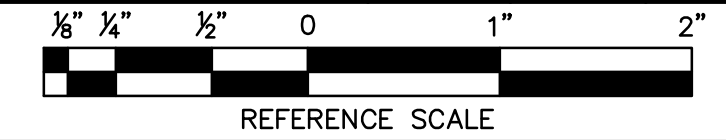
CATCH BASIN ELEVATION SCHEDULE

| CB-#/MH-# | RIM | INV IN (A) | INV IN (B) | INV OUT |
|-----------|--------|------------|------------|---------|
| CB-1 | 413.0 | --- | --- | 411.0 |
| CB-2 | 413.0 | 410.30 | --- | 410.0 |
| CB-3 | 411.0 | 409.30 | --- | 409.0 |
| CB-4 | 411.0 | 408.70 | --- | 408.50 |
| CB-5 | 412.25 | --- | --- | 410.75 |
| CB-6 | 412.0 | 410.15 | --- | 410.0 |
| CB-7 | 411.50 | 409.30 | --- | 409.0 |
| CB-8 | 412.0 | 408.75 | 407.90 | 407.60 |
| CB-9 | 410.50 | 407.0 | --- | 406.90 |
| CB-10 | 409.0 | 405.90 | --- | 405.75 |
| CB-11 | 408.0 | 405.35 | --- | 405.10 |
| CB-12 | 408.0 | 404.50 | --- | 403.50 |
| CB-13 | 408.0 | 405.10 | --- | 404.90 |
| CB-14 | 408.25 | 405.90 | --- | 405.70 |
| CB-15 | 408.50 | 408.0 | --- | 406.50 |
| CB-16 | 408.0 | 404.30 | --- | 403.50 |

LEGEND

| | |
|-----|--|
| --- | EXISTING PROPERTY LINE |
| --- | PROPERTY LINE SETBACK |
| 410 | EXISTING MAJOR CONTOUR ELEVATION |
| 416 | EXISTING MINOR CONTOUR ELEVATION |
| --- | EXISTING WETLAND BOUNDARY |
| --- | EXISTING HYDROLOGIC SUB BASIN BOUNDARY |
| --- | WATER LINE |
| --- | STORM LINE |
| --- | SUB-BASIN |
| --- | EXISTING STONE WALL |
| --- | SILT FENCE |
| --- | CHAIN LINK FENCE |
| --- | TREELINE |
| --- | EXISTING WETLAND FLAG |
| --- | EXISTING UTILITY POLE |
| --- | CATCH BASIN |
| --- | EXISTING TREE TO REMAIN |
| --- | EXISTING TREE TO BE REMOVED |

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| 1 | 1/18/23 | REVISED PER PB COMMENTS | | | |



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STAMP: **JEANNE DRIVE SITE PLAN**
SECTION 34, BLOCK 2, LOT 66.

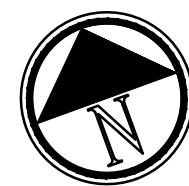
DRAWING TITLE: **STORMWATER PLAN**

| | | | | |
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| DESIGNED BY: JB | DRAWN BY: JCL | APPROVED BY PM: RDF | APPROVED BY PIC: MDF | DRAWING #: C-402 |
| DATE: 11/01/2022 | SCALE: AS SHOWN | FE PROJECT #: 19-049 | PAGE 6 OF 10 | |

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Date: Tue, May 30, 2023 - 8:46 AM (Name: vmb)



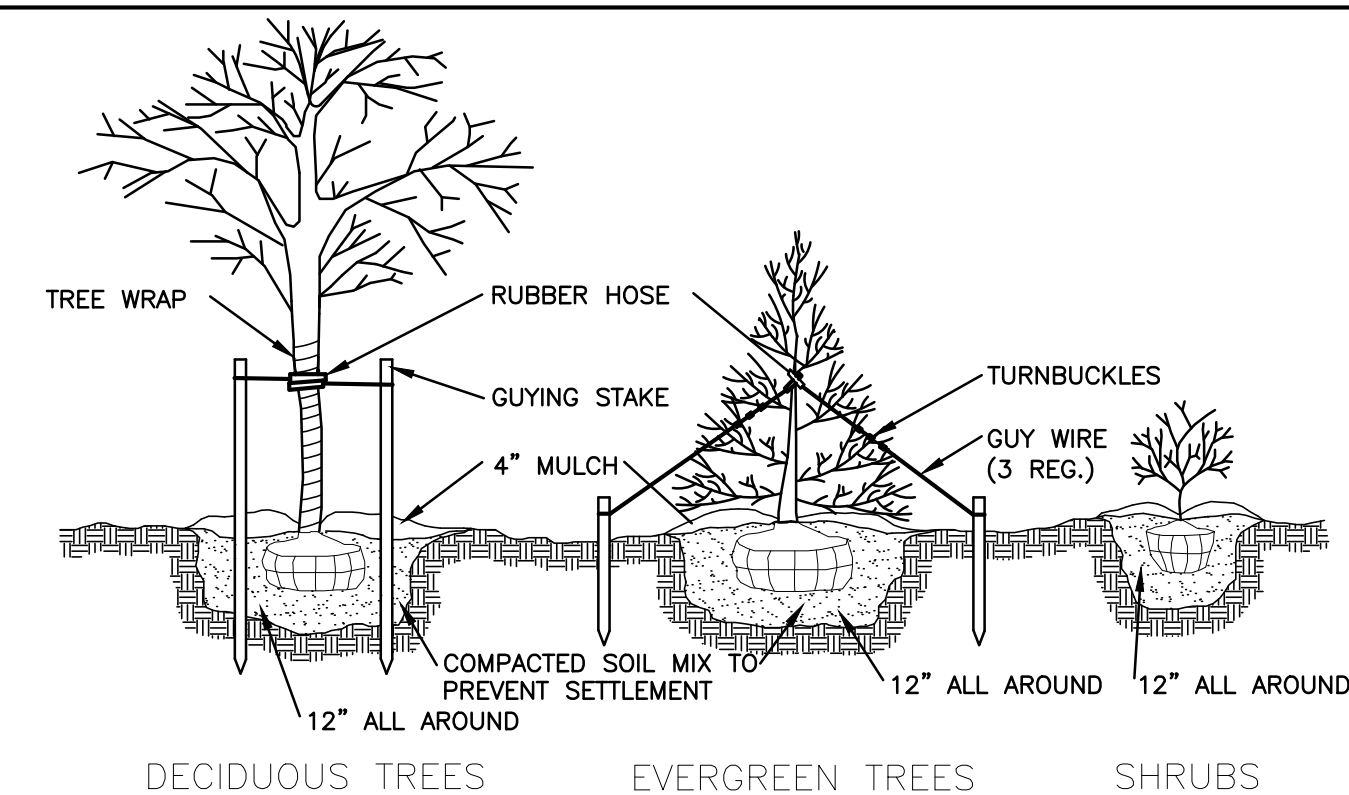
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LAWN RESTORATION SCHEDULE & NOTES

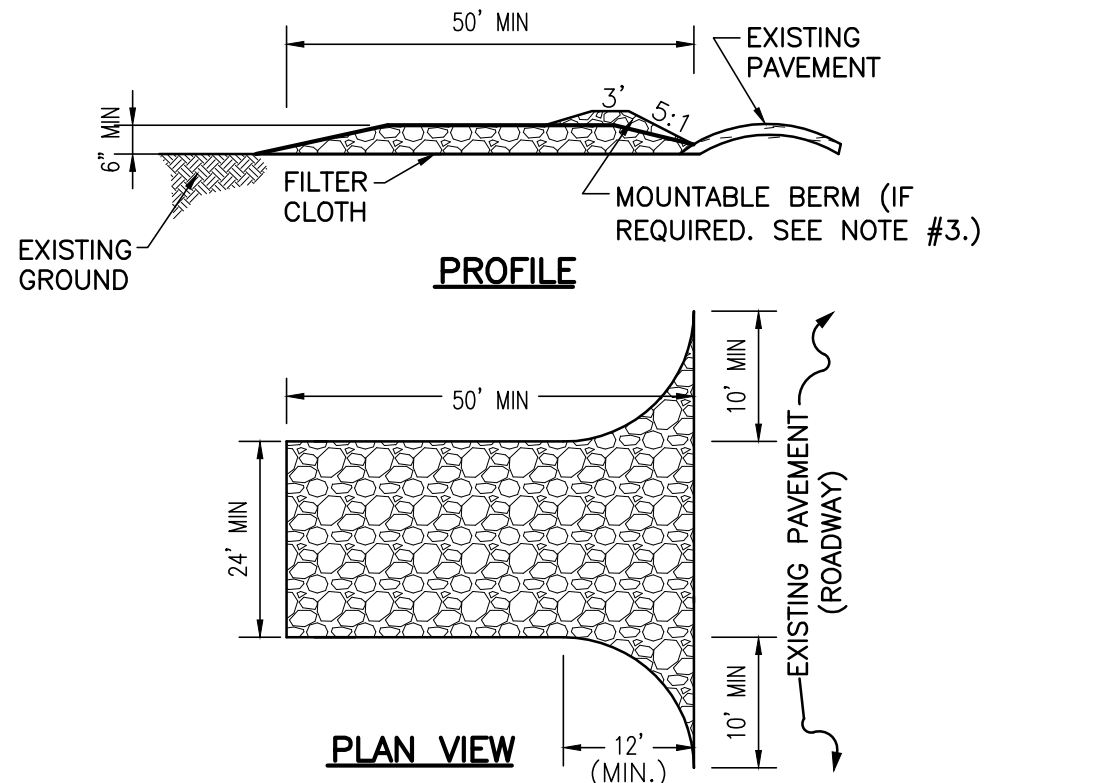
| SPECIES | |
|------------------------|--|
| PERMANENT SEED MIXTURE | PT 769 R&R ECO-TURF MIX WITH MICROCLOVER |

- NOTE:** OPTIMUM PERMANENT SEEDING SCHEDULE: SPRING OR EARLY FALL
- REMOVE ALL DEBRIS (STICKS, STONES, ETC.) FROM AREA, AND PREPARE SOIL BY TILLING TO A 3"-4" DEPTH.
 - RAKE SURFACE LEVEL TO PREVENT WATER FROM POOLING IN ONE AREA. AREAS LOCATED ON A SLOPE SHALL BE RAKED PARALLEL WITH CONTOURS TO PREVENT MOISTURE RUN-OFF.
 - FERTILIZER SHALL BE APPLIED TO THE TILLED SOIL AT RATE OF 6 LBS. PER 1,000 sq.ft. FERTILIZER SHALL BE A COMMERCIAL 10-0-10 MIXTURE.
 - AREA SHALL BE LIGHTLY SPRAYED WITH WATER TO ALLOW SOIL TO SETTLE.
 - PERMANENT SEED MIXTURE SHALL BE SPREAD BY HAND, LAWN SPREADER OR MECHANICAL SEEDER (AS APPROPRIATE FOR SIZE OF AREA) AT A RATE OF 5 lbs. OF SEED MIXTURE PER 1,000 sq.ft. DO NOT OVERSEED, OR OVER CROWDING OF THE SEEDLINGS MAY OCCUR, AND HAMPER PROPER LAWN GROWTH.
 - LIGHTLY COVER SEEDED AREA WITH 1/4"-3/4" OF SOIL. (ROLLING OF SEEDBED TO PROMOTE SOIL TO SEED CONTACT IS OPTIONAL.) AND COVER WITH A MULCH OF HAY OR STRAW AT A RATE OF 90 lbs (APPROX 2 BALES) PER 1,000 sq.ft.
 - SEEDED AREA SHALL BE COVERED WITH A MULCH OF STRAW OR HAY AT THE RATE OF 90 lbs. (APPROX. 2 BALES) PER 1,000 S.F. TO HELP MAINTAIN SOIL MOISTURE LEVEL.
 - LIGHTLY WATER SEED BED DAILY TO KEEP IT MOIST, WHILE TAKING CARE NOT TO SATURATE.
 - NEW GRASS SHALL NOT BE MOWED UNTIL IT HAS REACHED A MINIMUM HEIGHT OF 2"-2 1/2".
 - PRACTICE REGULAR MAINTENANCE & WATER REGULARLY AS CONDITIONS REQUIRE.



