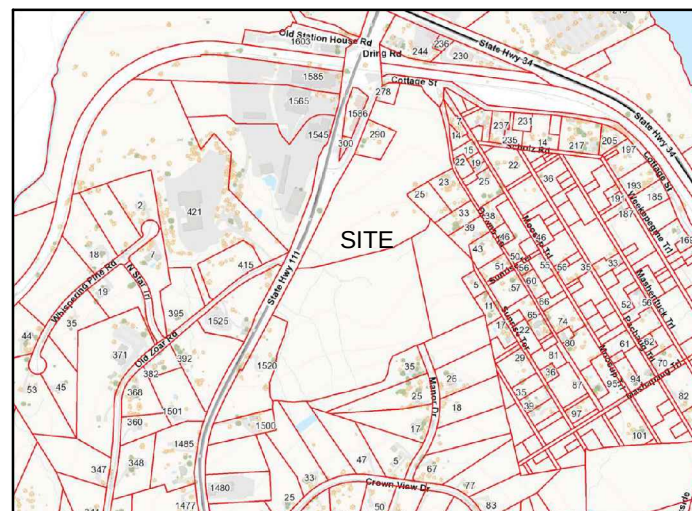


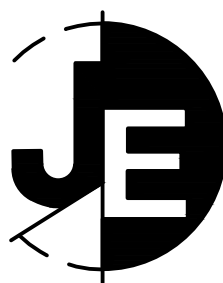
SUN VALLEY GLEN
A CLUSTER SUBDIVISION
1536 & 1564 MONROE TURNPIKE
IN
MONROE, CONNECTICUT
PREPARED FOR
JANS LAND DEVELOPMENT, LLC



VICINITY MAP
1"=500'

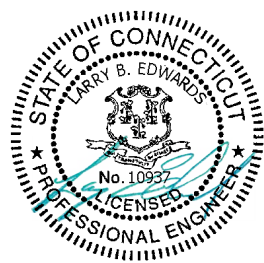
DRAWING LIST

L-1	EXISTING CONDITIONS SURVEY
L-2	SUBDIVISION MAP
L-3	LAYOUT PLAN
A-1	AREA PLAN
S-1 TO S-3	SITE PLANS
E-1 & E-2	EROSION CONTROL PLANS
E-3	EROSION CONTROL PLAN ENLARGEMENT
P-1 TO P-3	PLAN-PROFILE
D-1 TO D-5	DETAILS
W-1	WATERSHED MAP
WET.1	WETLANDS MITIGATION PLAN (BY OTHERS)



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SUN VALLEY GLEN
1536 & 1564 MONROE TURNPIKE
MONROE, CONNECTICUT

REVISIONS

#	DATE	DESCRIPTION
1	8-05-24	TOWN
2	8-20-24	IWWC
3	9-19-24	IWWC

DATE: 10-01-23
PROJECT #: 2979
DRAWING FILE: 2979
DRAWN BY: NDC
SCALE:

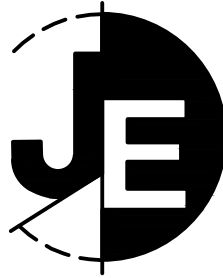
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SHEET NUMBER

PERMIT SET – NOT FOR CONSTRUCTION

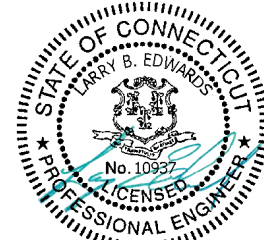
NOTES:

- THIS SURVEY AND MAP HAS BEEN PREPARED IN ACCORDANCE WITH THE SECTIONS 20-300B-1 THROUGH 20-300B-20 OF THE REGULATIONS OF CONNECTICUT STATE AGENCIES - "MINIMUM STANDARDS FOR SURVEY AND MAPS IN THE STATE OF CONNECTICUT" AS ENDORSED BY THE CONNECTICUT ASSOCIATION OF LAND SURVEYORS, INC. IT IS AN IMPROVEMENT LOCATION SURVEY BASED UPON A DEPENDENT RESURVEY AND CONFORMS TO HORIZONTAL ACCURACY CLASS A-2.
- REFERENCE IS MADE TO THE FOLLOWING MAPS ON FILE IN THE MONROE TOWN CLERK'S OFFICE:
 - "PLAN OF PROPERTY FOR STANLEY DRING, BEATRICE DRING, ELSIE DOWNS MONROE CONNECTICUT SCALE 1"=50' APRIL 1, 1975" PREPARED BY BURTON DAY ON FILE AS MAP #1187.
 - "RESUBDIVISION PLAN BUCK HILL ESTATES SECTION II PREPARED FOR SUBWOOD DEVELOPEMENT COMPANY MONROE, CONN. SCALE 1"=100' SEPTEMBER 18, 1988" PREPARED BY L. EDWARDS & ASSOCIATES ON FILE AS MAP #2112.
 - "PROPERTY SURVEY PREPARED FOR ROBERT E. DeLUCA & ROSEANNE, DeLUCA 1520 MONROE TURNPIKE (RT 111) MONROE, CONNECTICUT SCALE: 1"=50' DATE: 7/2/96" PREPARED BY PAUL A. BRAUTIGAM ON FILE AS MAP #2448.
 - "CONNECTICUT STATE HIGHWAY DEPARTMENT RIGHT OF WAY MAP TOWN OF MONROE MONROE-STEVENSON ROAD FROM MONROE CENTER NO. EASTERLY TO THE NEWTOWN-DERBY ROAD ROUTE 111 SCALE 1"=40' APRIL 28, 1939 NUMBER 84-08 SHEETS 9&10 OF 10.
- THE LOCATION OF UNDERGROUND UTILITIES, IF ANY, IS UNKNOWN
- PLAN PREPARED FOR WADE ALIX
- LOT CORNER MARKERS DEPICTED HEREON WERE FOUND AND/OR SET DURING COMPLETION OF THIS SURVEY.
- BEARING BASED ON CT STATE PLANE COORDINATES (NAD83)
- CERTIFICATION OF THIS MAP APPLIES TO CONDITIONS AS OF THE ORIGINAL DATE OR REVISED DATE DEPICTED HEREON. EXISTING CONDITIONS ON THIS PROPERTY MAY HAVE CHANGED SINCE THAT DATE AND AN UPDATED SURVEY IS RECOMMENDED TO ACCURATELY DEPICT THE CURRENT CONDITIONS.



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**SUN VALLEY GLEN
1536 & 1564 MONROE TURNPIKE
MONROE, CONNECTICUT**

REVISIONS

#	DATE	DESCRIPTION
1	8-05-24	TOWN
2	8-20-24	IWWC
3	9-19-24	IWWC

DATE: 10-01-23
PROJECT #: 2979
DRAWING FILE: 2979
DRAWN BY: NDC
SCALE: 1"=100'

TITLE

**PROPERTY LINE
REVISION SURVEY**

SHEET NUMBER

L-1

- NOTES:
- THIS SURVEY AND MAP HAS BEEN PREPARED IN ACCORDANCE WITH THE SECTIONS 20-300B-1 THROUGH 20-300B-20 OF THE REGULATIONS OF CONNECTICUT STATE AGENCIES - "MINIMUM STANDARDS FOR SURVEY AND MAPS IN THE STATE OF CONNECTICUT" AS ENDORSED BY THE CONNECTICUT ASSOCIATION OF LAND SURVEYORS, INC. IT IS AN IMPROVEMENT LOCATION SURVEY BASED UPON A DEPENDENT RESURVEY AND CONFORMS TO HORIZONTAL ACCURACY CLASS A-2.
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 - "PROPERTY SURVEY PREPARED FOR ROBERT E. DeLUCA & ROSEANNE DeLUCA 1520 MONROE TURNPIKE (RT 111) MONROE, CONNECTICUT SCALE: 1"=50' DATE: 7/2/96" PREPARED BY PAUL A. BRAUTIGAM ON FILE AS MAP #2448.
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 - PLAN PREPARED FOR JANS LAND DEVELOPMENT, LLC
 - LOT CORNER MARKERS DEPICTED HEREON WERE FOUND AND/OR SET DURING COMPLETION OF THIS SURVEY.
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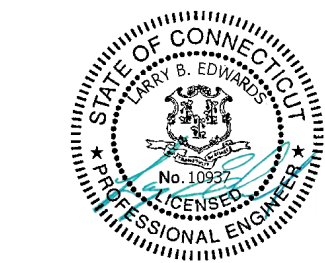
CLUSTER SUBDIVISION -- A SUBDIVISION IN WHICH THE LOT SIZES MAY BE REDUCED UPON APPROVAL BY THE PLANNING AND ZONING COMMISSION IN EXCHANGE FOR THE PROVISION OF PERMANENT OPEN SPACE.

- TOTAL PARCEL AREA: 31.163 ACRES
PROPOSED OPEN SPACE AREA: 12.869 ACRES
OPEN SPACE PROVIDED = 41.3%

- LEGEND**
- EXISTING CONTOUR
 - PROPOSED CONTOUR
 - EXISTING SPOT ELEVATION
 - PROPOSED SPOT ELEVATION
 - EXISTING DRAINAGE
 - PROPOSED DRAINAGE
 - EXISTING SANITARY
 - PROPOSED SANITARY
 - SANITARY LATERALS
 - FORCE MAIN
 - FOOTING DRAIN
 - ROOF DRAIN
 - WATER SERVICE
 - GAS LINE
 - COTG CLEAN OUT TO GRADE
 - FF FINISHED FLOOR
 - GF GARAGE FLOOR
 - BS BASEMENT SLAB
 - R HANDICAP RAMP
 - V VAN ACCESSIBLE SPACE
 - INLAND WETLANDS WITH FLAG #
 - OBSERVATION HOLE
 - PERCOLATION TEST
 - GRADE TO DRAIN
 - SYNTHETIC FILTER BARRIER
 - WATER BREAK
 - LIMIT OF DISTURBANCE
 - FOUNDATION ENVELOPE
 - BUILDING SETBACK LINE
 - DRAINAGE EASEMENT
 - GRADING EASEMENT
 - SLOPE RIGHTS
 - CONSERVATION EASEMENT
 - MAINTENANCE EASEMENT
 - UPLAND REVIEW LIMIT
 - WATERCOURSE
 - WATERCOURSE OFFSET



DATE	DESCRIPTION	BY	DATE	DESCRIPTION	BY
10-01-23	PROJECT #:	2979			
	DRAWING FILE:	2979			
	DRAWN BY:	NDC			
	SCALE:	1"=100'			



PERMIT SET - NOT FOR CONSTRUCTION

**SUN VALLEY GLEN
1536 & 1564 MONROE TURNPIKE
MONROE, CONNECTICUT**

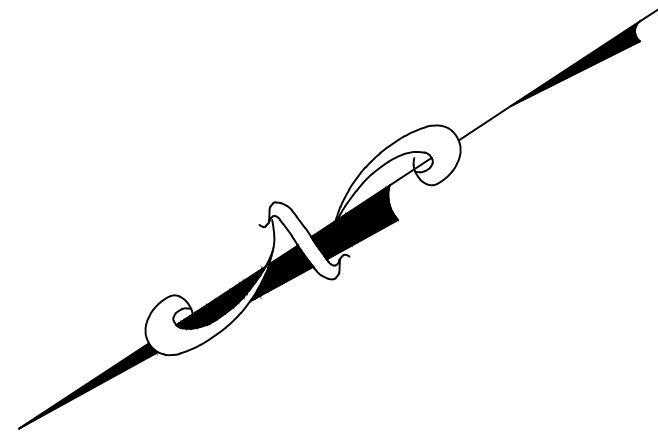
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DATE: 10-01-23
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DRAWING FILE: 2979
DRAWN BY: NDC
SCALE: 1"=100'

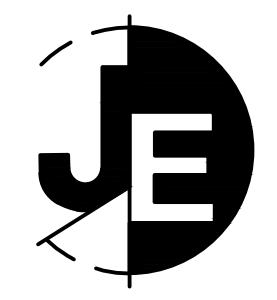
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**CLUSTER
SUBDIVISION
MAP**

SHEET NUMBER

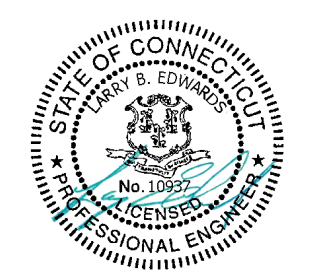


- LEGEND**
- EXISTING CONTOUR
 - PROPOSED CONTOUR
 - EXISTING SPOT ELEVATION
 - PROPOSED SPOT ELEVATION
 - EXISTING DRAINAGE
 - PROPOSED DRAINAGE
 - EXISTING SANITARY
 - PROPOSED SANITARY
 - SANITARY LATERALS
 - FORCE MAIN
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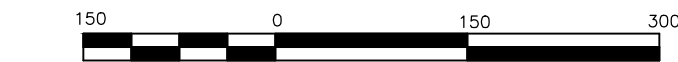
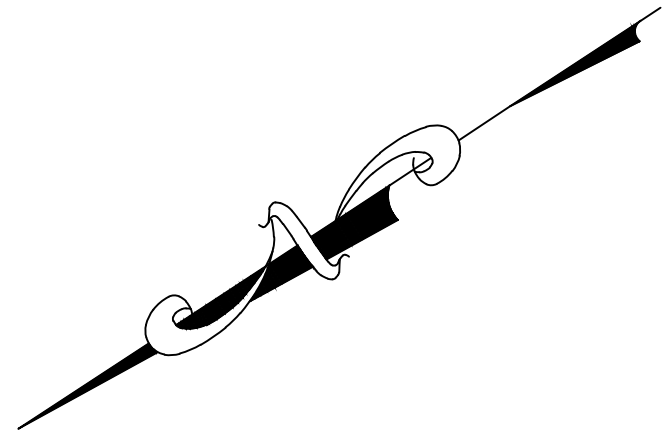
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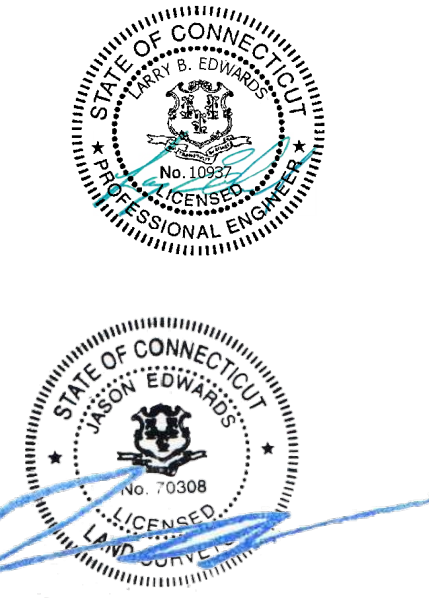
LAYOUT PLAN

SHEET NUMBER

L-3



LEGEND:
DIRECTION OF FLOW 



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3	9-19-24	IWWC

DATE: 10-01-23
PROJECT #: 2979
DRAWING FILE: 2979
DRAWN BY: NDC
SCALE: 1"=150'

TITLE

AREA PLAN

SHEET NUMBER

A-1



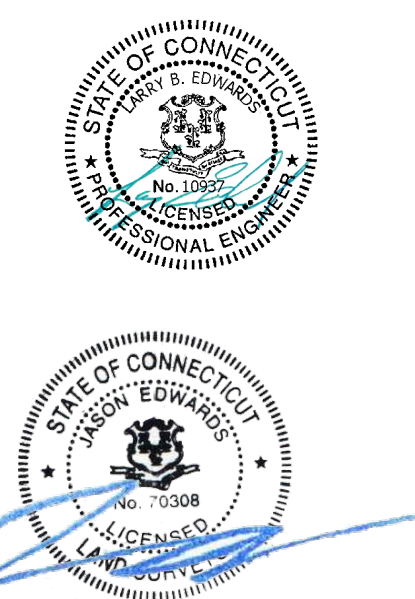
LEGEND

- EXISTING CONTOUR
- PROPOSED CONTOUR
- EXISTING SPOT ELEVATION
- PROPOSED SPOT ELEVATION
- EXISTING DRAINAGE
- PROPOSED DRAINAGE
- EXISTING SANITARY
- PROPOSED SANITARY
- SANITARY LATERALS
- FORCE MAIN
- FOOTING DRAIN
- ROOF DRAIN
- WATER SERVICE
- GAS LINE
- COTG
- CLEAN OUT TO GRADE
- FF
- FINISHED FLOOR
- GF
- GARAGE FLOOR
- BS
- BASEMENT SLAB
- R
- HANDICAP RAMP
- V
- VAN ACCESSIBLE SPACE
- INLAND WETLANDS WITH FLAG #
- OBSERVATION HOLE
- PERCOLATION TEST
- GRADE TO DRAIN
- SYNTHETIC FILTER BARRIER
- WATER BREAK
- LIMIT OF DISTURBANCE
- FOUNDATION ENVELOPE
- BUILDING SETBACK LINE
- DRAINAGE EASEMENT
- GRADING EASEMENT
- SLOPE RIGHTS
- CONSERVATION EASEMENT
- MAINTENANCE EASEMENT
- UPLAND REVIEW LIMIT
- WATERCOURSE
- WATERCOURSE OFFSET

NOTE
INDIVIDUAL LOT DEVELOPMENT SHOWN ON THESE SITE PLANS WITH THE EXCEPTION OF DETENTION BASINS, DEMONSTRATE SUBDIVISION FEASIBILITY ONLY. ACTUAL LOT DEVELOPMENT DETAIL WILL BE SHOWN ON INDIVIDUAL SITE PLANS SUBMITTED FOR TOWN REVIEW AT TIME OF BUILDING PERMIT APPLICATION.

DIRECT WETLAND DISTURBANCE: 0.026 ac.
UPLAND REVIEW AREA DISTURBANCE: 0.56 ac.

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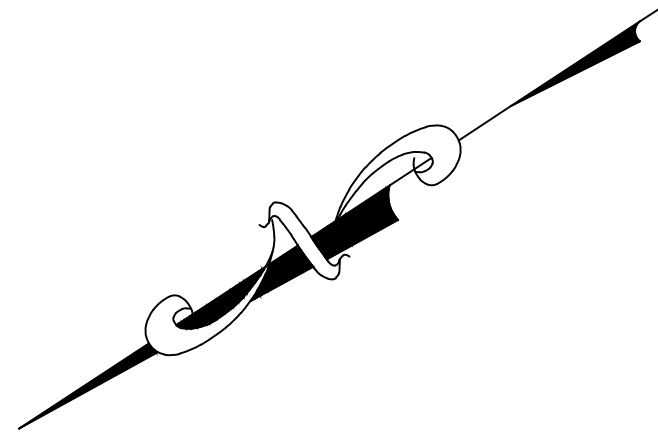
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TITLE

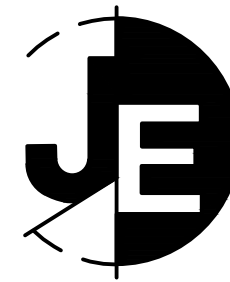
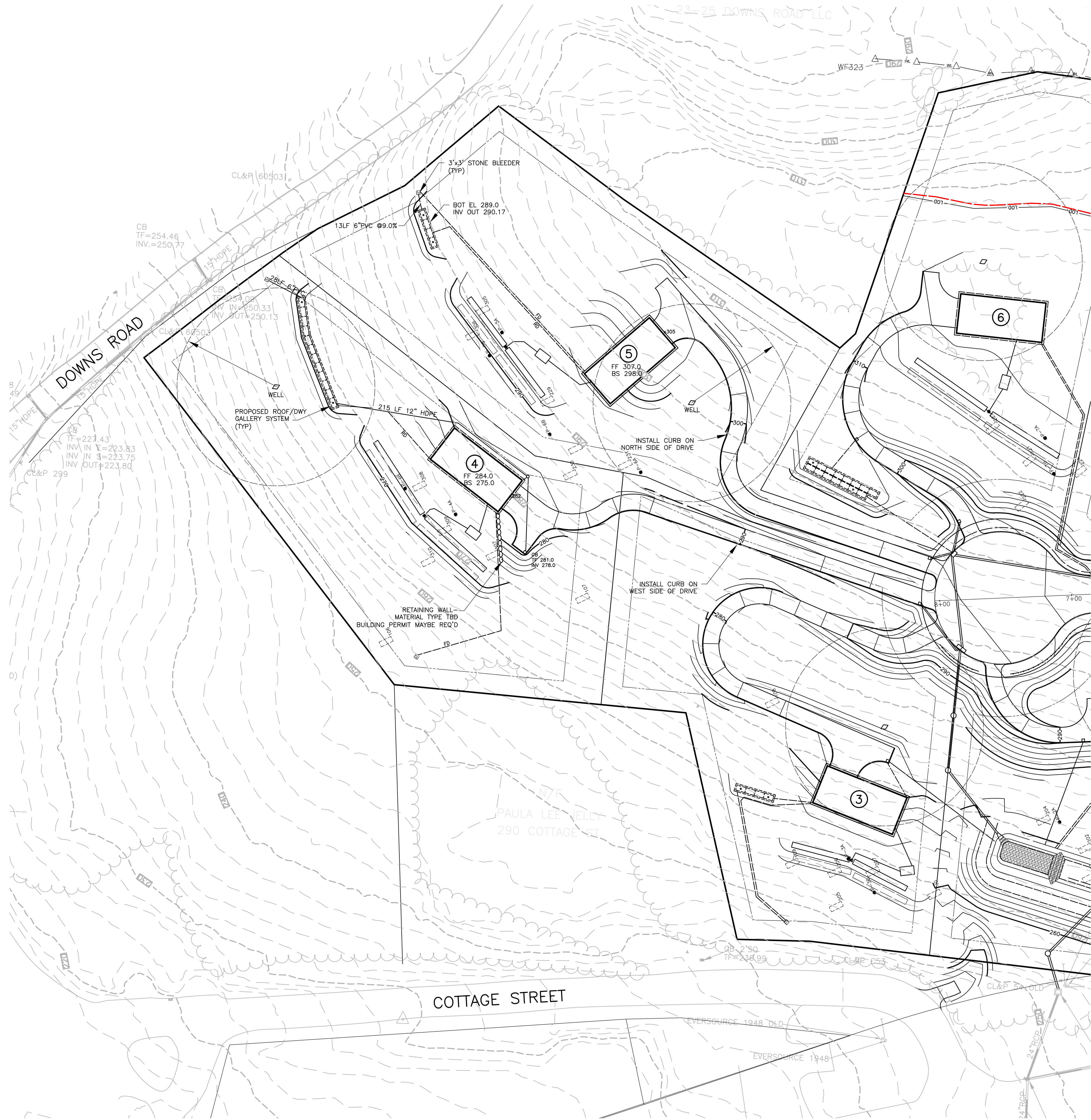
SITE PLAN

SHEET NUMBER

S-1

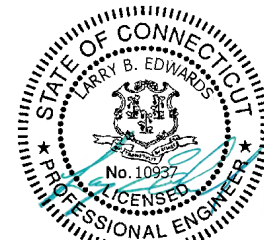


- LEGEND**
- EXISTING CONTOUR
 - PROPOSED CONTOUR
 - EXISTING SPOT ELEVATION
 - PROPOSED SPOT ELEVATION
 - EXISTING DRAINAGE
 - PROPOSED DRAINAGE
 - EXISTING SANITARY
 - PROPOSED SANITARY
 - SANITARY LATERALS
 - FORCE MAIN
 - FOOTING DRAIN
 - ROOF DRAIN
 - WATER SERVICE
 - GAS LINE
 - COTG
 - FF
 - GF
 - BS
 - R
 - V
 - INLAND WETLANDS WITH FLAG #
 - OBSERVATION HOLE
 - PERCOLATION TEST
 - GRADE TO DRAIN
 - SYNTHETIC FILTER BARRIER
 - WATER BREAK
 - LDD
 - FE
 - DE
 - GE
 - SR
 - CE
 - ME
 - UPLAND REVIEW LIMIT
 - WATERCOURSE
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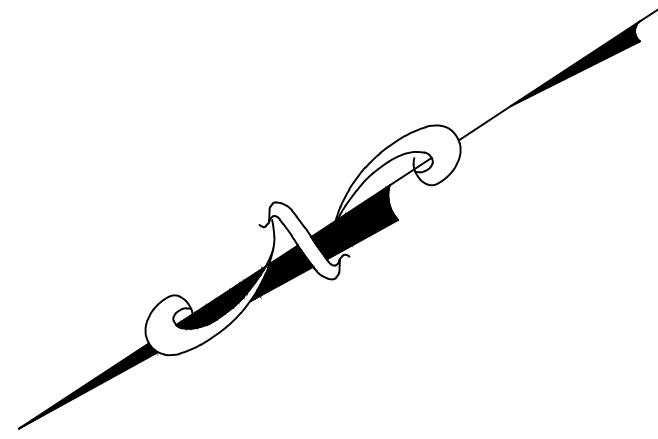
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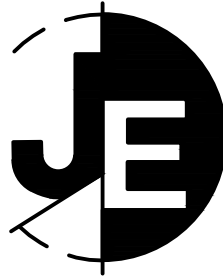
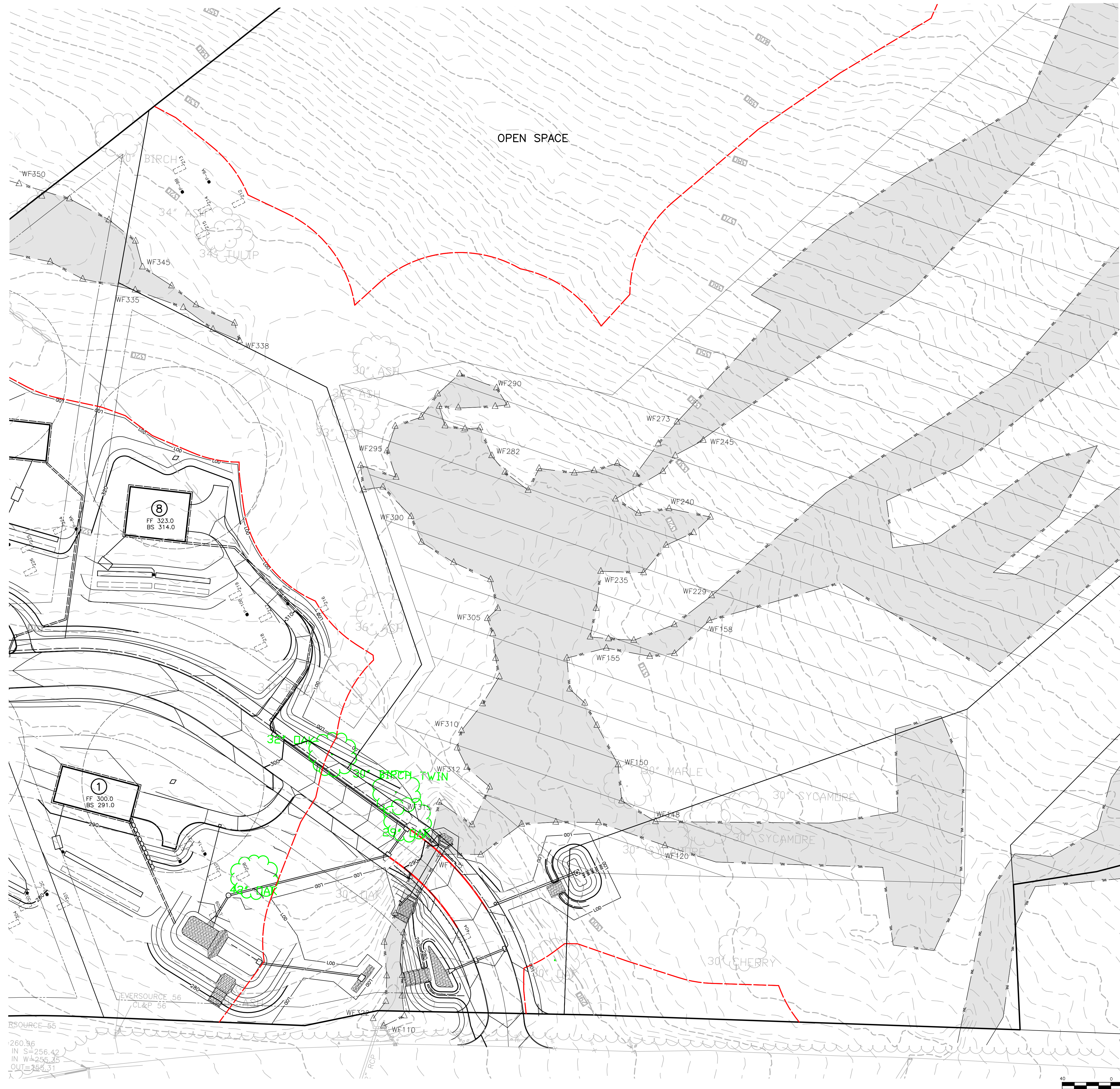
SITE PLAN

SHEET NUMBER

S-2

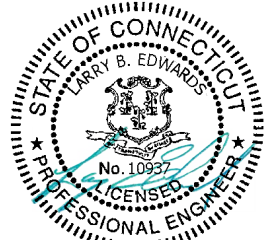


- LEGEND**
- EXISTING CONTOUR
 - PROPOSED CONTOUR
 - EXISTING SPOT ELEVATION
 - PROPOSED SPOT ELEVATION
 - EXISTING DRAINAGE
 - PROPOSED DRAINAGE
 - EXISTING SANITARY
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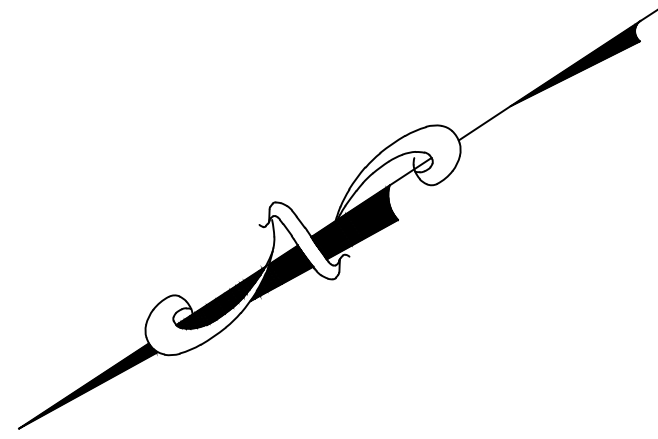
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TITLE

SITE PLAN

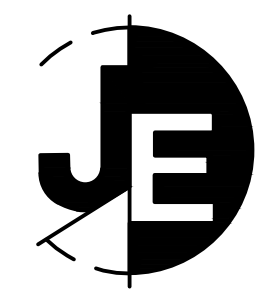
SHEET NUMBER

S-3



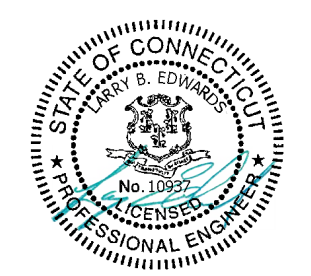
LEGEND

- EXISTING CONTOUR
- PROPOSED CONTOUR
- EXISTING SPOT ELEVATION
- PROPOSED SPOT ELEVATION
- EXISTING DRAINAGE
- PROPOSED DRAINAGE
- EXISTING SANITARY
- PROPOSED SANITARY
- SANITARY LATERALS
- FORCE MAIN
- FOOTING DRAIN
- ROOF DRAIN
- WATER SERVICE
- GAS LINE
- COTG CLEAN OUT TO GRADE
- FF FINISHED FLOOR
- GF GARAGE FLOOR
- BS BASEMENT SLAB
- R HANDICAP RAMP
- V VAN ACCESSIBLE SPACE
- WO CONCRETE WASHOUT BASIN
- INLAND WETLANDS WITH FLAG #
- OBSERVATION HOLE
- PERCOLATION TEST
- GRADE TO DRAIN
- SYNTHETIC FILTER BARRIER
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DRAWING FILE: 2979
DRAWN BY: NDC
SCALE: 1"= 40'

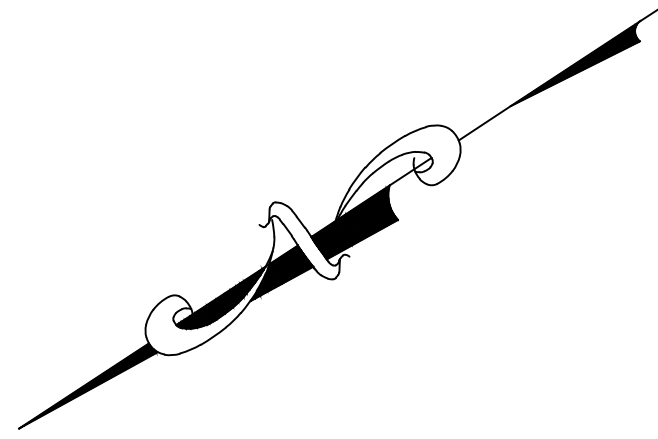
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EROSION CONTROL
PLAN

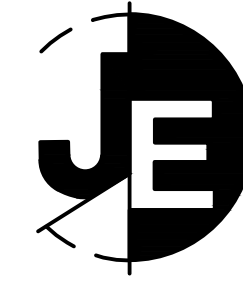
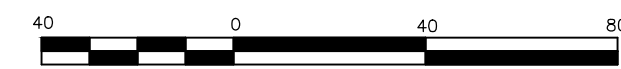
SHEET NUMBER

E-1



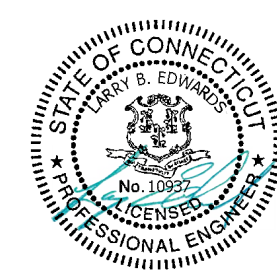


- LEGEND**
- EXISTING CONTOUR
 - PROPOSED CONTOUR
 - EXISTING SPOT ELEVATION
 - PROPOSED SPOT ELEVATION
 - EXISTING DRAINAGE
 - PROPOSED DRAINAGE
 - EXISTING SANITARY
 - PROPOSED SANITARY
 - SANITARY LATERALS
 - FORCE MAIN
 - FOOTING DRAIN
 - ROOF DRAIN
 - WATER SERVICE
 - GAS LINE
 - COTG CLEAN OUT TO GRADE
 - FF FINISHED FLOOR
 - GF GARAGE FLOOR
 - BS BASEMENT SLAB
 - R HANDICAP RAMP
 - V VAN ACCESSIBLE SPACE
 - WO CONCRETE WASHOUT BASIN
 - INLAND WETLANDS WITH FLAG #
 - OBSERVATION HOLE
 - PERCOLATION TEST
 - GRADE TO DRAIN
 - SYNTHETIC FILTER BARRIER
 - WATER BREAK
 - LIMIT OF DISTURBANCE
 - FOUNDATION ENVELOPE
 - BUILDING SETBACK LINE
 - DRAINAGE EASEMENT
 - GRADING EASEMENT
 - SLOPE RIGHTS
 - CONSERVATION EASEMENT
 - MAINTENANCE EASEMENT
 - UPLAND REVIEW LIMIT
 - WATERCOURSE
 - WATERCOURSE OFFSET



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**SUN VALLEY GLEN
1536 & 1564 MONROE TURNPIKE
MONROE, CONNECTICUT**

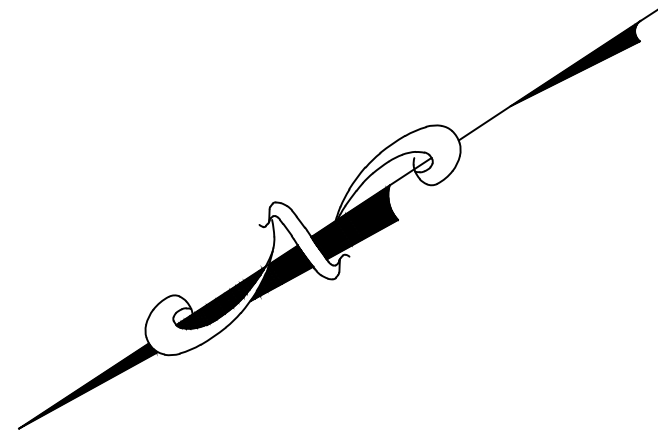
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2	8-20-24	IWWC
3	9-19-24	IWWC

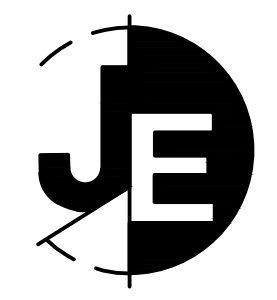
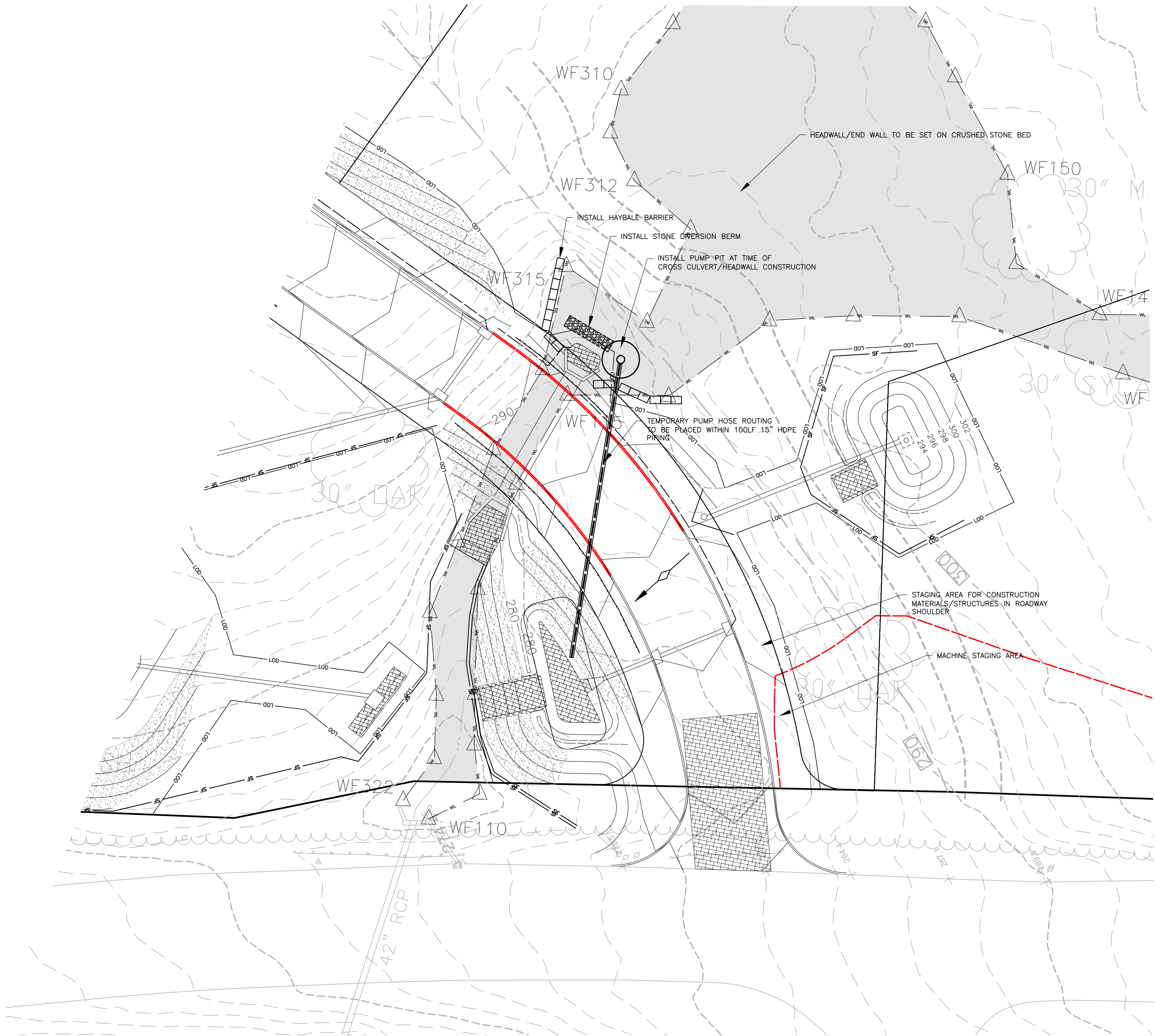
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PROJECT #: 2979
DRAWING FILE: 2979
DRAWN BY: NDC
SCALE: 1"=40'

TITLE
**EROSION CONTROL
PLAN**

SHEET NUMBER
E-2

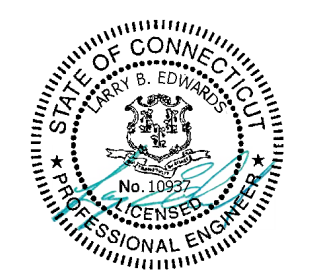


- LEGEND**
- EXISTING CONTOUR
 - PROPOSED CONTOUR
 - EXISTING SPOT ELEVATION
 - PROPOSED SPOT ELEVATION
 - EXISTING DRAINAGE
 - PROPOSED DRAINAGE
 - EXISTING SANITARY
 - PROPOSED SANITARY
 - SANITARY LATERALS
 - FORCE MAIN
 - FOOTING DRAIN
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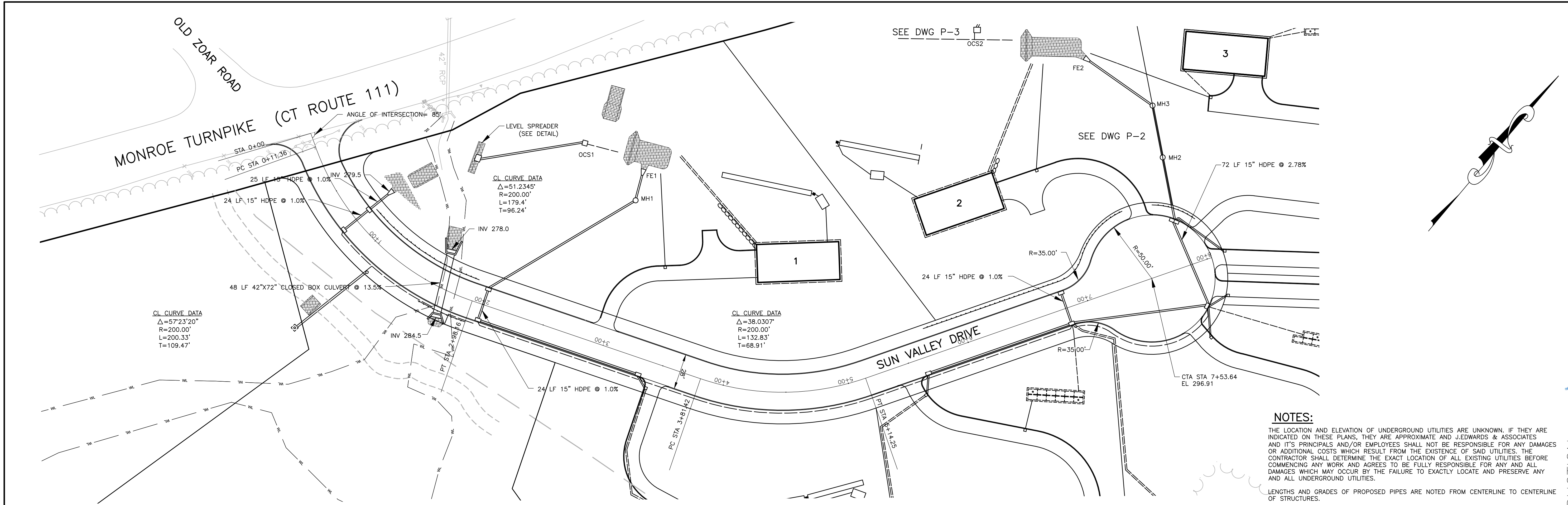
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TITLE

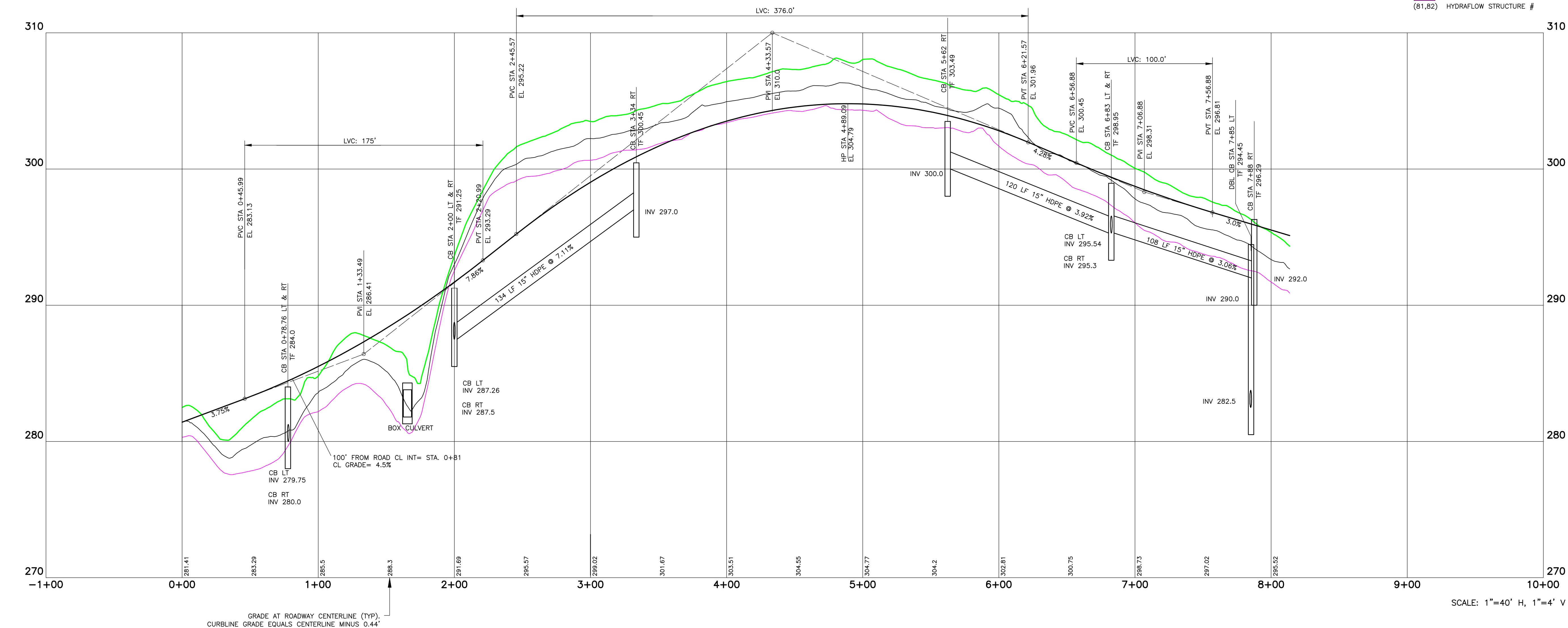
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PLAN
ENLARGEMENT**

SHEET NUMBER

E-3

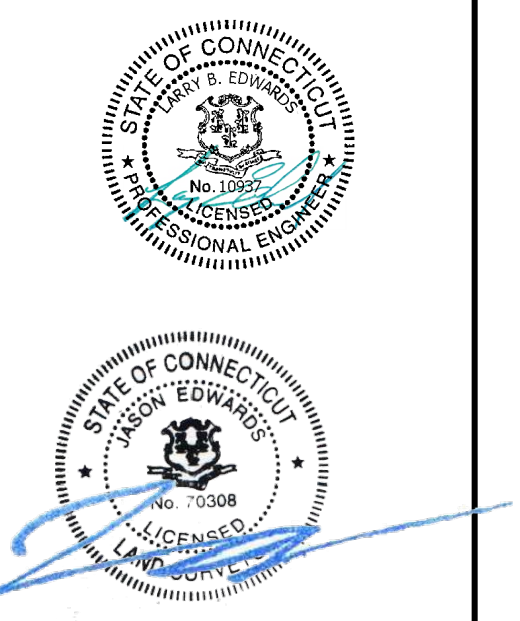


SCALE: 1"=40'



EXISTING GRADE AT CENTERLINE
EXISTING GRADE 14' RIGHT
EXISTING GRADE 14' LEFT
(81,82) HYDRAFLOW STRUCTURE #

NOTES:
THE LOCATION AND ELEVATION OF UNDERGROUND UTILITIES ARE UNKNOWN. IF THEY ARE INDICATED ON THESE PLANS, THEY ARE APPROXIMATE AND J.EDWARDS & ASSOCIATES AND ITS PRINCIPALS AND/OR EMPLOYEES SHALL NOT BE RESPONSIBLE FOR ANY DAMAGES OR ADDITIONAL COSTS WHICH RESULT FROM THE EXISTENCE OF SAID UTILITIES. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING ANY WORK AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MAY OCCUR BY THE FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.
LENGTHS AND GRADES OF PROPOSED PIPES ARE NOTED FROM CENTERLINE TO CENTERLINE OF STRUCTURES.