1 PLANTING AND GUYING DETAIL

N.T.S.
NOTE:
1. NO MULCH SHALL BE WITHIN 6" OF THE BASE FOR TREES AND SHRUBS.

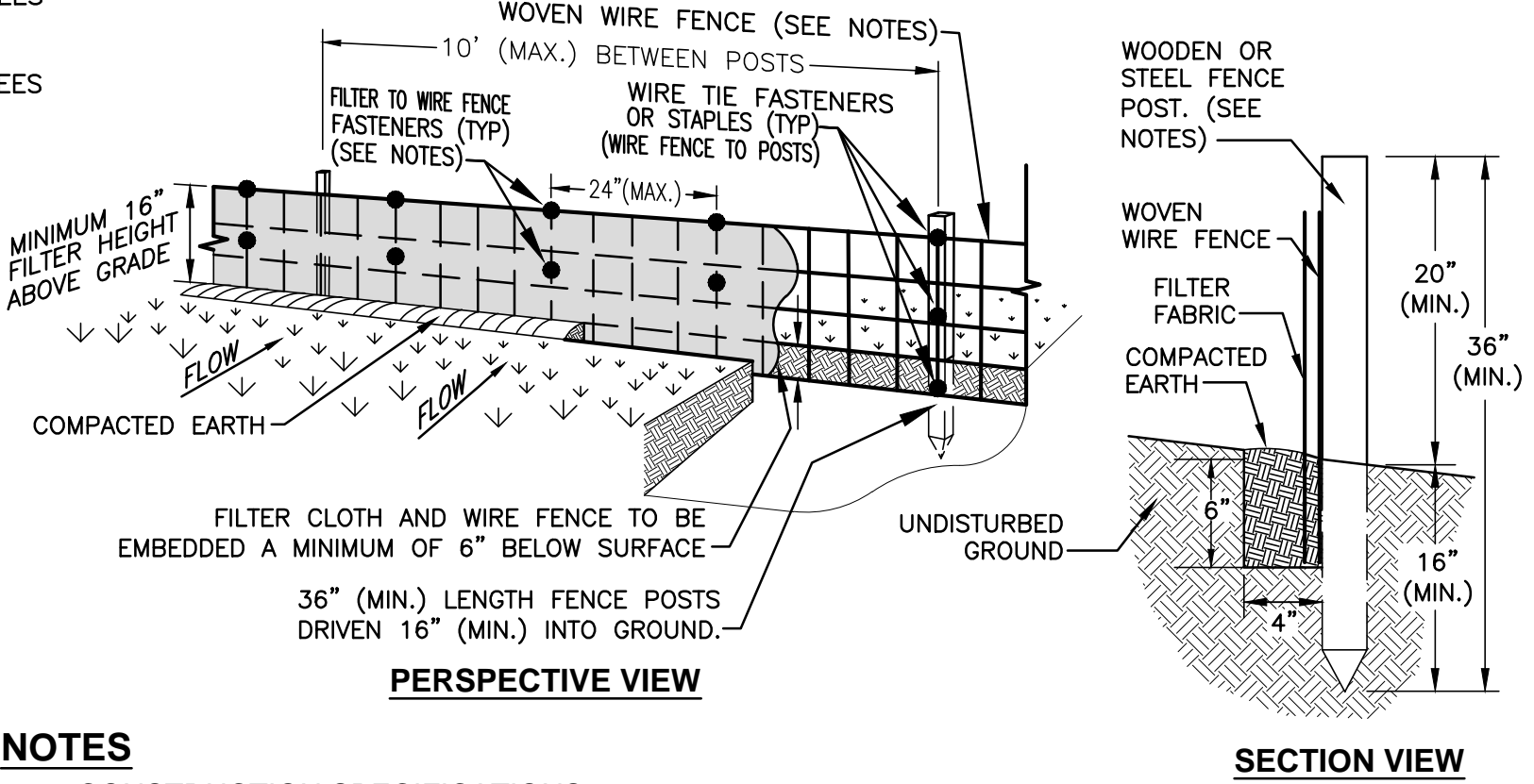


NOTES:

- SUBGRADE OF ENTRANCE AREA TO BE COMPACTED, AND FILTER CLOTH INSTALLED OVER THE ENTIRE STABILIZED ENTRANCE AREA PRIOR TO PLACING OF STONE. FILTER FABRIC SHALL BE TREVIRA #1127 OR APPROVED EQUAL.
- STONE SHALL BE MIN OF 6" OF 2" CRUSHED GRAVEL. USE OF A RECLAIMED OR RECYCLED CONCRETE EQUIVALENT IS ALSO ACCEPTABLE.
- ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED UNDER AND ACROSS THE ENTRANCE. IF PIPING IS NOT POSSIBLE OR IMPRACTICAL, A MOUNTABLE BERM WITH 5:1 SLOPES WILL BE PERMITTED.
- STABILIZED CONSTRUCTION ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT THE TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY, ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACTED ONTO PUBLIC RIGHTS-OF-WAY SHALL BE REMOVED IMMEDIATELY.
- WHEN WASHING OF VEHICLE TIRES IS REQUIRED, IT SHALL BE DONE ON A AREA STABILIZED WITH STONE AND WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.
- ALL INGRESS AND EGRESS POINTS TO JOB SITE SHALL HAVE A STABILIZED CONSTRUCTION ENTRANCE

2 STABILIZED CONSTRUCTION ENTRANCE DETAIL

N.T.S. FOR MULTI-RESIDENTIAL OR COMMERCIAL SITES

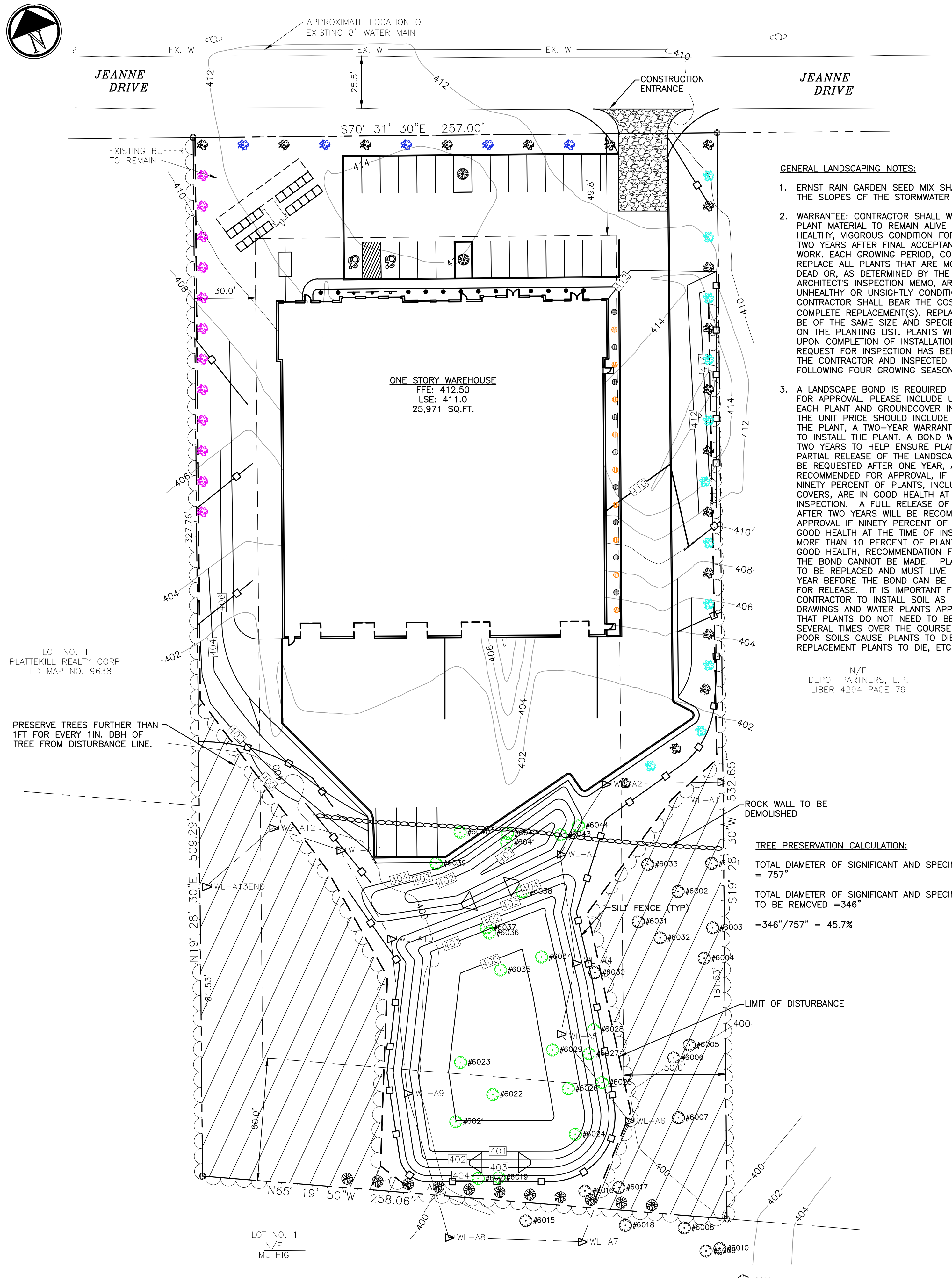


NOTES

- CONSTRUCTION SPECIFICATIONS:**
- WOVEN WIRE FENCE SHALL BE 12 GAUGE WITH A MAXIMUM MESH OPENING OF 6", AND SHALL BE FASTENED SECURELY TO FENCE POSTS WITH STAPLES, WIRE TIES OR NYLON "ZIP" TIES.
 - FENCE POSTS SHALL BE EITHER STEEL ("I" OR "U" TYPE) OR HARDWOOD (2"x2"). POSTS SHALL BE MINIMUM 36" IN LENGTH AND INSTALLED WITH A MINIMUM 16" OF EMBEDMENT, WITH A MAXIMUM OF 10' O.C. BETWEEN POSTS.
 - FILTER CLOTH SHALL BE EITHER FILTER X, MIRAFI 100X, STABILINKA T140N, OR AN APPROVED EQUAL, AND SHALL BE FASTENED SECURELY TO WOVEN WIRE FENCE WITH WIRE TIES OR NYLON "ZIP" TIES SPACED EVERY 24" AT TOP AND MID SECTION OF FILTER FABRIC.
 - WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVER-LAPPED BY SIX INCHES AND FOLDED, WITH THE OVER-LAP BEING SECURELY FASTENED TO THE WOVEN WIRE FENCE AS PER NOTE #3 ABOVE.
 - AT END POSTS OF SILT FENCE, THE FILTER FABRIC SHALL BE WRAPPED AROUND THE POST AND APPROPRIATELY FASTENED AS PER NOTE #3 ABOVE.
 - PREFABRICATED SILT FENCE UNITS SHALL BE GEOFAB, ENVROFENCE, OR AN APPROVED EQUAL.
 - MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL (SEDIMENT) REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE.

3 SILT FENCE W/ WIRE REINFORCEMENT DETAIL

N.T.S.