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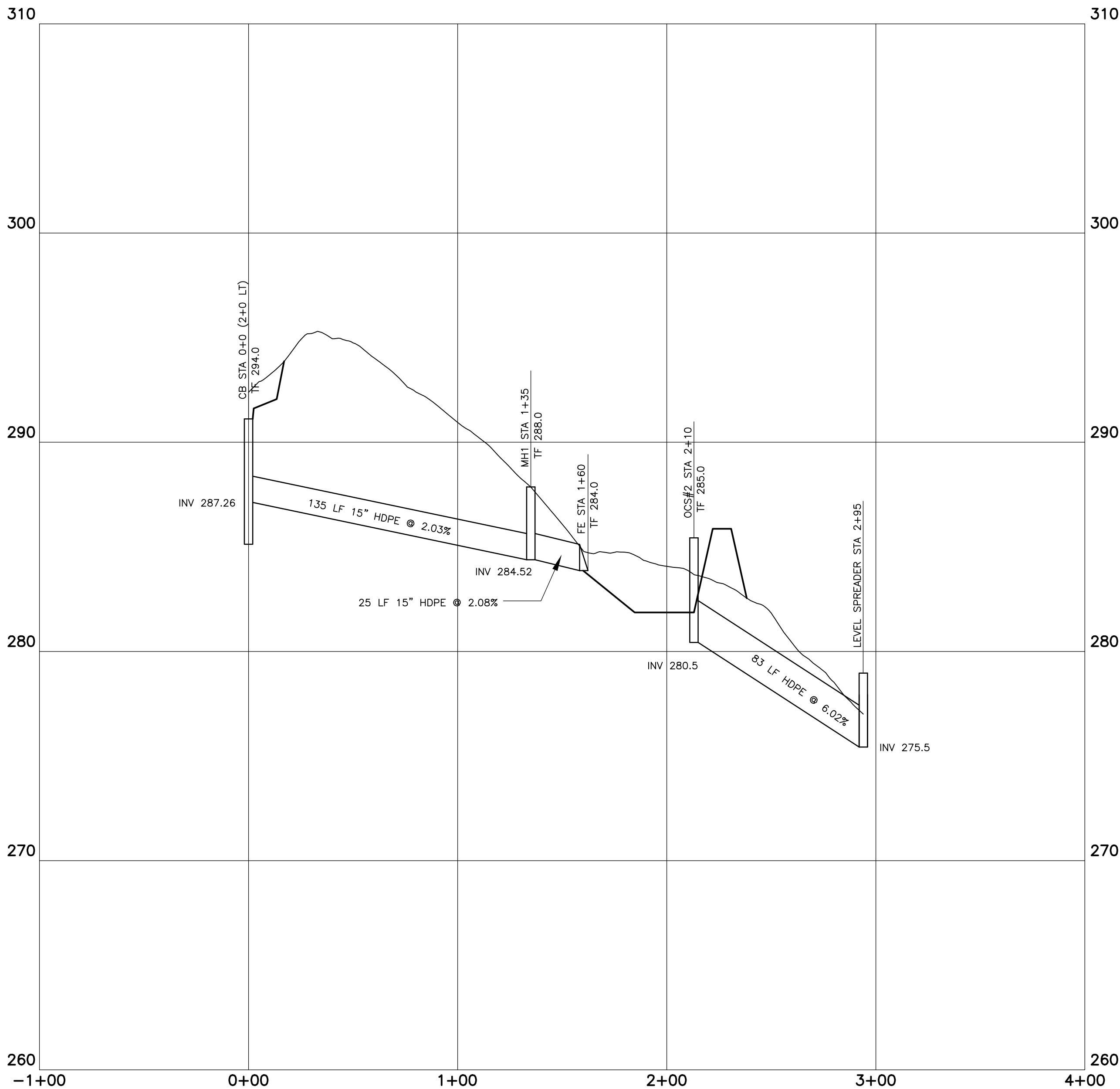
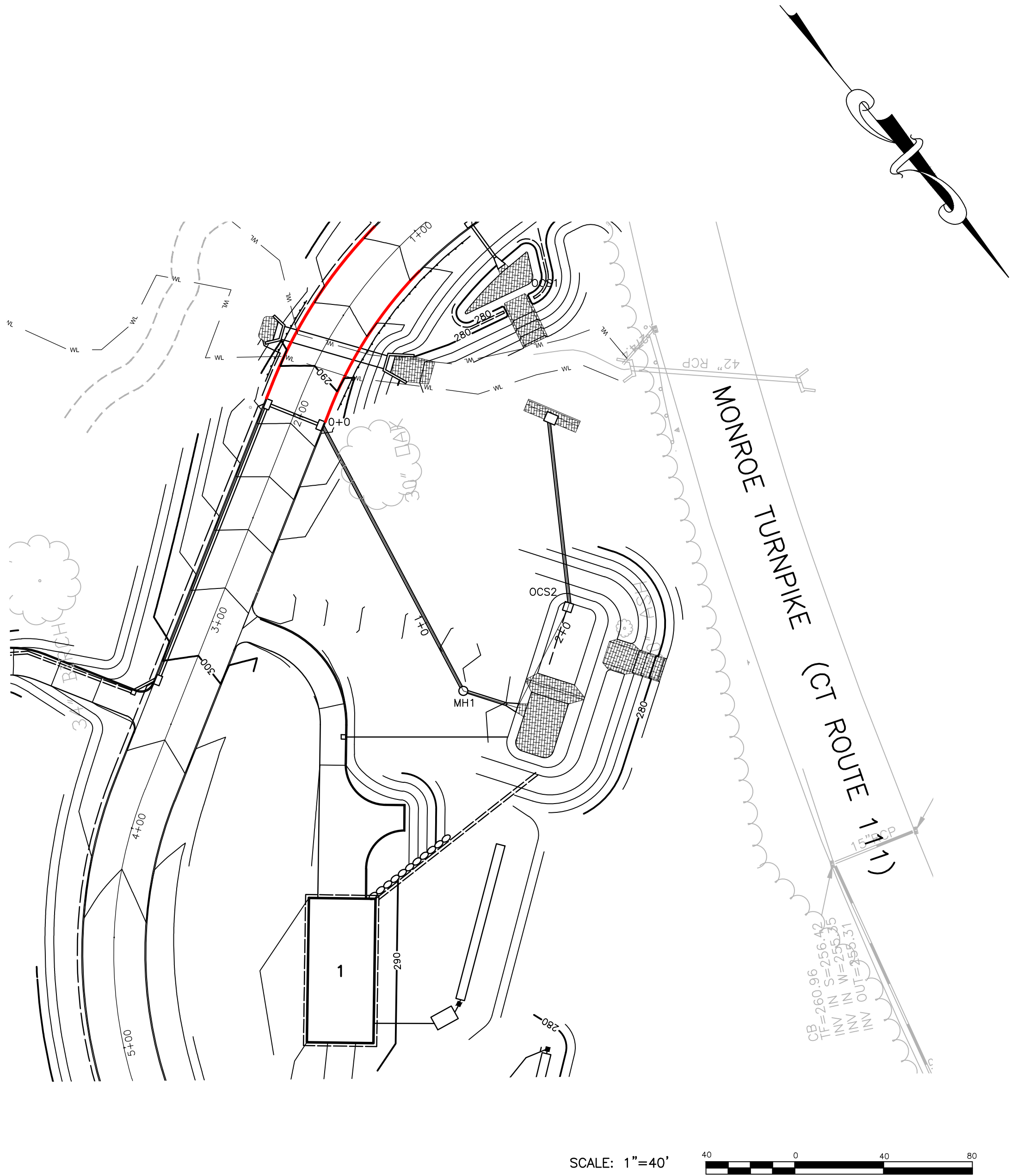
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PROJECT #: 2979
DRAWING FILE: 2979
DRAWN BY: NDC
SCALE: AS NOTED

TITLE

PLAN—PROFILE

SHEET NUMBER

P-1



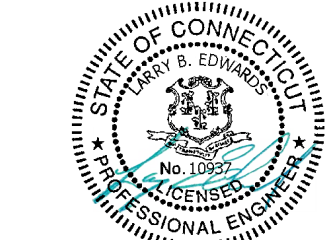
NOTES:

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LENGTHS AND GRADES OF PROPOSED PIPES ARE NOTED FROM CENTERLINE TO CENTERLINE OF STRUCTURES.

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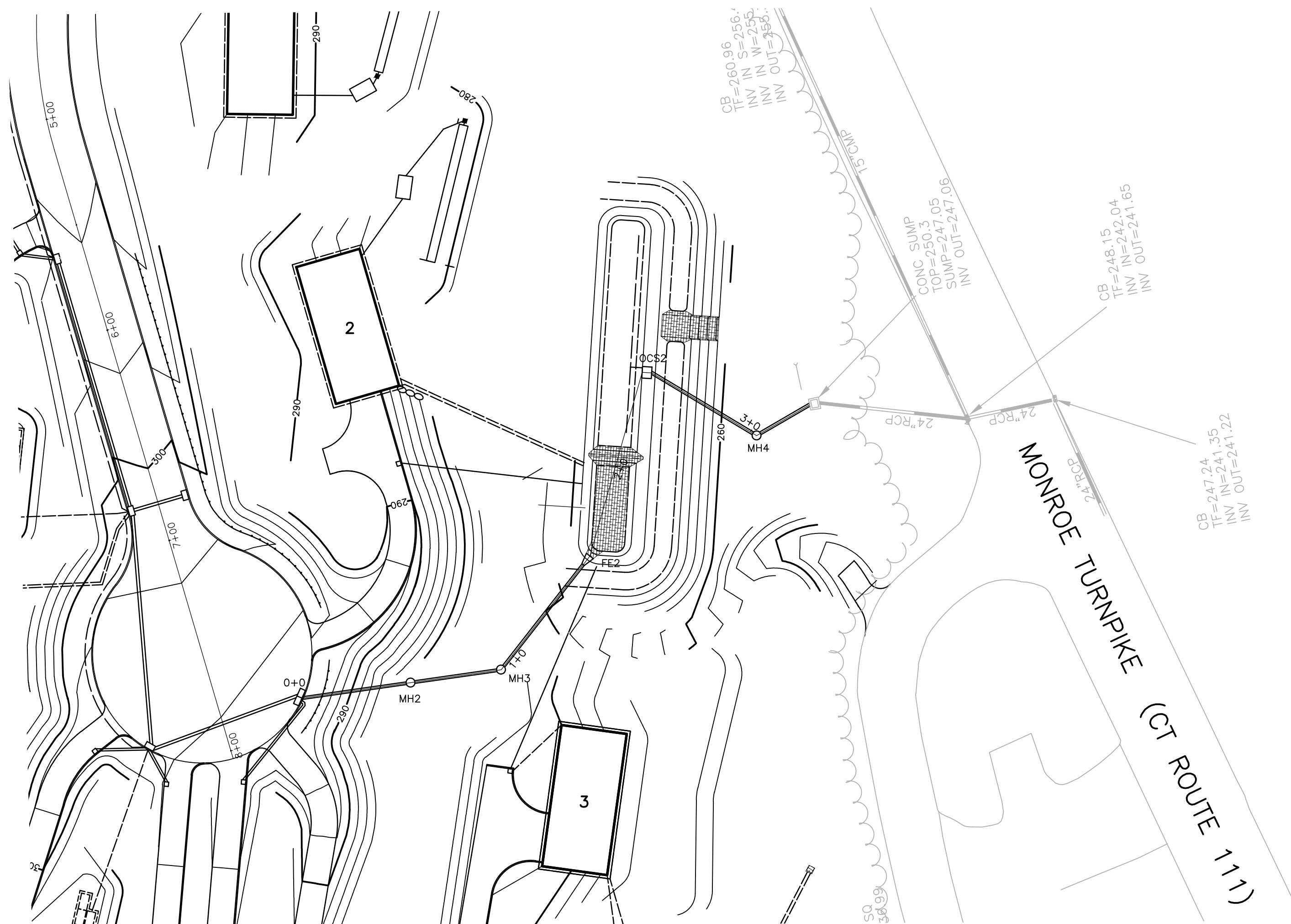
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DATE: 10-01-23
PROJECT #: 2979
DRAWING FILE: 2979
DRAWN BY: NDC
SCALE: AS NOTED
TITLE

PLAN-PROFILE

SHEET NUMBER

P-2



LENGTHS AND GRADES OF PROPOSED PIPES ARE NOTED FROM CENTERLINE TO CENTERLINE OF STRUCTURES.

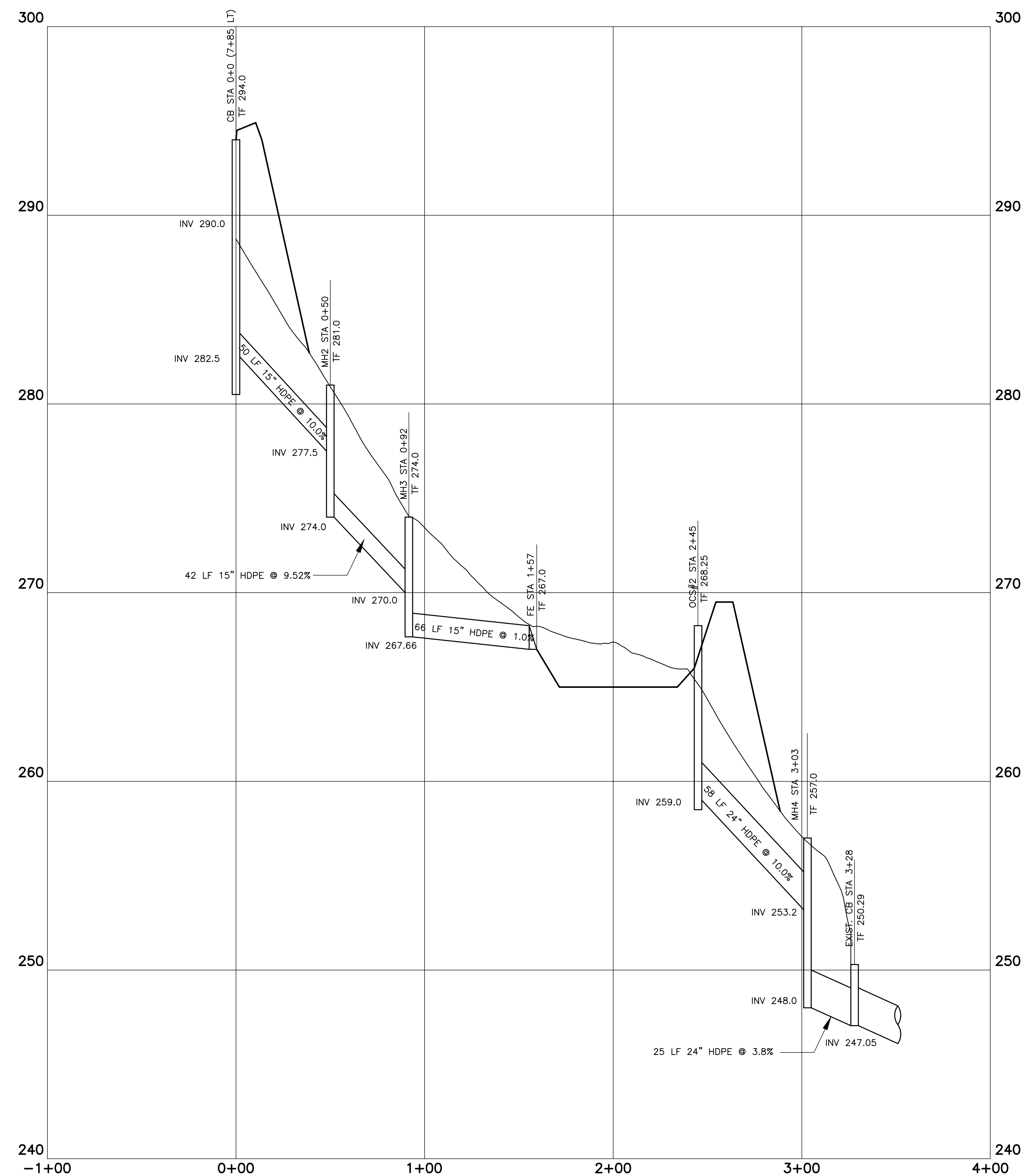
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MONROE, CONNECTICUT

SHEET NUMBER

SCALE: 1"=40' H, 1"=4' V



GENERAL NOTES

- These plans are for governmental approval only and are not to be used for construction.
- The proposed improvements indicated on these plans are shown as one of many possible layouts. Any variation from these plans is to be approved by a professional engineer.
- Topographic data and property lines shown based upon "Property Line Revision Survey, Sun Valley Glen, 1536 & 1564 Monroe Turnpike, Monroe CT, Scale 1"=40' dated 12-11-23. by J. Edwards & Associates, LLC.
- Owner:
John V. Mangieri,
221 Ocean Grande Boulevard U#709
Jupiter, FL 33477

Applicant:
Jans Land Development, LLC,
9 Whitetail Drive
Monroe, CT 06468
- Total area of site is 33.51 acres.
- Total area of on-site wetlands is 4.59 acres.
- The site is located in zone RF-2.
- Inland wetlands were delineated in the field by Steven Danzer PhD of Steven Danzer PhD and Associates, LLC. Wetland flags were located by J. Edwards & Associates, LLC.
- Reference is made to a document titled: Stormwater Management Report, For The Proposed Development Of Sun Valley Glen, Residential Development Located At 1536 & 1564 Monroe Turnpike, Monroe CT., Prepared on : November 9, 2023 Revised to August 21, 2024 Prepared by J. Edwards & Associates LLC.
- Proposed dwellings will be served with private wells and private sewage disposal systems.
- The location of underground utilities, if any, is unknown. Call Before-You-Dig 1-800-922-4455.
- Retaining walls are to be designed by a structural engineer.
- It is the contractor's responsibility to verify all on-site and off-site field conditions and establish that no changes have occurred since the issuance of this plan. The design engineer is to be notified of any field conditions which conflict with this plan.
- Existing grades shown hereon are to be verified by the contractor prior to commencing construction.
- All construction methods, materials and system installations are to conform to Town of Monroe Standards and the State of Connecticut Department of Transportation, Standard Specifications for Roads, Bridges and Incidental Construction, Form 818, July 2020, with latest revisions, to conform all applicable local and state regulations and to normal standards of good practice.
- Proposed utilities are to be underground. A single trench and conduit installation should be utilized for crossing lines under roadway.
- Prior to commencement of construction, a preconstruction conference is to be held with the design engineer, the owner, the contractor, the Town Engineer and representatives from the Planning and Zoning and Conservation Administrations to review construction and time tables.
- Construction will begin shortly after necessary approvals are obtained. Construction is anticipated to be completed within five years from the time of commencement.
- Approximately 9 acres will be disturbed for the improvements indicated on the plans.
- Unpaved driveways shall not exceed 8% in profile slope.
- Town of Monroe will require adequate compaction testing of the base and sub-base of the proposed road prior to road acceptance.
- Town of Monroe will not accept maintenance for proposed detention basins.

PROJECT DESCRIPTION

The proposal is to construct 800 linear feet of roadway to access eight proposed single family dwellings with associated site improvements. Stormwater is collected and treated within two detention basins before being discharged to an existing watercourse and State of Connecticut drainage system.

STORMWATER POLLUTION CONTROL PLAN

- Erosion and sediment control measures will be constructed in accordance with the Town of Monroe Standards, State of Connecticut Department of Transportation Standard Specifications for Roads, Bridges and Incidental Construction, Form 818, 2020, with latest revisions, and 2002 Connecticut Guidelines for Soil Erosion and Sediment Control,
- The Stormwater Pollution Control Plan shall include all erosion and sedimentation control shown on the approved maps and detail sheets. These controls are assumed to be the minimum required, and the contractor may be required to install additional measures as site conditions and weather warrant.
- All erosion and sediment control devices will be installed prior to the start of clearing and grubbing operations and excavation work. All the devices will be maintained as specified in this document until the disturbed earth has been paved or vegetated, at which time the devices will be removed.
- All construction methods, materials and system installations are to conform to all applicable local and state regulations.
- Grading to be according to all applicable regulations and normal standards of good practice.
- Land disturbance will be kept to a minimum. Restabilization will be scheduled as soon as practicable.
- Stockpiles of topsoil and common fill shall be surrounded with silt fence and temporarily stabilized by seeding with a 50-50 mix of annual and perennial ryegrass at the rate of one pound per 1,000 square feet of surface area shall be employed between March 15 and June 15 or August 1 and October 1. Mulch with straw or hay at the rate of 70 to 90 pounds per 1,000 square feet until stabilized.
- All control measures will be maintained in effective condition throughout the construction period until the area is stabilized.
- Maintenance of the erosion controls shall consist of inspection at the start of each work day with special attention afforded following storm events. Noted deficiencies shall be corrected immediately. Accumulated sediment shall be removed from the erosion control device and dispersed temporarily on the upland portion of the disturbed area. Additional seeding or mulching shall be employed as required.
- The contractor is to inspect the site daily during construction to insure the integrity of the erosion controls.

- The contractor is to have available at all times extra silt fence, hay bale mulch, grass seed and riprap to implement additional erosion control measures not foreseen in this plan.
- Prior to closing the site down for winter, if required, the contractor shall schedule a meeting with the project engineer and Town Engineer to review site conditions and make recommendations to minimize erosion during the winter. The meeting is to be held no later than October 1, of any given year.
- Accumulated sediment is to be disposed of in an area approved by the design engineer, and coordination with Town Engineer.
- This plan and report may be modified by the design engineer based upon field conditions, and also requires approval by Monroe Town Engineer.
- Catch basins shall be protected with silt sacks, haybales, and/or silt fence during construction until all disturbed areas are stabilized.
- Water breaks, silt fence, haybales and other measures are to be maintained until drainage is complete and site is stabilized with vegetated cover.
- Stabilization practices may include silt fences, temporary seeding, permanent seeding, mulching, geotextiles, sod stabilization, vegetative buffer strips, protection of trees, preservation of mature vegetation and other vegetative and non-structural measures as identified in the Guidelines. Where construction activities have permanently ceased or have temporarily been suspended for more than seven days or when final grades are reached in any portion of the site, stabilization practices shall be implemented within three days. Areas which remain disturbed but inactive for at least thirty days shall receive temporary seeding and/or mulching in accordance with the Guidelines. Areas that will remain disturbed beyond the planting season, shall receive long-term, non-vegetative stabilization sufficient to protect the site through the winter.
- Structural practices include but are not limited to earth dikes (diversions), drainage swales, sediment traps, check dams, subsurface drains, pipe slope drains, level spreaders, storm drain inlet protection, outlet protection, reinforced soil retained systems, gabions and temporary or permanent sediment basins and chambers.
- Disturbance for individual lot development will be limited to 1 acre at any one time. Overland drainage from uphill sources will be diverted around the disturbed portions of the lot until those disturbed areas have been stabilized. If more than 1 acre is to be disturbed at one time, sediment traps must be provided. These sediment traps shall have a storage capacity of 134 cubic yards per acre of tributary area. Possible locations are shown on the erosion control plan. The detention basin required by the Stormwater Pollution Control Plan may be used during construction as a temporary sediment basin. Outlet structures from sediment basins shall not encroach upon a wetland.
- De-watering waste waters might be generated during the construction of the underground utilities and the excavation for basements. Contractors shall arrange for the pumping of water in excavations to occur in sumps created in the excavation and will discharge into temporary sediment traps.
- All contractors and subcontractors working on site will ensure that no litter, debris, building material or similar material is discharged to the waters of the State.
- Contractors will implement techniques to control the generation of dust.
- All post construction storm water structures will be cleaned of construction sediment and any remaining silt fence shall be removed.
- Individual lots will have their anti-tracking pads installed at all points where construction traffic exits the lot to paved surfaces and silt fence installed as shown on the plans or as required downhill of areas of disturbed earth. Refer to the detail drawings for specifics on proposed measures.

Michael Czesnowski of Jans Land Development, LLC, phone 203-650-4703 is assigned the responsibility for implementing this Stormwater Pollution Control Plan during the construction. This responsibility includes the installation and maintenance of control measures, informing all parties engaged on the construction site of the requirements and objectives of the plan. If the land is transferred, the Planning and Zoning office shall be notified and a copy of the Stormwater Pollution Control Plan shall be conveyed to the new owners. It shall be the responsibility of the new owners to implement the Stormwater Pollution Control Plan for the individual lots as outlined in this Stormwater Pollution Control Plan.

Registrant _____ Date _____

CONSTRUCTION SEQUENCE

- Install anti-tracking apron as shown where construction traffic enters a public right-of-way.
- Install perimeter erosion and sediment controls and sediment controls necessary for road construction.
- Construct temporary construction access drive off Cottage Street in the vicinity of detention basin #1. This shall allow for tree clearing equipment access.
- Tree clearing to commence at sta. 1+85 Sun Valley Drive and extend to cul-de-sac. Cut trees to be stockpiled outside of any regulated areas.
- Tree clearing for Sun Valley Drive from sta. 0+0 extending to sta. 1+85 and for detention basin #2 to be accessed from the State Highway. Cut trees to be exported from site immediately.
- Construct detention basins. Permanent outlet structures are to be sealed off to allow basin to function as temporary sediment traps 1 and 4.
- Construct temporary sediment traps 2 and 3.
- Excavate all stumps located in the structural area and remove to a disposal site or stockpile area to be chipped. No stumps are to be buried. Stumps are to be disposed of in accordance with current State law.
- Cross culvert construction will commence. Refer to specific construction sequence this page.
- Strip all topsoil and stockpile in an approved area and secure with erosion and sediment controls.
- Direct stormwater runoff from the construction area with swales and diversion berms as necessary to flow into the temporary sediment traps.
- Construct Sun Valley Drive from sta 0+0 thru sta 8+04 and the cul-de-sac.
- Install drainage pipes and structures for Sun Valley Drive beginning at the outlets and proceeding upstream.
- Install road under drains.
- Install underground utilities.
- Place silt sacks in new catch basins.
- Place, grade and compact the processed aggregate in the roadway base. Town of Monroe will require adequate compaction testing of the base and sub-base of the proposed road prior to road acceptance.
- Remove temporary sediment traps 2 and 3. Temporary sediment traps 1 and 4 will have the accumulated sediment removed and the final berms for the permanent detention basins micro graded. Planting and seeding shall follow.
- Install first course of bituminous concrete.

- Install curbing.
- Apply stabilization measures to remaining disturbed areas in accordance with the Stormwater Quality Management Plan (topsoil, seeding, sodding, mulching, etc.)
- Inspect and clean drainage system as needed.
- Install the final course of bituminous concrete pavement.
- Landscaping and streetscape to be installed.
- After site is stabilized in accordance with the applicable Stormwater Quality Management Plan measures, remove temporary erosion and sediment controls.
- Disturbance for individual lot development thereafter will be limited to 1 acre at any one time. Overland drainage from uphill sources will be diverted around the disturbed portions of the lot until those disturbed areas have been stabilized. If more than 1 acre is to be disturbed at one time, sediment traps must be provided. These sediment traps shall have a storage capacity of 134 cubic yards per acre of tributary area.

CROSS CULVERT CONSTRUCTION SEQUENCE:

- Time period of construction should attempt to coincide with 5 consecutive days without rainfall.
- Equipment access and culvert material delivery shall be made from the State Highway. Construction accessway will be formed on natural grade with no excessive cuts or earth moving operations.
- Excavate pumping pit upstream of stream crossing and situate pump hose outfall within HDPE piping (emergency bypass method) extending to temporary sediment trap #1. Pumping will be the primary method for bypassing stream flow.
- Install stone diversion berm up stream of culvert crossing
- Stake haybales upstream of proposed headwall installation.
- Excavate and place foundation stone for cast in place headwall and endwall. and precast box culvert sections.
- Each box culvert section to be installed in two pieces with the use of an excavator. Lower sections will be placed first.
- Construct headwall and endwall and backfill accordingly.
- Install outfall riprap protection.
- Remove pumping pit and install inlet riprap protection.
- Re-establish stream flowpath. And remove temporary bypass piping.
- Rough grade roadway and place embankment stabilization accordingly.

POST CONSTRUCTION STORM WATER MANAGEMENT PLAN:

- The catch basins and detention basins shall be inspected annually by the Town of Monroe. Sediment shall be removed when one-half the capacity of the basin forebay has been reached.
- Detention basin 1 pipe outlet shall be inspected for erosion at least annually and after major storm events by the Town of Monroe.
- The dates and results of the inspections and cleaning shall be kept on file will be made available for inspection upon request.

DETENTION BASIN CONSTRUCTION

Materials

Earthen berms shall be used for detention and retention basins. They shall be constructed on stable soils and shall be free of topsoil, organic matter and debris. The fill material for the embankment shall be taken from approved borrow areas. It shall be clean mineral soil, free of roots, woody vegetation, stumps, sod, oversized stones, rocks or other organic or unsuitable material. The Material selected shall have enough strength for the embankment to remain stable and be tight enough, when properly compacted, to prevent excessive seepage of water through the dam. The embankment materials for this work shall conform to the following gradation.

Sieve size	Percent passing
6"	0-20
3/4"	60-85
#4	45-75
#40	30-60
#200	15-50

No stones larger than 6 inches shall be allowed within the compacted embankment. Within 2 feet of any structure, the maximum size shall be 3 inches.

The soil intended for the embankment shall be laboratory tested with a written report by a professional engineer licensed to practice in Connecticut, experienced in the field of soil mechanics. The report shall carry the Engineer's findings and suggested design parameters if at variance with those proposed in the design.

Construction methods

The top width of the berm is to be a minimum of 8 feet. The downstream (outer) slope of the berm shall be at a slope of two horizontal to one vertical. The upstream (inner) slope of the berm shall be at a slope of three horizontal to one vertical with a planted vegetative cover. This slope can be increased to 2:1 if protected by stone riprap.

The area beneath the berm shall be known as the subgrade. All soft and yielding material and other portions of the subgrade which will not compact readily when rolled, vibrated or tamped shall be removed and replaced with suitable material.

Construction shall not take place during cold periods where temperatures are consistently lower than 40 degrees Fahrenheit. All topsoil, organic matter and debris shall be removed from the area of the berm.

The surface of the subgrade shall be compacted uniformly by rolling with an approved power roller having a minimum compression of three hundred pounds per inch of width of tread on the rear wheel or wheels and weighing not less than ten tons, or with an equivalent vibratory roller or compactor. The contractor shall protect the subgrade from damage by exercising such precautions as are necessary. At all times the subgrade surface shall be kept in such condition that it will drain readily and correctly. The subgrade shall be checked by the Engineer before any berm material is placed thereon. Should the subgrade become churned up and mixed with the berm material at any time, the contractor shall remove the mixture and replace it with new subgrade material. Such replaced subgrade material shall be thoroughly compacted.

The subgrade shall be excavated to a depth to allow the berm material to be notched into the subgrade a minimum of eighteen inches. The subgrade shall be covered with woven geotextile before the placement of the berm material.

Compaction

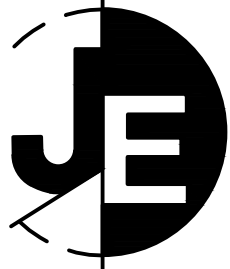
The fill material shall contain the proper amount of moisture to ensure that 90%-95% standard proctor compaction will be achieved. Special care shall be taken in compacting around the anti-seep collars, conduits and structures to avoid damage and achieve desired compaction.

The berm material shall be placed in layers of not over six inches in depth. The surface shall be compacted uniformly by rolling with an approved power roller having a minimum compression of three hundred pounds per inch of width of tread on the rear wheel or wheels and weighing not less than ten tons or with an equivalent vibratory roller or compactor.

The dry density after compaction shall not be less than 95 percent of the dry density for that berm material when tested in accordance with AASHTO T-180, Method D.

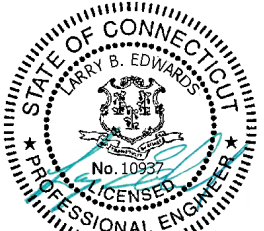
CUT-FILL ANALYSIS

Construction of roadway and detention basins results in a net import of 330 cubic yards. The earthen material will be acquired from elsewhere on the site. Direct wetland impact construction activities result in 130 cubic yards of fill. Quantities of material used in individual lot site development as shown on the plans are to change and therefore have not been included in this analysis.