1 LANDSCAPING PLAN & EROSION & SEDIMENT CONTROL PLAN

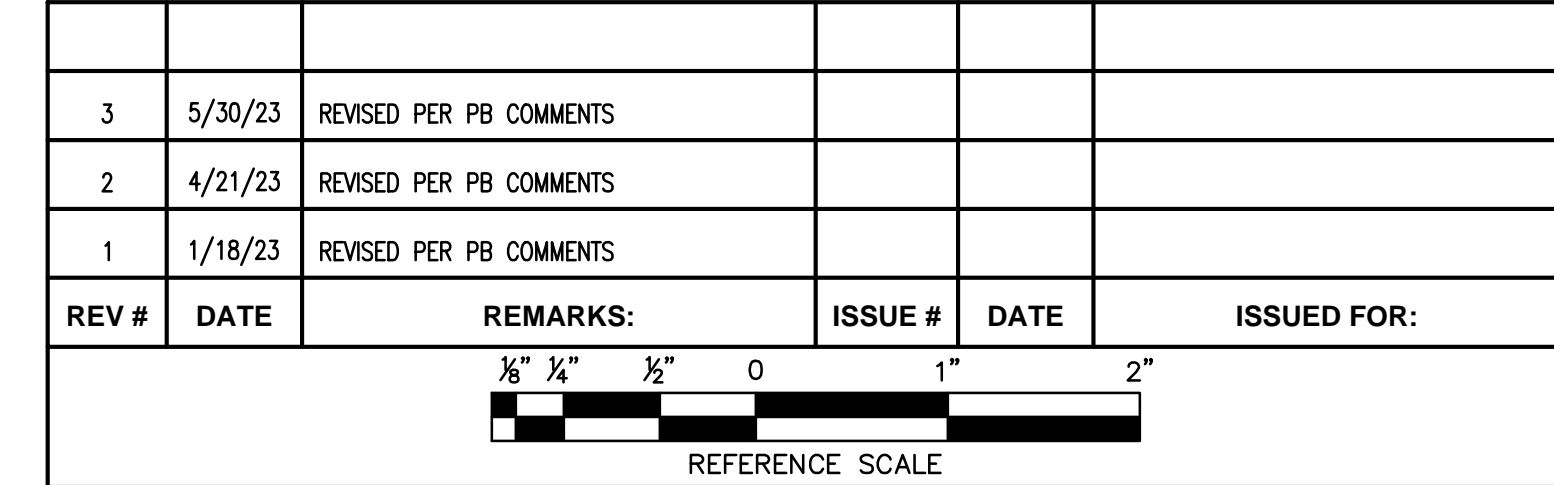
1"=30'



| REV # | DATE | REMARKS: | ISSUE # | DATE | ISSUED FOR: |
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| 2 | 4/21/23 | REVISED PER PB COMMENTS | | | |
| 1 | 1/18/23 | REVISED PER PB COMMENTS | | | |

PLANTS LIST

| TYPE | SYM. | QTY. | BOTANICAL NAME | COMMON NAME | MIN. SIZE |
|-------------|------|------|---------------------------|------------------------|-------------|
| SHADE TREES | 🌳 | 12 | Nyssa Sylvatica | Black Tupelo | 2'-4' hgt |
| | 🌳 | 18 | Acer Rubrum "Red Sunsets" | Red Sunset Red Maple | 2-1/2"-3" C |
| | 🌳 | 5 | Cercis Canadensis | Eastern Redbud | 2-1/2"-3" C |
| | 🌳 | 11 | Quercus Palustris | Pin Oak | 2-1/2"-3" C |
| | 🌳 | 11 | Quercus Bicolor | Swamp White Oak | 2-1/2"-3" C |
| | 🌳 | 2 | Ulmus Americana | Princeton American Elm | 2-1/2"-3" C |
| SHRUBS | 🌳 | 12 | Viburnum Rhytidophyllum | Leatherleaf Viburnum | 5' - 6' hgt |
| | 🌳 | 9 | Pieris Japonica | Japanese Andromeda | 36" hgt |
| | 🌳 | 9 | Cephalotaxus | Plum Yew | 36" hgt |



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JEANNE DRIVE SITE PLAN
SECTION 34, BLOCK 2, LOT 66.

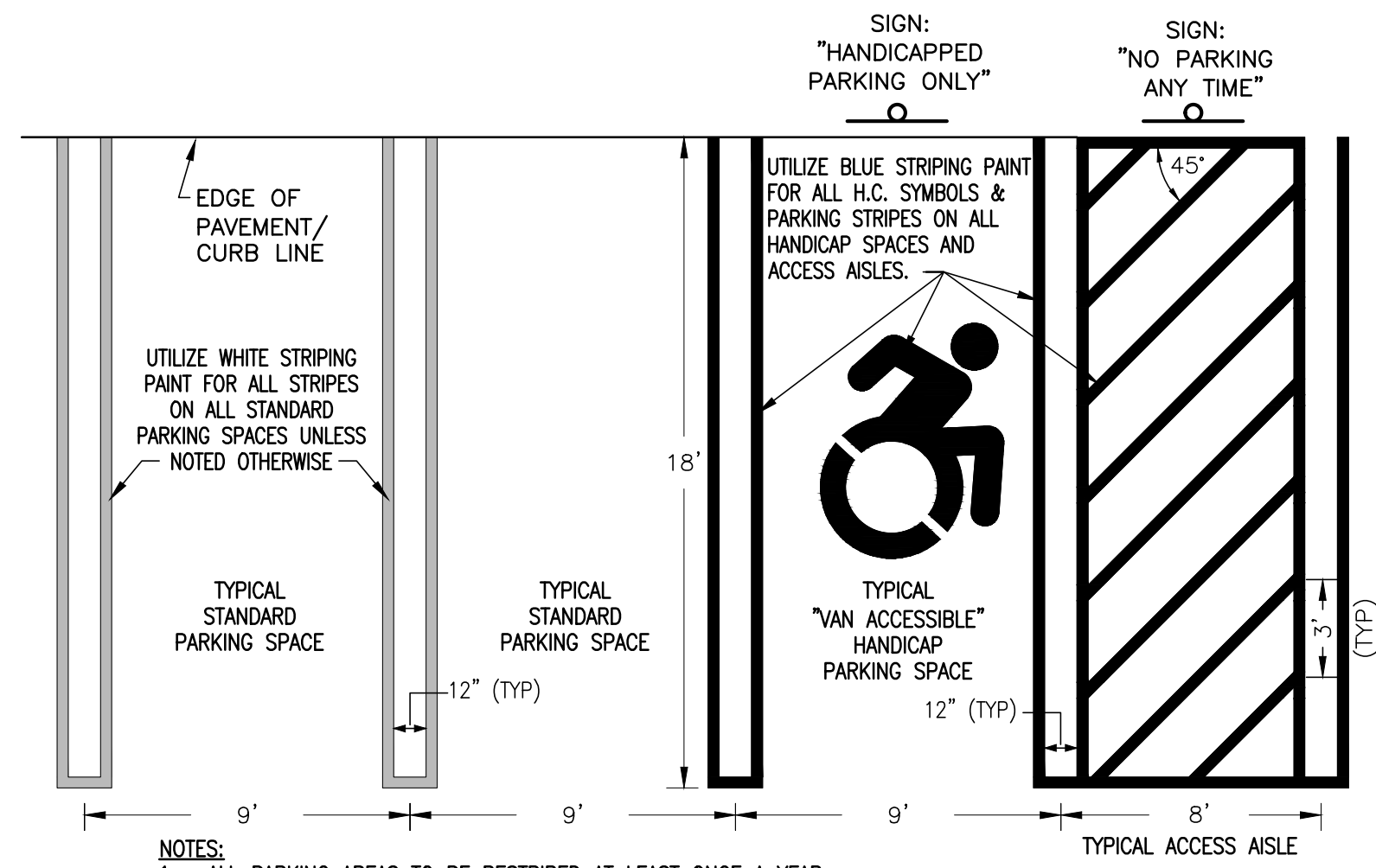
DRAWING TITLE: **LANDSCAPING PLAN & EROSION & SEDIMENT CONTROL PLAN**

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| DESIGNED BY: JB | DRAWN BY: JCL | APPROVED BY P.M.: RDF | APPROVED BY P.I.C.: MDF | DRAWING #: C-701 |
| DATE: 11/01/2022 | SCALE: AS SHOWN | FE PROJECT #: 19-049 | PAGE 7 OF 10 | |

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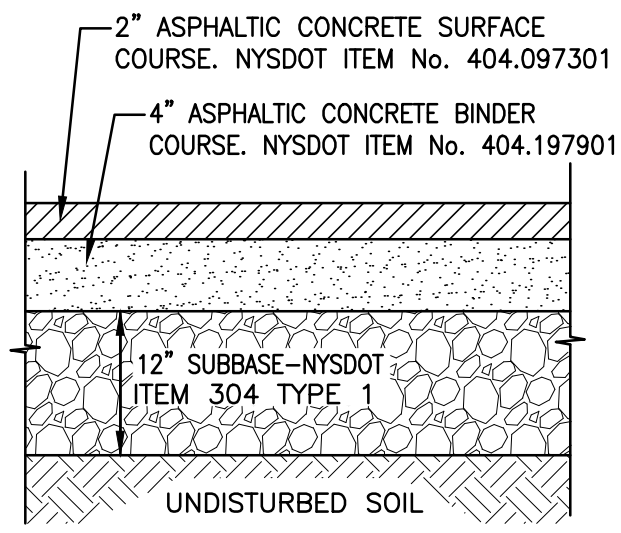


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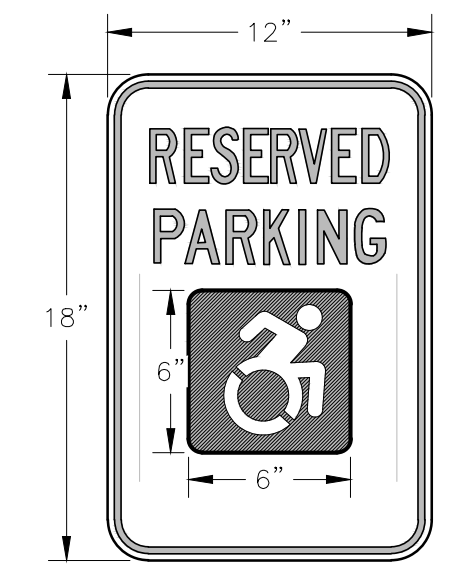


- NOTES:**
1. ALL PARKING AREAS TO BE RESTRIPTED AT LEAST ONCE A YEAR.
 2. ALL STRIPING TO BE 4" WIDE UNLESS NOTED OTHERWISE.
 3. SEE SIGN DETAILS FOR SIGN MOUNTING AND SIGN HEIGHT REQUIREMENTS.
 4. AT LEAST 1 (ONE) SPACE OF EVERY 8 (EIGHT) REQUIRED HANDICAP SPACES SHALL BE "VAN ACCESSIBLE", WITH A MINIMUM REQUIREMENT OF 1 (ONE) "VAN ACCESSIBLE" SPACE, IF LESS THAN 8 HANDICAP SPACES ARE REQUIRED.

1 VAN ACCESSIBLE HANDICAP PARKING - STRIPING DETAIL
N.T.S.



2 HEAVY DUTY ASPHALTIC PAVEMENT DETAIL
N.T.S.

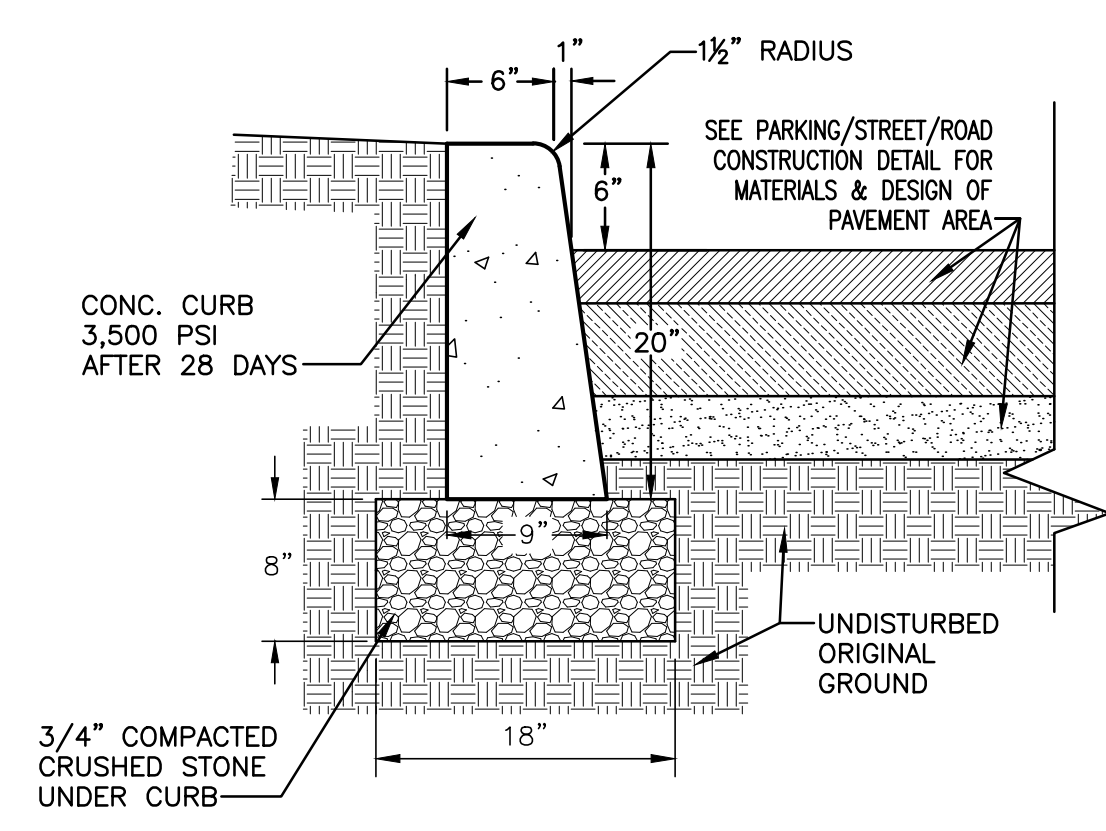


LETTERING AND BORDER: GREEN
SYMBOL: WHITE WITH BLUE FIELD
SIGN BACKGROUND: WHITE

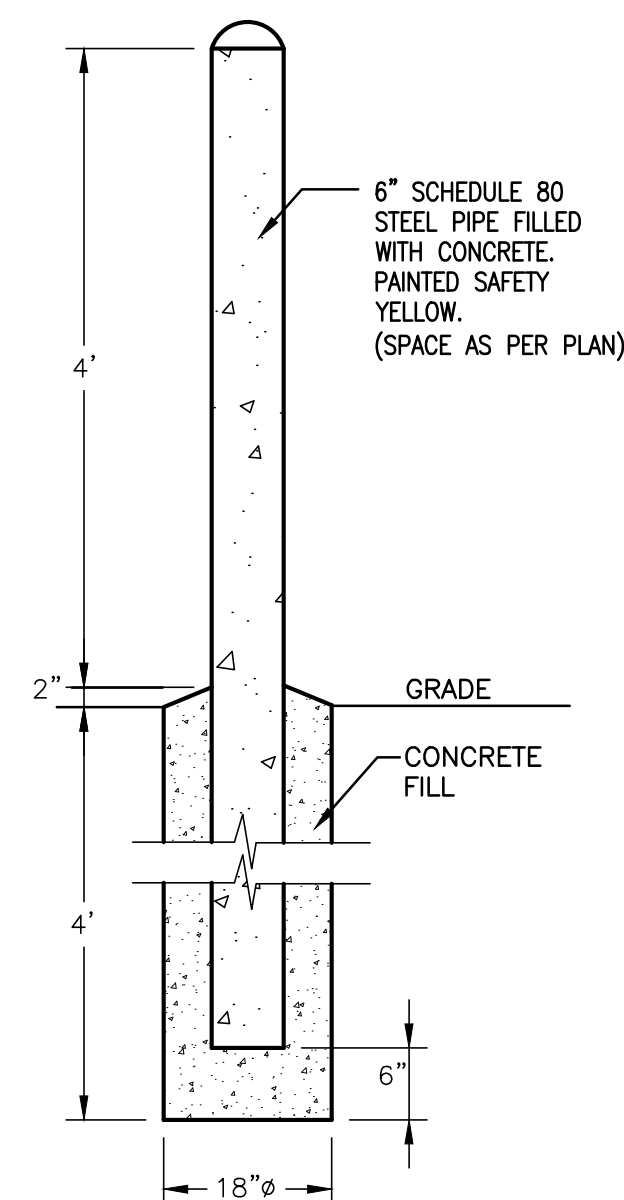
3 HANDICAP RESERVED PARKING SIGN
N.T.S.



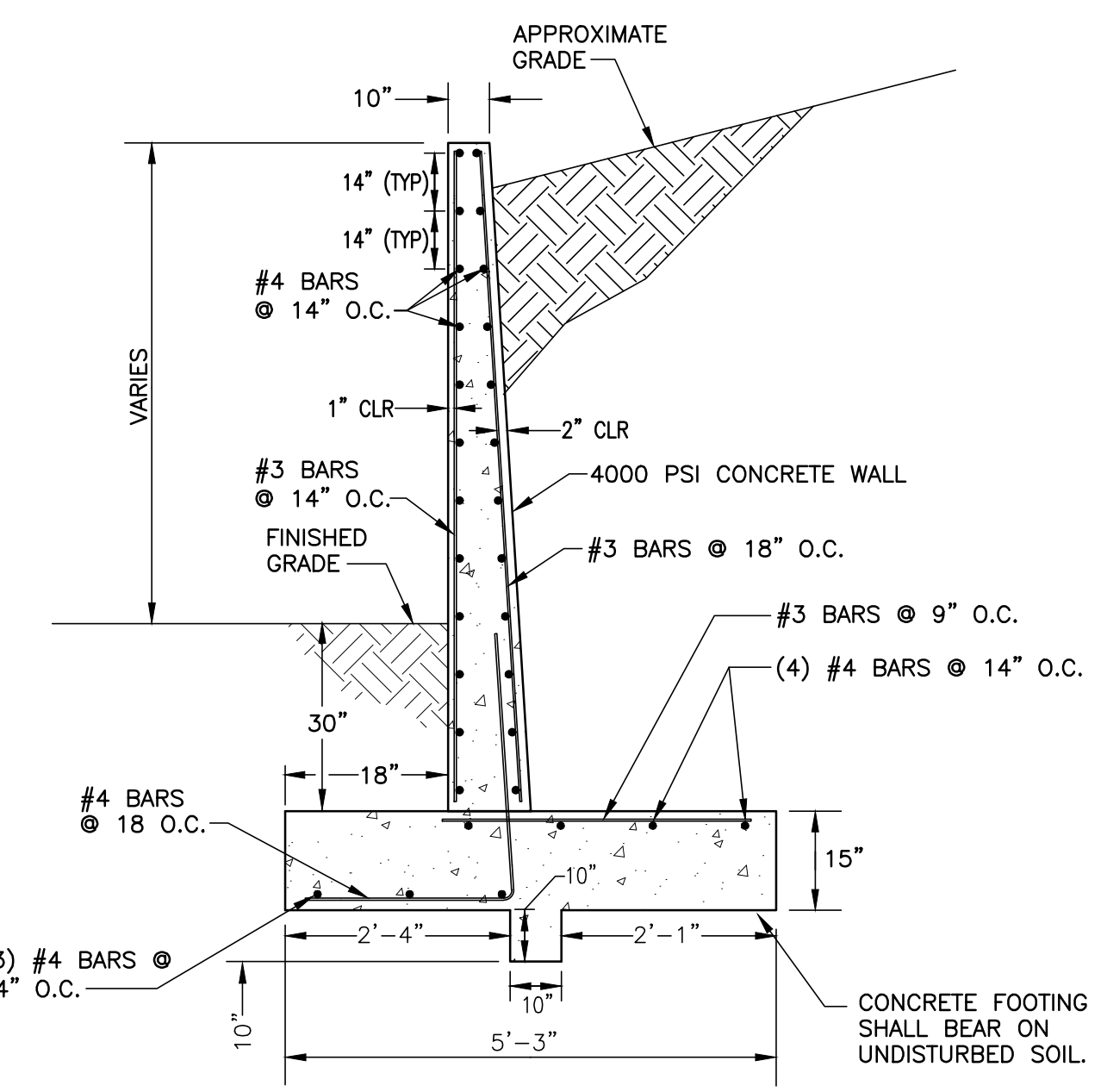
4 NO PARKING ANYTIME SIGN
N.T.S.



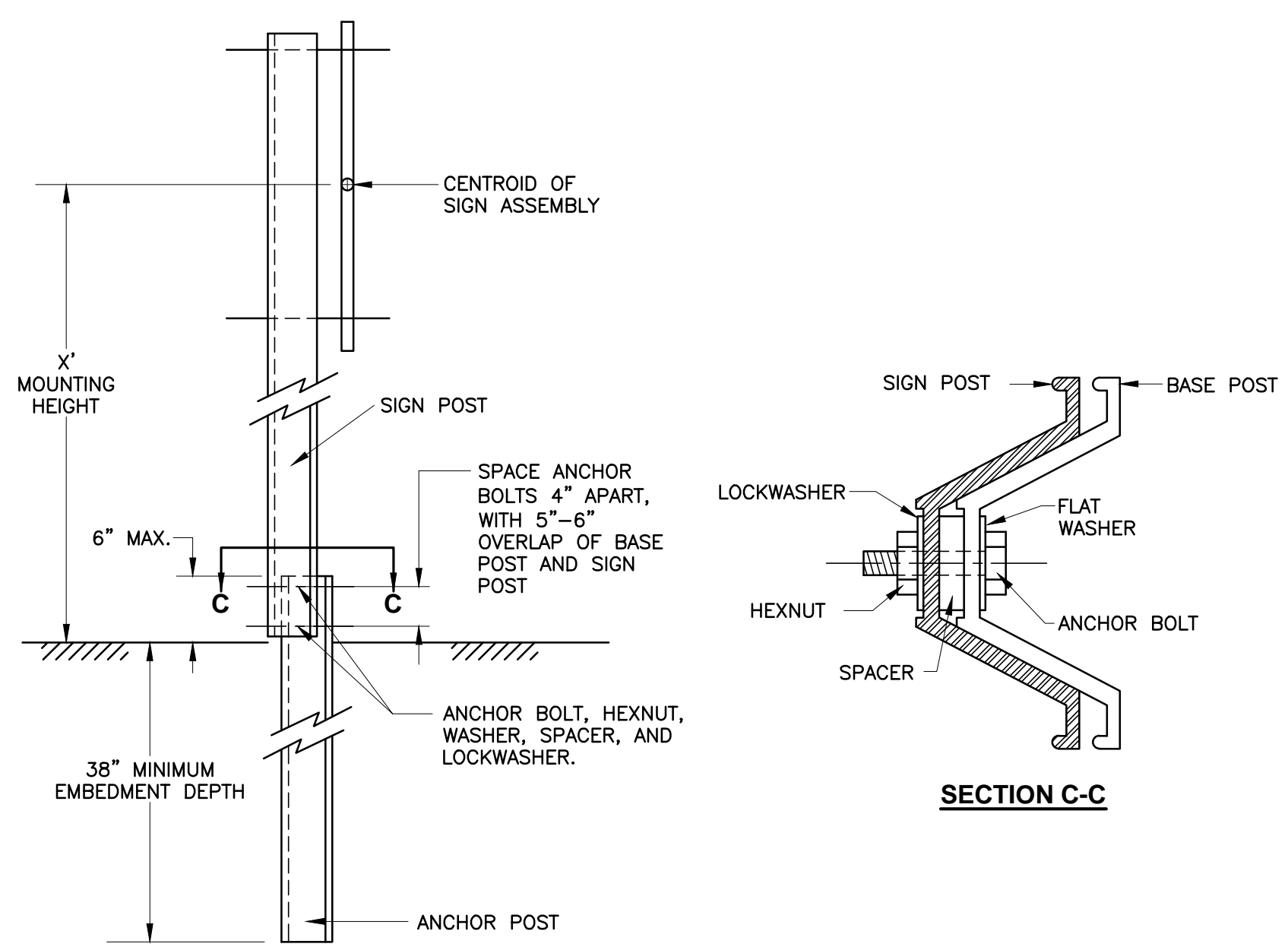
5 CONCRETE CURB DETAIL
N.T.S.