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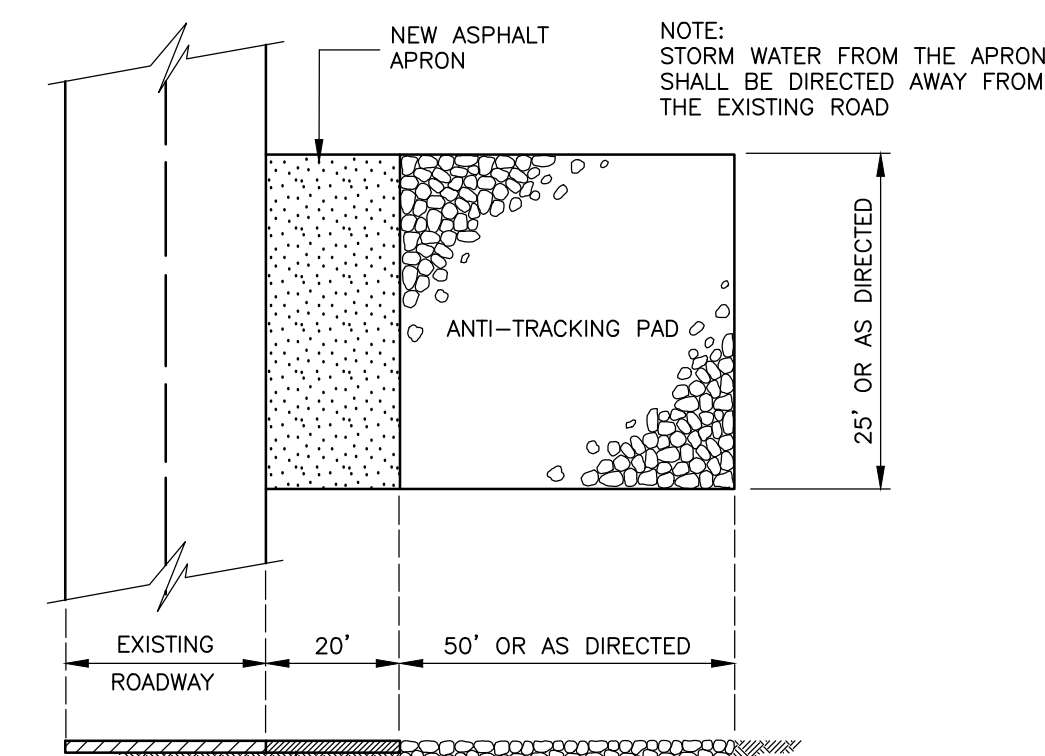
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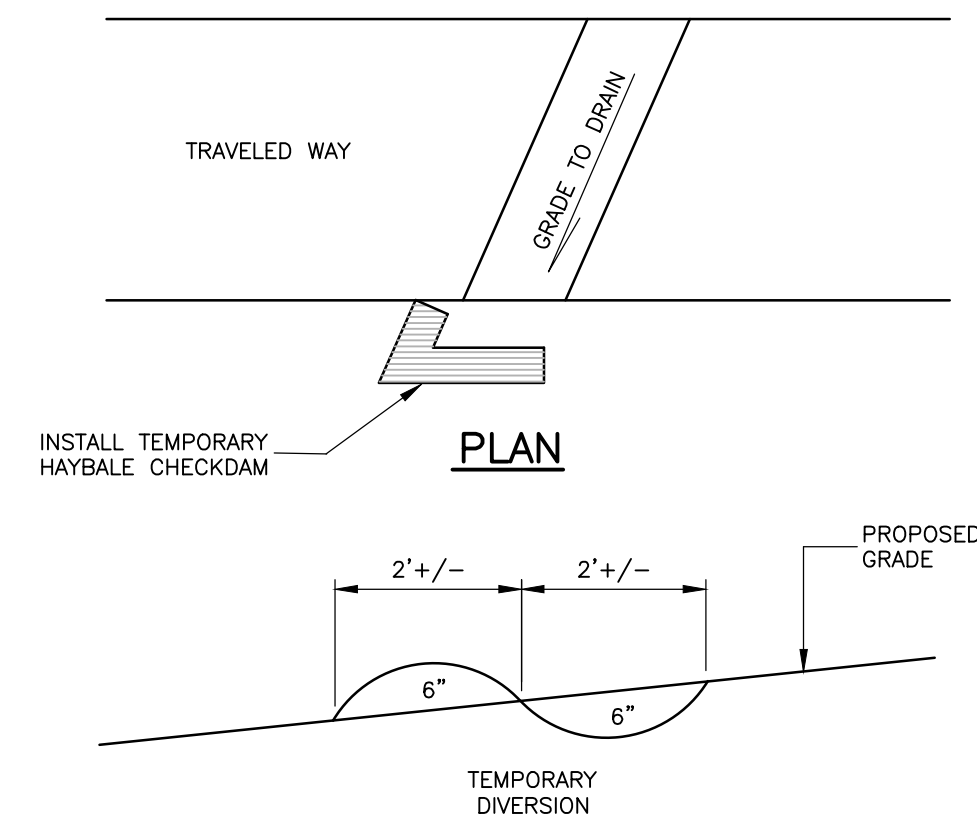
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SHEET NUMBER

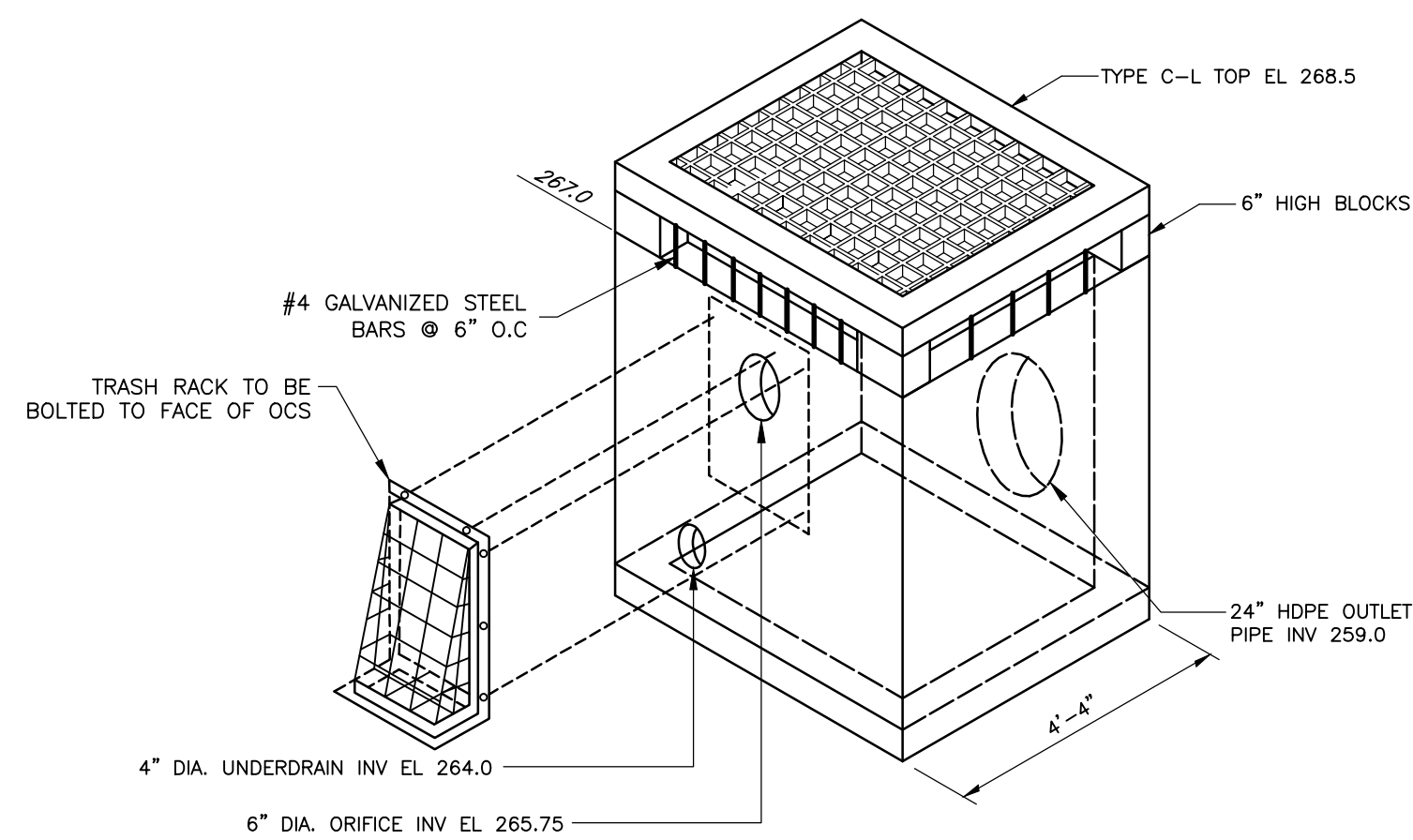
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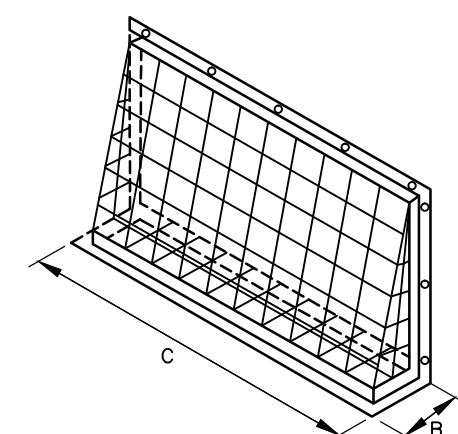
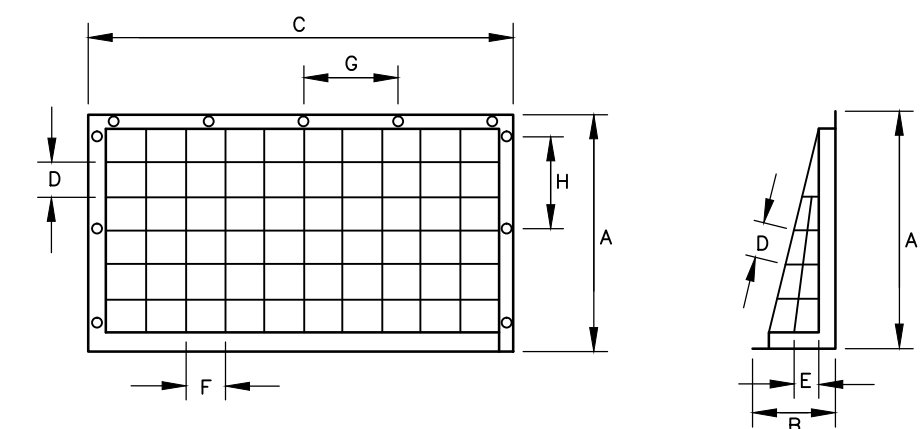
ANTI-TRACKING PAD



TEMPORARY WATER BREAK



OUTLET CONTROL STRUCTURE DETENTION BASIN#1
6" SUMP (MIN)



TRASH RACK

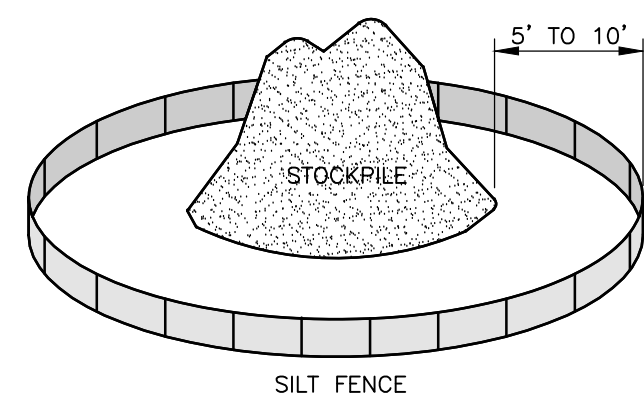
HAALA INDUSTRIES
PART #AG4830BF-3
(OR APPROVED EQUAL)

DIMENSIONS

- A: 1.5'
- B: 1.0'
- C: 1.5'
- D: 3'
- E: 3'
- F: 3'
- G: 4.5'
- H: 4.5'

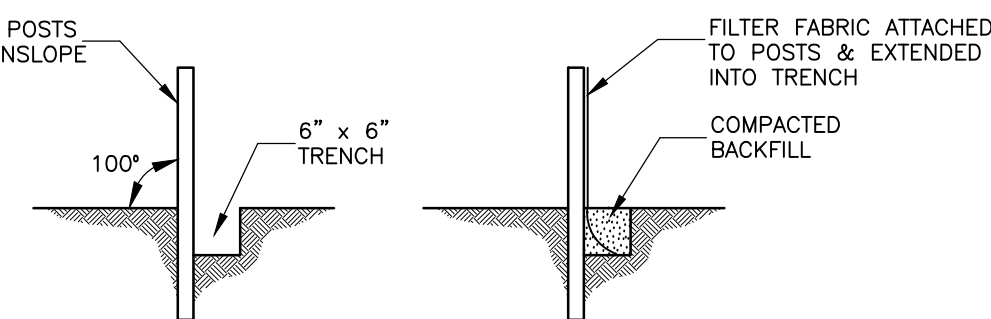
MATERIALS
BAR STOCK: #4 GALVANIZED STEEL
HOLE SIZE: 1/2"
COATING: ANTI-RUST

NOTE: HORIZONTAL BARS TO BE PLACED INSIDE OF VERTICAL BARS.

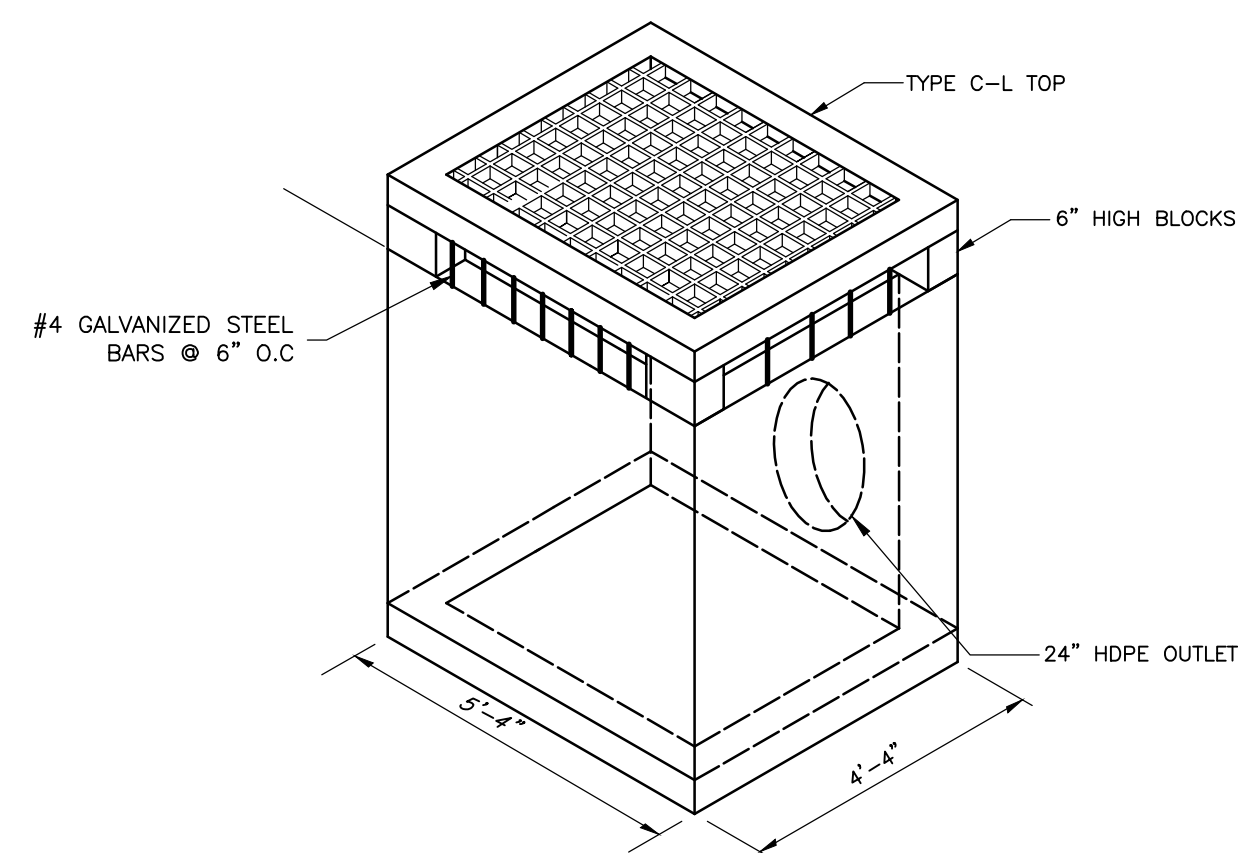


APPLY MIXTURE OF PERENNIAL RYEGRASS, ANNUAL RYEGRASS AND WINTER RYE AT A RATE OF 10 LBS PER 1000 SF

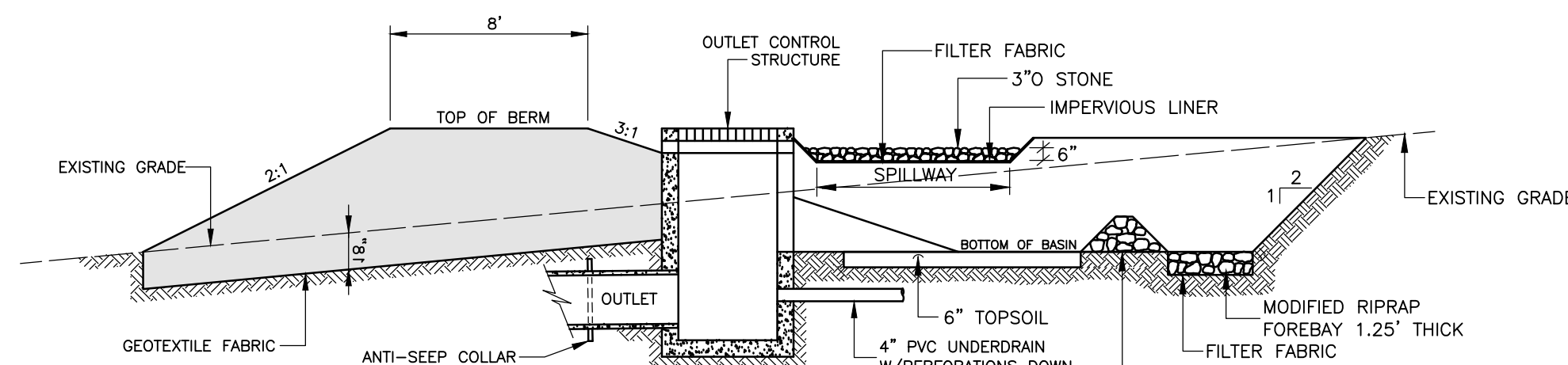
STOCKPILE STABILIZATION



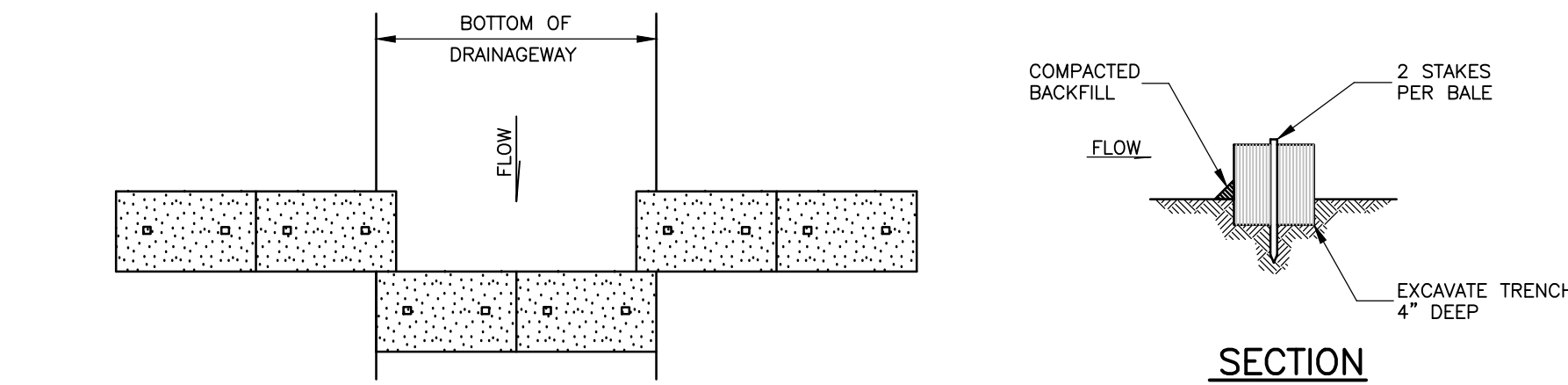
SYNTHETIC FILTER BARRIER



OUTLET CONTROL STRUCTURE DETENTION BASIN#2
6" SUMP (MIN)



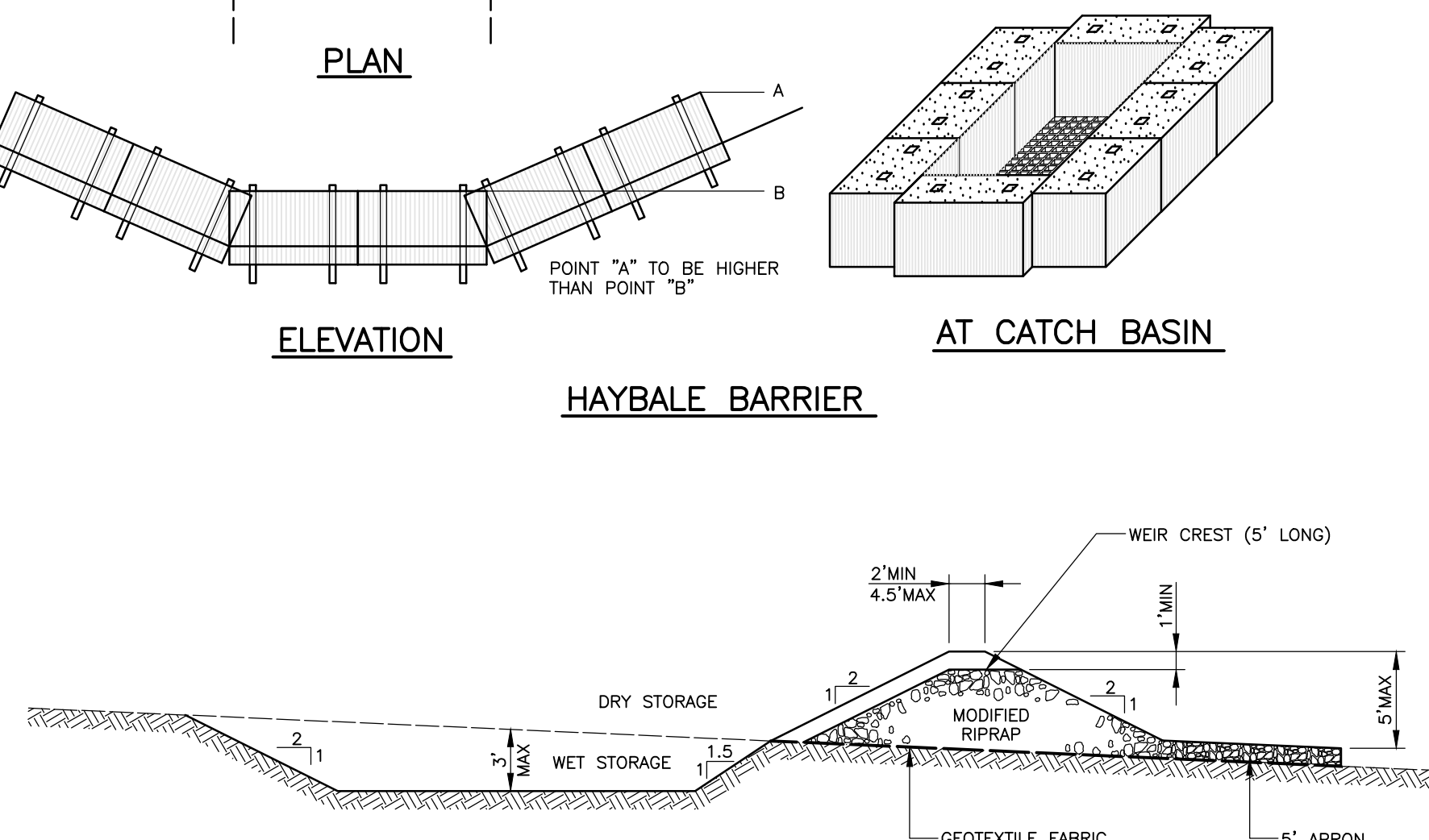
STORMWATER DETENTION BASIN



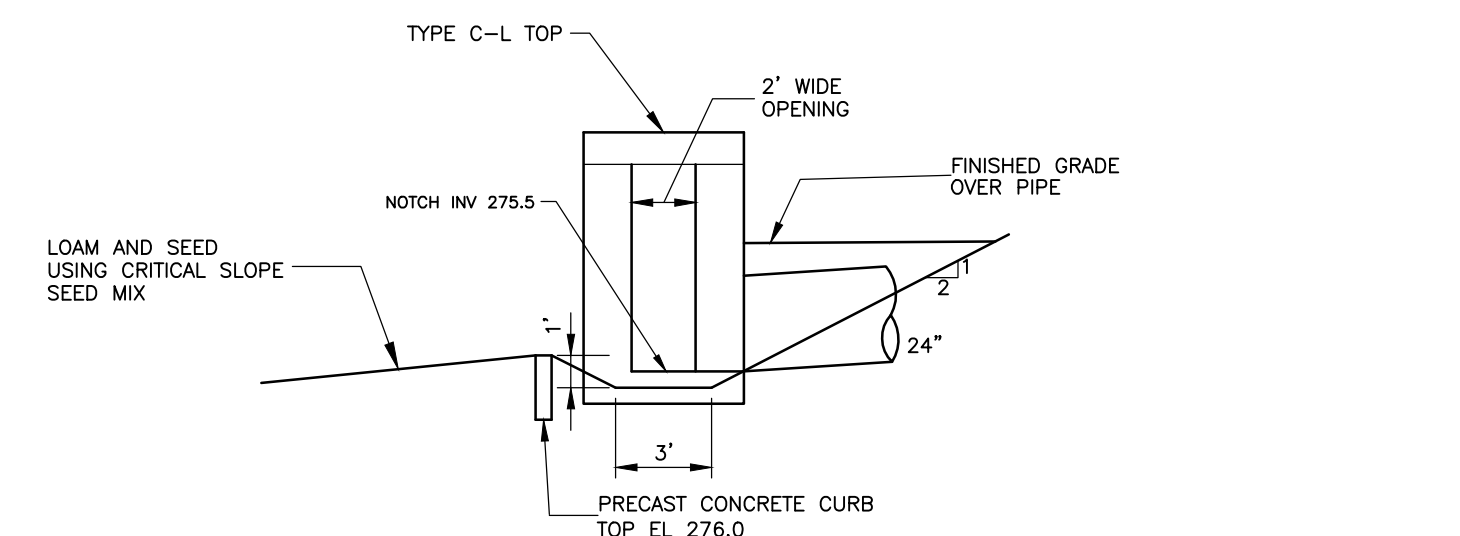
PLAN

ELEVATION

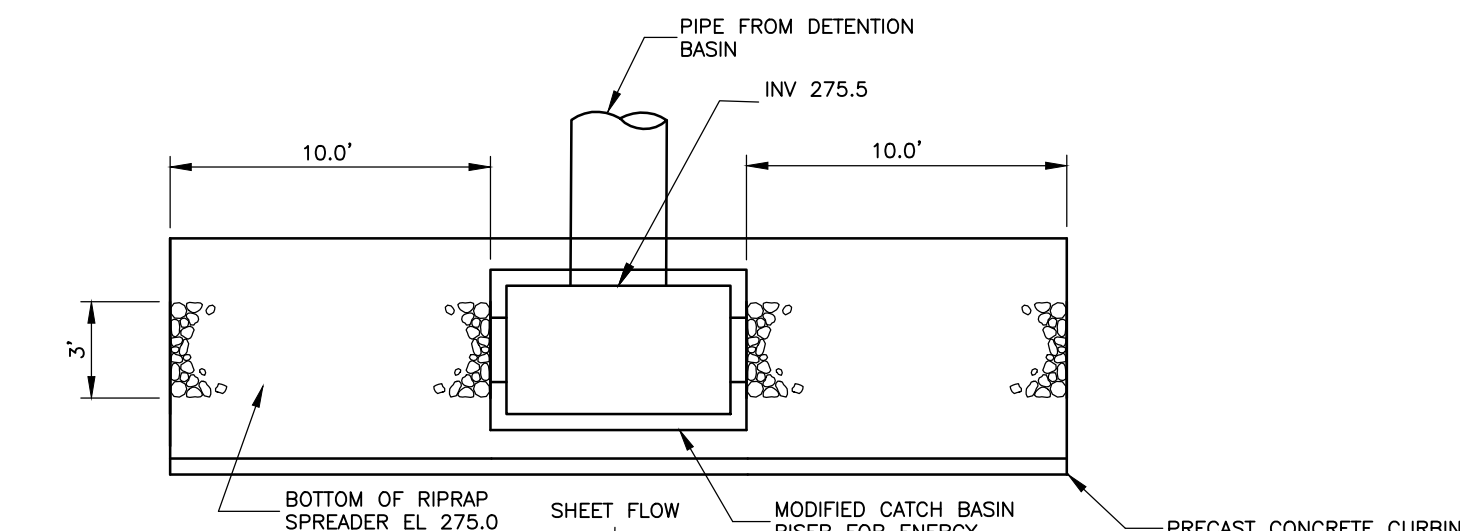
HAYBALE BARRIER



TEMPORARY SEDIMENT TRAP

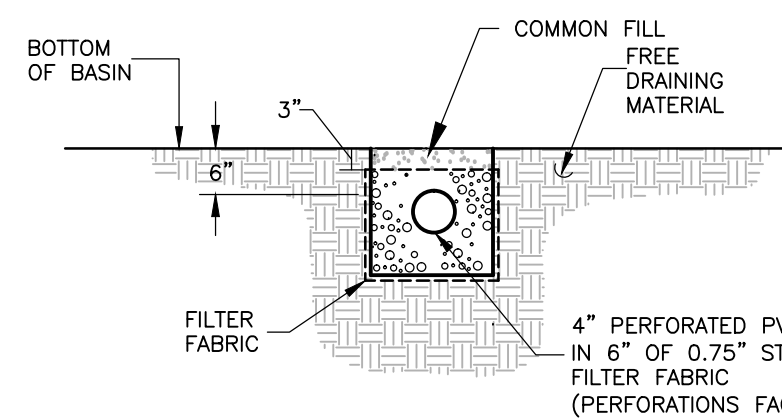


SECTION

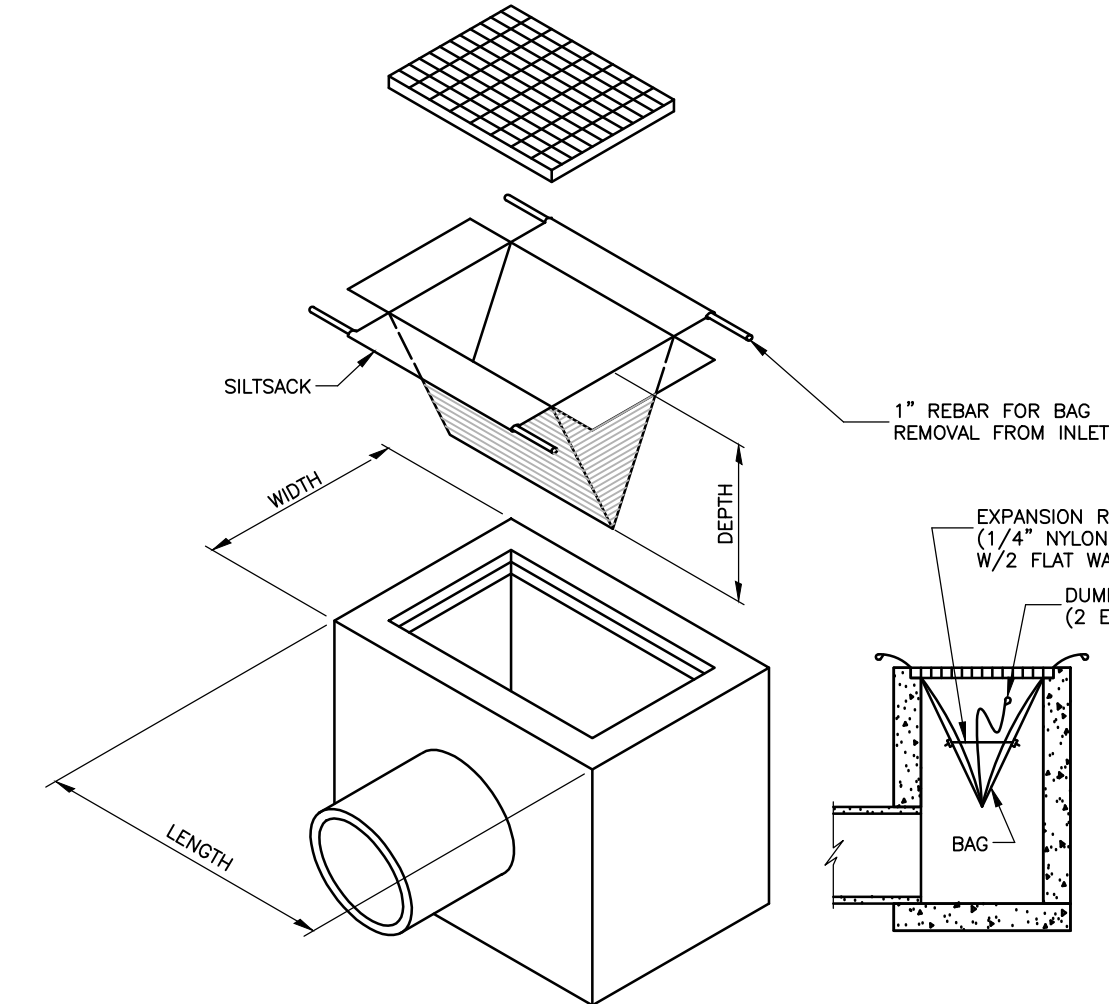


PLAN

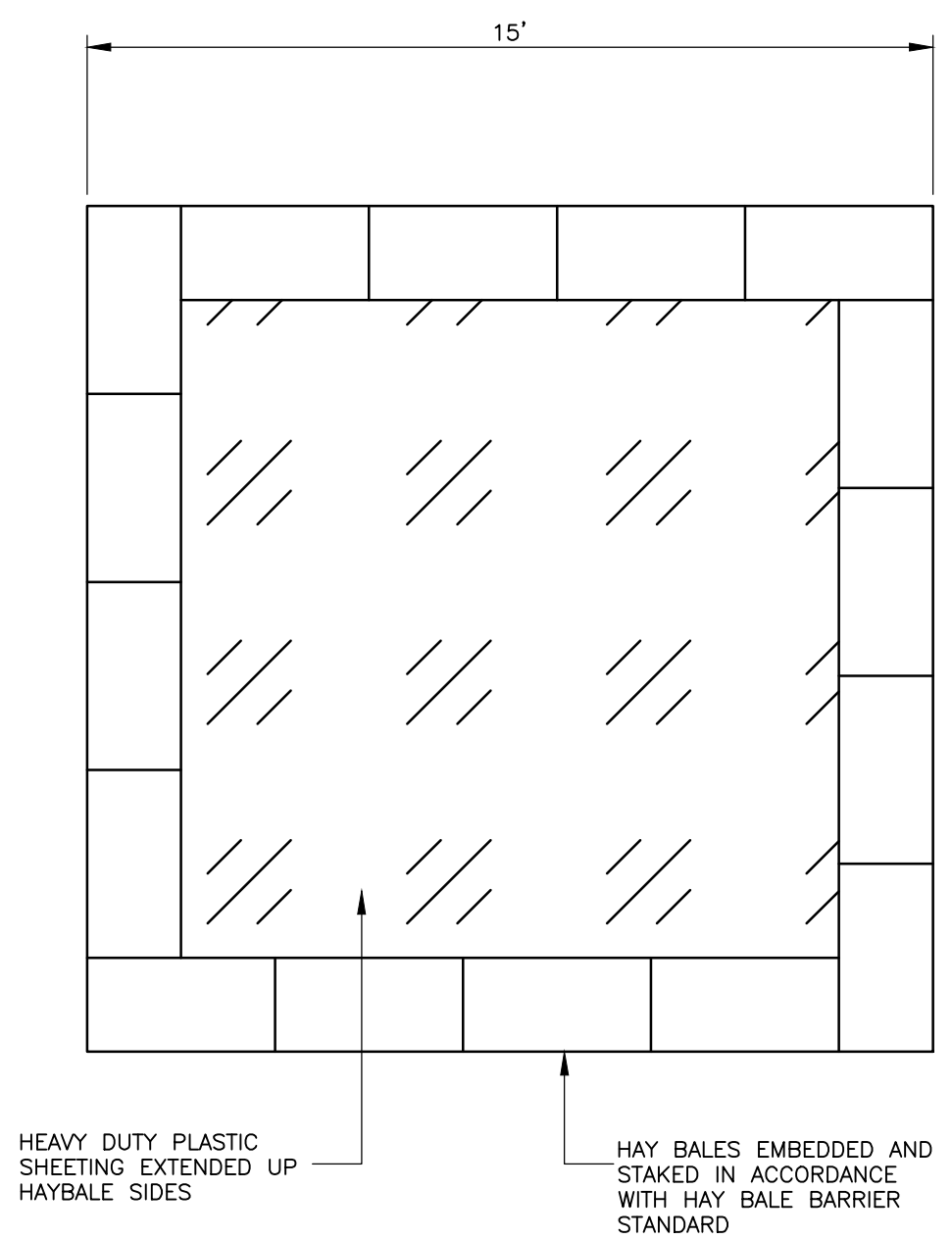
LEVEL SPREADER



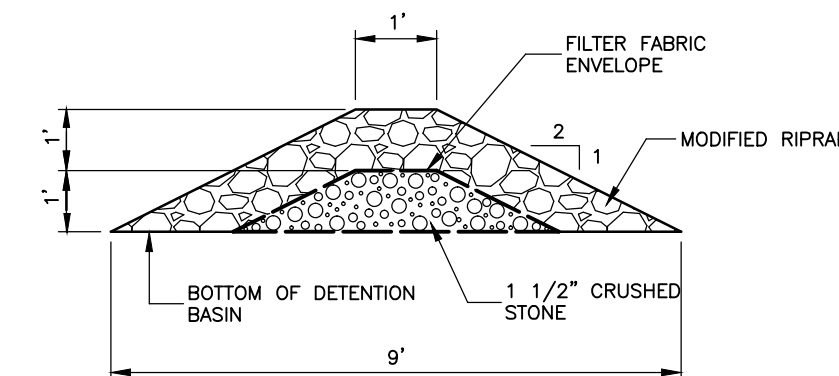
STORMWATER POND UNDERDRAIN



SEDIMENT CONTROL AT INLET



CONCRETE WASHOUT BASIN

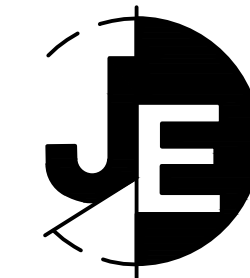


BASIN RIPRAP BERM



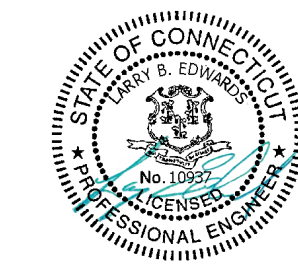
4'X4' ANTI-SEEP COLLAR

(BY SCHEIB DRAINAGE PRODUCTS OR APPROVED EQUAL)



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SUN VALLEY GLEN
1536 & 1564 MONROE TURNPIKE
MONROE, CONNECTICUT

REVISIONS		
#	DATE	DESCRIPTION
1	8-05-24	TOWN
2	8-20-24	IWWC
3	9-19-24	IWWC

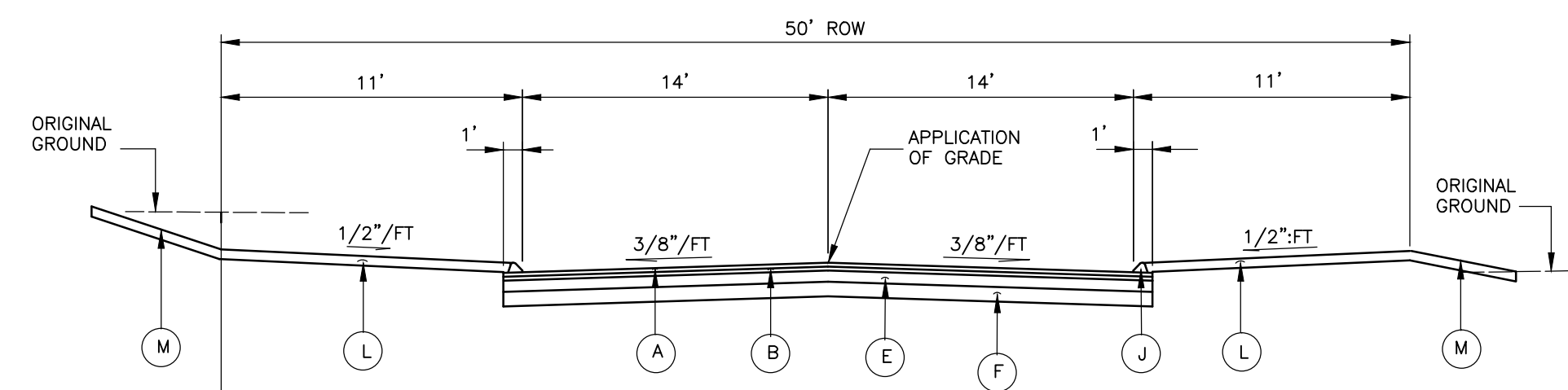
DATE: 10-01-23
PROJECT #: 2979
DRAWING FILE: 2979
DRAWN BY: NDC
SCALE:

TITLE

DETAILS

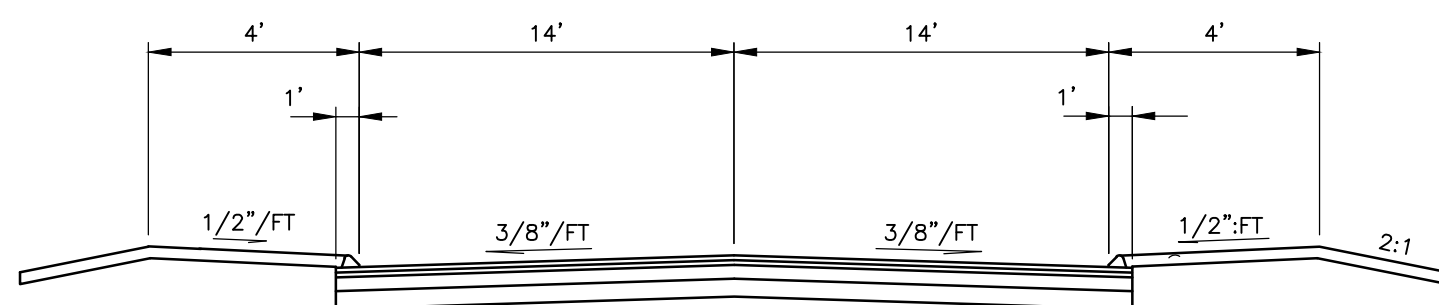
SHEET NUMBER

D-2

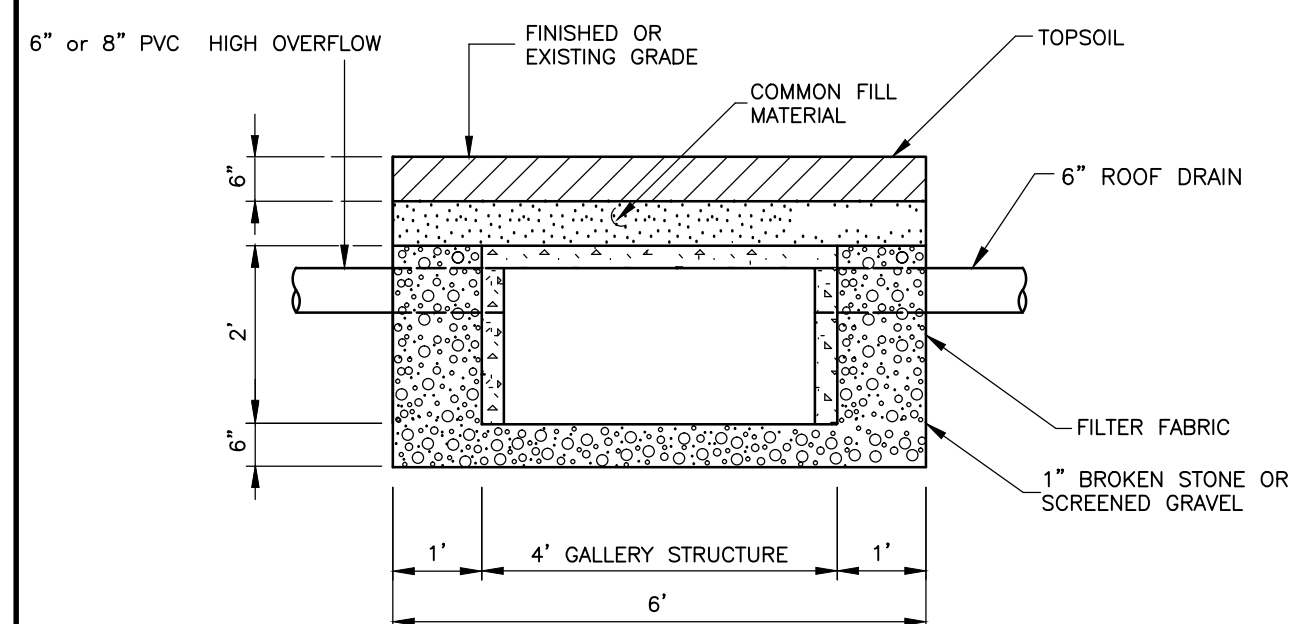


**LOCAL
ROADWAY SECTION**

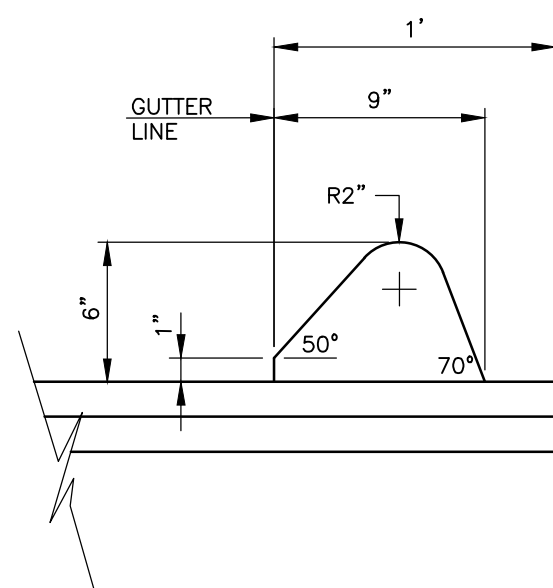
- (A) 1 1/2" BITUMINOUS CONCRETE - CLASS 2 FINISH COAT
- (B) 1 1/2" BITUMINOUS CONCRETE - CLASS 1 BINDER COAT
- (E) 4" PROCESSED AGGREGATE BASE
- (F) 6" GRAVEL SUBBASE
- (J) 6" BITUMINOUS CONCRETE LIP CURBING
- (L) 2:1 TOPSOIL, FERTILIZE AND SEED
- (M) 2:1 SLOPE (MAX) METAL BEAM RAIL REQUIRED ON FILL SLOPES 4:1 OR STEEPER