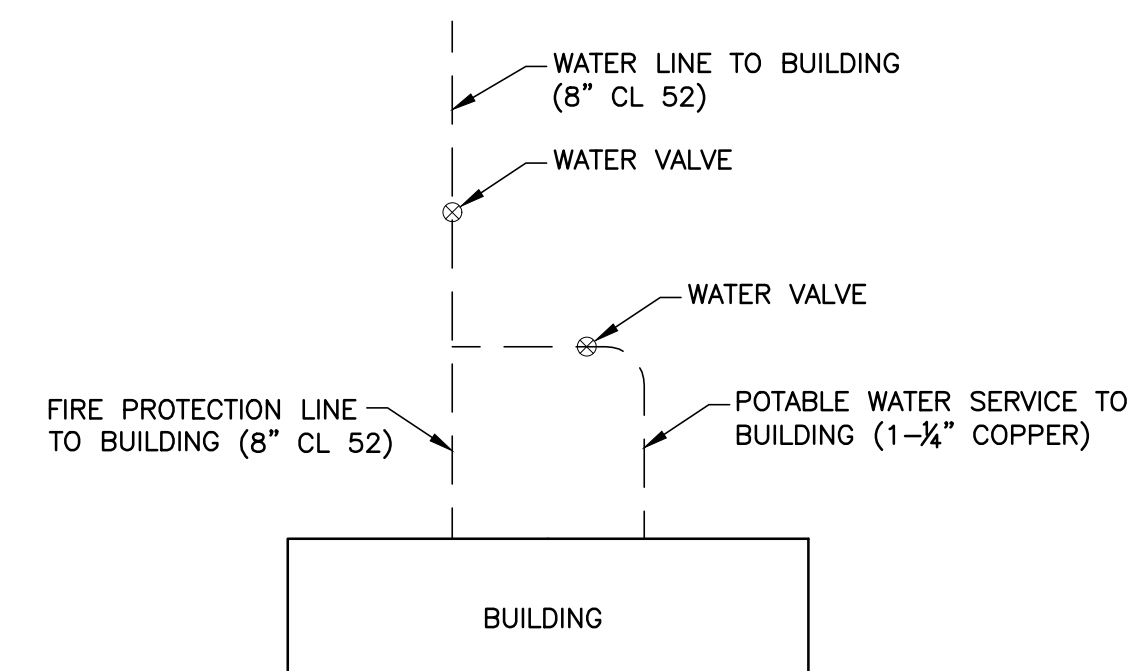
6 BOLLARD POST DETAIL
N.T.S.



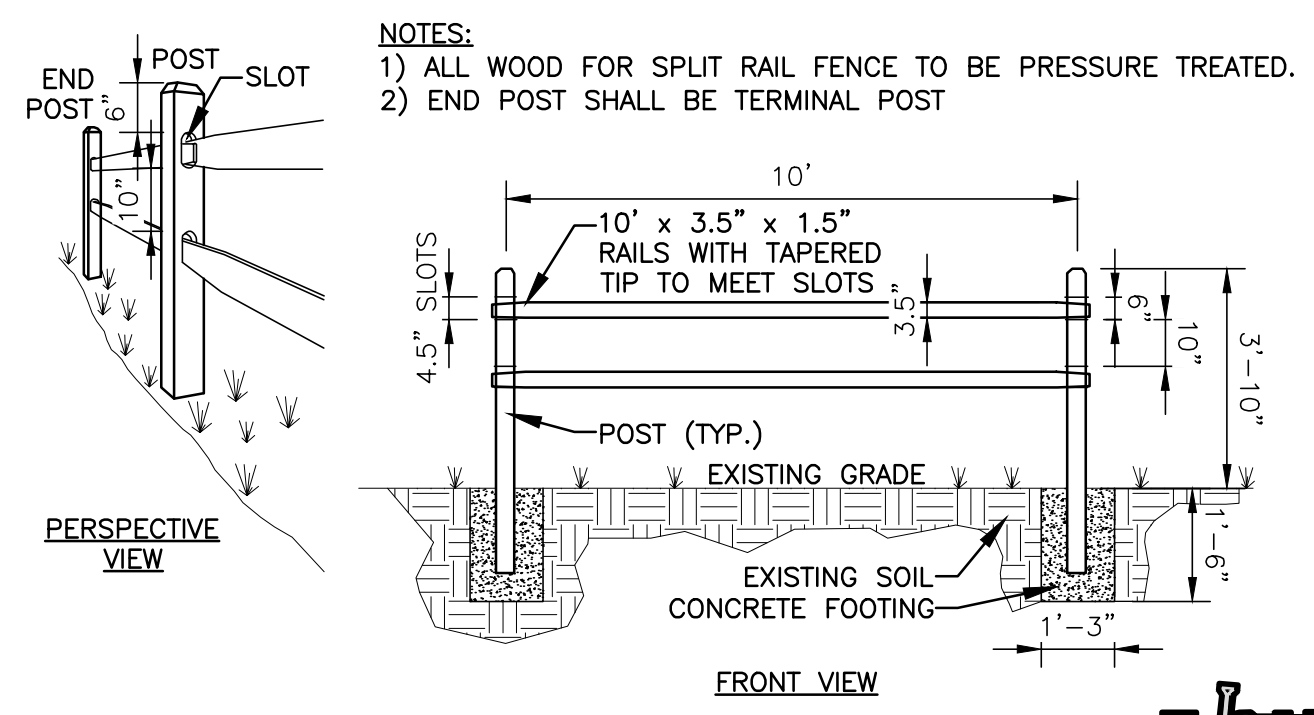
7 CONCRETE RETAINING WALL DETAIL
N.T.S.



8 BREAKAWAY STYLE SIGN POST DETAIL
N.T.S.

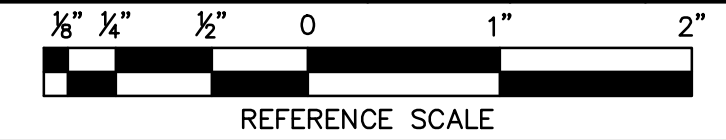


9 TOWN OF NEWBURGH FIRE PROTECTION FLOW TO BLDG. CONNECTION DETAIL
N.T.S.



10 STANDARD SPLIT RAIL FENCE
N.T.S.

| REV # | DATE | REMARKS: | ISSUE # | DATE | ISSUED FOR: |
|-------|---------|-------------------------|---------|------|-------------|
| 3 | 5/30/23 | REVISED PER PB COMMENTS | | | |
| 2 | 4/21/23 | REVISED PER PB COMMENTS | | | |
| 1 | 1/18/23 | REVISED PER PB COMMENTS | | | |



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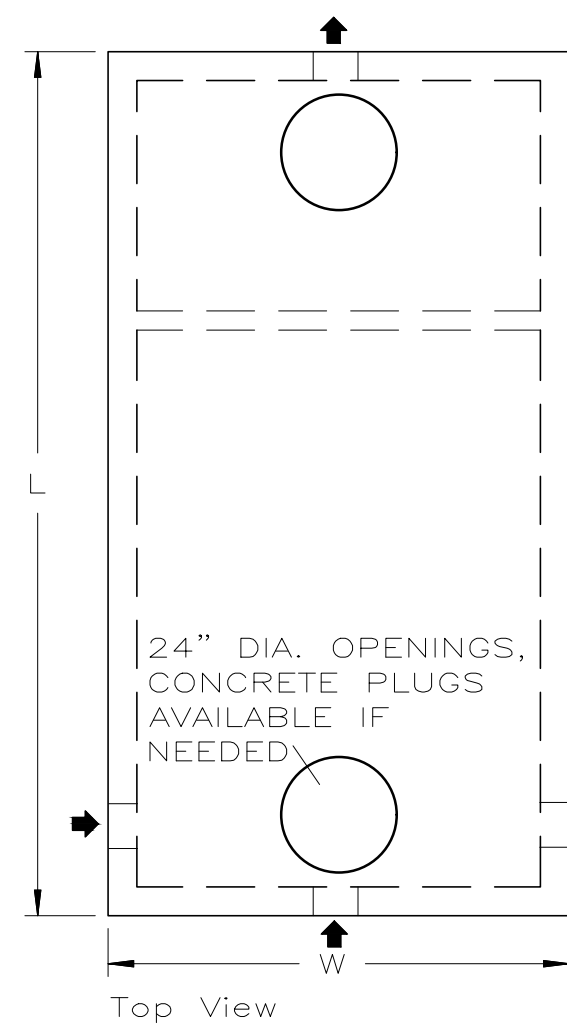
STAMP: PROJECT TITLE: **JEANNE DRIVE SITE PLAN**
SECTION 34, BLOCK 2, LOT 66.

| DESIGNED BY: | | DRAWN BY: | | APPROVED BY P.M.: | | APPROVED BY P.C.: | | DRAWING #: | |
|--------------|----------|---------------|-----|-------------------|--|-------------------|--|--------------|--|
| JB | JCL | RDF | MDF | | | | | C-901 | |
| DATE: | SCALE: | FE PROJECT #: | | | | | | | |
| 11/01/2022 | AS SHOWN | 19-049 | | | | | | | |

File Name: F:\2019\19-049 Jeanne Drive Site Plan\C-901 - C-905.dwg (Layout: C-901)
Date: Tue, May 30, 2023 - 8:46 AM (Name: vmb)

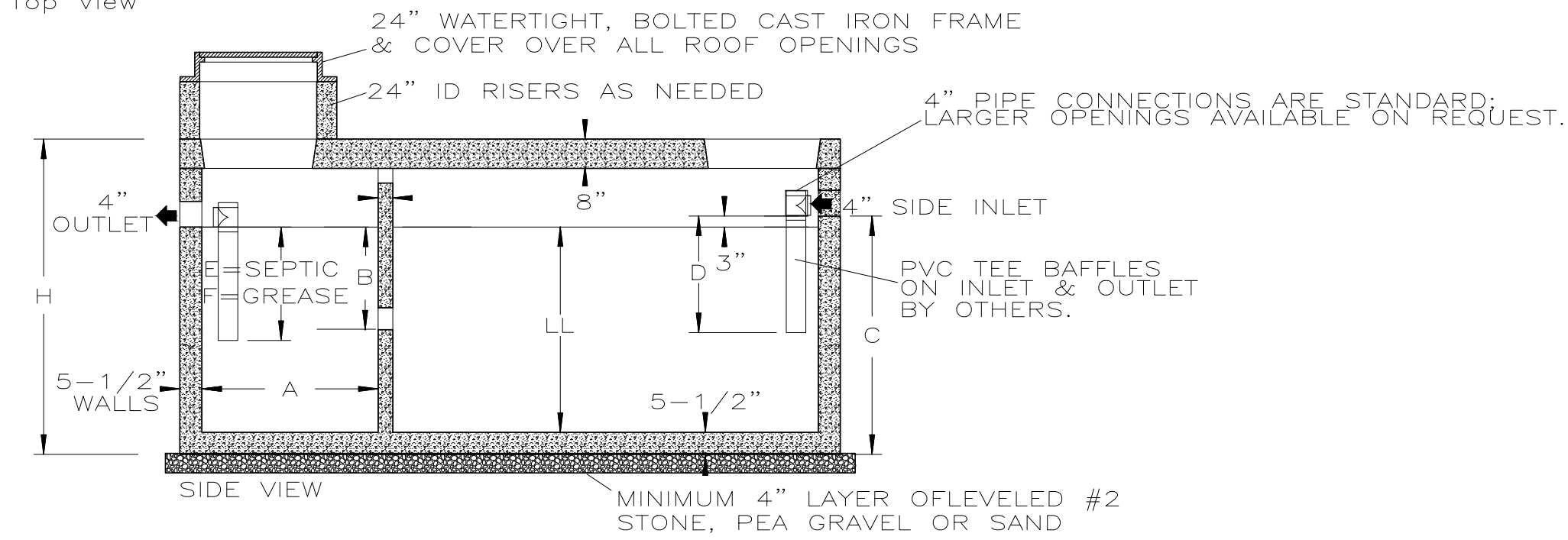


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| GALLONS | L | W | H | LL | A | B | C | D | E | F |
|---------|--------|--------|-------|-----|-----|-----|-----|-----|-----|-----|
| 1,000 | 10'-9" | 5'-11" | 4'-8" | 35" | 38" | 16" | 43" | 21" | 18" | 23" |

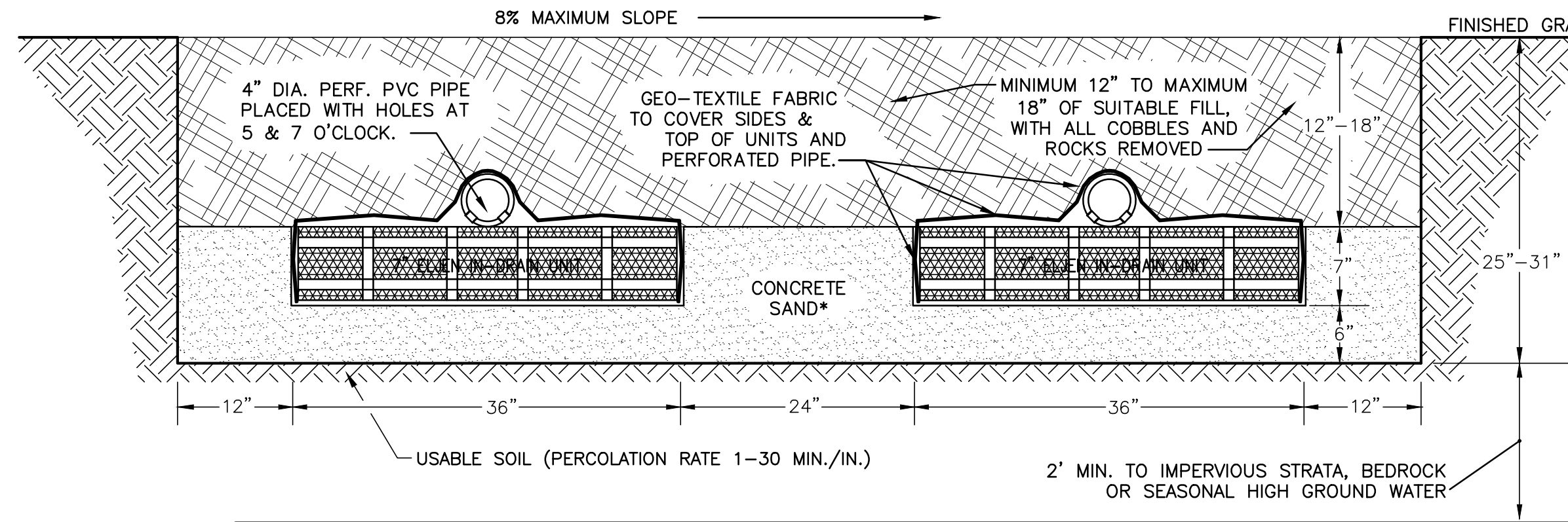
- NOTES:
 1. EFFLUENT OUTLET FILTERS ARE AVAILABLE AS WELL AS HIGH LEVEL ALARMS.
 2. GAS DEFLECTORS ARE AVAILABLE FOR 4" OUTLET PIPES.
 3. TANK DESIGNS BASED ON THE 2014 NYSDEC DESIGN STANDARDS.
 4. 1,000, 1,250, AND 1,500 TANKS ARE TWO-PIECE DESIGN WITH CENTER SEAM.



| SPECIFICATIONS | PRECAST TRAFFIC DUTY TANKS 1,000 GALLON SEPTIC TANK |
|---|--|
| CONCRETE MIN. STRENGTH: 4,000 PSI AT 28 DAYS REINFORCEMENT: #4 & #5 REBAR / ASTM A615 AIR ENTRAINMENT: 6% CONSTRUCTION JOINT: BUTYL RUBBER SEALANT PIPE CONNECTION: POLYLOK SEAL OR AS NEEDED LOAD RATING: HS20-44 + 30% / ASTM C857 | WOODARD'S CONCRETE PRODUCTS, INC. 629 LYBOLT ROAD, BULLVILLE, NY 10915 (845) 361-3471 / FAX 361-1050 |
| | PAGE 4A 7/28/20 |

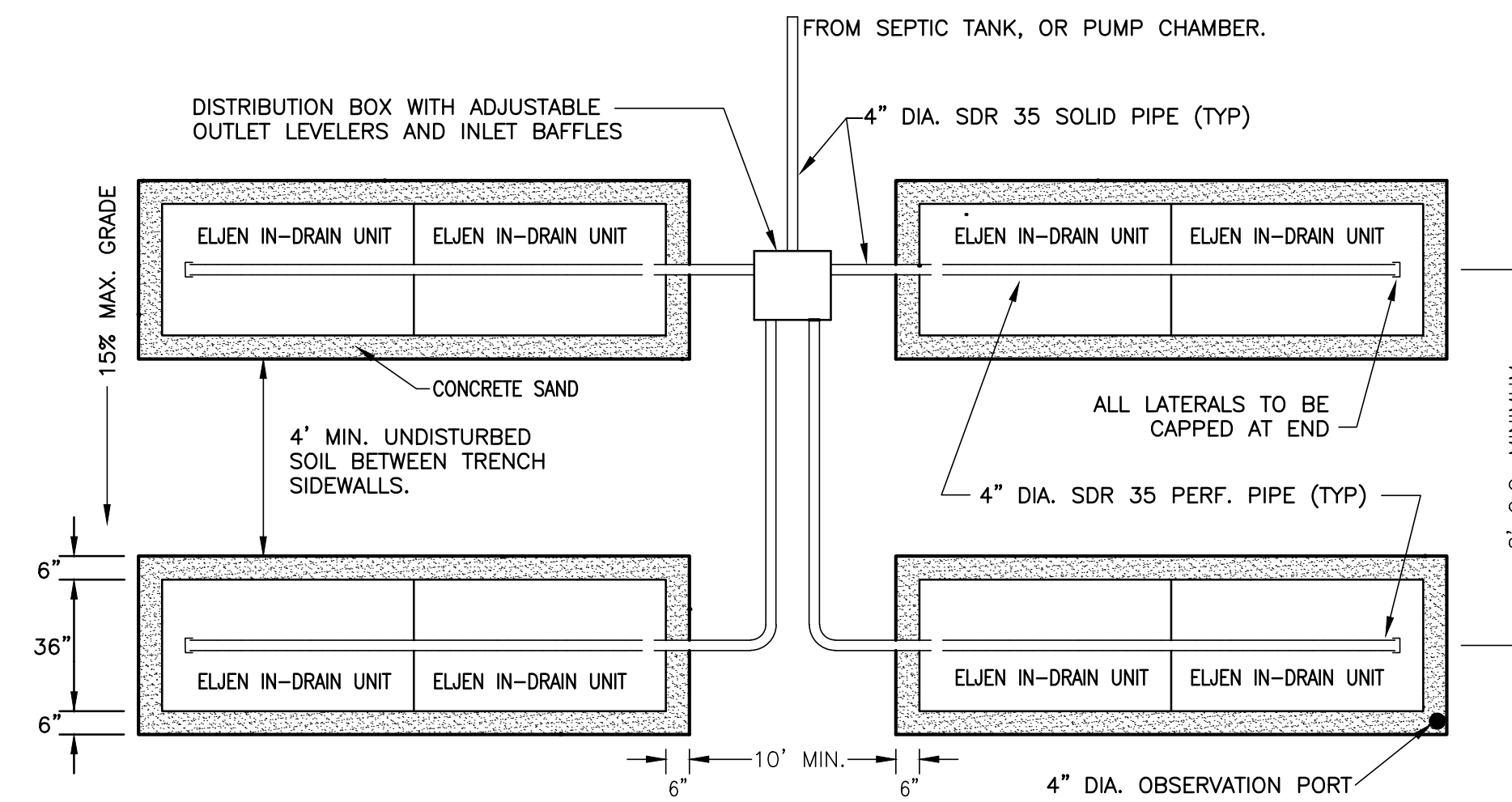
www.woodardsconcrete.com

1 1,000 GALLON SEPTIC TANK
N.T.S.

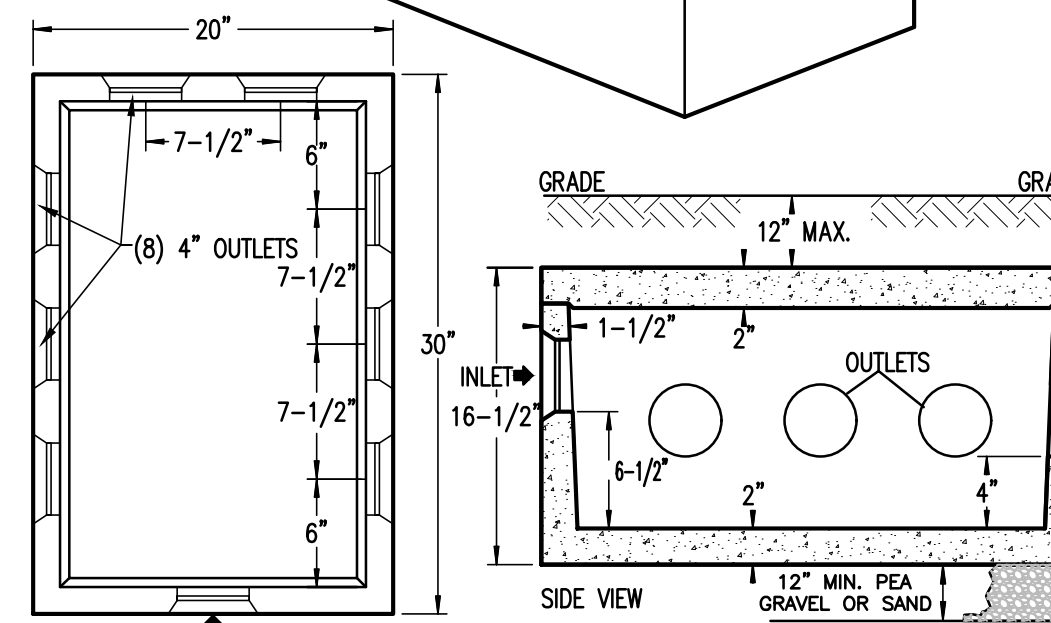
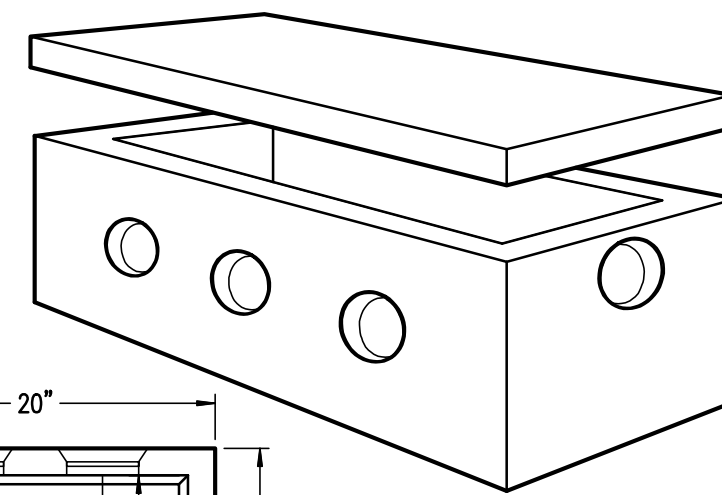