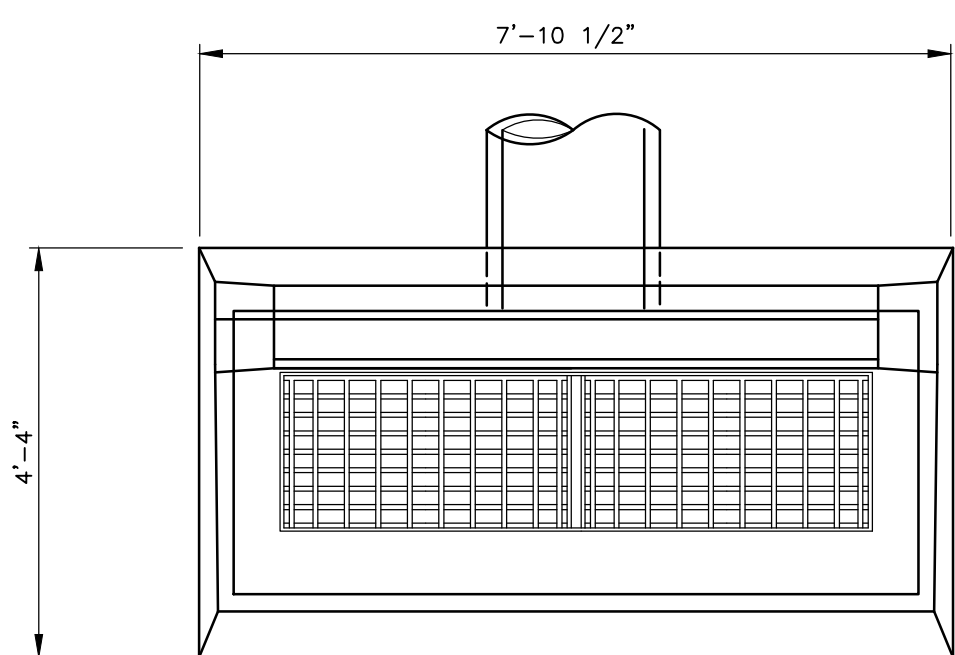
**WETLANDS CROSSING ROADWAY SECTION
(STA 1+80 THRU 2+80)**



ROOF DRAIN 24" x 48" RECHARGE GALLERY

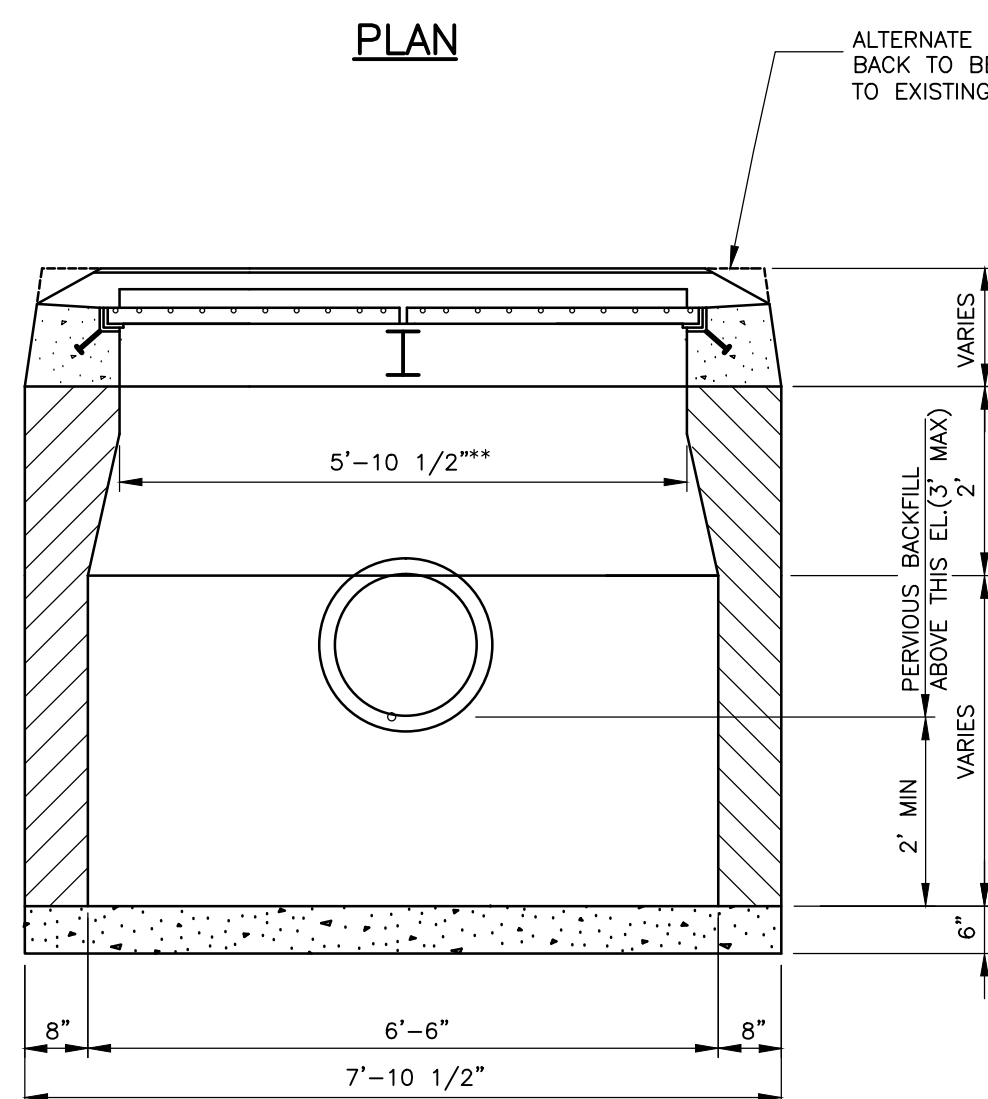


BITUMINOUS LIP CURBING

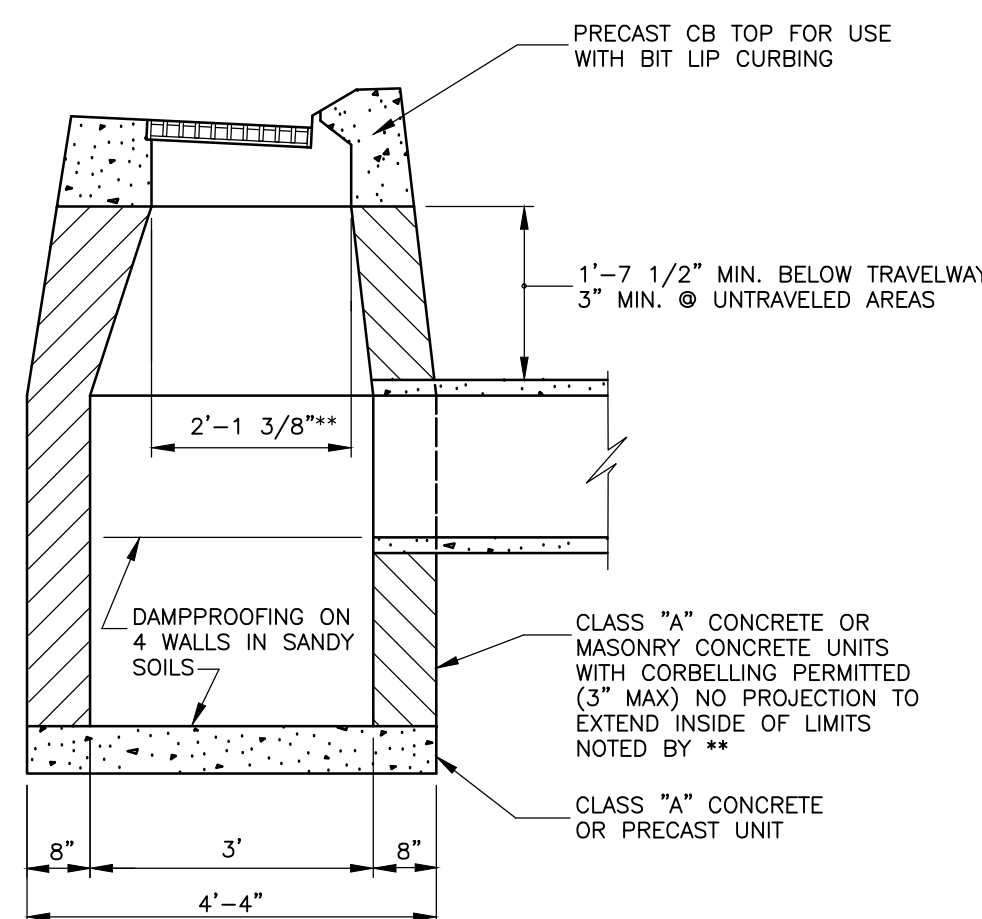


PLAN

NOTE:
WHERE PRECAST CONCRETE UNITS ARE USED FOR THE SUMP, THE TOP OF THE UNIT SHALL BE AT LEAST 6" BELOW THE BOTTOM OF THE PIPE OUTLETTING FROM THE CATCH BASIN

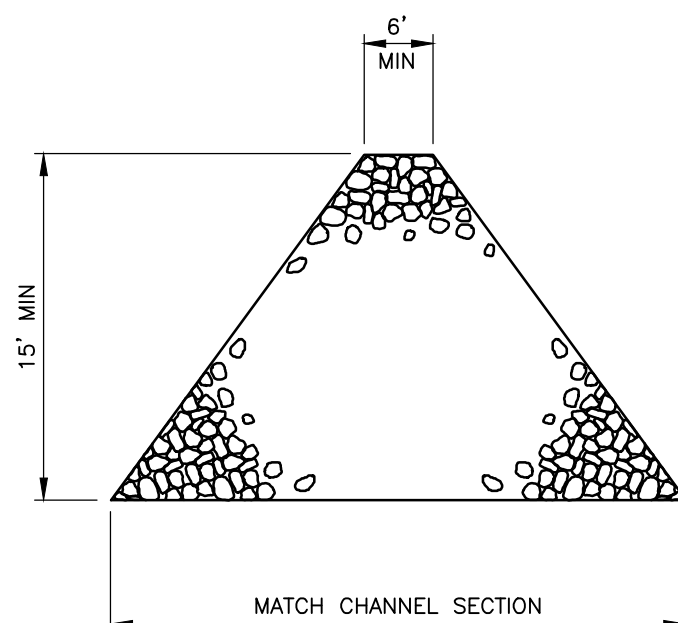


FRONT

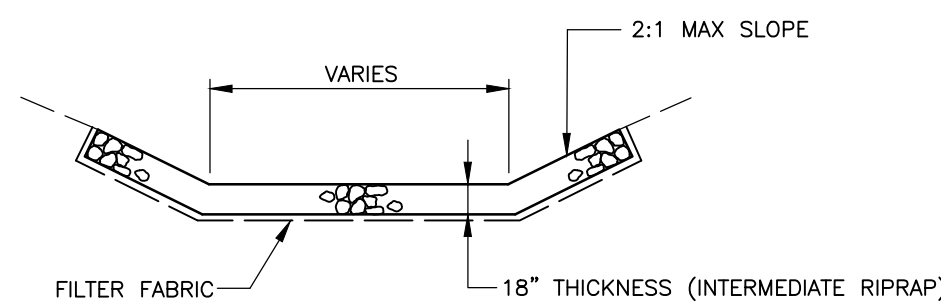


SIDE

TYPE "C" CATCH BASIN - DOUBLE GRATE

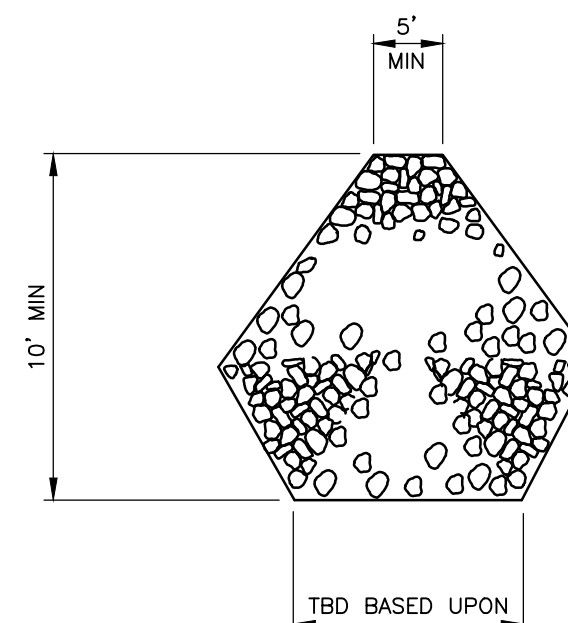


PLAN

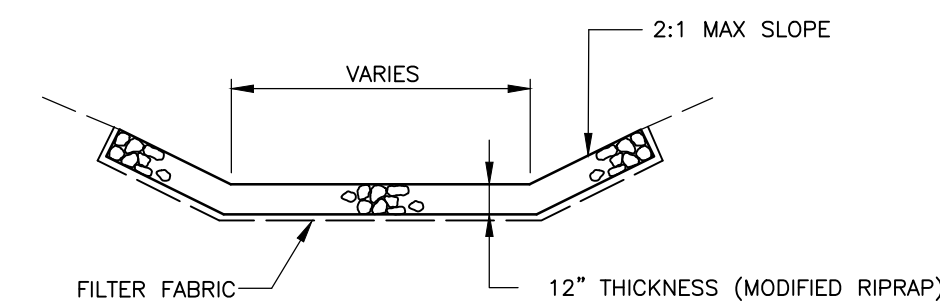


SECTION

RIPRAP APRON (CULVERT EXIT)

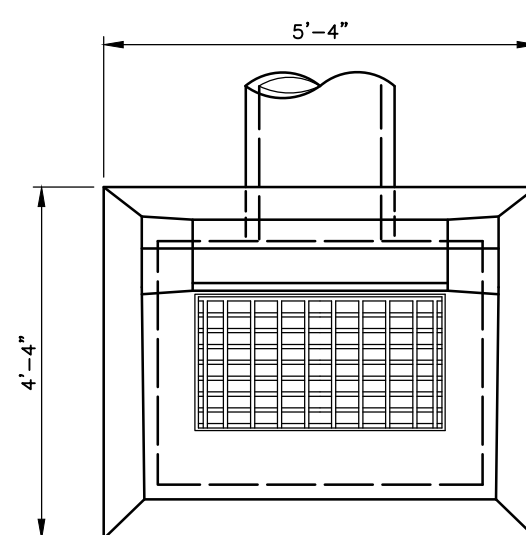


PLAN



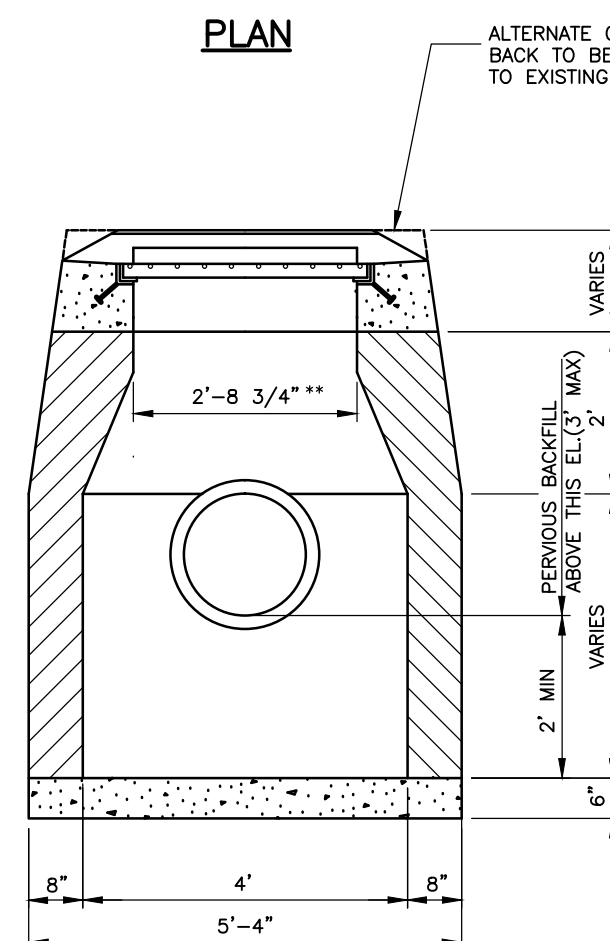
SECTION

RIPRAP APRON (CULVERT ENTRANCE)

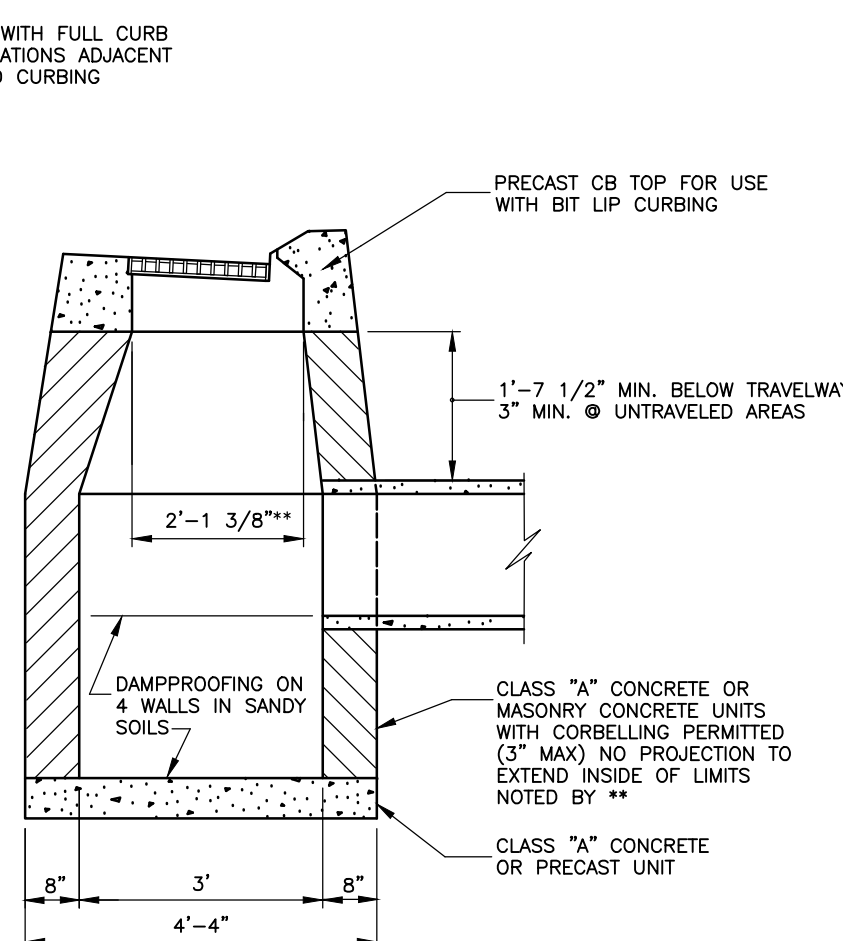


PLAN

NOTE:
WHERE PRECAST CONCRETE UNITS ARE USED FOR THE SUMP, THE TOP OF THE UNIT SHALL BE AT LEAST 6" BELOW THE BOTTOM OF THE PIPE OUTLETTING FROM THE CATCH BASIN

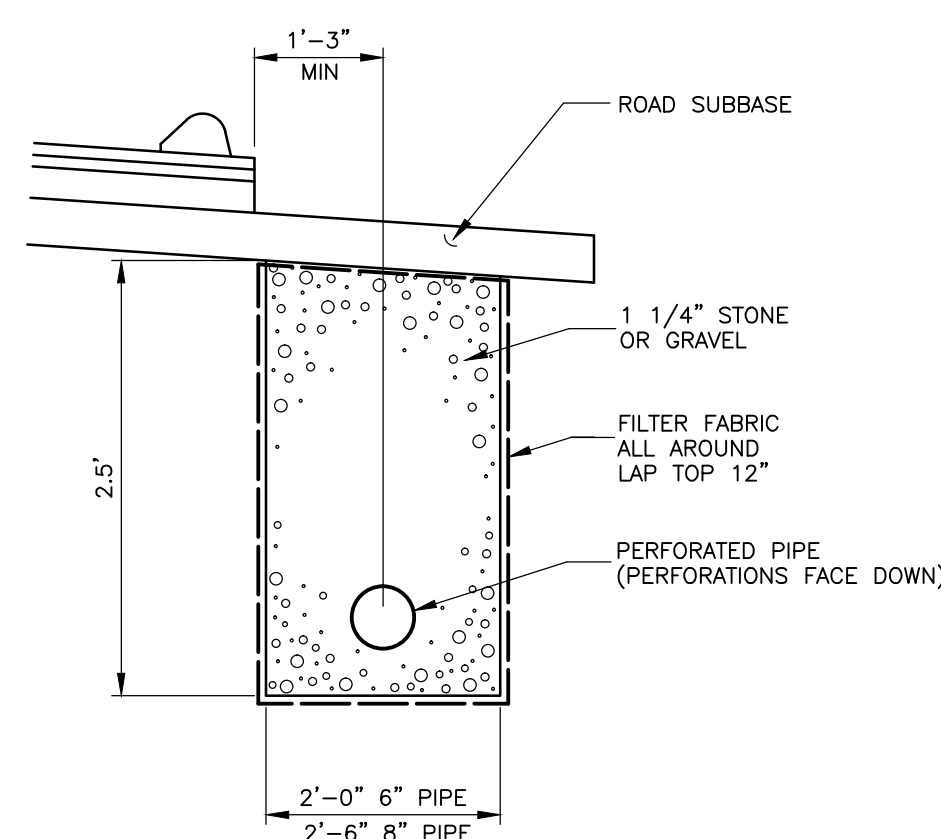


FRONT

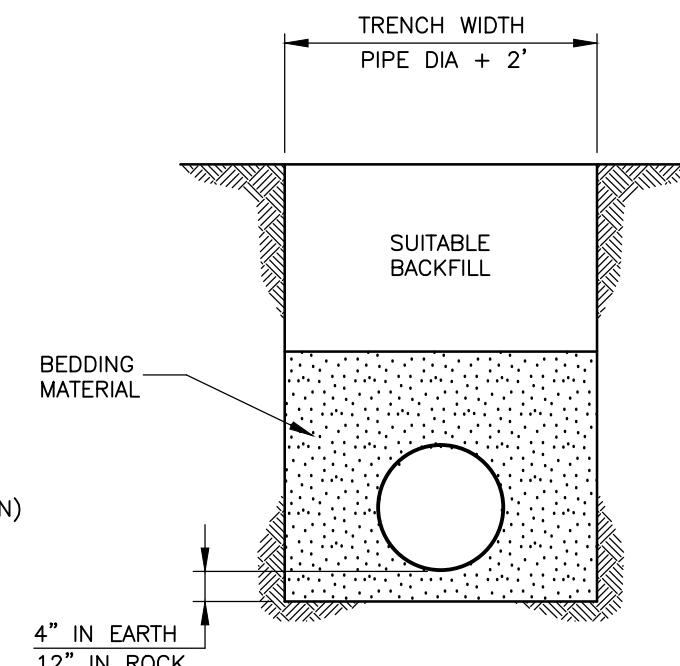


SIDE

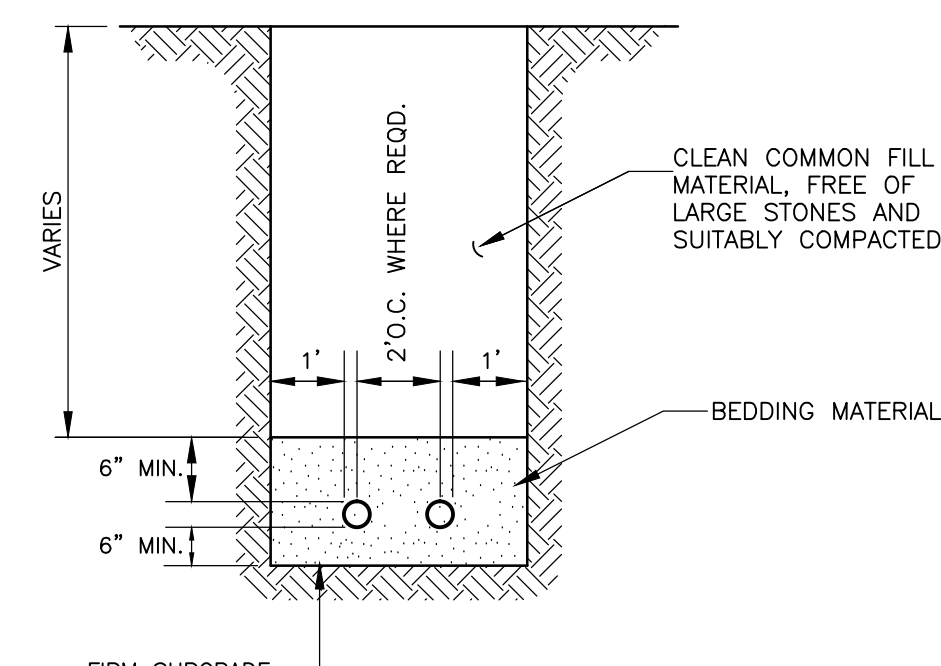
TYPE "C" CATCH BASIN



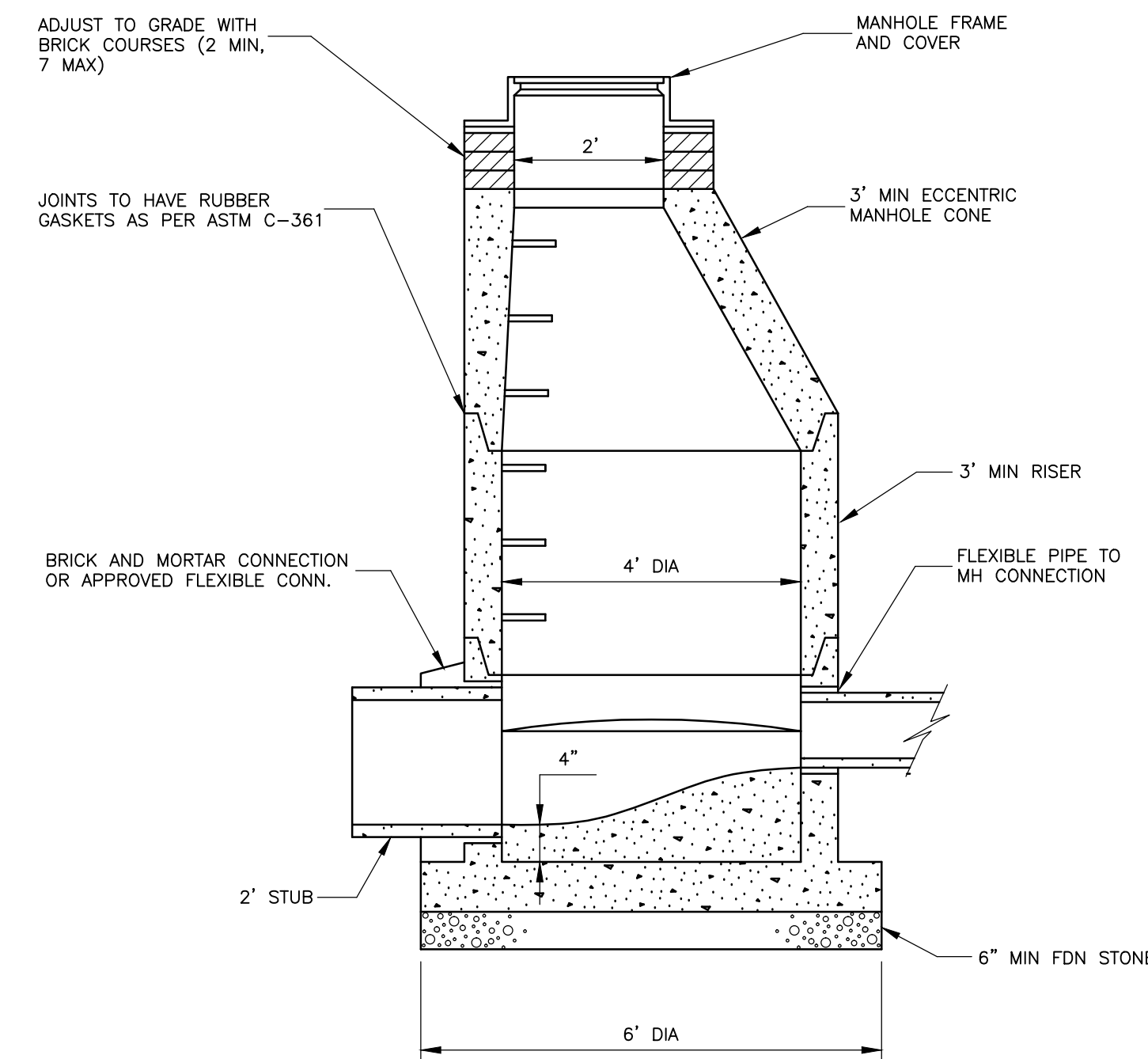
ROADWAY UNDERDRAIN



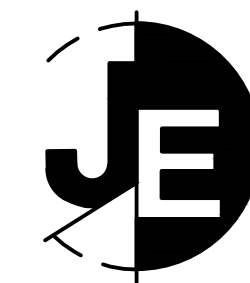
DRAINAGE PIPE TRENCH



UTILITIES TRENCH

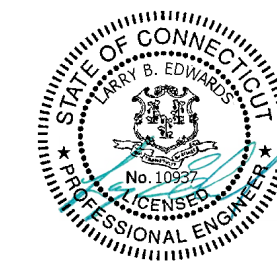


48" PRECAST CONCRETE MANHOLE



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MONROE, CONNECTICUT**

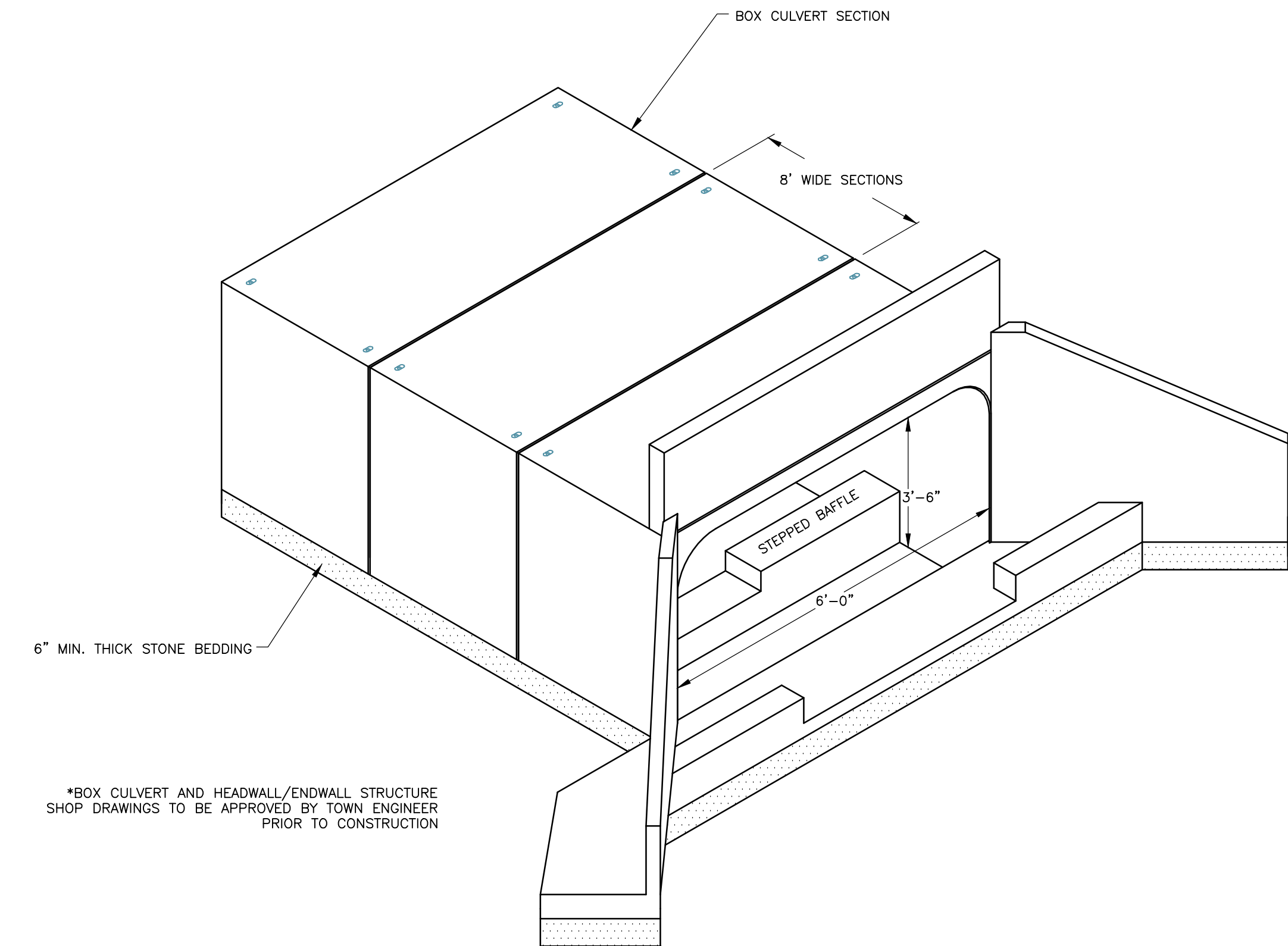
REVISIONS		
#	DATE	DESCRIPTION
1	8-05-24	TOWN
2	8-20-24	IWWC
3	9-19-24	IWWC

DATE: 10-01-23
PROJECT #: 2979
DRAWING FILE: 2979
DRAWN BY: NDC
SCALE:
TITLE

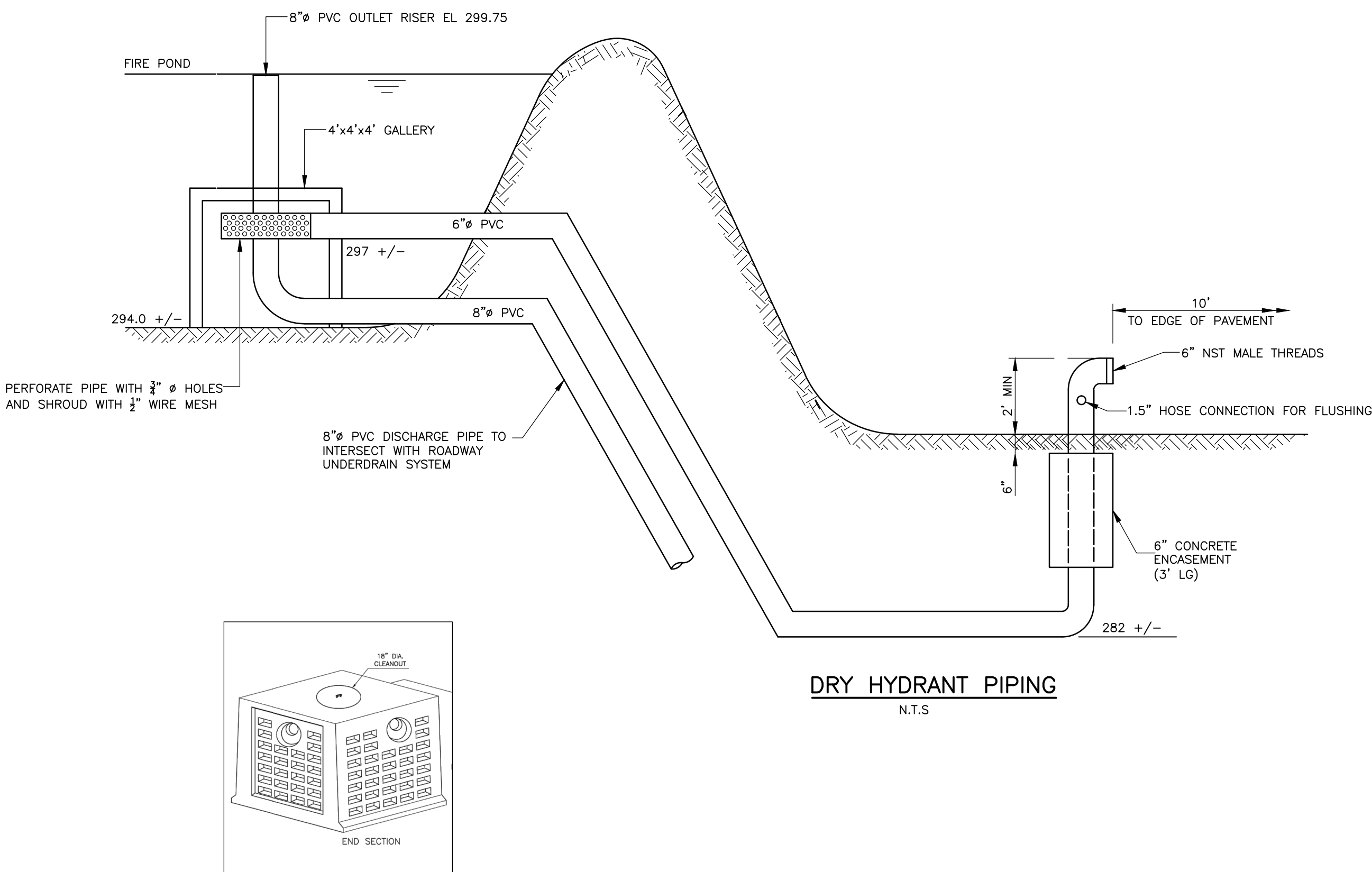
DETAILS

SHEET NUMBER

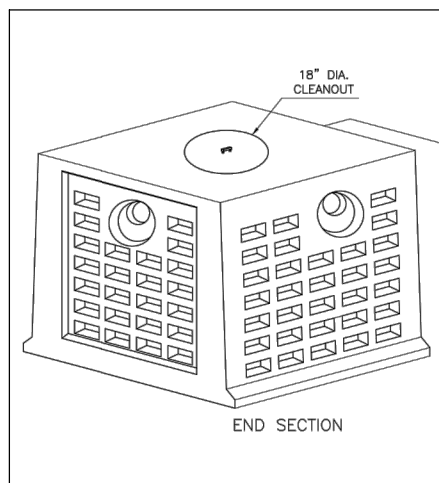
D-3



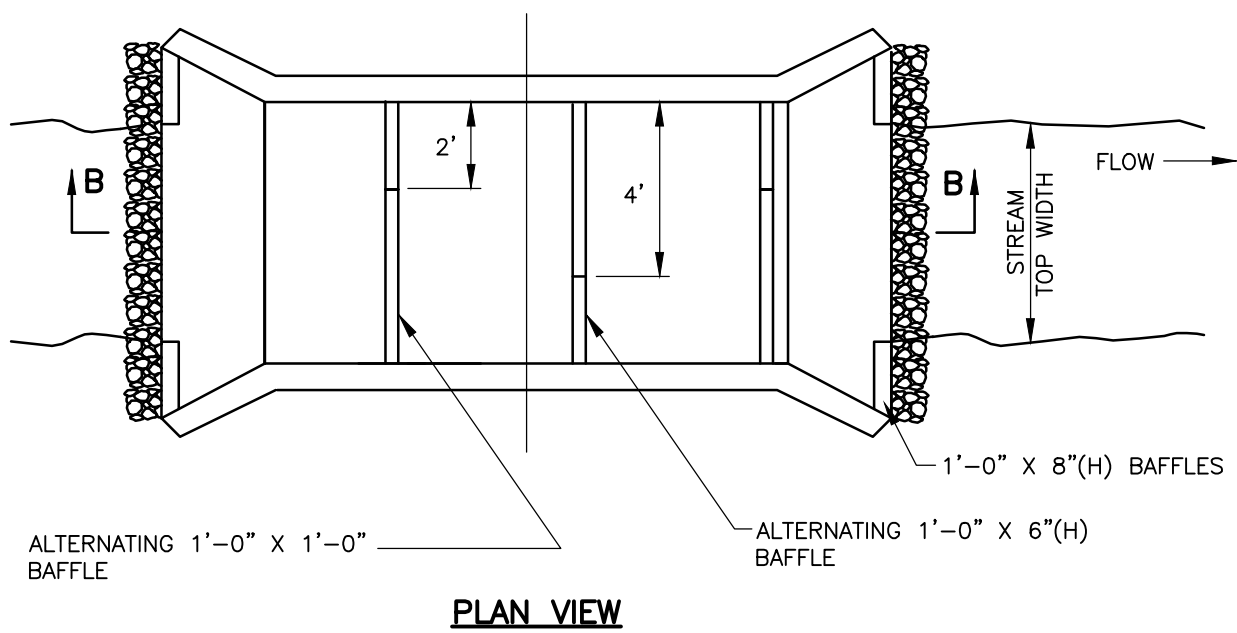
GENERIC CLOSED BOX CULVERT SECTION



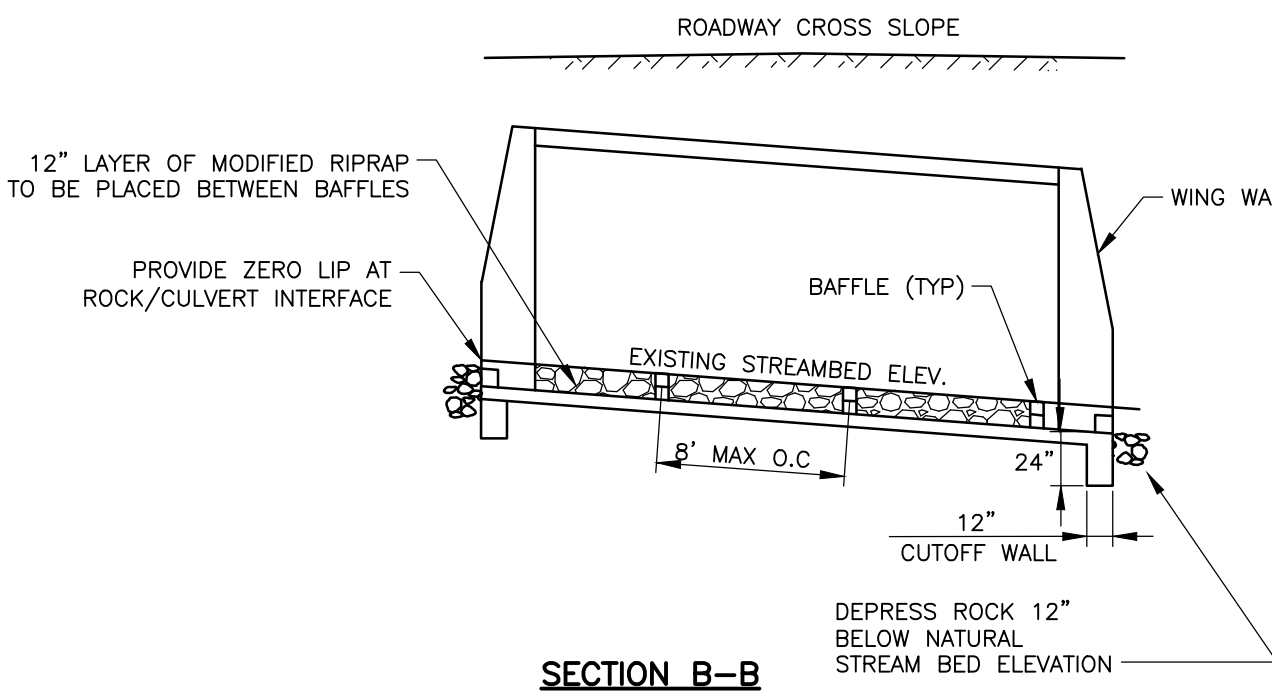
DRY HYDRANT PIPING
N.T.S



CONCRETE GALLERY
MODEL 4X4X4END-HD BY CONNECTICUT PRECAST CORP.