*NOTE: "CONCRETE SAND" SHALL BE ASTM C33 SAND WITH <10% PASSING #100 SIEVE AND LESS THAN 5% PASSING #200 SIEVE WITH COEFFICIENT OF PERMEABILITY >5 FEET

2 ELJEN IN-DRAIN ABSORPTION CROSS SECTION
N.T.S.



3 ELJEN ABSORPTION TRENCH CONFIGURATION
N.T.S.



| SPECIFICATIONS | PRECAST DISTRIBUTION BOXES MODEL DB-8 / 8 OUTLET BOX |
|--|--|
| CONCRETE MIN. STRENGTH: 4,000 PSI AT 28 DAYS REINFORCEMENT: FIBER, 10GA. WIRE MESH AIR ENTRAINMENT: 5% PIPE CONNECTION: POLYLOK SEAL (PATENTED) LOAD RATING: 300 PSF WEIGHT = 290 LBS | WOODARD'S CONCRETE PRODUCTS, INC. 629 LYBOLT ROAD, BULLVILLE, NY 10915 (845) 361-3471 / FAX 361-1050 WWW.WOODARDSCONCRETE.COM |

6 DISTRIBUTION BOX DETAIL - DB-9
N.T.S.

PERC TEST 1

| DEPTH 24" | TOTAL (MIN/IN) |
|-----------|----------------|
| RUN 1 | 00:18:02 |
| RUN 2 | 00:22:31 |
| RUN 3 | 00:24:26 |
| RUN 4 | 00:25:26 |
| RUN 5 | 00:26:27 |

DATE PERFORMED: 2-8-2023
PERFORMED BY: FELLENER ENGINEERING LLP

PERC TEST 2

| DEPTH 24" | TOTAL (MIN/IN) |
|-----------|----------------|
| RUN 1 | 00:26:36 |
| RUN 2 | 00:32:40 |
| RUN 3 | 00:38:42 |
| RUN 4 | 00:40:58 |
| RUN 5 | 00:42:20 |

DATE PERFORMED: 2-8-2023
PERFORMED BY: FELLENER ENGINEERING LLP

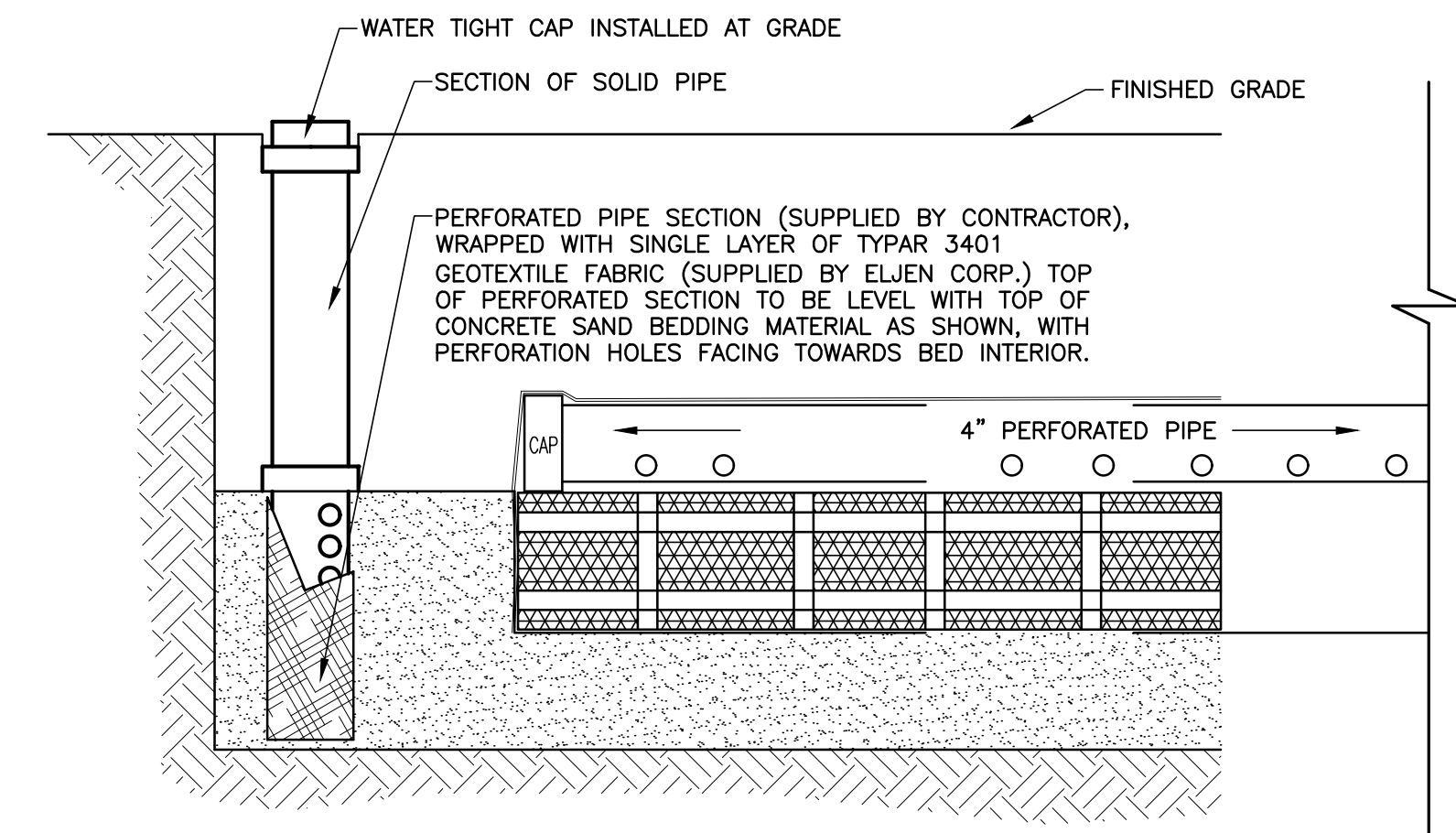
| DEEP TEST 1 | DEPTH-8" | DEPTH (IN.) | DEEP TEST 2 | DEPTH-8" |
|-------------|----------|-------------|-------------|----------|
| | TOP SOIL | 6 | | TOP SOIL |
| | | 12 | | |
| | | 18 | | |
| | | 24 | | |
| | | 30 | | |
| | | 36 | | |
| | | 42 | | |
| | | 48 | | |
| | | 54 | | |
| | | 60 | | |
| | | 66 | | |
| | | 72 | | |
| | | 78 | | |
| | | 84 | | |
| | | 90 | | |

TRACE MOTTLING @ 4' & 8' 6"-12" COBBLES THROUGHOUT DARK BROWN CLAY LOAM. NO WATER. NO SEEPAGE. NO LEDGE.

TRACE MOTTLING @ 6' 6"-8" COBBLES THROUGHOUT ROOTS ABOUT 4' FROM TOP. DARK BROWN GRAVELLY LOAM

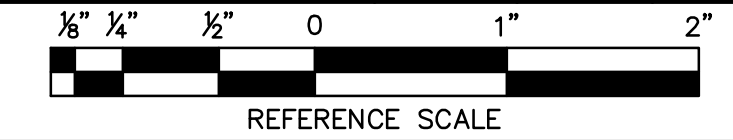
SEPTIC DESIGN DATA TABLE - ELJEN "IN DRAIN" SYSTEM

| RESULTS | DESIGN RATE (MIN/IN) | REQUIRED LINEAL FEET OF STANDARD TRENCH REQUIRED FOR 16 EMPLOYEE WAREHOUSE (240 GPD,TOTAL) | DESIGN CALCULATIONS & QTY'S FOR SYSTEM 240 LF / 3 (ELJEN SYTEM MULTIPLIER)=80 LF ELJEN UNITS |
|---------|----------------------|--|--|
| #1 | #2 | | # LINES LINE LENGTH TOTAL SYSTEM PROVIDED TOTAL UNITS REQUIRED: |
| 26:27 | 42:20 | 31-45 | 240 LF STD TRENCH 4 X 20' = 80' ELJEN (20) "B43" ELJEN UNITS |



4 OBSERVATION PORT INSTALLATION DETAIL
N.T.S.

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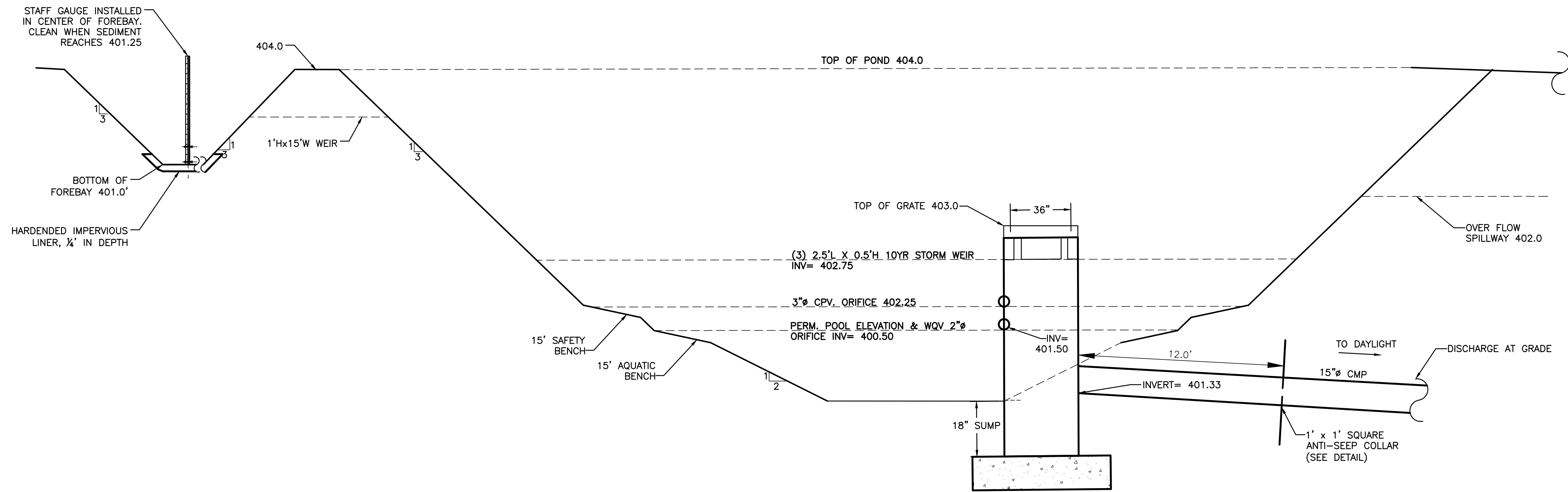
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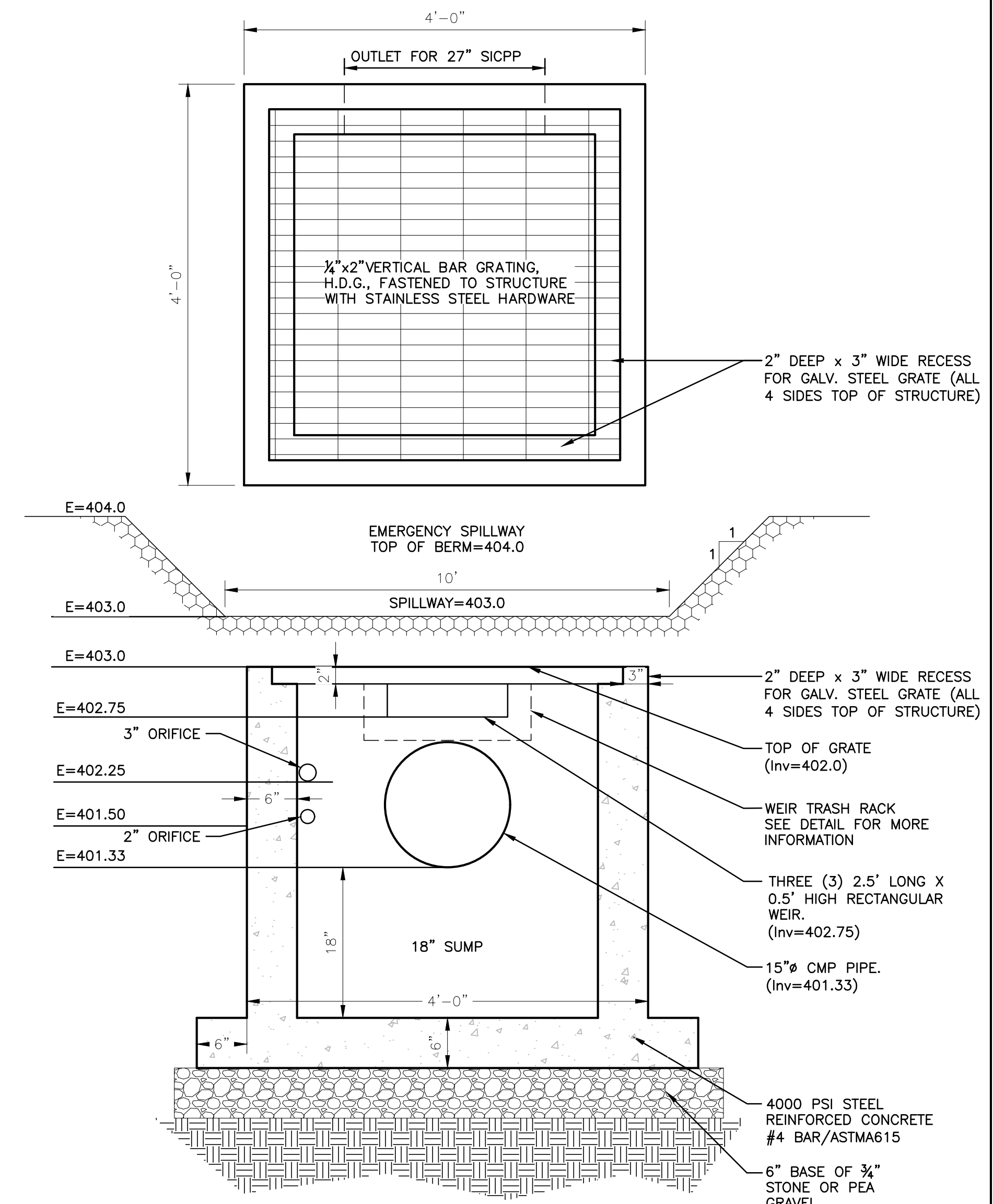
| STAMP: | PROJECT TITLE: |
|------------------|---|
| DESIGNED BY: JB | JEANNE DRIVE SITE PLAN SECTION 34, BLOCK 2, LOT 66. |
| DRAWN BY: JCL | |
| DATE: 11/01/2022 | SCALE: AS SHOWN |
| APPROVED BY: RDF | APPROVED BY: PIC: MDF |
| FE PROJECT #: | 19-049 |
| | DRAWING #: C-902 |
| | PAGE 9 OF 10 |