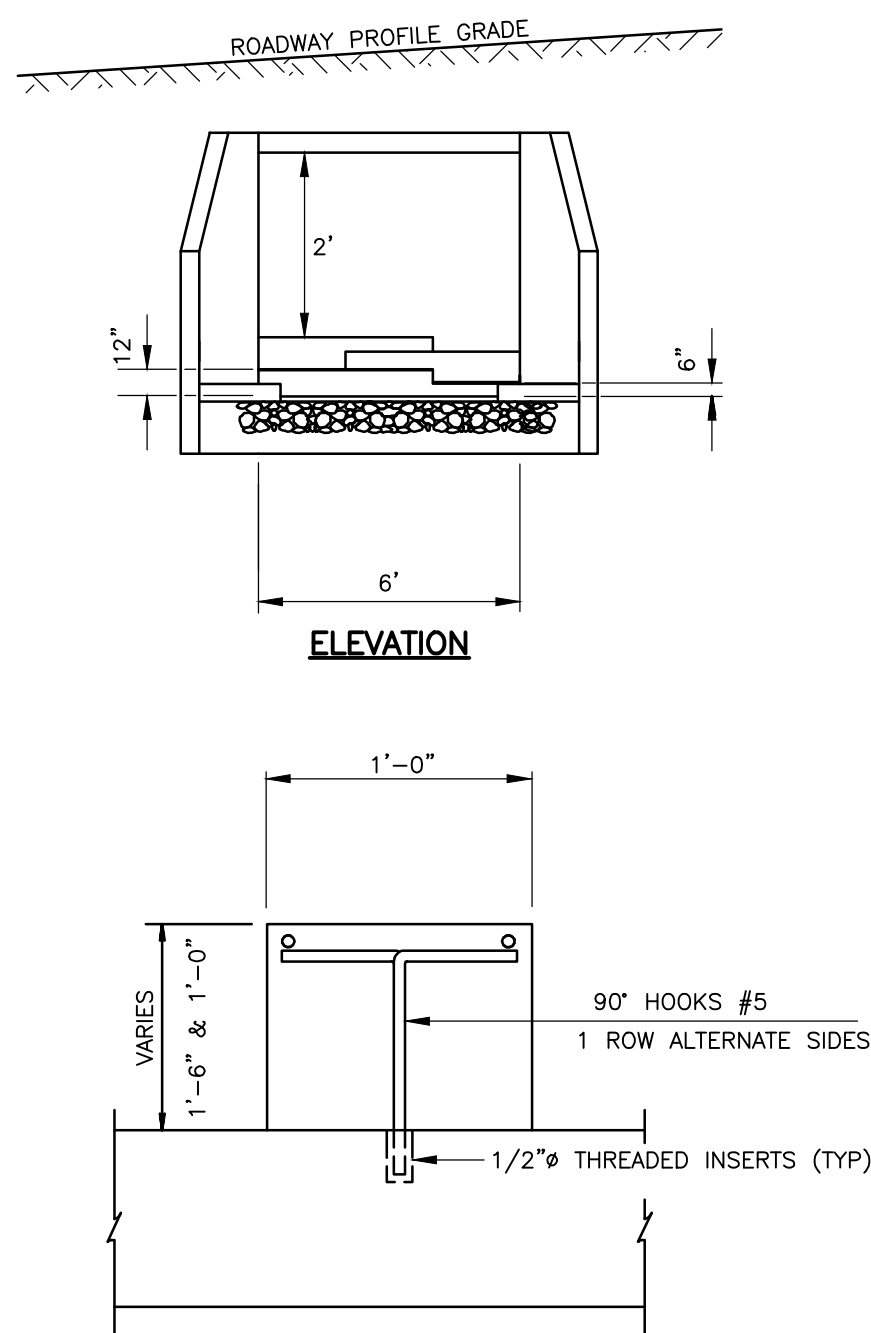


PLAN VIEW

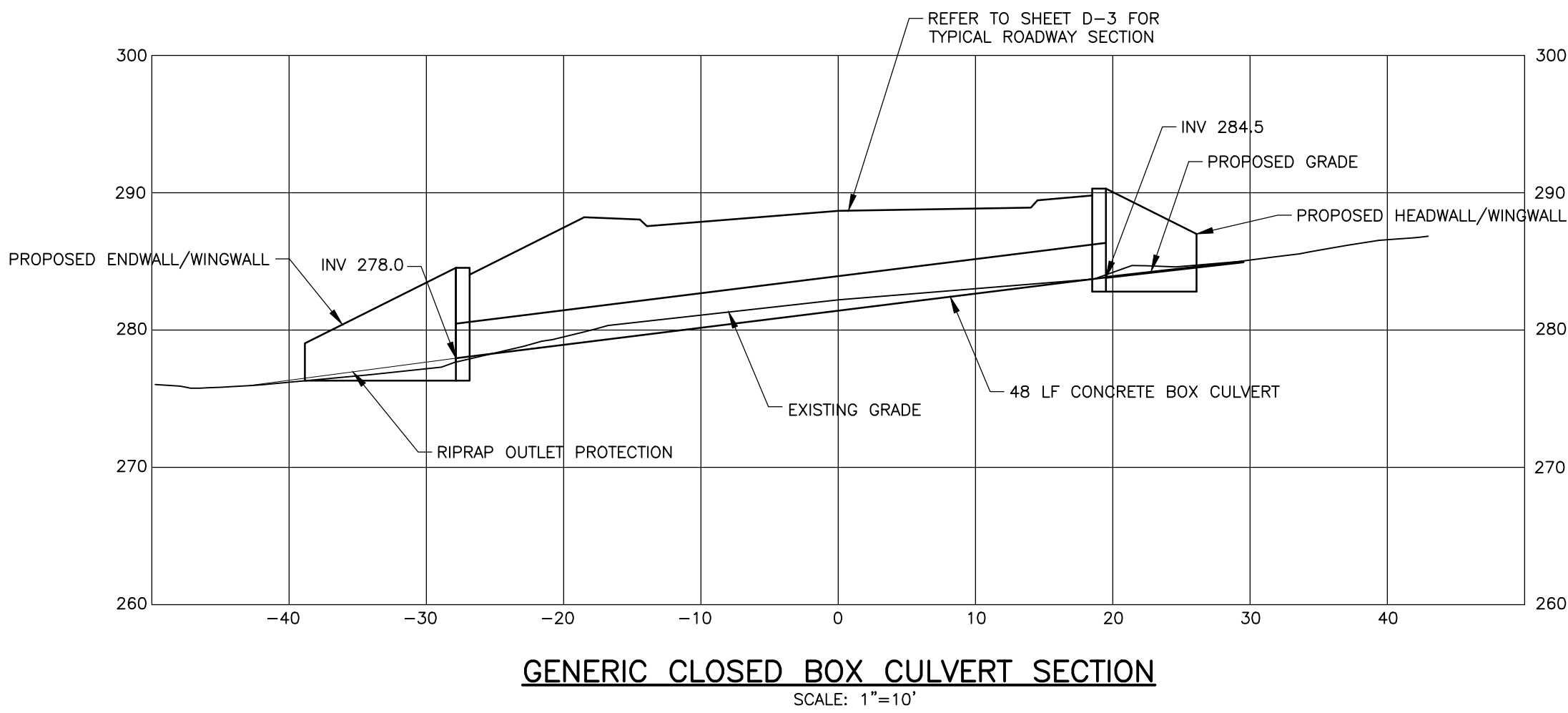


SECTION B-B

BOX CULVERT WITH STREAM GRADES >4%

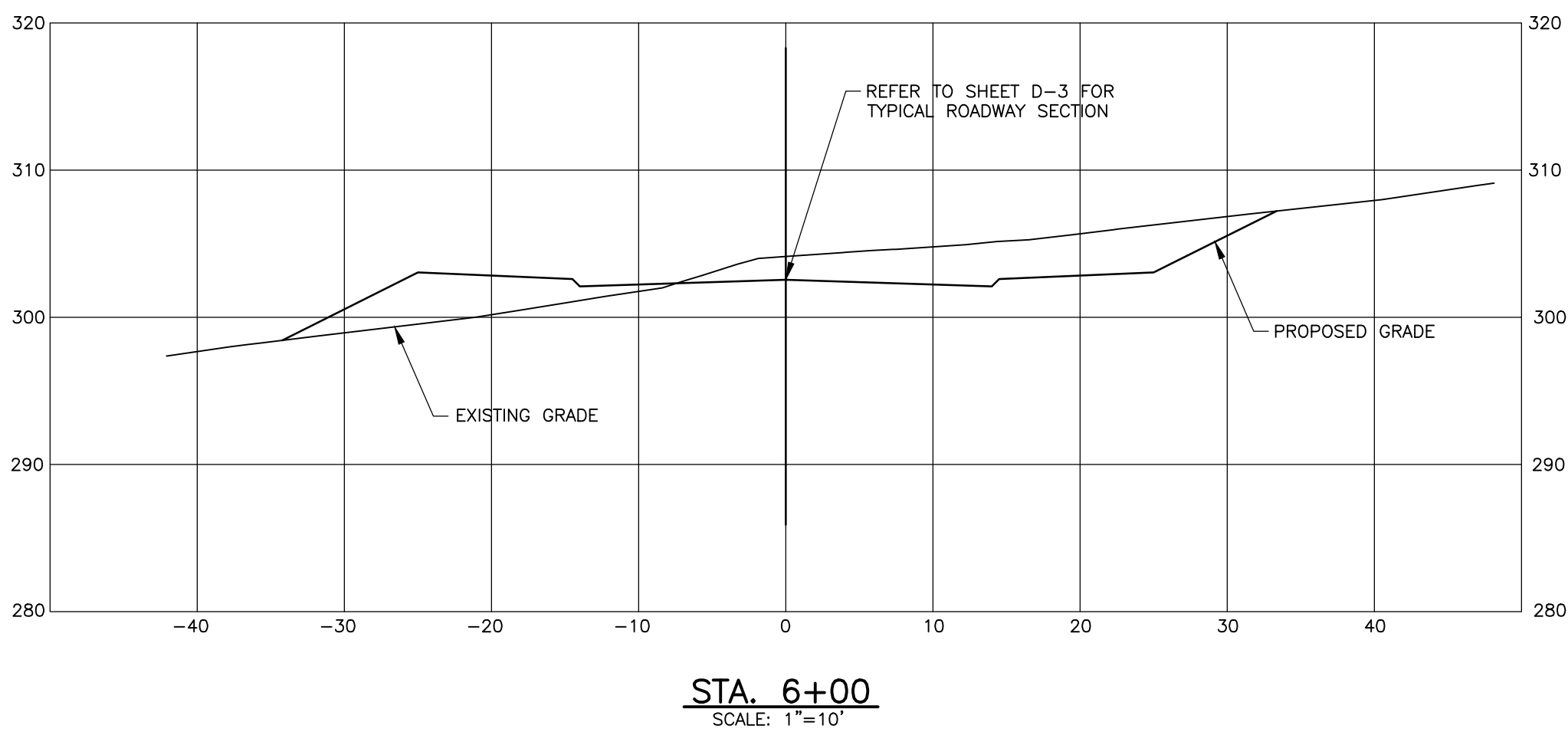


TYPICAL BAFFLE DETAIL



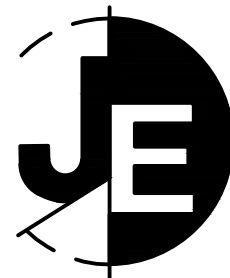
GENERIC CLOSED BOX CULVERT SECTION

SCALE: 1"=10'



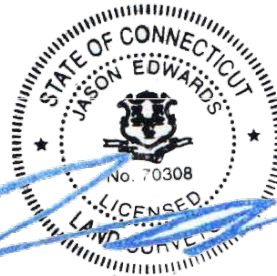
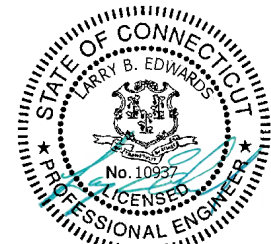
STA. 6+00

SCALE: 1"=10'



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MONROE, CONNECTICUT

REVISIONS

#	DATE	DESCRIPTION
1	8-05-24	TOWN
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3	9-19-24	IWWC

DATE: 10-01-23
PROJECT #: 2979
DRAWING FILE: 2979
DRAWN BY: NDC
SCALE:

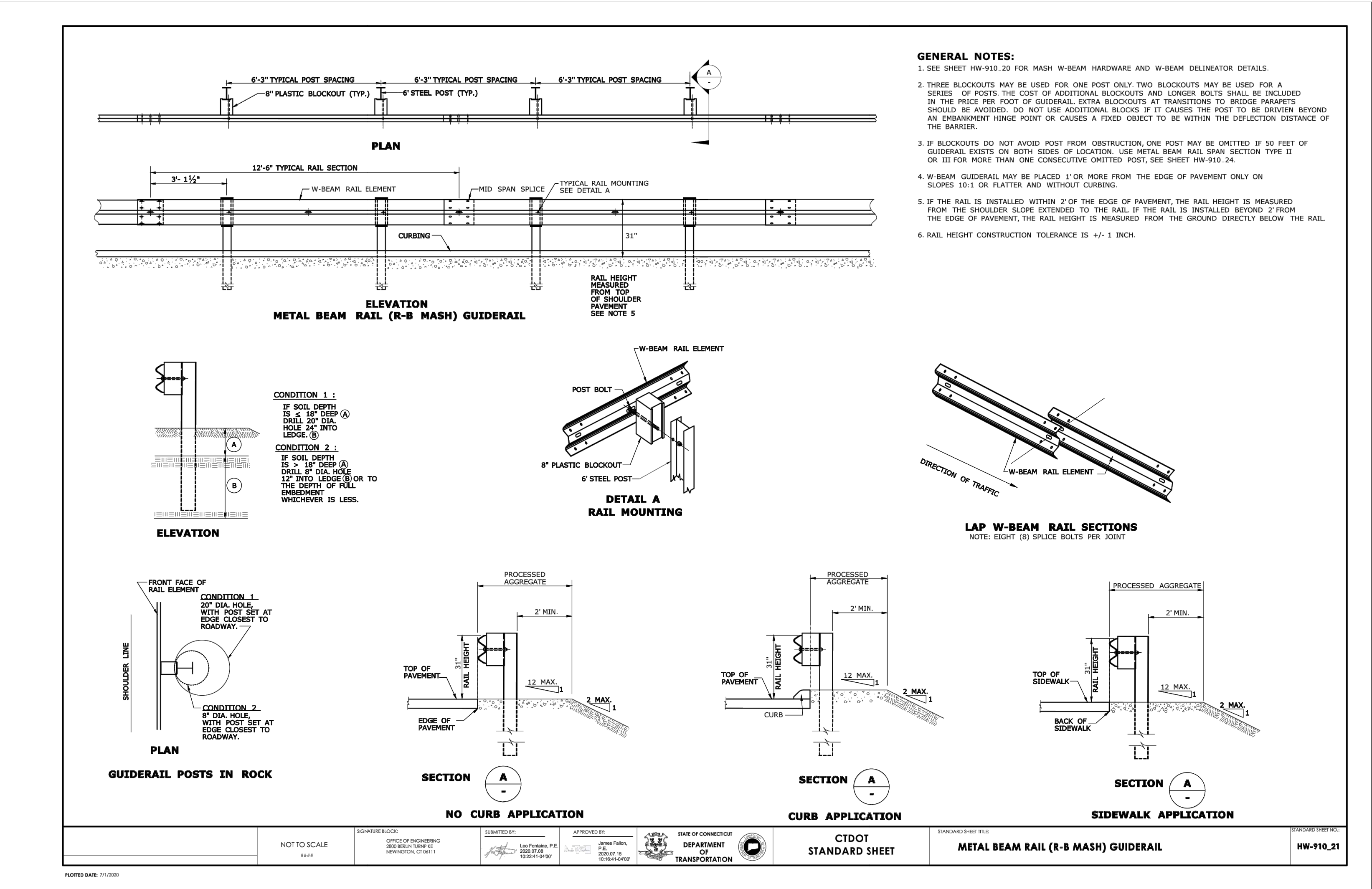
TITLE

DETAILS

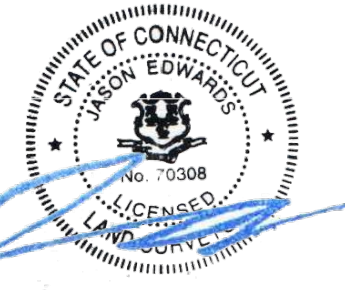
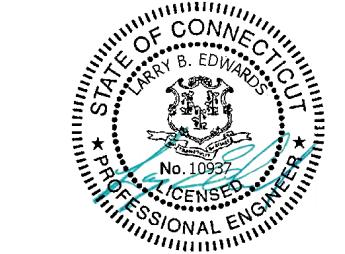
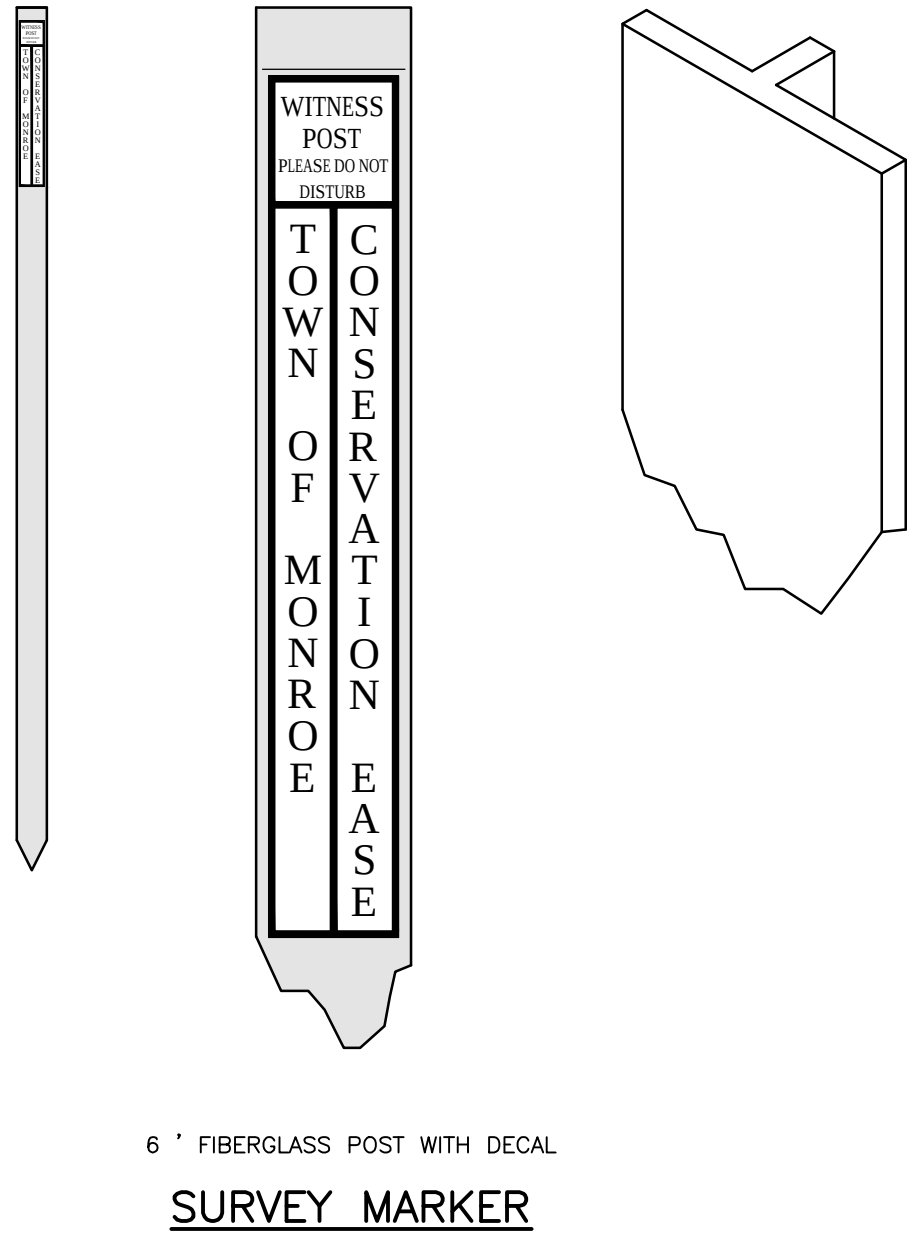
SHEET NUMBER

D-4

PERMIT SET - NOT FOR CONSTRUCTION



METAL GUARD RAIL



SUN VALLEY GLEN
1536 & 1564 MONROE TURNPIKE
MONROE, CONNECTICUT

REVISIONS		
#	DATE	DESCRIPTION
1	8-05-24	TOWN
2	8-20-24	IWWC
3	9-19-24	IWWC

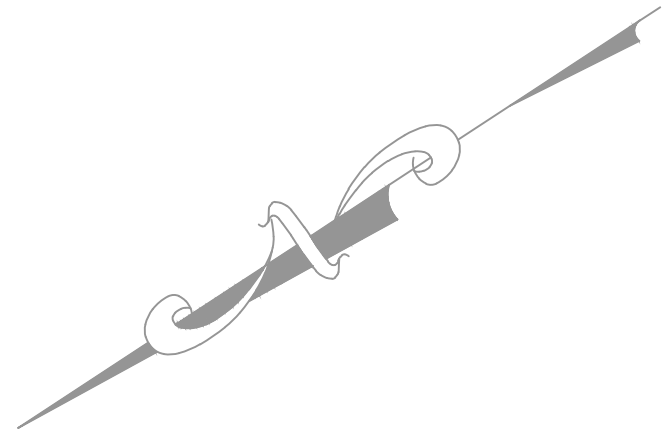
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PROJECT #: 2979
DRAWING FILE: 2979
DRAWN BY: NDC
SCALE:

TITLE

DETAILS

SHEET NUMBER

D-5

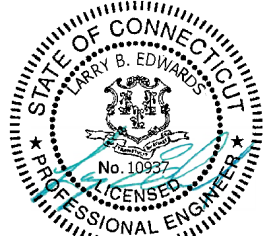


- LEGEND**
- EXISTING CONTOUR
 - PROPOSED CONTOUR
 - EXISTING SPOT ELEVATION
 - PROPOSED SPOT ELEVATION
 - EXISTING DRAINAGE
 - PROPOSED DRAINAGE
 - EXISTING SANITARY
 - PROPOSED SANITARY
 - SANITARY LATERALS
 - FORCE MAIN
 - FOOTING DRAIN
 - ROOF DRAIN
 - WATER SERVICE
 - GAS LINE
 - COTG CLEAN OUT TO GRADE
 - FF FINISHED FLOOR
 - GF GARAGE FLOOR
 - BS BASEMENT SLAB
 - R HANDICAP RAMP
 - V VAN ACCESSIBLE SPACE
 - INLAND WETLANDS WITH FLAG #
 - OBSERVATION HOLE
 - PERCOLATION TEST
 - GRADE TO DRAIN
 - SYNTHETIC FILTER BARRIER
 - WATER BREAK
 - LIMIT OF DISTURBANCE
 - FOUNDATION ENVELOPE
 - BUILDING SETBACK LINE
 - DRAINAGE EASEMENT
 - GRADING EASEMENT
 - SLOPE RIGHTS
 - CONSERVATION EASEMENT
 - MAINTENANCE EASEMENT
 - UPLAND REVIEW LIMIT
 - WATERCOURSE
 - WATERCOURSE OFFSET



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3	9-19-24	IWWC

DATE: 10-01-23
PROJECT #: 2979
DRAWING FILE: 2979
DRAWN BY: NDC
SCALE: 1"=100'

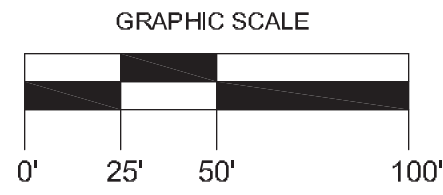
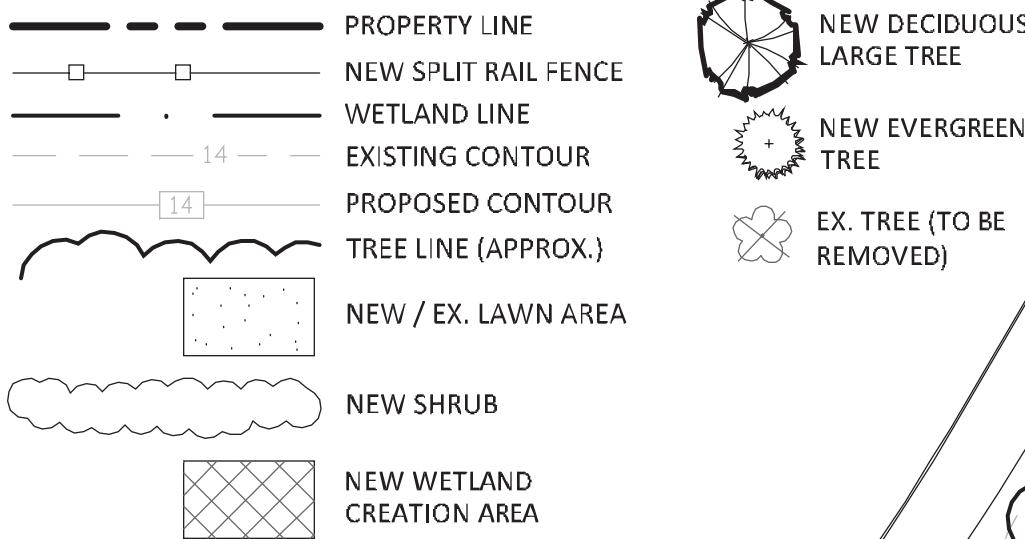
TITLE

WATERSHED MAP

SHEET NUMBER

W-1

LEGEND



GENERAL NOTES:

1. EXACT LOCATION OF PROPOSED PLANTINGS AND SPECIES TYPES MAY VARY FROM THIS PLAN BASED ON SITE PLAN REVISIONS AND/OR ACTUAL FIELD CONDITIONS.
2. PLANT SPECIES SUBSTITUTIONS MAY BE MADE WITH THE APPROVAL OF THE PROJECT LANDSCAPE ARCHITECT PRIOR TO PLANTING.
3. ALL PLANTING METHODS SHALL BE IN ACCORDANCE WITH THE "AMERICAN STANDARDS FOR NURSERY STOCK", LATEST EDITION, AS PUBLISHED BY THE AMERICAN NURSERY & LANDSCAPE ASSOCIATION.
4. SPRAY NEW PLANTINGS IMMEDIATELY AFTER INSTALLATION WITH A WHITE-TAILED DEER REPELLENT AND CONTINUE AS NEEDED TO MAINTAIN PLANTS FREE OF SIGNIFICANT DEER BROWSING. PROTECT TRUNKS OF NEWLY PLANTED TREES FROM DEER RUBBING AS NEEDED TO MAINTAIN HEALTHY TREES.

SEEDING NOTES:

1. FOR ALL SEEDING AREAS, APPLY SEED MIX AT THE METHODS AND 125 % THE RATE RECOMMENDED BY THE MANUFACTURER. SEED MIX SUBSTITUTIONS SHALL BE APPROVED BY THE PROJECT LANDSCAPE ARCHITECT PRIOR TO USE. APPLY SOIL AMENDMENTS AS NEEDED TO ESTABLISH PROPER SEED GERMINATION AND GROWTH.
2. BASIN BOTTOM: SEED THIS AREA WITH "NEW ENGLAND EROSION CONTROL / RESTORATION MIX FOR DETENTION BASINS AND MOIST SITES" BY NEW ENGLAND WETLAND PLANTS, INC. (413-548-8000).
3. BASIN SIDE SLOPES AND DISTURBED WETLAND BUFFERS : SEED THIS AREA WITH "NEW ENGLAND CONSERVATION / WILDLIFE MIX" BY NEW ENGLAND WETLAND PLANTS, INC. (413-548-8000).
4. WETLAND CREATION AREA : SEED THIS AREA WITH "WETMIX" BY NEW ENGLAND WETLAND PLANTS, INC. (413-548-8000).

WETLAND CREATION NOTES:

1. STOCKPILE TOPSOIL IN NEARBY AREA FOR USE AS A TOP SOIL LAYER OF WETLAND CREATION AREA.
2. AVOID SOIL COMPACTION BY HEAVY MACHINERY IN THE WETLAND CREATION IF FEASIBLE. DECOMPRESS SOILS AS NEEDED.
3. WETLAND CREATION AREAS SHALL BE GRADED IN A MANNER THAT HAS A UNULATING TOPOGRAPHY WITH NUMEROUS 2-4" DEEP RANDOMLY PLACED MICRO-DEPRESSIONS (I.E., TIRE DEPRESSIONS) THROUGHOUT THE WETLAND CREATION AREA.
4. ADD COARSE WOODY DEBRIS, SUCH AS LOGS, STUMPS, AND SMALLER BRANCHES (BUT NOT WOOD CHIPS OR WOOD MULCH) OVER THE CREATED WETLAND AREAS.
5. DO NOT FERTILIZE MITIGATION AREAS UNLESS DIRECTED BY THE PROJECT LANDSCAPE ARCHITECT.

PLANT LIST

QTY	KEY	BOTANICAL NAME	COMMON NAME	SIZE	ROOT
7	AR	ACER RUBRUM	RED MAPLE	1 3/4-2" CAL.	B&B
5	AR2	ACER RUBRUM	RED MAPLE	1-1 1/2" CAL.	B&B
3	LT	LIRIODENDRON TULIPIFERA	TULIPTREE	8-9' HT.	B&B
4	QB	QUERCUS BICOLOR	SWAMP WHITE OAK	1 3/4-2" CAL.	B&B
14	QP	QUERCUS PALUSTRIS	PIN OAK	1 3/4-2" CAL.	B&B
15	AC	AMELANCHIER CANADENSIS	SHAD	5-6' HT.	B&B
4	CC	CERCIS CANADENSIS	REDBUD	7-8' HT.	B&B
9	IO	ILEX OPACA	AMERICAN HOLLY	4-6' HT.	B&B
8	PA	PICEA ABIES	NORWAY SPRUCE	7-8' HT.	B&B
32	PS	PINUS STROBUS	WHITE PINE	6-7' HT.	B&B
64	LB	LINDERA BENZOIN	SPICEBUSH	2-3' HT.	CONT.
125	MP	MYRICA PENNSYLVANICA	NORTHERN BAYBERRY	2-3' HT.	CONT.
30	HF	DENNSTAEDTIA PUNCTILOBA	HAYSCENTED FERN	1 QT.	

REVISIONS:

NO.	DATE	DESCRIPTION
3	8.20.24	REVISED SITE PLAN
2	6.1.24	REVISED SITE PLAN
1	1.31.24	FIRE POND AND FENCE



ENVIRONMENTAL LAND SOLUTIONS, LLC
Landscape Architecture and Environmental Planning
8 KNIGHT STREET, SUITE 203
NORWALK, CONNECTICUT 06851
Tel: (203) 855-7879 Fax: (203) 855-7836
info@elsllc.net www.elsllc.net

DRAWING TITLE:

WETLAND MITIGATION PLAN

PROJECT:

1536 MONROE TURNPIKE
MONROE, CONNECTICUT

SEAL:



DATE: 12.11.23

SCALE: 1"=50'

DRAWING NO.:

WET.1



September 19, 2024

Kathleen Gallagher, PLA
Acting Inland Wetland Agent
Town of Monroe
7 Fan Hill Road
Monroe, CT 06468

Re: 1536 & 1564 Monroe Turnpike

Dear Kathleen,

Please find enclosed response to review comments presented in a letter sent by email dated September 11, 2024 (copy attached) from your office

1. *"Modify the plans to:"*
- b. *"Provide a wetland mitigation plan for the area of disturbance.."*
Refer to wetland mitigation WET-1 plan dated 8-19-24 depicting 2006sf of mitigation area located on the proposed Open Space in lieu applying bottom of detention basin areas. In addition, refer to proposed conservation easement configuration for review as depicted on sheet L-2 Cluster Subdivision Map.
5. *"The applicant should clarify if the existing wetland is a jurisdictional wetland.."*
Refer to attached letter from Steven Danzer, Soil Scientist.

In addition, a Commissioner at the last meeting requested an openness ratio calculation for the proposed box culvert. Refer to attached data sheets for response.

If you have any questions or concerns, please do not hesitate to contact our office.

Very truly yours,
J. Edwards & Associates LLC



Nicholas D. Clark, P.E.
Enclosure



TOWN OF MONROE

OFFICE OF INLAND WETLANDS

7 Fan Hill Road
Monroe, CT 06468
Phone: 203-452-2809
www.monroect.gov

June 5, 2024

Revised July 23, 2024

Revised August 27, 2024

Revised September 10, 2024

Please see updates in bold.

Jans Land development, LLC
C/o Michael Czesnowski
9 Whitetail Drive
Monroe, CT 06468

Re: **Preliminary Review of application IWC-2024-04, File #1480**
Address: 1536 and 1564 Monroe Turnpike, Monroe, Connecticut 06468
Proposal to construct an eight (8) lot single family development and new road crossing a wetland.

Dear Mr. Czesnowski,

I have preliminarily reviewed the above-referenced application. The statutory receipt date is May 22, 2024, and a public hearing has been scheduled for the July 24, 2024 meeting **and continued to September 11, 2024**. The comments below reflect my initial review **and subsequent review of the Environmental Report, Wetland Mitigation Plan and Site Plan Drawings**. The Commission may have additional comments or questions during their meetings.

Please submit and/or comment on the following:

1. Modify the plans to:
 - a. Please confirm that the plans show limits of all wooded areas, and all large trees, specimen trees, and large trees (30" caliper or greater) within 10' of the proposed limits of disturbance, noting species and diameter, as per §7.5 g (9). Please show which trees are to be removed and provide a total count. As part of the wetland mitigation plan noted below, please address how the large tree removal will be mitigated.

Comment from 7/23/24: Partially Satisfied: The applicant submitted a wetland mitigation plan WET.1 which shows the 30" trees and drawings Site Plan S-1 which shows three (3) 30" trees to be removed. The applicant should clarify their method of calculating the trees to be removed. It is assumed that there are additional 30"+ trees within the individual lots that are not being shown as part of the calculation and that only the construction of the road was reviewed for tree removal.

Comment from 8/27/24: Satisfied. The applicant is showing 30" trees in the area of the upland review area and on individual properties. The applicant is showing four (4) trees to be removed on the revised August 20, 2024 plans.

- b. Provide a wetland mitigation plan for the area of disturbance within the wetland and 100' upland review area. As part of the plan outline restoration and/or abatement to be included as part of the application including how the 2,799sf of wetland disturbance is being remediated.

Comment from 7/23/24: Partially Satisfied: The applicant submitted a wetland mitigation plan WET.1 and Environmental Report which states "Although not considered a replacement in kind, the bottom of the two detention basins total 3900± sf and will provide some similar functions, such as sediment retention, nutrient uptake, and wildlife habitat, as the wetland impacted by the crossing. A wetland creation area to replace the impacted wetland at the road crossing would require significant site disturbance on this hillside site, include the removal of trees and excavation, and therefore not proposed."

Additional plantings should be provided in the area of disturbance. In addition the Commission should review if the applicant response above is sufficient.

Comment from 8/27/24: Partially Satisfied. The updated area of proposed wetland disturbance is 0.026 acres and the proposed upland review area disturbance is 0.56 acres as shown on Drawing S-1 revised August 20, 2024.

The proposal of using the bottom of detention basins as wetland remediation is insufficient. The plans do not clearly outline additional wetland create to replace the wetlands being disturbed. In addition, additional plantings were not proposed.

Comment from 9/11/24: Partially Satisfied. At the August 28, 2024 meeting, it was discussed that putting the wetlands in the previous lot 9 in a conservation easement was preferred over creating wetlands and additional disturbance. Please see the attached figure to outline staff's current understanding of open space vs. potential conservation area that could be.

- c. As per 7.5.h, provide a map showing the parcels within a 500' area.
Comment from 7/23/24: Satisfied. The applicant provided drawing A-1 for context.
- d. Please remove the reference to Lot 9 in the Lot Area Calculations on Drawing 1.2.
Comment from 7/23/24: Satisfied.
- e. There is a duplicate of Site Plan 2.1. The second instance is the pervious version showing Lot 9. Based on the cover sheet, it looks like it is being proposed as an alternate and should be labeled "2.4". If that is the case, please relabel to 2.4 as it is confusing to have two 2.1 Drawings.
Comment from 7/23/24: Satisfied.
- f. Relocate the soil stockpile in lot 7 to be within the limit of disturbance.
Comment from 7/23/24: Satisfied.
- g. Add silt fence to downhill side of Lot 6.
Comment from 7/23/24: Satisfied.

2. As per §7.6 g, the applicant should provide a Wetland Assessment Report similar to the previous withdrawn application.

Comment from 7/23/24: Satisfied; however, see comments above.

Comment from 8/27/24: The applicant should provide responses to the third part consultant's report.

3. As per §7.6(j), submit recent photos of the areas near the road crossing from multiple angles sufficient to illustrate all pertinent aspects of the proposed activities and potential impacts.
Comment from 7/23/24: Satisfied.
4. §7.5(n) requires an affidavit verifying the installation of a property address sign, including lot #, readable from the street and prominently posted at the site.
Comment from 7/23/24: Satisfied. See exhibit 4.
5. The applicant should clarify if the existing wetland is a jurisdictional wetland regulated by the Army Corps of Engineers.
Comment from 7/23/24: Not satisfied. Response is pending.

Comment from 8/27/24: Not satisfied. Response is pending.

Comment from 9/10/24: Not satisfied. Response is pending.
6. Since the Steven Danzer Report was dated November of 2023, the applicant should provide an amendment to the Report addressing concerns related to vernal pools which would have more easily identifiable this past spring.
Comment from 7/23/24: Satisfied. An Environmental Report was submitted as well as a follow up memo discussing a spring site visit.

Comment from 8/27/24: Please see additional information requested by the third-party consultant.
7. It should be noted that the applicant is applying the Cluster Subdivision Regulations to the property and the project is still required to obtain a Planning and Zoning Subdivision Approval. Although not part of this review, please note that the Subdivision Regulations §111-303 states "Open space shall abut and have direct access to a public street, unless such open space is proposed to be merged with an existing preserved open space parcel that has existing suitable street frontage and access as determined by the Commission." In addition, §111-310 outlines Street Tree requirements. It is strongly encouraged that this be reviewed and conceptualized during the Inland Wetland review.
Comment from 7/23/24: Staff has no additional comment.
8. It should be noted that the applicant is proposing a 3-sided box culvert at the crossing. It should be noted that the applicant has reduced the amount of disturbance with the 100' upland review area.
Comment from 7/23/24: Staff has no additional comment and the applicant should refer to the Town Engineer Comments.
9. Please note that there is only one meeting in the Month of July and it will be July 24th.
Comment from 7/23/24: Staff has no additional comment.

Please submit/respond to the above-items as soon as possible to allow for staff review. Please be advised that further comments or requests for clarification may be forthcoming.

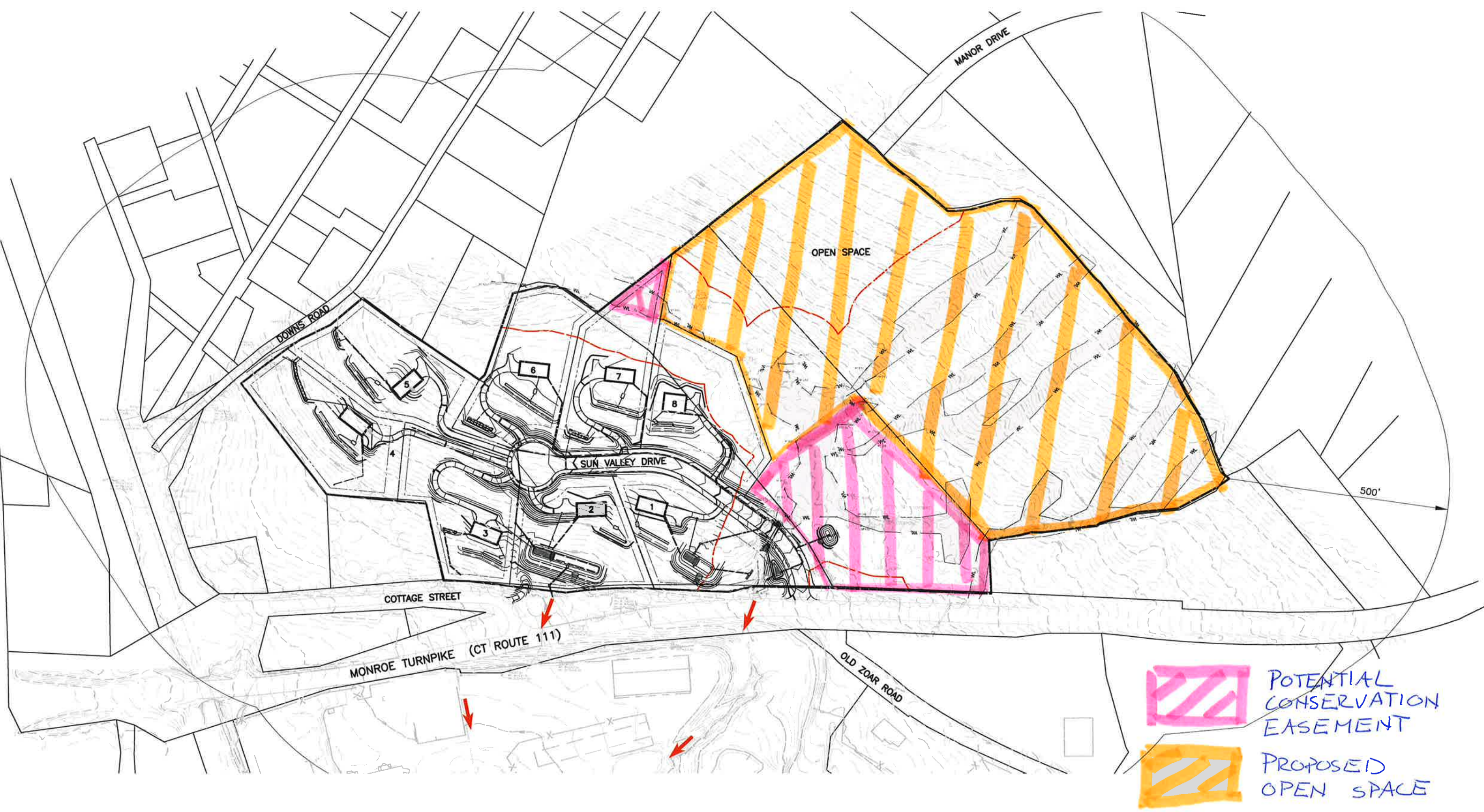
If you have any questions or need additional information, please contact the Acting Inland Wetland Agent at (203) 452-2386.

Sincerely,

A handwritten signature in black ink, appearing to read 'K Gallagher', with a long, sweeping horizontal stroke at the end.

Kathleen Gallagher, PLA
Acting Inland Wetland Agent

Cc: James DiMeo, PE
Andrew Brotdman



-  POTENTIAL CONSERVATION EASEMENT
-  PROPOSED OPEN SPACE

SUN VALLEY GLEN PROPOSED BOX CULVERT CONSTRUCTION

The proposal is for a four-sided box culvert which incorporates baffles set in the floor bottom. The box culvert inside dimensions measure 3.5 feet high by 6 feet wide. The bottom of the structure will be set 18" below the finish streambed elevation leaving the top of the stepped one 18" high baffle flush with the flowline. A third of the baffle width is reduced in height (12") allowing water to maneuver back and forth through the staggered baffle arrangement at low flows.

The baffles are proposed to be set at 8 feet on center leaving a recess which is to be filled with native material such as cobbles, river stone, or modified riprap. As time goes on, sediments will become lodged and deposited within the voids created in between the stones thereby re-establishing a natural streambed within the structure.

The material forming the re-established stream bed will be composed of mostly stone along with some fines that will be impacted by increased flow velocities during storm events. According to data referenced from the Special Committee on Irrigation Research, ASCE, 1926 addressing erodible channels, maximum permissible velocities for water carrying fine silts over linings of cobbles and shingles is 5.5 ft./sec. Modified riprap was the material of choice to line the bottom of the box culvert, and according to Figure PW-4 in the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control maximum permissible velocity for modified riprap is 8ft./sec. set in a layer at least 12" thick.

The proposed box culvert is 48 feet long and has a slope of 13.5%. During a 100 year storm, the flow will be 55.98 cfs and has a velocity of 4.66 ft/sec. The openness ratio calculation for the box culvert is defined as the cross sectional area divided by the overall length. Therefore, $2\text{ft} \times 6\text{ft} / 48\text{ft} = 0.25$.

Referring to the attached spreadsheet from U.S Army Corps of Engineers, all permanent crossings should have an OR greater than or equal to 0.25.

New England District, U.S. Army Corps of Engineers, Regulatory Division Openness Ratio Spreadsheet

- Openness Ratio (OR) is calculated by dividing a culvert's cross-sectional area by its length: $OR = \text{x-sec area} \div \text{length}$
- Along with other criteria, the MA PGP, General Condition 21, states that to qualify for the Category 1 (non-reporting):
 1. New permanent stream crossings must have an $OR \geq .25$

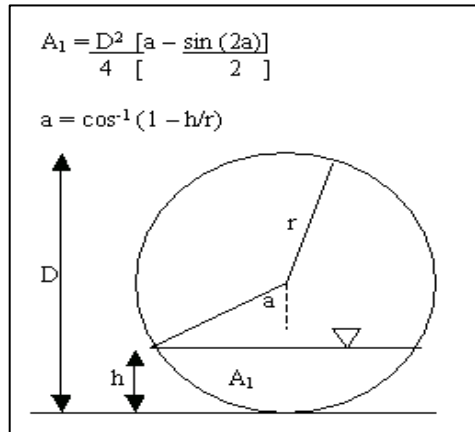
$$OR = .25 = \frac{\text{(x-sec area)}}{\text{culvert length}} \quad \text{or} \quad OR = .25 = \frac{[(\text{x-sec culvert area pre-embed}) - \text{embedded area}]}{\text{culvert length}}$$
 2. Round culverts must be embedded at least 25%
- The chart below provides the diameter needed to meet the .25 OR for various culvert lengths, accounting for the embedded area, when embedding 25%. All calculations must be done in meters. The conversion to feet is provided.
- The Corps uses the .25 OR as a guide for Category 2 projects reviews.

Required Diameter for .25 OR & 25% Embedment					
Length		Required Open Area		Required Diameter	
(FT)	(M)	(FT ²)	(M ²)	(FT)	(M)
6	1.83	4.92	0.46	2.79	0.85
8	2.44	6.56	0.61	3.23	0.98
10	3.05	8.20	0.76	3.61	1.10
12	3.66	9.84	0.91	3.95	1.21
14	4.27	11.48	1.07	4.27	1.30
16	4.88	13.12	1.22	4.56	1.39
18	5.49	14.76	1.37	4.84	1.48
20	6.10	16.40	1.52	5.10	1.56
22	6.71	18.04	1.68	5.35	1.63
24	7.32	19.68	1.83	5.59	1.70
26	7.93	21.32	1.98	5.82	1.77
28	8.54	22.96	2.13	6.04	1.84
30	9.15	24.60	2.29	6.25	1.91
32	9.76	26.24	2.44	6.45	1.97
34	10.37	27.88	2.59	6.65	2.03
36	10.98	29.52	2.74	6.85	2.09
38	11.59	31.16	2.90	7.03	2.14
40	12.20	32.80	3.05	7.22	2.20
42	12.80	34.44	3.20	7.39	2.25
44	13.41	36.08	3.35	7.57	2.31
46	14.02	37.72	3.51	7.74	2.36
48	14.63	39.36	3.66	7.90	2.41
50	15.24	41.00	3.81	8.07	2.46

Derivation

1. The MA PGP, Category 1 requires:
 - * 25% culvert embedment ($= .25 \times \text{culvert diameter}$)
 - * .25 openness ratio

2. Embedded area calculated as follows:



Notes:

- * a is in radians
- * $a = 60^\circ = 1.05$ radians, if $h = .25D$
- * A_1 = embedded area

3. $OR = .25 = \frac{[(\text{x-sec culvert area pre-embed}) - \text{embedded area}]}{\text{culvert length}}$

where:

- * x-sec area $= \pi D^2 / 4$
- * embedded area for 25% embed $= .62D^2 / 4 = (A_1)$
- * culvert length $= L$

Therefore:

$$.25 = \frac{\pi D^2 / 4 - .62D^2 / 4}{L}$$

or

$$D = .63L^{1/2}$$



STEVEN DANZER, PHD & ASSOCIATES LLC

Wetlands & Environmental Consulting

WWW.CTWETLANDSCONSULTING.COM

203 451-8319

WETLAND BOUNDARIES • POND & LAKE MANAGEMENT • CONSTRUCTION FEASIBILITY CONSULTATIONS • ENVIRONMENTAL STUDIES

Date: September 18, 2024

By: Steven Danzer Ph.D.

- Soil Scientist, Senior Professional Wetland Scientist, Arborist
 - Nationally certified by the Soil Science Society of America (#353463).
 - Registered with the Society of Soil Scientists of Southern New England.
 - Certified PWS #1321 by the Society of Wetland Scientists
 - Certified Arborist by the International Society of Arboriculture (ISA) NE-7409A
 - CT Licensed Arborist DEEP S-5639
- Ph.D. in Renewable Natural Resource Studies.

Project: 1536 and 1564 Monroe Turnpike, Monroe

With regard to Comment #6 from the memo from Kathleen Gallagher, PLA dated 6/5/24 and revised through 8/27/24: “The applicant should clarify if the existing wetland is a jurisdictional wetland regulated by the Army Corps of Engineers...”

None of the watercourses within the site are navigable, nor do they contain surface connections to navigable waters. As such, it is my opinion that none of the wetland areas within the site are within federal jurisdiction.

Signed,

Steven Danzer Ph.D., Certified Professional Soil Scientist (CPSS #353463)

DIRECTLY CONNECTED IMPERVIOUS AREA TRACKING FORM



TOWN OF MONROE
ENGINEERING DEPARTMENT
7 Fan Hill Road, Monroe, CT 06468
(203) 452-2812

FOR OFFICE USE:

Application No: _____
File Number - _____

The Town is a registrant under the Connecticut Department of Energy and Environmental Protection's (CTDEEP) General Permit for the Discharge of Stormwater from Small Municipal Separate Storm Sewer Systems (MS4 General Permit). In accordance with Section 6(a)(6)(B)(ii)(a) of the MS4 General Permit, the Town is required to track the amount of impervious coverage of directly connected impervious area (DCIA) that is added as a result of projects within the Town. The Town is maintaining a database of coverage to track changes in DCIA, which it will use in its Annual Report to CTDEEP.

Project Data	
Owner	John V. Mangieri
(2) CTDEEP Basin No. (XXXX-XX-X) https://cteco.uconn.edu/viewers/ctms4/	6022-00
(3) (4) Street Address	1536 & 1564 Monroe Turnpike
(5) Brief Project Description	Construction of 8 lot residential subdivision

"Directly Connected Impervious Area (DCIA)" means that impervious area from which stormwater runoff discharges directly to waters of the state or directly to a storm sewer system that discharges to waters of the state. Impervious areas that discharge through a system designed to retain the appropriate portion of the Water Quality Volume (pursuant to Section 6(a)(5)(b)(i) or (ii) of the MS4 General Permit) are not considered DCIA.

Existing Impervious Cover Summary	
(6) Site Total Impervious Cover (ac)	0
(7) Area Treated by Stormwater Practices (ac)	0

Proposed Impervious Cover Summary				
(9) Project Type, check ONE		☒ New Development ☐ Redevelopment		
(10) Site Total Impervious Cover (ac)		1.682		
Post-Development Impervious Cover Treated by Stormwater Practices (acres)				
Note: Do not double-count treatment. If a particular area on the site is treated by two practices in series, for the purposes of this tracking form, credit that area for only the treatment practice closest to the source. Total of these columns shall not exceed the Site Total Impervious Cover.				
11-P1 Stormwater Pond	1.271		11-S5 Dry Swales	
11-P2 Stormwater Wetlands			11-S6 Permeable Pavement	
11-P3 Infiltration Practices	0.411		11-S7 Vegetated Filter Strips	
11-P4 Filtering Practices			11-S8 Grass Drainage Channels	
			11-S9 Catch Basin Inserts	
11-S1 Dry Detention Pond			11-S10 Hydrodynamic Separators	
11-S2 Underground Detention			11-S11 Media Filters	
11-S3 Deep Sump Catch Basins			11-S12 Underground Infiltration Systems	
11-S4 Oil/Particle Separators			11-S13 Alum Injection	
Total all values, 11-P1 through 11-S13				1.826

STORMWATER MANAGEMENT REPORT

FOR THE PROPOSED DEVELOPMENT OF

SUN VALLEY GLEN RESIDENTIAL DEVELOPMENT

LOCATED AT

1536 & 1564 MONROE TURNPIKE
MONROE, CT

PREPARED ON: NOVEMBER 9, 2023

REVISED: SEPTEMBER 18, 2024

PREPARED BY:

J. EDWARDS & ASSOCIATES, LLC
227 STEPNEY ROAD, EASTON CT, 06612



Larry Edwards, P.E.

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SECTION 1.	PROJECT NARRATIVE AND DRAINAGE REPORT
APPENDIX A:	NRCS MAP AND NOAA RAINFALL TABLES
APPENDIX B:	PRE- AND POST-DEVELOPMENT HYDROLOGICAL ANALYSIS
APPENDIX C:	SOIL TESTING DATA

INTRODUCTION:

J. Edwards & Associates has prepared this report to demonstrate compliance with local and state engineering guidelines. These guidelines include drainage design, sediment and erosion control and site grading.

PROJECT OVERVIEW:

This site is a wooded undeveloped parcel at the intersection of Monroe Turnpike and Cottage Street. The property is in a natural wooded state. The property is bounded by Monroe Turnpike, Cottage Street, and Downs Road. Adjacent properties are residential. Our client is proposing to develop it as a 9-Lot Residential Subdivision. Refer to the accompanying plans that include the design and layout of the proposed development and its associated improvements.

DRAINAGE ANALYSIS:

A Hydrologic analysis was completed using HydroCAD software which implements SCS-T20 methodology to compute runoff volumes. Rainfall intensities and depths were generated by NOAA Atlas 14, Volume 10, Version 3.

NOAA RAINFALL DEPTHS

EVENT	24 HR. DEPTH
2 YEAR	3.60
5 YEAR	4.69
10 YEAR	5.60
25 YEAR	6.85
50 YEAR	7.77
100 YEAR	8.78

The stormwater from the property flows north to 4 points of concern. The southern portion of the property enters the wetlands and flows under Monroe Turnpike. The central portion of the site flows west to the storm drainage withing Monroe Turnpike. The northern portion of the site flows to Cottage Street. A small area on the east side of the property flows to Downs Road. The NRCS soil survey indicates areas of Hydraulic Soil Group (HSG) B, C, D, and C/D (modelled as D) soils on the property.

The proposed development consists of single-family dwellings, roadways, driveways, hardscapes, and landscaping. The development will result in an increase in impervious surfaces on the site by approximately 1.68 acres. A storm drainage network is proposed to collect, route, store, and infiltrate runoff from impervious surfaces. Two stormwater basins are proposed to detain and store runoff from the proposed impervious surfaces for peak flow control. On several lots, individual water quality Subsurface Cultec Systems are proposed to provide treatment for the water quality and groundwater recharge volume. Additionally, a fire pond is provided which stores rainwater. This is assumed to be full and is modelled only with the volume above the lowest overflow device. The tables below include

calculated peak flows and runoff volumes for the 2, 10, 25, & 100-year storm events. Peak flow from the site is decreased or maintained for all storm events.

Pre and Post Development Peak Flow Summary				
Design Storm	Design Point	Existing Peak Flow (cfs)	Proposed Peak Flow (cfs)	Change in Peak Flow (cfs)
2	POC 1	1.42	1.08	-0.34
	POC 2	0.68	0.64	-0.04
	POC 3	1.66	1.30	-0.36
	POC 4	16.94	15.71	-1.23
5	POC 1	2.74	2.19	-0.55
	POC 2	2.08	1.86	-0.22
	POC 3	5.08	4.36	-0.72
	POC 4	28.33	27.87	-0.46
10	POC 1	3.98	3.26	-0.72
	POC 2	3.67	3.21	-0.46
	POC 3	8.97	8.86	-0.11
	POC 4	38.42	37.65	-0.77
25	POC 1	5.83	4.87	-0.96
	POC 2	6.25	5.35	-0.90
	POC 3	15.21	15.40	0.19
	POC 4	52.84	51.58	-1.26
50	POC 1	7.26	6.12	-1.14
	POC 2	8.34	7.09	-1.25
	POC 3	20.33	19.39	-0.94
	POC 4	63.70	62.04	-1.66
100	POC 1	8.88	7.54	-1.34
	POC 2	10.78	9.25	-1.53
	POC 3	26.28	23.59	-2.69
	POC 4	75.74	73.61	-2.13

Pre and Post Development Runoff Volume Summary

		Existing	Proposed	Change in
Design	Design	Runoff Vol.	Runoff Vol.	Runoff Vol.
Storm	Point	(ac-ft)	(ac-ft)	(ac-ft)
2	POC 1	0.19	0.15	-0.04
	POC 2	0.12	0.12	-0.01
	POC 3	0.31	0.33	0.02
	POC 4	1.55	1.82	0.27
5	POC 1	0.33	0.27	-0.06
	POC 2	0.27	0.26	-0.01
	POC 3	0.67	0.66	-0.01
	POC 4	2.51	3.03	0.53
10	POC 1	0.47	0.39	-0.07
	POC 2	0.42	0.41	-0.01
	POC 3	1.05	0.98	-0.07
	POC 4	3.37	4.12	0.75
25	POC 1	0.67	0.57	-0.10
	POC 2	0.66	0.65	-0.01
	POC 3	1.65	1.47	-0.18
	POC 4	4.63	5.71	1.08
50	POC 1	0.83	0.71	-0.12
	POC 2	0.85	0.83	-0.02
	POC 3	2.13	1.86	-0.28
	POC 4	5.59	6.92	1.33
100	POC 1	1.01	0.88	-0.14
	POC 2	1.08	1.05	-0.03
	POC 3	2.71	2.30	-0.41
	POC 4	6.66	8.28	1.62

WATER QUALITY:

The state of Connecticut DEEP stormwater guidelines requires that the first 1.3" of runoff be retained on site to provide an improvement in water quality. Below are calculations using the DEEP calculation worksheet.

TOTAL SITE AREA (A) =

30.554

acres

DRAINAGE AREAS

Drainage Area	Impervious Area
POC-1	0.000
POC-2	0.171
POC-3	1.086
POC-4	0.403
Total Impervious	1.660

5.43%

WATER QUALITY VOLUME (WQV) CALCULATION

Design Precipitation (P) = 1.3 inch

% Impervious Cover (I) = 0.0543

Volumetric Runoff Coefficient (R) = 0.050

WQV = 0.166 ac-ft
7,231 cu-ft

WQ BMP	Provided Storage Volume (cf)
North Basin	1,921
South Basin	2,778
Entrance Basin	647
RS L1	373
RS L3	423
RS L4	423
RS L5R	423
RS L9R	423
Total	7,411

Groundwater Recharge Volume

This requirement is intended to maintain pre-development annual groundwater recharge volume by capturing and infiltrating the storm water runoff.

Groundwater recharge will be provided through the water quality basins. The basins' outlets are set above the basin bottoms which allows for retention of 56,092cf.

$$GRV = D \times A \times I / 12$$

Soil recharge depth calculation:

Soil group B: $D_B = 0.35$

Site	Area	% Imperv.	GRV Required (cf)	GRV Proposed (cf)
1	30.554Ac	5.43	2,108	7,486

Outlet Protection

The water quality basin outlets and all other stormwater discharges will be protected with rip rap pads sized in accordance with the state of Connecticut Department of transportation drainage design manual.

OUTLET PROTECTION COMPUTATION

For cross culvert at Sun Valley Drive, Sta.1+65:

Culvert construction: Concrete box culvert 24" x 72" , span=72" or 6'
 $Q_{100yr} = 55.98$ cfs with a defined channel downstream. $V = 4.66$ fps.

From Equation 11.32 page 11.13-3 ConnDOT Drainage Manual, Type C riprap apron, using 6' outlet pipe diameter or span and 55.98 cfs discharge, Length of apron= 20.4'.

Width of apron is equal to bottom of width of channel and lining extends at least two-thirds on the channel slopes of the vertical conduit dimension.

Conveyance Protection

All project drainage improvements have been designed to handle a minimum 25 year storm event with outlet overflow from the basin designed to handle a 100 year storm.

Peak Runoff Attenuation

The storm management system for this project will control post development peak runoff for the 2, 10, 25, 50, and 100-year storm events to levels less than or equal to the pre development rates.

Emergency Outlet Protection

The emergency outlets have been designed to handle a 100 year storm event. See the table below for freeboard and weir velocities for the 100-year storm. A minimum of 1 foot of freeboard is maintained and peak velocities are below 3 fps for all weirs.

	North Basin	South Basin	Entrance Basin	Fire Pond
Weir Elevation	268.50	281.00	280.00	303.50
Top of Berm Elevation	269.50	282.00	281.00	304.50
100-YR Peak Storage Elevation	267.93	280.10	281.05	304.16
100-YR Weir Flow Depth (ft)	0.00	0.00	1.00	0.66
100-YR Freeboard (ft)	1.57	1.90	-0.05	0.34
100-YR Weir Velocity (fps)	0.00	0.00	3.18	2.86
100-YR Weir Flow (cfs)	0.00	0.00	16.44	14.75

Downstream Analysis

The drainage study for this project has also looked at the overall project impact to downstream off site water courses. Peak runoff from the total site will not exceed pre development levels. See Drainage Summary Addendum attached to this report as well as the complete Drainage Report for supporting documentation.

Pollutant Reduction

The State of CT DEEP requires 80% removal of Total Suspended Solids, 60% removal of Phosphorus, and 40% removal of Nitrogen. The proposed BMPs exceed these standards.

Total Suspended Solids

Location:		CB -> Basin			
	A	B	C	D	E
		TSS Removal	Starting TSS	Amount	Remaining
	BMP ¹	Rate ¹	Load*	Removed (B*C)	Load (C-D)
TSS Removal Calculation Worksheet	Deep Sump	0.25	1	0.25	0.75
	Infil. Basin	0.8	0.75	0.6	0.15
			0.15	0	0.15
			0.15	0	0.15
			0.15	0	0.15
Total TSS Removal =				85%	

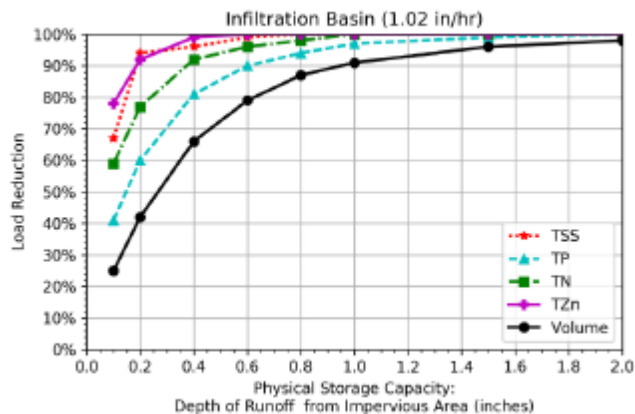
Location:		Grass Swale -> Basin			
	A	B	C	D	E
		TSS Removal	Starting TSS	Amount	Remaining
	BMP ¹	Rate ¹	Load*	Removed (B*C)	Load (C-D)
TSS Removal Calculation Worksheet	Grass Swale	0.7	1	0.7	0.3
	Infil. Basin	0.8	0.3	0.24	0.06
			0.06	0	0.06
			0.06	0	0.06
			0.06	0	0.06
Total TSS Removal =				94%	

Location:		Roof Drains -> Culverts			
	A	B	C	D	E
		TSS Removal	Starting TSS	Amount	Remaining
	BMP ¹	Rate ¹	Load*	Removed (B*C)	Load (C-D)
TSS Removal Calculation Worksheet	Galleries	0.8	1	0.8	0.2
			0.2	0	0.2
			0.2	0	0.2
			0.2	0	0.2
			0.2	0	0.2
Total TSS Removal =				80%	

Phosphorus and Nitrogen Removal

Watershed Area	Runoff Depth (in)	Perc. Rate (in/hr)	Phosphorus Removal	Nitrogen Removal
North Basin	4.84	1.02	100%	100%
South Basin	5.65	1.02	100%	100%
Entrance Basin	5.61	1.02	100%	100%
RS L1	6.11	1.02	100%	100%
RS L3	8.54	1.02	100%	100%
RS L4	4.89	1.02	100%	100%
RS L5R	8.54	1.02	100%	100%
RS L9R	8.54	1.02	100%	100%
Swale L9	5.38	1.02	100%	100%

Removal Rates are provided by the University of New Hampshire Stormwater Center. Graph and table below.



Infiltration Rate (in/hr)	Depth of Runoff from Impervious Area (inches)	TSS	Phosphorus	Nitrogen	Zinc	Runoff Volume
---------------------------	---	-----	------------	----------	------	---------------

1.02	0.1	67%	41%	59%	78%	25%
	0.2	94%	60%	77%	92%	42%
	0.4	96%	81%	92%	99%	66%
	0.6	99%	90%	96%	100%	79%
	0.8	100%	94%	98%	100%	87%
	1.0	100%	97%	100%	100%	91%
	1.5	100%	99%	100%	100%	96%
	2.0	100%	100%	100%	100%	98%

Drawdown Calculation

Based on standard infiltration rates, all basins will drawdown within the required 72hrs.

System #	Storage Volume (ft3)	Footprint Area (ft2)	Perc. Rate (in/hr)	DT (hrs)
North Basin	0	2,255	1.02	0
South Basin	2,546	1,387	1.02	22
Entrance Basin	954	295	1.02	38
RS L1	373	336	1.02	13
RS L3	423	336	1.02	15
RS L4	423	336	1.02	15
RS L5R	423	336	1.02	15

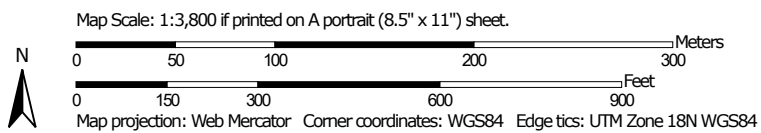
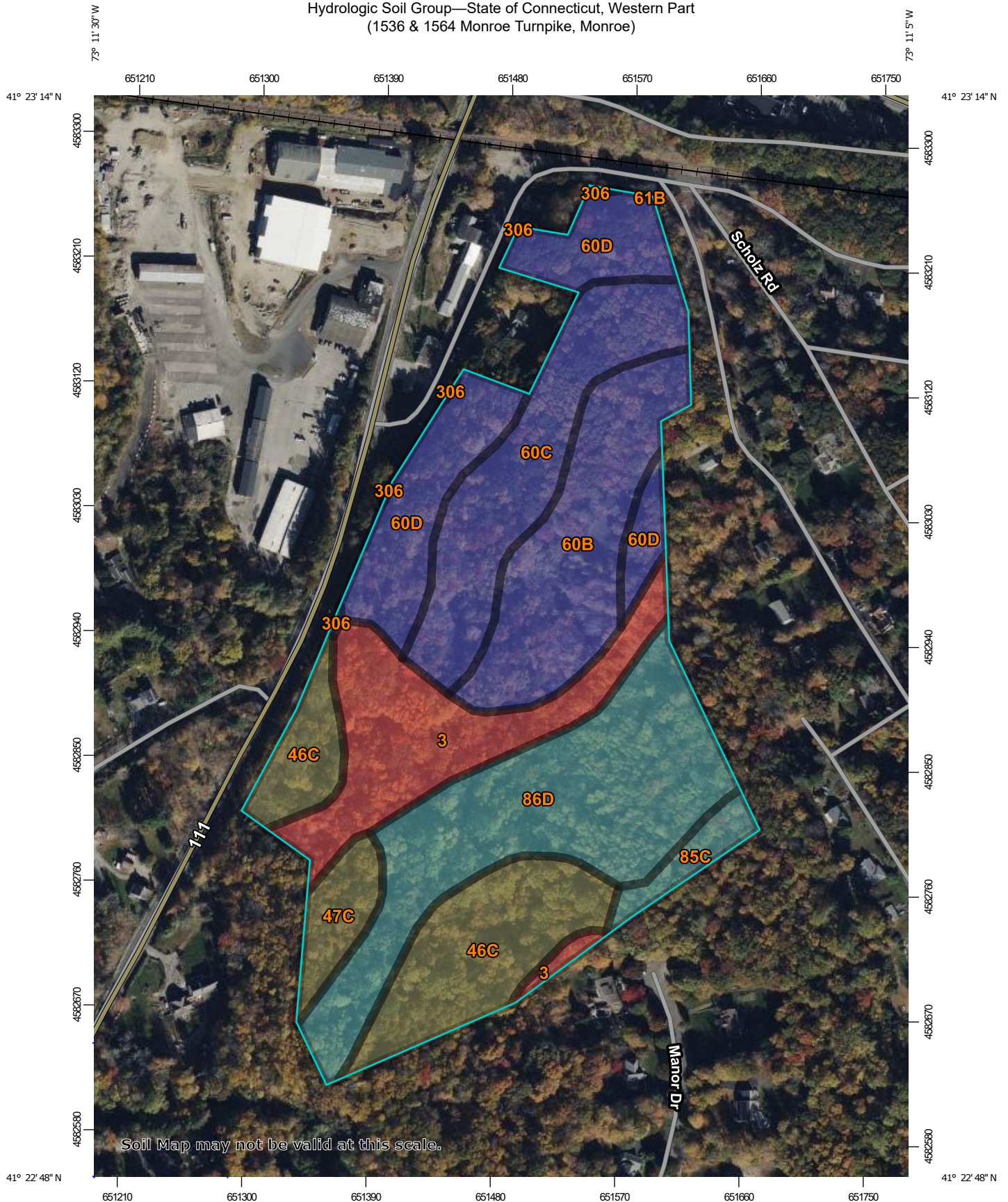
4. CONCLUSION

The proposed development will increase the amount of impervious area on the site, resulting in higher peak runoff rates. However, with the installation of the proposed water quality basin systems, the original flow patterns will be maintained and there will be no increase in peak runoff for the 2, 5, 10, 25, 50 & 100-year storm events. In addition to controlling stormwater peak runoff, the proposed design incorporates stormwater treatment to control pollution and provide groundwater recharge capacity. The implementation of these techniques and the overall site design layout will result in a finished project that will minimize sediment and erosion impacts during construction and will have no adverse impacts to adjoining properties upon completion.

APPENDIX A:

NRCS MAP AND NOAA RAINFALL TABLES

Hydrologic Soil Group—State of Connecticut, Western Part
(1536 & 1564 Monroe Turnpike, Monroe)



MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils

Soil Rating Polygons

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

Soil Rating Lines

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

Soil Rating Points

 A
 A/D
 B
 B/D

 C
 C/D
 D
 Not rated or not available

Water Features

 Streams and Canals

Transportation

 Rails
 Interstate Highways
 US Routes
 Major Roads
 Local Roads

Background

 Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:12,000.

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

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

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

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

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

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

Soil Survey Area: State of Connecticut, Western Part
Survey Area Data: Version 1, Sep 15, 2023

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

Date(s) aerial images were photographed: Oct 21, 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.

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
3	Ridgebury, Leicester, and Whitman soils, 0 to 8 percent slopes, extremely stony	D	4.5	14.0%
46C	Woodbridge fine sandy loam, 8 to 15 percent slopes, very stony	C/D	4.7	14.7%
47C	Woodbridge fine sandy loam, 3 to 15 percent slopes, extremely stony	C/D	1.1	3.4%
60B	Canton and Charlton fine sandy loams, 3 to 8 percent slopes	B	4.6	14.5%
60C	Canton and Charlton fine sandy loams, 8 to 15 percent slopes	B	4.5	14.0%
60D	Canton and Charlton soils, 15 to 25 percent slopes	B	4.4	13.9%
61B	Canton and Charlton fine sandy loams, 0 to 8 percent slopes, very stony	B	0.0	0.0%
85C	Paxton and Montauk fine sandy loams, 8 to 15 percent slopes, very stony	C	0.7	2.3%
86D	Paxton and Montauk fine sandy loams, 15 to 35 percent slopes, extremely stony	C	7.3	23.0%
306	Udorthents-Urban land complex	B	0.1	0.2%
Totals for Area of Interest			31.9	100.0%

Description

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

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

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

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

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

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

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

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher



NOAA Atlas 14, Volume 10, Version 3
Location name: Monroe, Connecticut, USA*
Latitude: 41.385°, Longitude: -73.1882°
Elevation: 281 ft**
* source: ESRI Maps
** source: USGS



POINT PRECIPITATION FREQUENCY ESTIMATES

Sanja Perica, Sandra Pavlovic, Michael St. Laurent, Carl Trypaluk, Dale Unruh, Orlan Wilhite

NOAA, National Weather Service, Silver Spring, Maryland

[PF_tabular](#) | [PF_graphical](#) | [Maps & aerals](#)

PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches) ¹										
Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	0.364 (0.276-0.468)	0.427 (0.323-0.549)	0.529 (0.400-0.683)	0.614 (0.461-0.795)	0.730 (0.534-0.980)	0.818 (0.588-1.12)	0.910 (0.639-1.28)	1.01 (0.678-1.45)	1.16 (0.752-1.71)	1.29 (0.814-1.92)
10-min	0.516 (0.391-0.664)	0.605 (0.458-0.778)	0.750 (0.566-0.968)	0.869 (0.653-1.13)	1.03 (0.757-1.39)	1.16 (0.832-1.58)	1.29 (0.905-1.82)	1.44 (0.960-2.06)	1.65 (1.06-2.43)	1.82 (1.15-2.73)
15-min	0.607 (0.460-0.781)	0.711 (0.539-0.915)	0.881 (0.666-1.14)	1.02 (0.769-1.32)	1.22 (0.891-1.63)	1.36 (0.980-1.86)	1.52 (1.06-2.14)	1.69 (1.13-2.42)	1.94 (1.25-2.86)	2.14 (1.36-3.21)
30-min	0.842 (0.638-1.08)	0.985 (0.746-1.27)	1.22 (0.922-1.58)	1.42 (1.06-1.83)	1.68 (1.23-2.25)	1.89 (1.35-2.57)	2.10 (1.46-2.93)	2.32 (1.55-3.32)	2.63 (1.70-3.87)	2.88 (1.82-4.31)
60-min	1.08 (0.816-1.38)	1.26 (0.954-1.62)	1.56 (1.18-2.01)	1.81 (1.36-2.34)	2.15 (1.57-2.87)	2.41 (1.73-3.28)	2.68 (1.86-3.73)	2.95 (1.98-4.22)	3.33 (2.15-4.89)	3.62 (2.29-5.41)
2-hr	1.40 (1.07-1.79)	1.64 (1.25-2.09)	2.03 (1.54-2.60)	2.35 (1.78-3.03)	2.80 (2.06-3.74)	3.14 (2.27-4.26)	3.49 (2.46-4.89)	3.89 (2.61-5.53)	4.47 (2.90-6.53)	4.94 (3.14-7.35)
3-hr	1.61 (1.24-2.05)	1.90 (1.45-2.42)	2.36 (1.80-3.01)	2.74 (2.08-3.52)	3.27 (2.42-4.36)	3.67 (2.66-4.97)	4.09 (2.90-5.73)	4.58 (3.08-6.49)	5.31 (3.45-7.73)	5.92 (3.76-8.76)
6-hr	2.03 (1.56-2.56)	2.41 (1.86-3.05)	3.04 (2.33-3.85)	3.55 (2.71-4.53)	4.27 (3.17-5.65)	4.80 (3.51-6.48)	5.37 (3.84-7.50)	6.05 (4.08-8.52)	7.08 (4.61-10.2)	7.96 (5.08-11.7)
12-hr	2.49 (1.93-3.12)	3.00 (2.33-3.78)	3.85 (2.97-4.85)	4.54 (3.49-5.75)	5.51 (4.12-7.25)	6.22 (4.58-8.35)	6.99 (5.02-9.71)	7.91 (5.36-11.1)	9.30 (6.08-13.4)	10.5 (6.70-15.3)
24-hr	2.93 (2.28-3.65)	3.60 (2.80-4.49)	4.69 (3.64-5.87)	5.60 (4.33-7.04)	6.85 (5.16-8.98)	7.77 (5.75-10.4)	8.78 (6.36-12.2)	10.0 (6.80-13.9)	11.9 (7.78-17.0)	13.5 (8.66-19.6)
2-day	3.33 (2.61-4.13)	4.15 (3.26-5.15)	5.50 (4.30-6.84)	6.62 (5.14-8.26)	8.16 (6.18-10.7)	9.28 (6.93-12.4)	10.5 (7.71-14.6)	12.1 (8.25-16.7)	14.6 (9.60-20.7)	16.8 (10.8-24.2)
3-day	3.63 (2.86-4.48)	4.54 (3.57-5.60)	6.01 (4.72-7.45)	7.24 (5.65-9.01)	8.93 (6.80-11.6)	10.2 (7.62-13.5)	11.5 (8.48-16.0)	13.3 (9.07-18.3)	16.1 (10.6-22.7)	18.5 (11.9-26.6)
4-day	3.91 (3.09-4.81)	4.87 (3.84-6.00)	6.43 (5.06-7.94)	7.73 (6.05-9.59)	9.52 (7.26-12.4)	10.8 (8.13-14.3)	12.3 (9.04-16.9)	14.1 (9.66-19.4)	17.1 (11.2-24.0)	19.6 (12.7-28.1)
7-day	4.70 (3.73-5.75)	5.75 (4.56-7.04)	7.48 (5.91-9.18)	8.91 (7.01-11.0)	10.9 (8.33-14.0)	12.3 (9.28-16.2)	13.9 (10.2-19.0)	15.9 (10.9-21.7)	19.0 (12.5-26.6)	21.6 (14.0-30.8)
10-day	5.47 (4.36-6.67)	6.58 (5.24-8.04)	8.41 (6.67-10.3)	9.92 (7.82-12.2)	12.0 (9.20-15.3)	13.5 (10.2-17.7)	15.2 (11.2-20.5)	17.2 (11.9-23.4)	20.3 (13.4-28.3)	22.8 (14.8-32.4)
20-day	7.84 (6.28-9.49)	9.05 (7.25-11.0)	11.0 (8.82-13.4)	12.7 (10.1-15.5)	15.0 (11.5-18.9)	16.7 (12.5-21.4)	18.5 (13.5-24.4)	20.4 (14.2-27.5)	23.2 (15.5-32.2)	25.5 (16.6-35.9)
30-day	9.79 (7.88-11.8)	11.1 (8.90-13.4)	13.2 (10.5-15.9)	14.9 (11.9-18.1)	17.3 (13.3-21.6)	19.1 (14.4-24.3)	20.9 (15.2-27.4)	22.9 (15.9-30.6)	25.5 (17.0-35.1)	27.5 (17.9-38.6)
45-day	12.2 (9.84-14.6)	13.5 (10.9-16.3)	15.7 (12.6-18.9)	17.5 (14.0-21.2)	20.0 (15.5-24.9)	22.0 (16.6-27.7)	23.9 (17.4-30.9)	25.8 (18.0-34.4)	28.2 (18.9-38.7)	30.0 (19.6-41.9)
60-day	14.2 (11.5-17.0)	15.6 (12.6-18.6)	17.8 (14.4-21.4)	19.7 (15.8-23.8)	22.3 (17.2-27.6)	24.3 (18.4-30.6)	26.3 (19.1-33.8)	28.2 (19.7-37.4)	30.5 (20.5-41.7)	32.1 (21.0-44.8)

¹ Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).

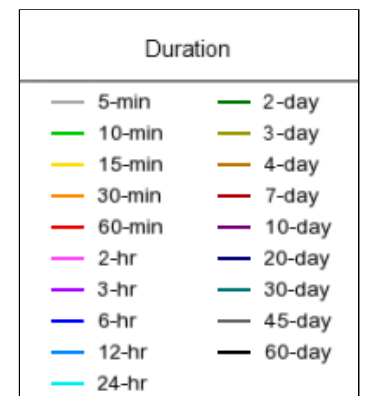
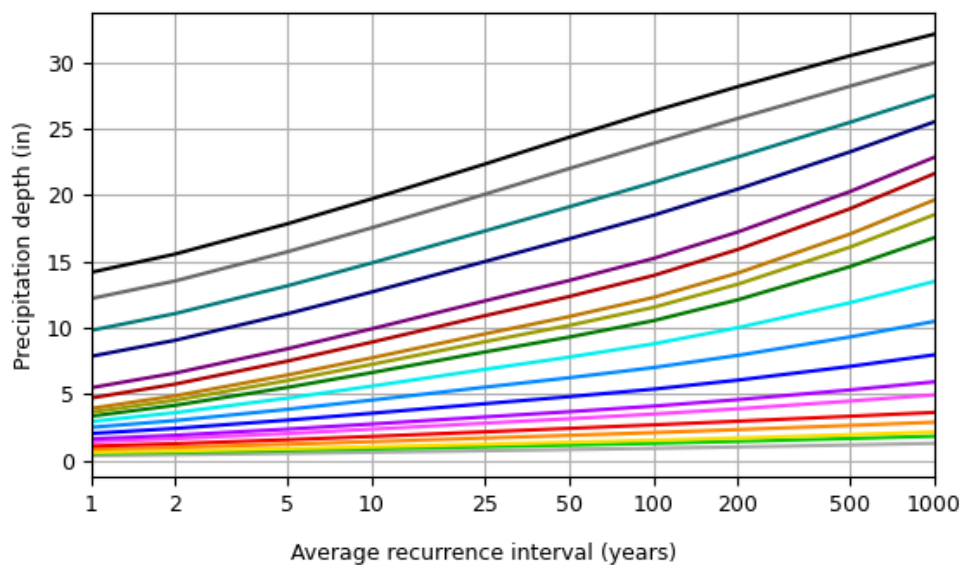
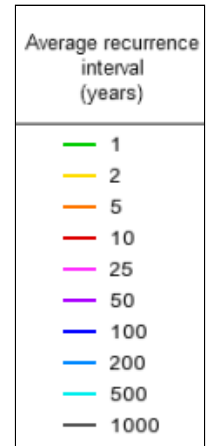
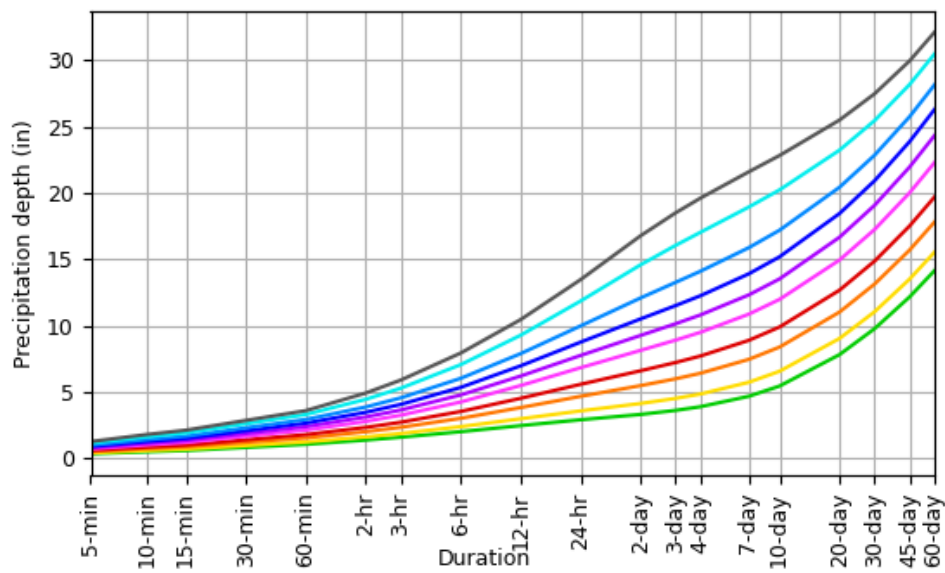
Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values.

Please refer to NOAA Atlas 14 document for more information.