Call 811 before you dig

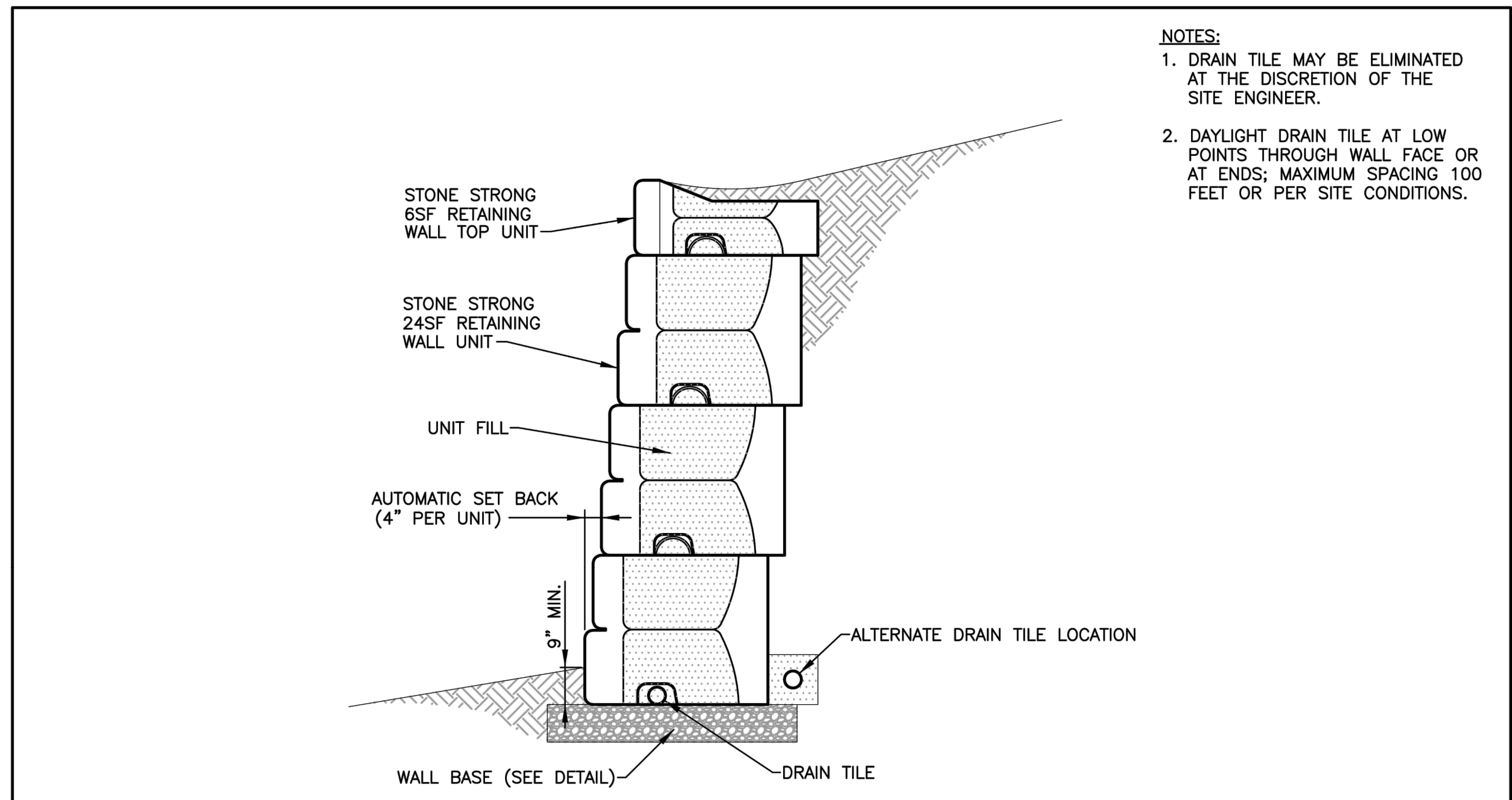
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1 DETENTION POND
N.T.S.

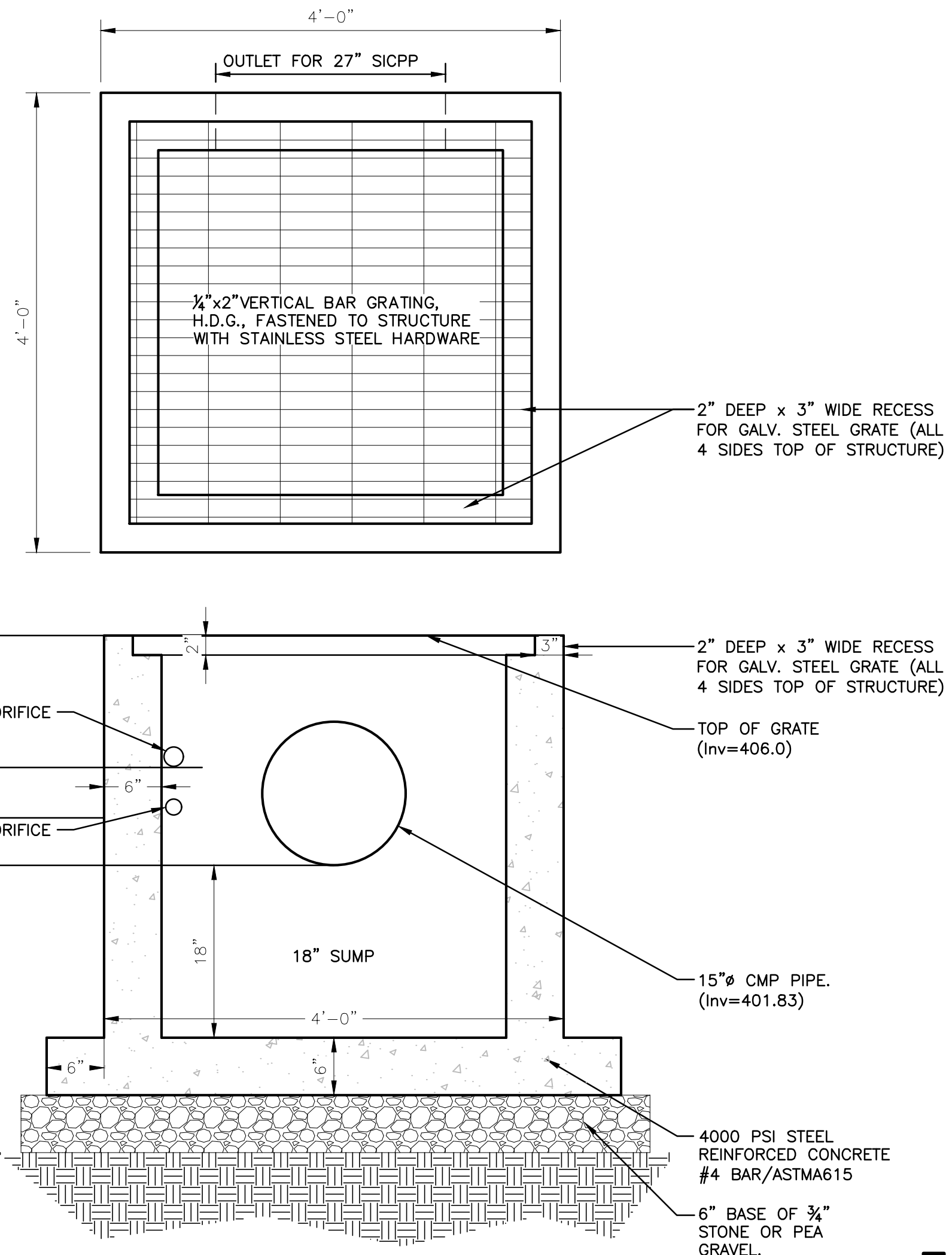


2 DETENTION POND OUTLET STRUCTURE
N.T.S.



3 GRAVITY WALL CROSS SECTION
NOT TO SCALE

- NOTES:**
- DRAIN TILE MAY BE ELIMINATED AT THE DISCRETION OF THE SITE ENGINEER.
 - DAYLIGHT DRAIN TILE AT LOW POINTS THROUGH WALL FACE OR AT ENDS; MAXIMUM SPACING 100 FEET OR PER SITE CONDITIONS.



4 CULTEC CHAMBER OUTLET STRUCTURE
N.T.S.

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REFERENCE SCALE

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| | | | |
|----------------|-----------|-------------------------------|-------------------|
| STAMP: | | PROJECT TITLE: | |
| | | JEANNE DRIVE SITE PLAN | |
| | | SECTION 34, BLOCK 2, LOT 66. | |
| DETAILS | | | |
| DESIGNED BY: | DRAWN BY: | APPROVED BY: PM: | APPROVED BY: PIC: |
| JB | JCL | RDF | MDF |
| DATE: | SCALE: | FE PROJECT #: | |
| 11/01/2022 | AS SHOWN | 19-049 | |

C-903
PAGE 10 OF 10

File Name: F:\2019\19-049 Jeanne Drive Site Plan\C-901 - C-903.dwg (Layout: C-903)
 Date: Tue, May 30, 2023 - 8:46 AM (Name: vmb)

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