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PF graphical

PDS-based depth-duration-frequency (DDF) curves
Latitude: 41.3850°, Longitude: -73.1882°

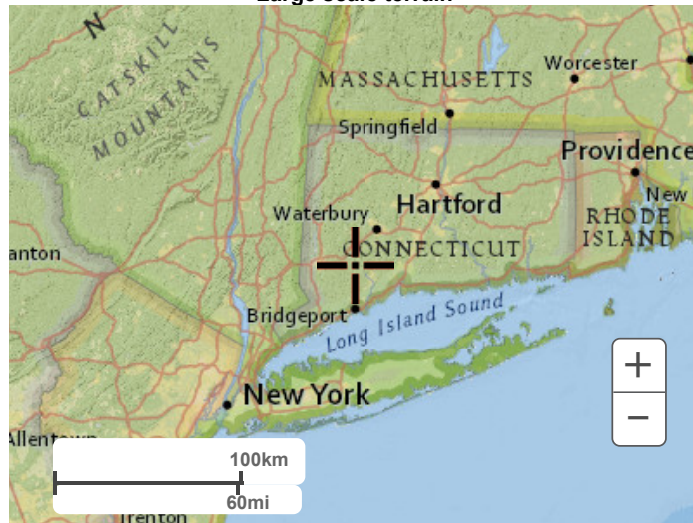


Maps & aerials

Small scale terrain



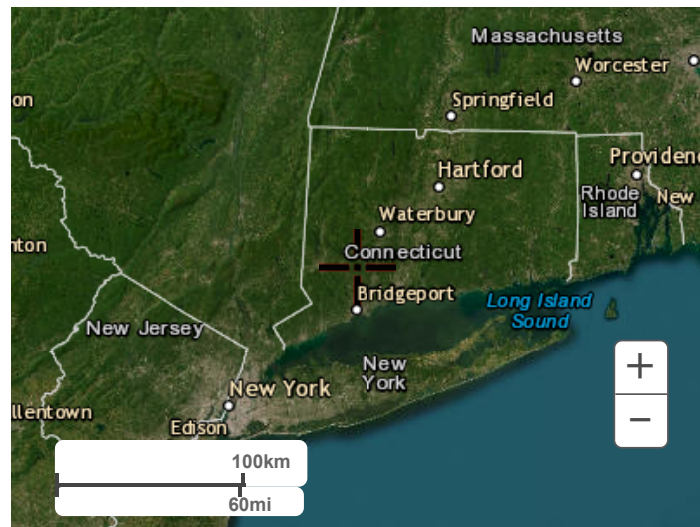
Large scale terrain



Large scale map



Large scale aerial



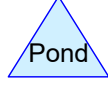
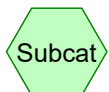
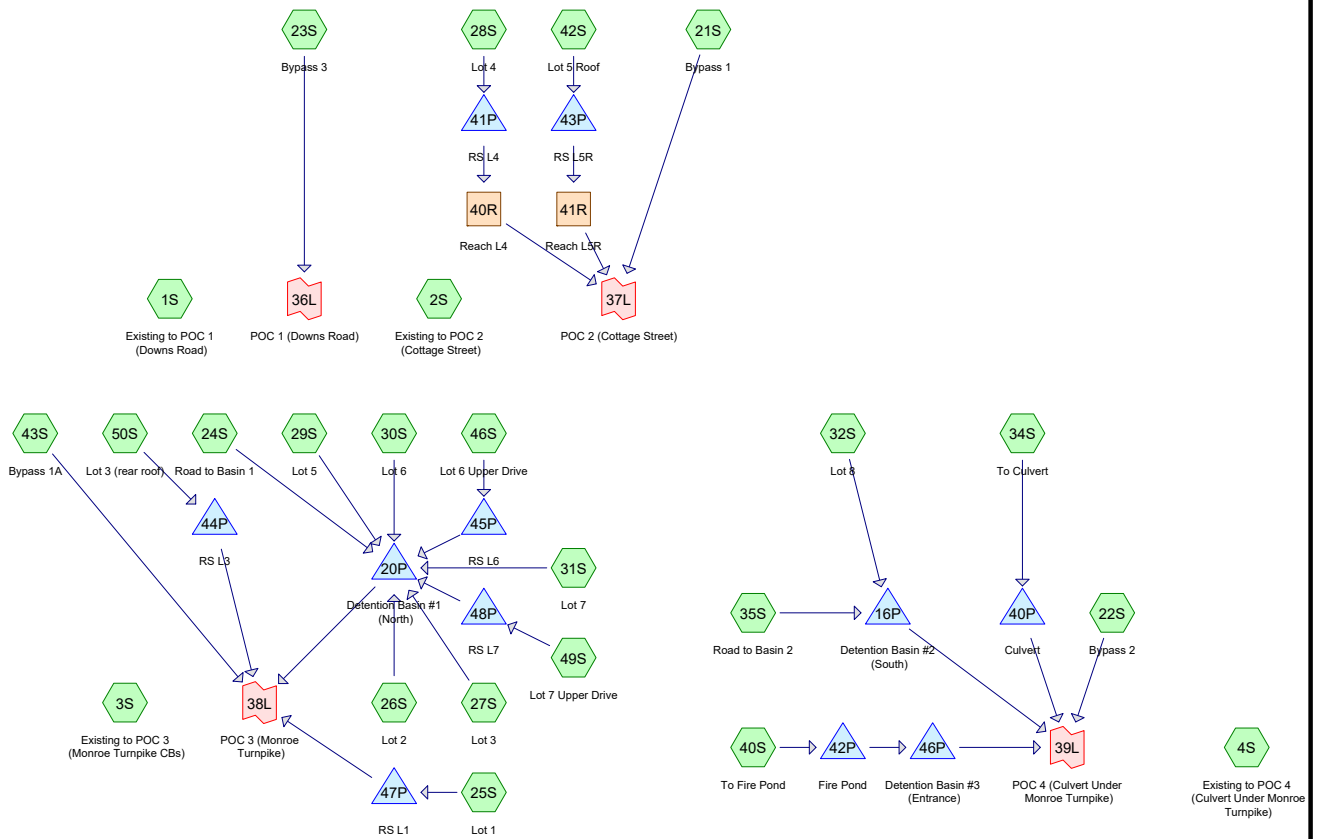
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APPENDIX B:

PRE- AND POST-DEVELOPMENT HYDROLOGICAL ANALYSIS



Routing Diagram for 2979-kwf 090924
 Prepared by J. Edwards & Associates, LLC, Printed 9/18/2024
 HydroCAD® 10.10-7c s/n 04982 © 2022 HydroCAD Software Solutions LLC

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
6.264	61	>75% Grass cover, Good, HSG B (21S, 22S, 23S, 24S, 25S, 26S, 27S, 28S, 29S, 30S, 31S, 32S, 35S, 43S, 46S, 49S)
0.170	74	>75% Grass cover, Good, HSG C (23S, 34S, 43S)
0.932	80	>75% Grass cover, Good, HSG D (22S, 25S, 29S, 32S, 34S, 35S, 43S)
0.660	98	Paved parking, HSG B (24S, 35S)
0.358	98	Roofs, HSG B (25S, 26S, 27S, 28S, 30S, 31S, 32S, 42S, 50S)
0.664	98	Unconnected pavement, HSG B (25S, 26S, 27S, 28S, 29S, 30S, 31S, 32S, 46S, 49S)
0.095	73	Woods, Fair, HSG C (23S)
19.375	55	Woods, Good, HSG B (1S, 2S, 3S, 4S, 21S, 22S, 23S, 24S, 35S, 40S, 43S)
13.751	70	Woods, Good, HSG C (1S, 4S, 34S, 35S, 40S, 43S)
18.826	77	Woods, Good, HSG D (1S, 4S, 22S, 23S, 34S, 35S, 40S, 43S)

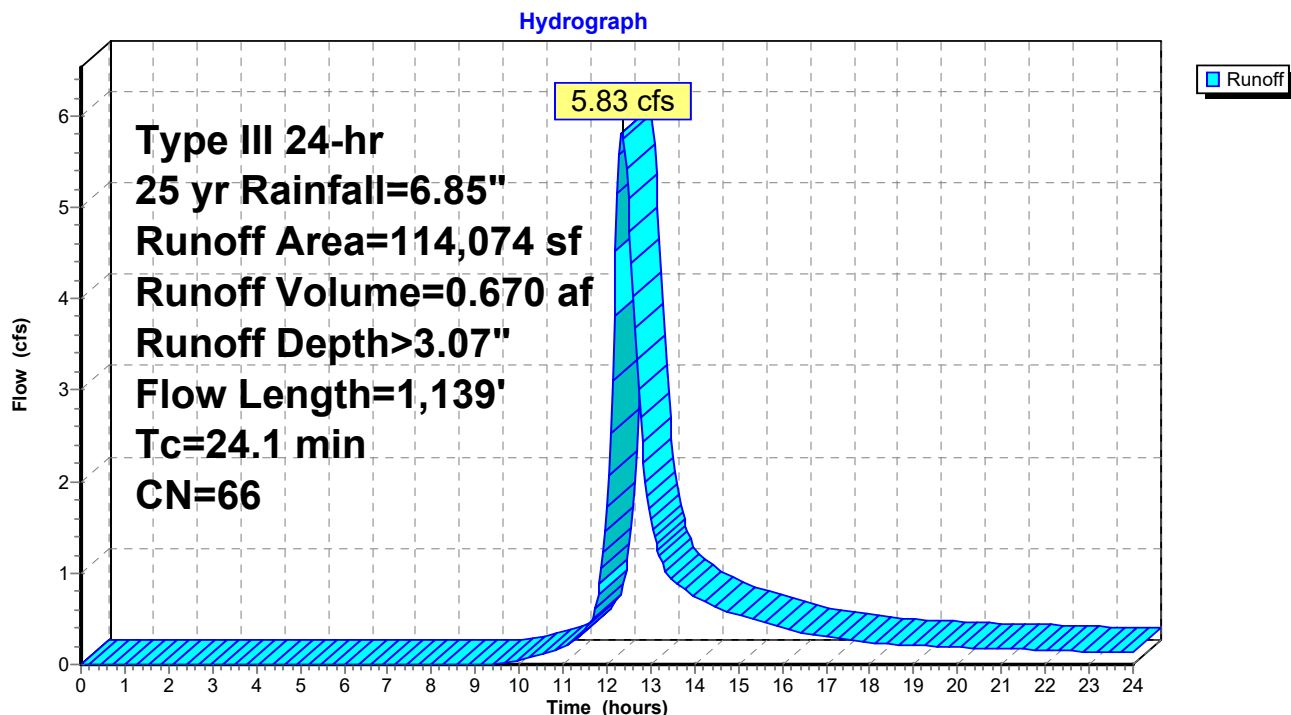
Summary for Subcatchment 1S: Existing to POC 1 (Downs Road)

Runoff = 5.83 cfs @ 12.35 hrs, Volume= 0.670 af, Depth> 3.07"
 Routed to nonexistent node 18L

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.04 hrs
 Type III 24-hr 25 yr Rainfall=6.85"

Area (sf)	CN	Description
40,140	55	Woods, Good, HSG B
48,562	70	Woods, Good, HSG C
25,372	77	Woods, Good, HSG D
114,074	66	Weighted Average
114,074		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.5	100	0.2200	0.12		Sheet Flow, Woods: Dense underbrush n= 0.800 P2= 3.60"
2.8	400	0.2200	2.35		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
7.8	639	0.0750	1.37		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
24.1	1,139	Total			

Subcatchment 1S: Existing to POC 1 (Downs Road)

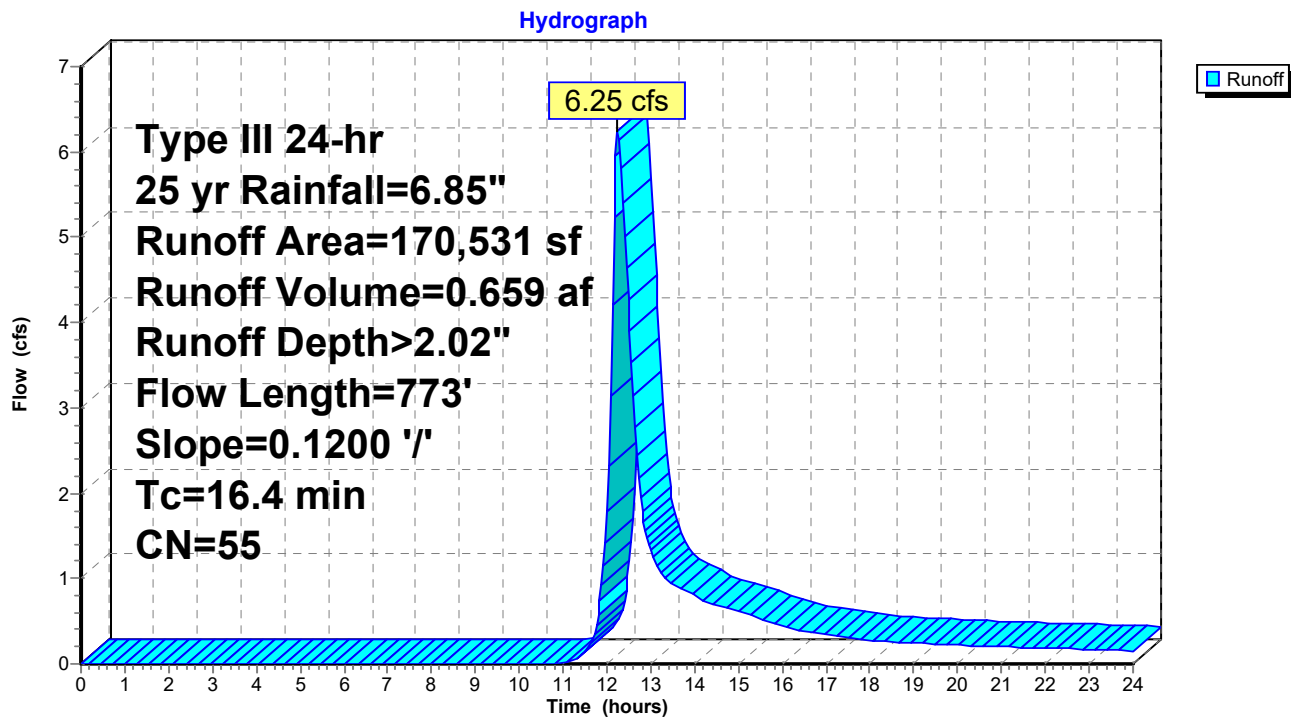
Summary for Subcatchment 2S: Existing to POC 2 (Cottage Street)

Runoff = 6.25 cfs @ 12.25 hrs, Volume= 0.659 af, Depth> 2.02"
 Routed to nonexistent node 18L

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.04 hrs
 Type III 24-hr 25 yr Rainfall=6.85"

Area (sf)	CN	Description
170,531	55	Woods, Good, HSG B
0	77	Woods, Good, HSG D
170,531	55	Weighted Average
170,531		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.9	100	0.1200	0.17		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 3.60"
6.5	673	0.1200	1.73		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
16.4	773	Total			

Subcatchment 2S: Existing to POC 2 (Cottage Street)

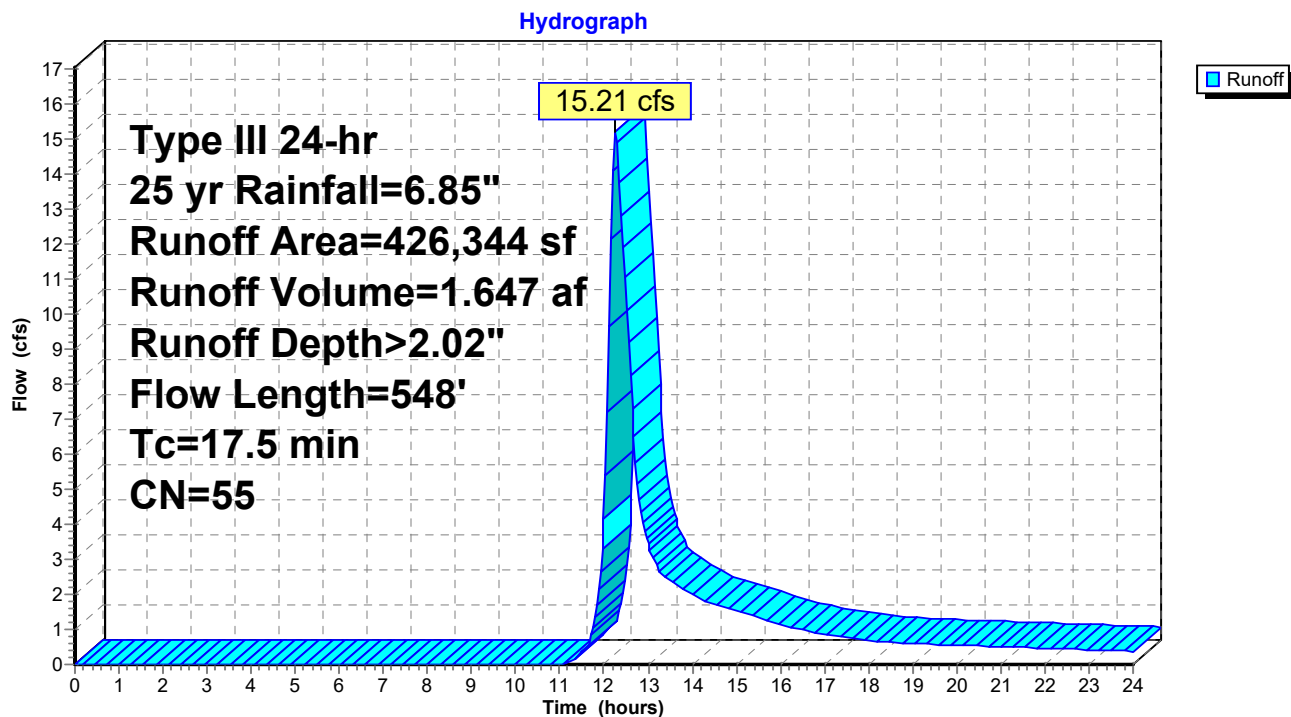
Summary for Subcatchment 3S: Existing to POC 3 (Monroe Turnpike CBs)

Runoff = 15.21 cfs @ 12.27 hrs, Volume= 1.647 af, Depth> 2.02"
 Routed to nonexistent node 18L

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.04 hrs
 Type III 24-hr 25 yr Rainfall=6.85"

Area (sf)	CN	Description
426,344	55	Woods, Good, HSG B
0	70	Woods, Good, HSG C
0	77	Woods, Good, HSG D
426,344	55	Weighted Average
426,344		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.8	100	0.2100	0.12		Sheet Flow, Woods: Dense underbrush n= 0.800 P2= 3.60"
2.5	349	0.2100	2.29		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
1.2	99	0.0700	1.32		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
17.5	548	Total			

Subcatchment 3S: Existing to POC 3 (Monroe Turnpike CBs)

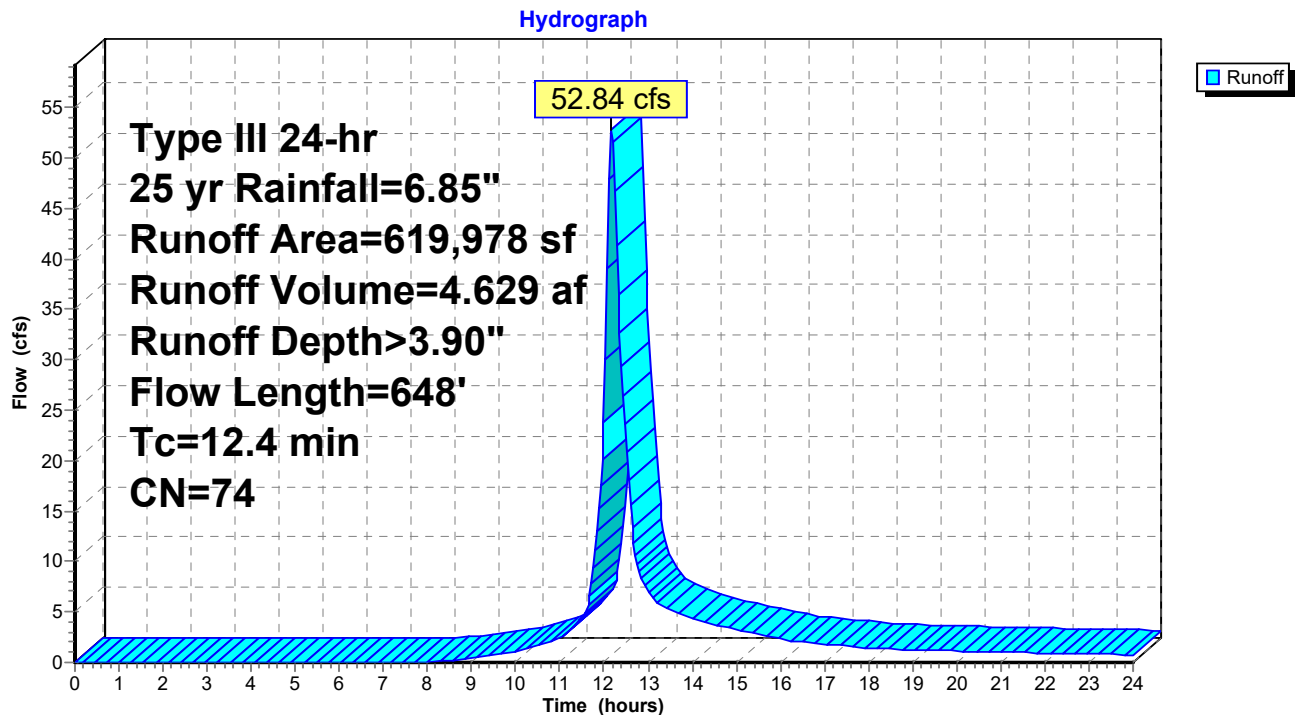
Summary for Subcatchment 4S: Existing to POC 4 (Culvert Under Monroe Turnpike)

Runoff = 52.84 cfs @ 12.17 hrs, Volume= 4.629 af, Depth> 3.90"
 Routed to nonexistent node 18L

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.04 hrs
 Type III 24-hr 25 yr Rainfall=6.85"

Area (sf)	CN	Description
8,094	55	Woods, Good, HSG B
257,742	70	Woods, Good, HSG C
354,142	77	Woods, Good, HSG D
619,978	74	Weighted Average
619,978		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.9	100	0.2100	0.21		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 3.60"
3.3	449	0.2100	2.29		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
1.2	99	0.0700	1.32		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
12.4	648	Total			

Subcatchment 4S: Existing to POC 4 (Culvert Under Monroe Turnpike)

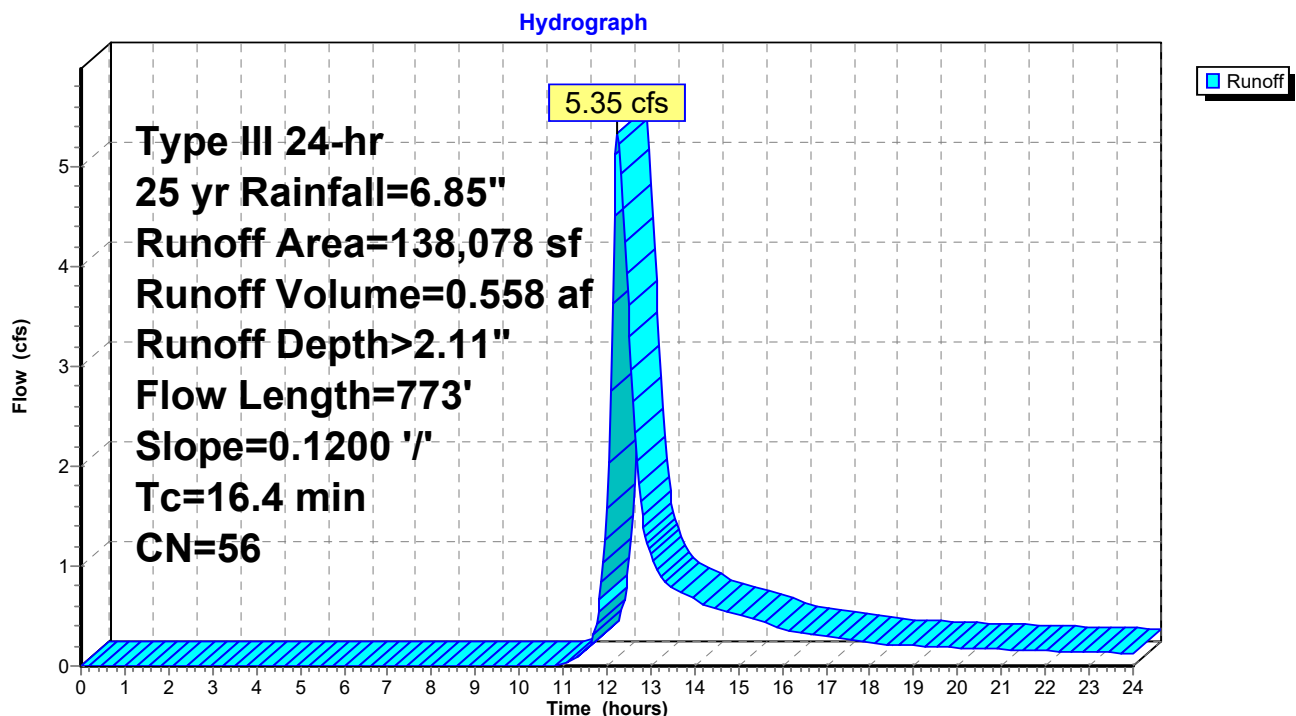
Summary for Subcatchment 21S: Bypass 1

Runoff = 5.35 cfs @ 12.25 hrs, Volume= 0.558 af, Depth> 2.11"
 Routed to Link 37L : POC 2 (Cottage Street)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.04 hrs
 Type III 24-hr 25 yr Rainfall=6.85"

Area (sf)	CN	Description
25,613	61	>75% Grass cover, Good, HSG B
0	74	>75% Grass cover, Good, HSG C
0	80	>75% Grass cover, Good, HSG D
112,465	55	Woods, Good, HSG B
0	70	Woods, Good, HSG C
0	77	Woods, Good, HSG D
138,078	56	Weighted Average
138,078		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.9	100	0.1200	0.17		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 3.60"
6.5	673	0.1200	1.73		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
16.4	773	Total			

Subcatchment 21S: Bypass 1

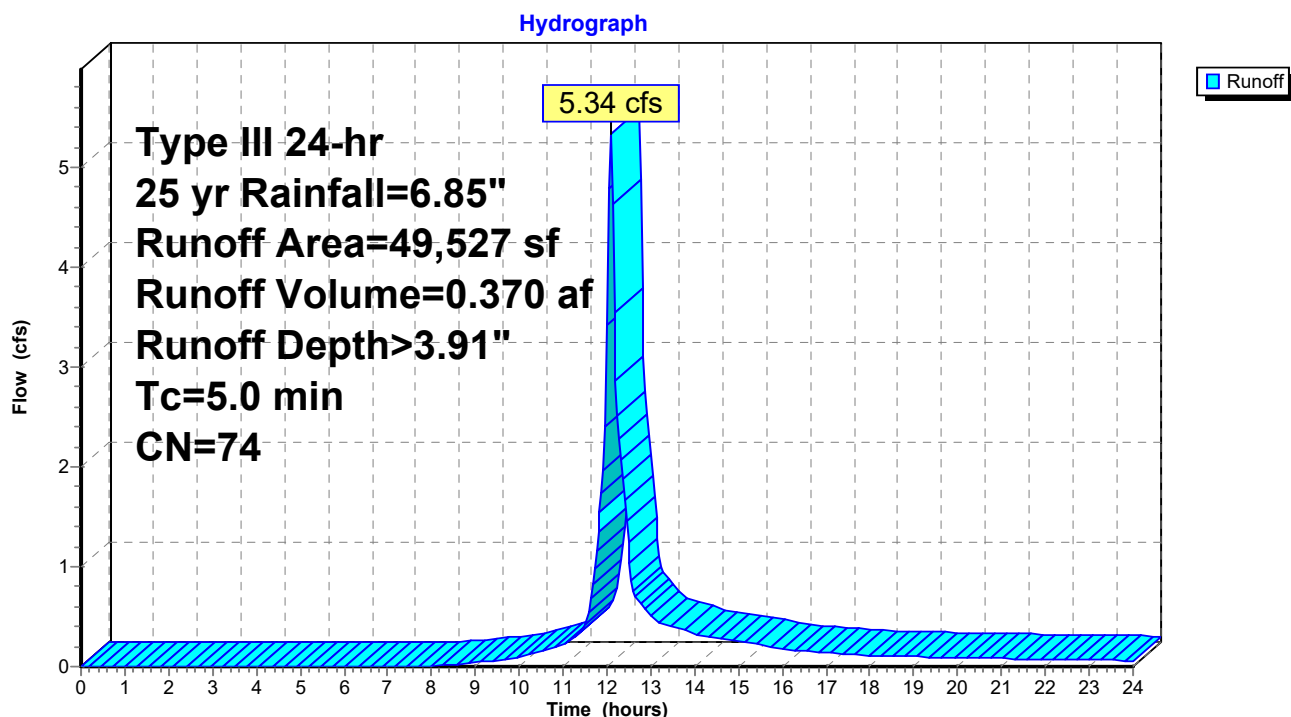
Summary for Subcatchment 22S: Bypass 2

Runoff = 5.34 cfs @ 12.08 hrs, Volume= 0.370 af, Depth> 3.91"
 Routed to Link 39L : POC 4 (Culvert Under Monroe Turnpike)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.04 hrs
 Type III 24-hr 25 yr Rainfall=6.85"

Area (sf)	CN	Description
1,172	61	>75% Grass cover, Good, HSG B
4,836	80	>75% Grass cover, Good, HSG D
7,389	55	Woods, Good, HSG B
36,130	77	Woods, Good, HSG D
49,527	74	Weighted Average
49,527		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry,

Subcatchment 22S: Bypass 2

Summary for Subcatchment 23S: Bypass 3

Runoff = 4.87 cfs @ 12.37 hrs, Volume= 0.573 af, Depth> 2.87"
 Routed to Link 36L : POC 1 (Downs Road)

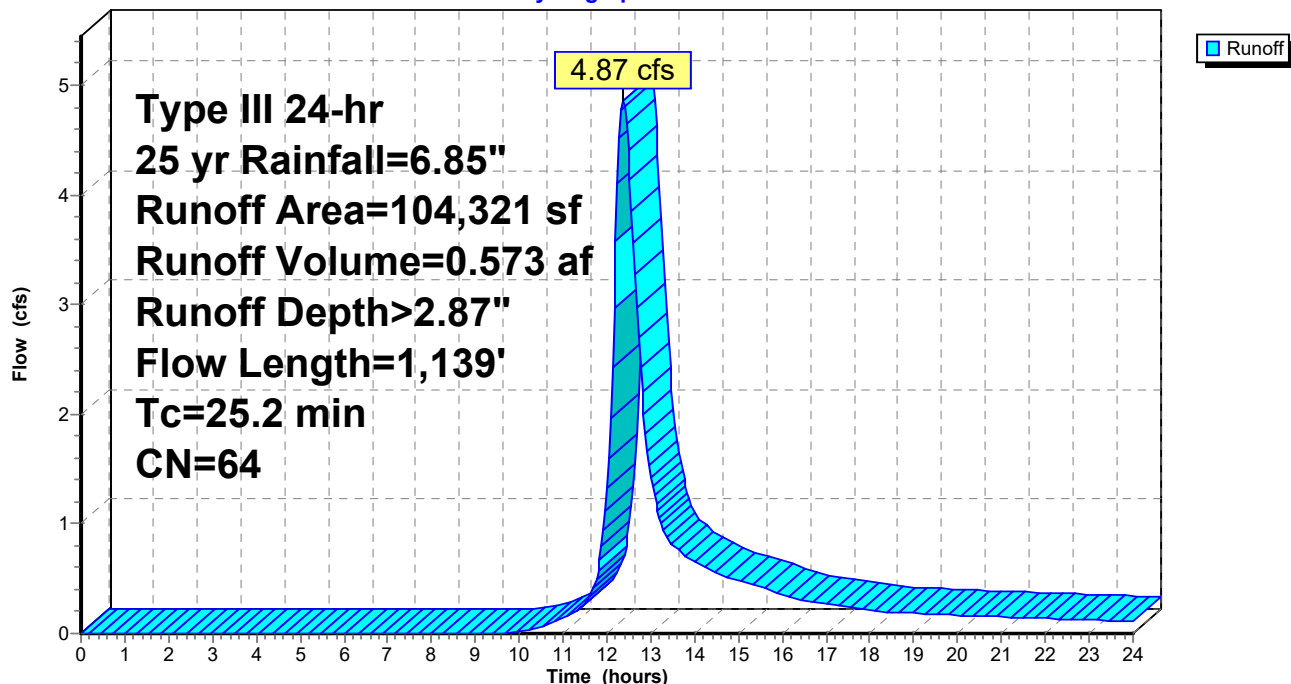
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.04 hrs
 Type III 24-hr 25 yr Rainfall=6.85"

Area (sf)	CN	Description
48,265	61	>75% Grass cover, Good, HSG B
4,089	74	>75% Grass cover, Good, HSG C
24,132	55	Woods, Good, HSG B
4,157	73	Woods, Fair, HSG C
23,678	77	Woods, Good, HSG D
104,321	64	Weighted Average
104,321		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.6	100	0.1800	0.11		Sheet Flow, Woods: Dense underbrush n= 0.800 P2= 3.60"
2.8	400	0.2200	2.35		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
7.8	639	0.0750	1.37		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
25.2	1,139	Total			

Subcatchment 23S: Bypass 3

Hydrograph



Summary for Subcatchment 24S: Road to Basin 1

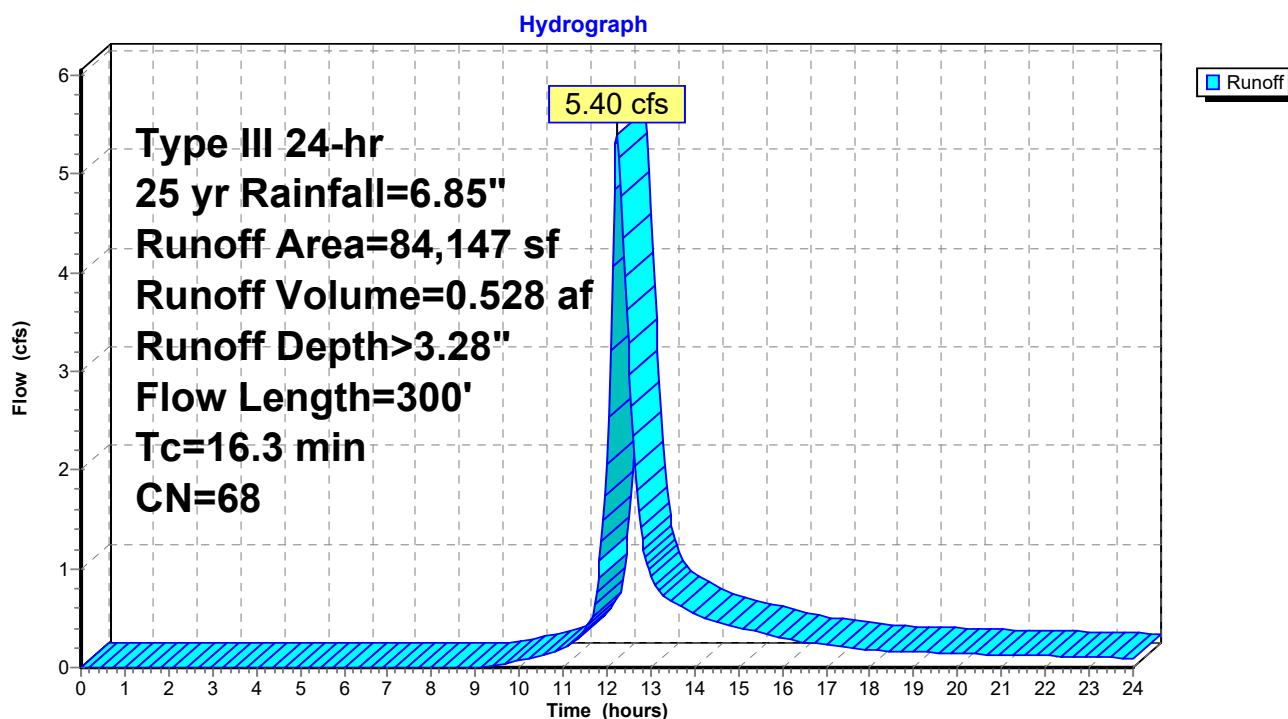
Runoff = 5.40 cfs @ 12.23 hrs, Volume= 0.528 af, Depth> 3.28"
 Routed to Pond 20P : Detention Basin #1 (North)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.04 hrs
 Type III 24-hr 25 yr Rainfall=6.85"

Area (sf)	CN	Description
63,879	61	>75% Grass cover, Good, HSG B
0	80	>75% Grass cover, Good, HSG D
3,256	55	Woods, Good, HSG B
0	77	Woods, Good, HSG D
17,012	98	Paved parking, HSG B
84,147	68	Weighted Average
67,135		79.78% Pervious Area
17,012		20.22% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.1	25	0.0500	0.05		Sheet Flow, Woods: Dense underbrush n= 0.800 P2= 3.60"
7.4	75	0.0500	0.17		Sheet Flow, Grass: Dense n= 0.240 P2= 3.60"
0.4	108	0.1000	4.74		Shallow Concentrated Flow, Grassed Waterway Kv= 15.0 fps
0.4	92	0.0330	3.69		Shallow Concentrated Flow, Paved Kv= 20.3 fps
16.3	300	Total			

Subcatchment 24S: Road to Basin 1



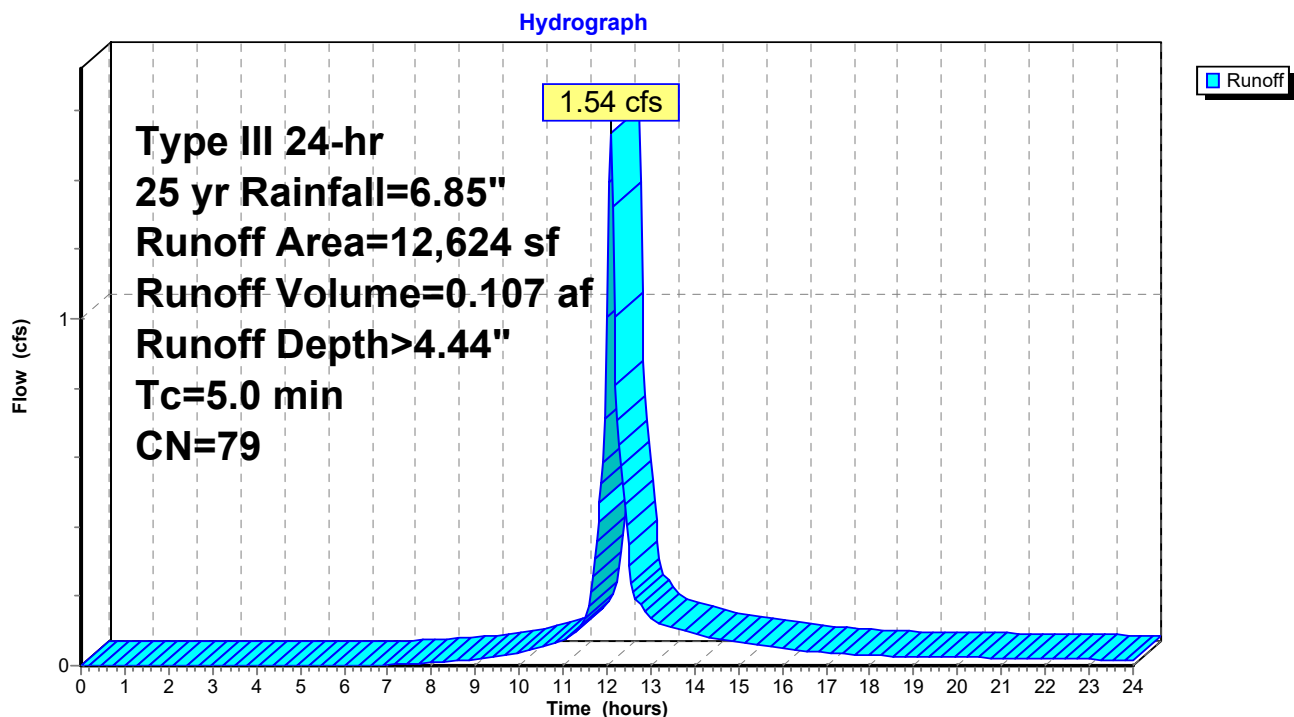
Summary for Subcatchment 25S: Lot 1

Runoff = 1.54 cfs @ 12.08 hrs, Volume= 0.107 af, Depth> 4.44"
 Routed to Pond 47P : RS L1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.04 hrs
 Type III 24-hr 25 yr Rainfall=6.85"

Area (sf)	CN	Description
5,267	61	>75% Grass cover, Good, HSG B
2,844	80	>75% Grass cover, Good, HSG D
0	55	Woods, Good, HSG B
0	77	Woods, Good, HSG D
1,950	98	Roofs, HSG B
2,563	98	Unconnected pavement, HSG B
12,624	79	Weighted Average
8,111		64.25% Pervious Area
4,513		35.75% Impervious Area
2,563		56.79% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry,

Subcatchment 25S: Lot 1

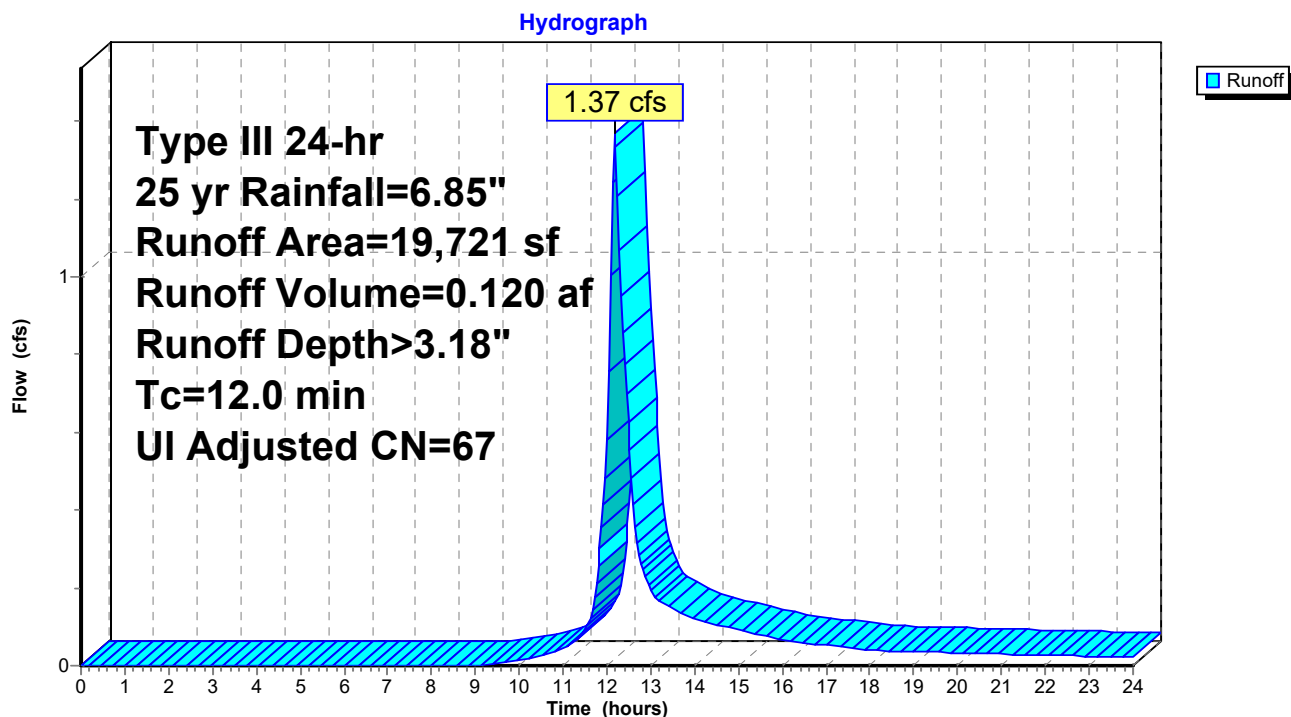
Summary for Subcatchment 26S: Lot 2

Runoff = 1.37 cfs @ 12.17 hrs, Volume= 0.120 af, Depth> 3.18"
 Routed to Pond 20P : Detention Basin #1 (North)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.04 hrs
 Type III 24-hr 25 yr Rainfall=6.85"

Area (sf)	CN	Adj	Description
15,135	61		>75% Grass cover, Good, HSG B
0	80		>75% Grass cover, Good, HSG D
0	55		Woods, Good, HSG B
0	77		Woods, Good, HSG D
1,950	98		Roofs, HSG B
2,636	98		Unconnected pavement, HSG B
19,721	70	67	Weighted Average, UI Adjusted
15,135			76.75% Pervious Area
4,586			23.25% Impervious Area
2,636			57.48% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.0					Direct Entry,

Subcatchment 26S: Lot 2

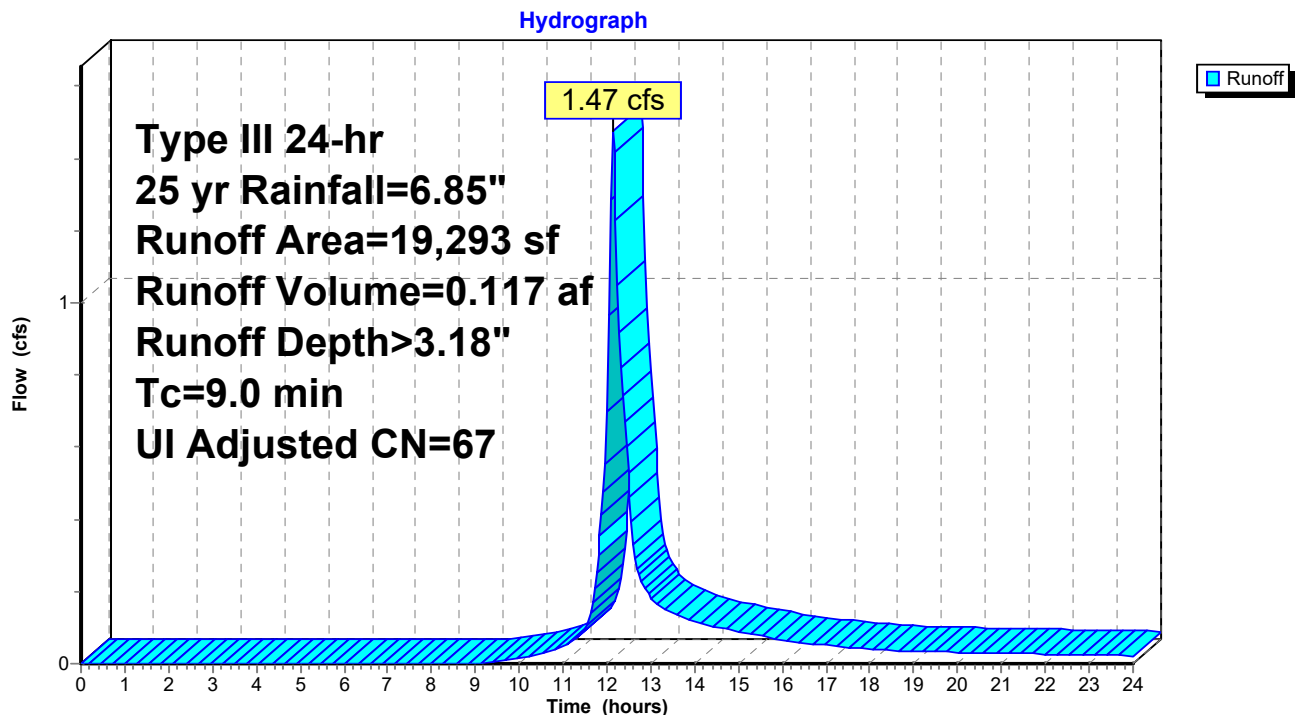
Summary for Subcatchment 27S: Lot 3

Runoff = 1.47 cfs @ 12.13 hrs, Volume= 0.117 af, Depth> 3.18"
 Routed to Pond 20P : Detention Basin #1 (North)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.04 hrs
 Type III 24-hr 25 yr Rainfall=6.85"

Area (sf)	CN	Adj	Description
14,132	61		>75% Grass cover, Good, HSG B
0	80		>75% Grass cover, Good, HSG D
0	55		Woods, Good, HSG B
0	77		Woods, Good, HSG D
975	98		Roofs, HSG B
4,186	98		Unconnected pavement, HSG B
19,293	71	67	Weighted Average, UI Adjusted
14,132			73.25% Pervious Area
5,161			26.75% Impervious Area
4,186			81.11% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.0					Direct Entry,

Subcatchment 27S: Lot 3

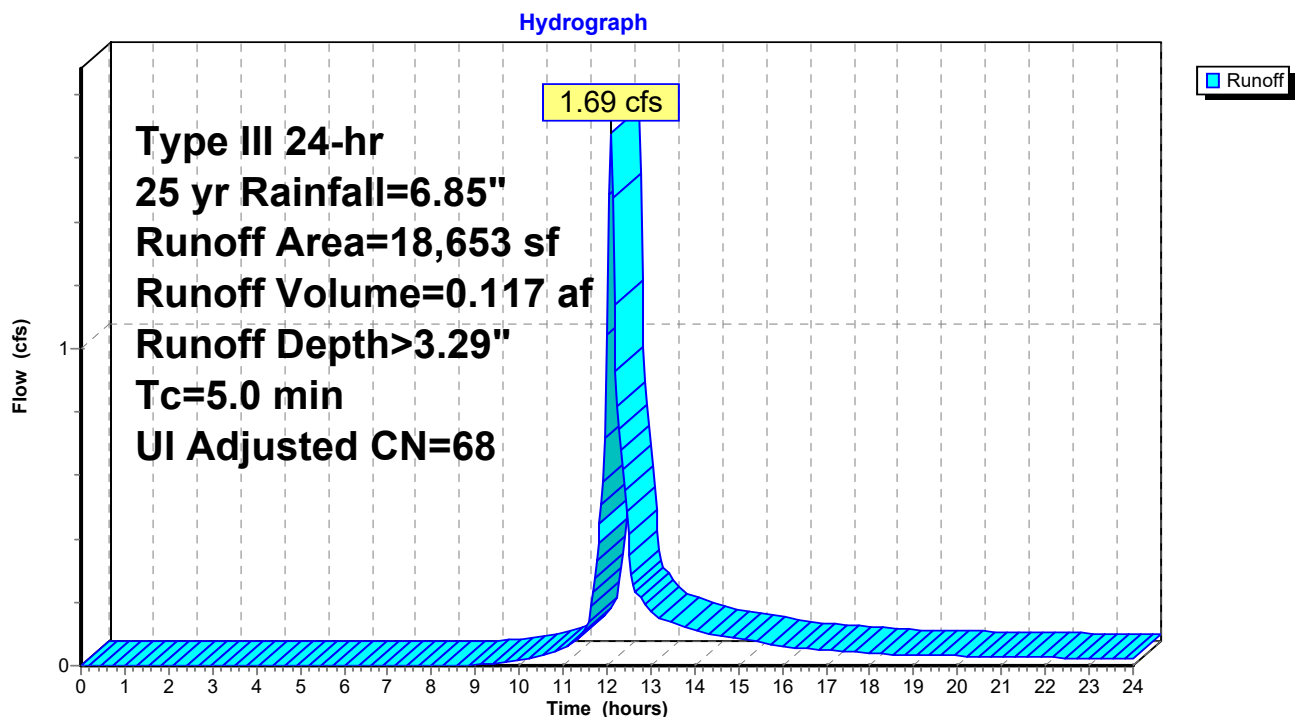
Summary for Subcatchment 28S: Lot 4

Runoff = 1.69 cfs @ 12.08 hrs, Volume= 0.117 af, Depth> 3.29"
 Routed to Pond 41P : RS L4

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.04 hrs
 Type III 24-hr 25 yr Rainfall=6.85"

Area (sf)	CN	Adj	Description
13,142	61		>75% Grass cover, Good, HSG B
0	80		>75% Grass cover, Good, HSG D
0	55		Woods, Good, HSG B
0	77		Woods, Good, HSG D
1,950	98		Roofs, HSG B
3,561	98		Unconnected pavement, HSG B
18,653	72	68	Weighted Average, UI Adjusted
13,142			70.46% Pervious Area
5,511			29.54% Impervious Area
3,561			64.62% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry,

Subcatchment 28S: Lot 4

Summary for Subcatchment 29S: Lot 5

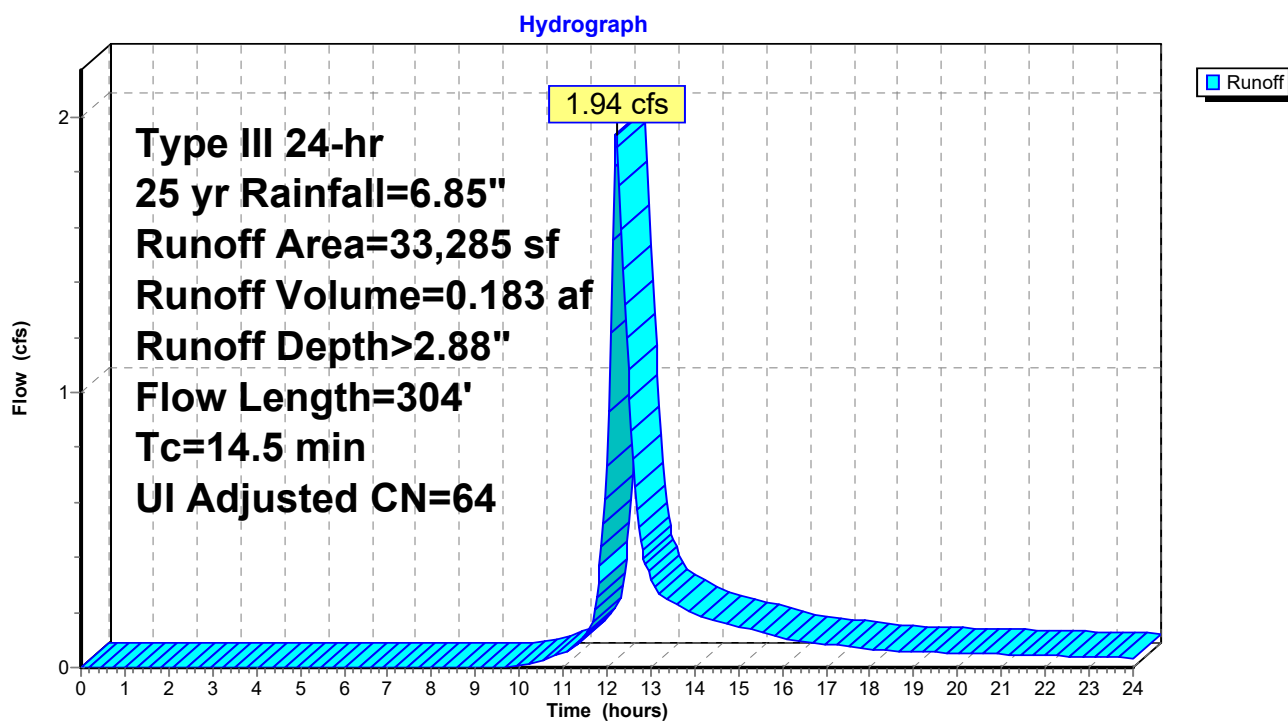
Runoff = 1.94 cfs @ 12.21 hrs, Volume= 0.183 af, Depth> 2.88"
 Routed to Pond 20P : Detention Basin #1 (North)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.04 hrs
 Type III 24-hr 25 yr Rainfall=6.85"

Area (sf)	CN	Adj	Description
27,652	61		>75% Grass cover, Good, HSG B
1,635	80		>75% Grass cover, Good, HSG D
0	55		Woods, Good, HSG B
0	77		Woods, Good, HSG D
0	98		Roofs, HSG B
3,998	98		Unconnected pavement, HSG B
33,285	66	64	Weighted Average, UI Adjusted
29,287			87.99% Pervious Area
3,998			12.01% Impervious Area
3,998			100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.3	20	0.0600	0.05		Sheet Flow, Woods: Dense underbrush n= 0.800 P2= 3.60"
7.3	80	0.0600	0.18		Sheet Flow, Grass: Dense n= 0.240 P2= 3.60"
0.4	119	0.1000	4.74		Shallow Concentrated Flow, Grassed Waterway Kv= 15.0 fps
0.5	85	0.0200	2.87		Shallow Concentrated Flow, Paved Kv= 20.3 fps
14.5	304	Total			

Subcatchment 29S: Lot 5



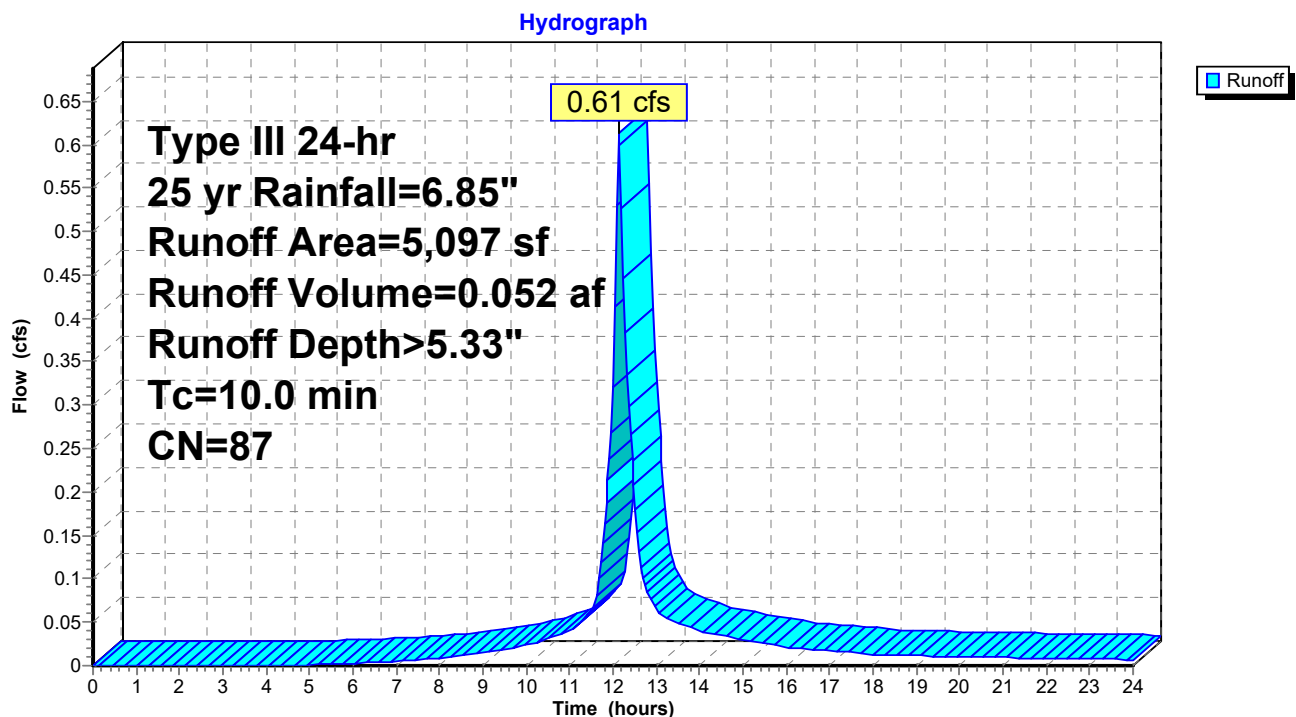
Summary for Subcatchment 30S: Lot 6

Runoff = 0.61 cfs @ 12.14 hrs, Volume= 0.052 af, Depth> 5.33"
 Routed to Pond 20P : Detention Basin #1 (North)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.04 hrs
 Type III 24-hr 25 yr Rainfall=6.85"

Area (sf)	CN	Description
1,562	61	>75% Grass cover, Good, HSG B
0	80	>75% Grass cover, Good, HSG D
0	55	Woods, Good, HSG B
0	77	Woods, Good, HSG D
1,950	98	Roofs, HSG B
1,585	98	Unconnected pavement, HSG B
5,097	87	Weighted Average
1,562		30.65% Pervious Area
3,535		69.35% Impervious Area
1,585		44.84% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					Direct Entry,

Subcatchment 30S: Lot 6

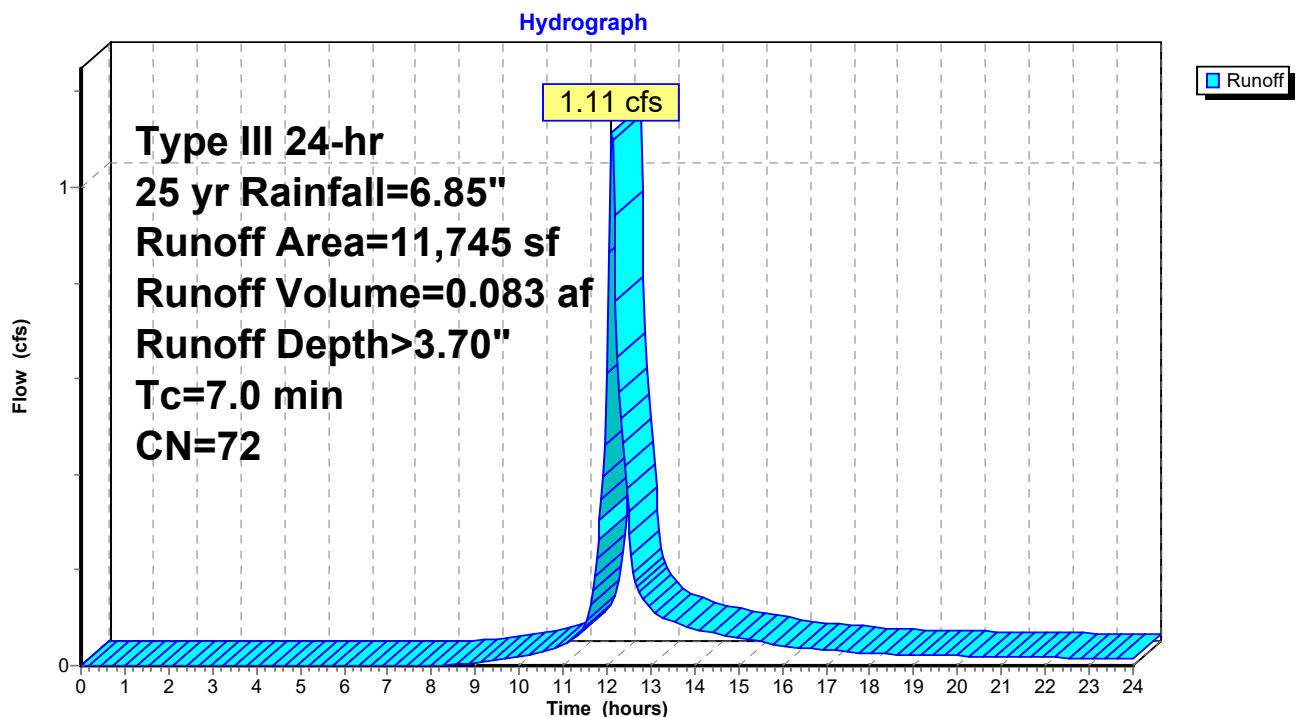
Summary for Subcatchment 31S: Lot 7

Runoff = 1.11 cfs @ 12.10 hrs, Volume= 0.083 af, Depth> 3.70"
 Routed to Pond 20P : Detention Basin #1 (North)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.04 hrs
 Type III 24-hr 25 yr Rainfall=6.85"

Area (sf)	CN	Description
8,215	61	>75% Grass cover, Good, HSG B
0	80	>75% Grass cover, Good, HSG D
0	55	Woods, Good, HSG B
0	77	Woods, Good, HSG D
1,950	98	Roofs, HSG B
1,580	98	Unconnected pavement, HSG B
11,745	72	Weighted Average
8,215		69.94% Pervious Area
3,530		30.06% Impervious Area
1,580		44.76% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.0					Direct Entry,

Subcatchment 31S: Lot 7

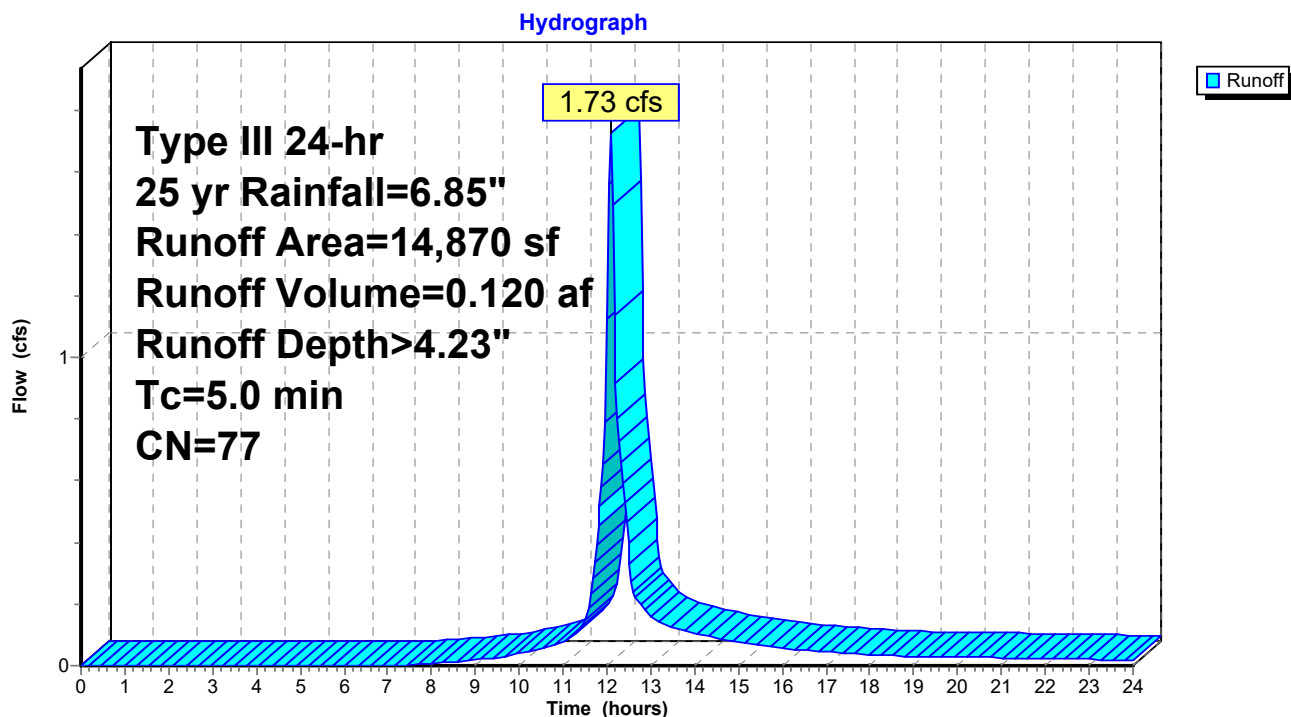
Summary for Subcatchment 32S: Lot 8

Runoff = 1.73 cfs @ 12.08 hrs, Volume= 0.120 af, Depth> 4.23"
 Routed to Pond 16P : Detention Basin #2 (South)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.04 hrs
 Type III 24-hr 25 yr Rainfall=6.85"

Area (sf)	CN	Description
7,658	61	>75% Grass cover, Good, HSG B
1,385	80	>75% Grass cover, Good, HSG D
0	55	Woods, Good, HSG B
0	77	Woods, Good, HSG D
1,950	98	Roofs, HSG B
3,877	98	Unconnected pavement, HSG B
14,870	77	Weighted Average
9,043		60.81% Pervious Area
5,827		39.19% Impervious Area
3,877		66.54% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry,

Subcatchment 32S: Lot 8

Summary for Subcatchment 34S: To Culvert

Runoff = 39.51 cfs @ 12.26 hrs, Volume= 4.051 af, Depth> 3.90"
 Routed to Pond 40P : Culvert

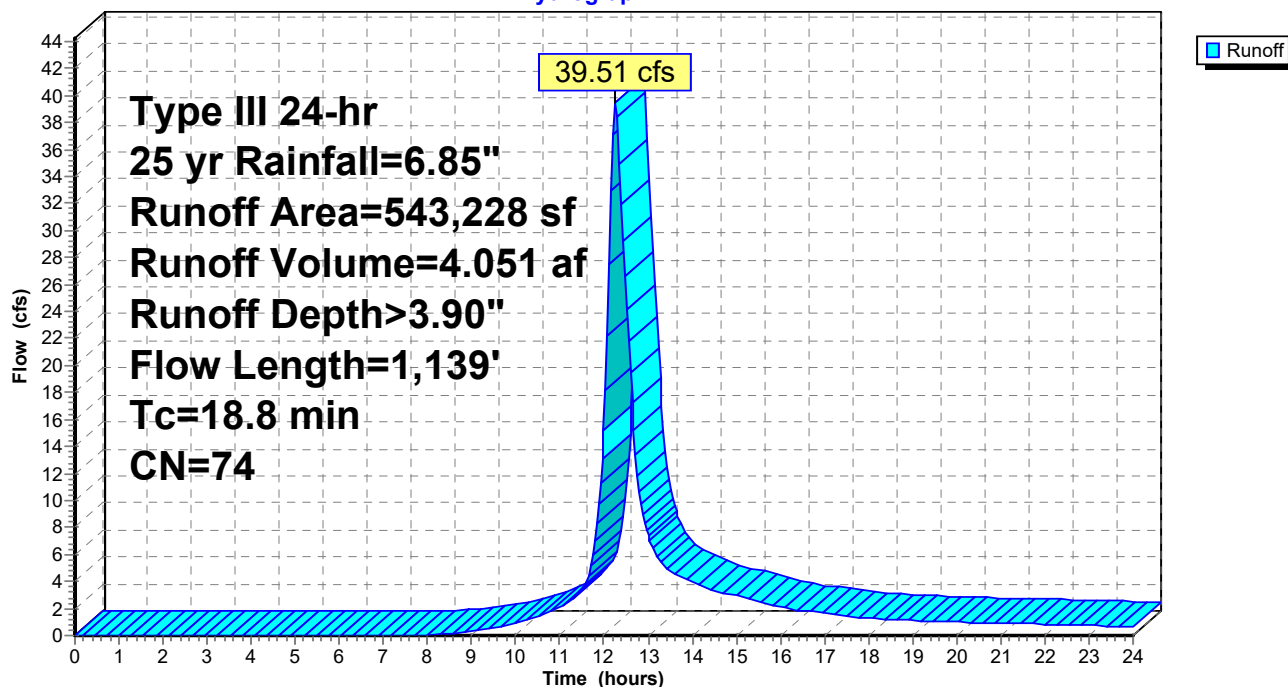
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.04 hrs
 Type III 24-hr 25 yr Rainfall=6.85"

Area (sf)	CN	Description
0	61	>75% Grass cover, Good, HSG B
2,100	74	>75% Grass cover, Good, HSG C
10,935	80	>75% Grass cover, Good, HSG D
0	55	Woods, Good, HSG B
236,861	70	Woods, Good, HSG C
293,332	77	Woods, Good, HSG D
0	98	Roofs, HSG B
0	98	Unconnected pavement, HSG B
543,228	74	Weighted Average
543,228		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.5	100	0.2200	0.12		Sheet Flow, Woods: Dense underbrush n= 0.800 P2= 3.60"
2.8	400	0.2200	2.35		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
2.5	639	0.7500	4.33		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
18.8	1,139	Total			

Subcatchment 34S: To Culvert

Hydrograph



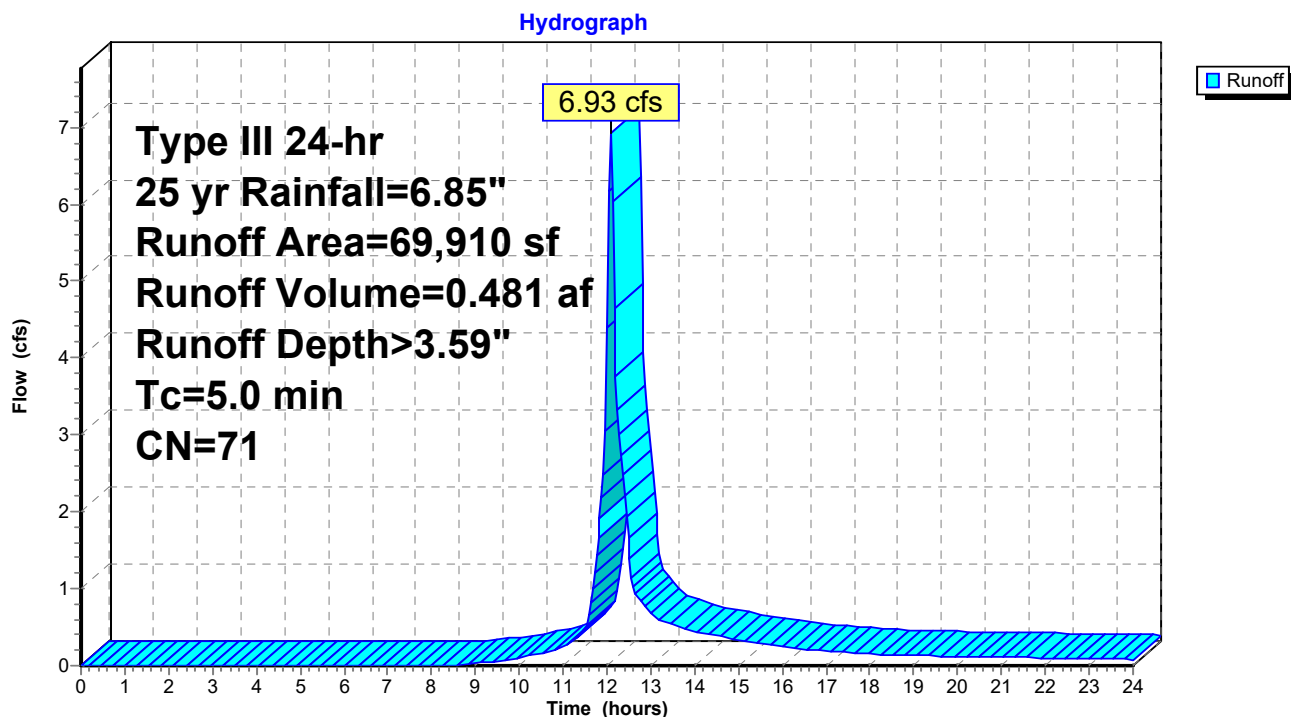
Summary for Subcatchment 35S: Road to Basin 2

Runoff = 6.93 cfs @ 12.08 hrs, Volume= 0.481 af, Depth> 3.59"
 Routed to Pond 16P : Detention Basin #2 (South)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.04 hrs
 Type III 24-hr 25 yr Rainfall=6.85"

Area (sf)	CN	Description
15,061	61	>75% Grass cover, Good, HSG B
0	74	>75% Grass cover, Good, HSG C
4,058	80	>75% Grass cover, Good, HSG D
15,055	55	Woods, Good, HSG B
11,839	70	Woods, Good, HSG C
12,167	77	Woods, Good, HSG D
11,730	98	Paved parking, HSG B
69,910	71	Weighted Average
58,180		83.22% Pervious Area
11,730		16.78% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry,

Subcatchment 35S: Road to Basin 2

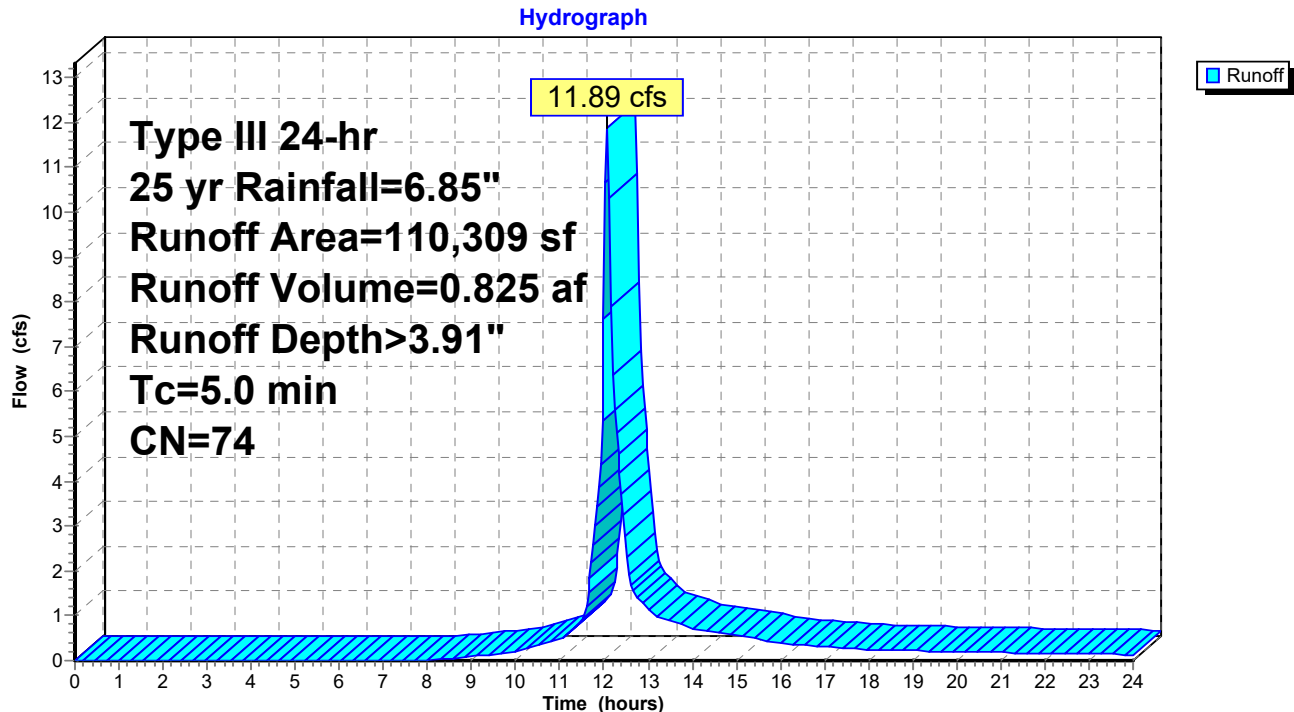
Summary for Subcatchment 40S: To Fire Pond

Runoff = 11.89 cfs @ 12.08 hrs, Volume= 0.825 af, Depth> 3.91"
 Routed to Pond 42P : Fire Pond

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.04 hrs
 Type III 24-hr 25 yr Rainfall=6.85"

Area (sf)	CN	Description
0	61	>75% Grass cover, Good, HSG B
0	80	>75% Grass cover, Good, HSG D
1,617	55	Woods, Good, HSG B
40,460	70	Woods, Good, HSG C
68,232	77	Woods, Good, HSG D
0	98	Paved parking, HSG B
110,309	74	Weighted Average
110,309		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry,

Subcatchment 40S: To Fire Pond

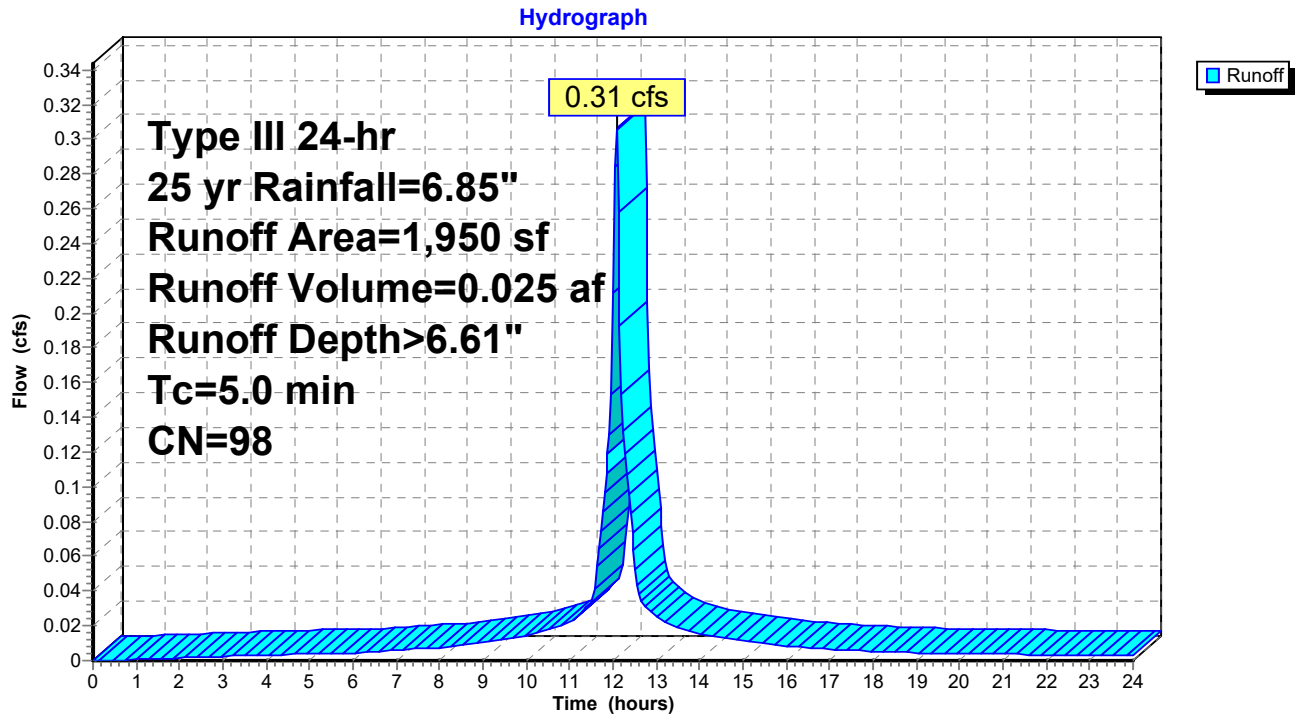
Summary for Subcatchment 42S: Lot 5 Roof

Runoff = 0.31 cfs @ 12.07 hrs, Volume= 0.025 af, Depth> 6.61"
 Routed to Pond 43P : RS L5R

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.04 hrs
 Type III 24-hr 25 yr Rainfall=6.85"

Area (sf)	CN	Description
0	61	>75% Grass cover, Good, HSG B
0	80	>75% Grass cover, Good, HSG D
0	55	Woods, Good, HSG B
0	77	Woods, Good, HSG D
1,950	98	Roofs, HSG B
0	98	Unconnected pavement, HSG B
1,950	98	Weighted Average
1,950		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry,

Subcatchment 42S: Lot 5 Roof

Summary for Subcatchment 43S: Bypass 1A

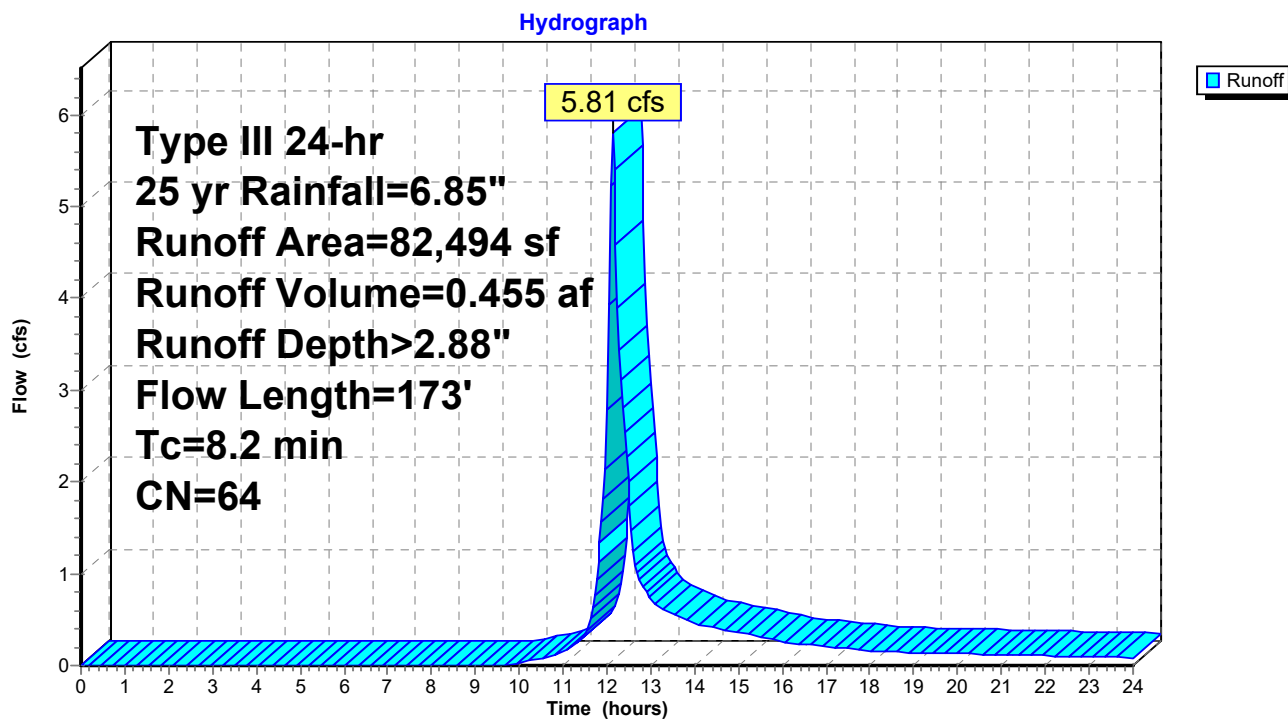
Runoff = 5.81 cfs @ 12.12 hrs, Volume= 0.455 af, Depth> 2.88"
 Routed to Link 38L : POC 3 (Monroe Turnpike)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.04 hrs
 Type III 24-hr 25 yr Rainfall=6.85"

Area (sf)	CN	Description
20,895	61	>75% Grass cover, Good, HSG B
1,200	74	>75% Grass cover, Good, HSG C
14,896	80	>75% Grass cover, Good, HSG D
34,967	55	Woods, Good, HSG B
3,524	70	Woods, Good, HSG C
7,012	77	Woods, Good, HSG D
82,494	64	Weighted Average
82,494		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.0	50	0.2100	0.28		Sheet Flow, Grass: Dense n= 0.240 P2= 3.60"
4.5	50	0.2100	0.18		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 3.60"
0.7	73	0.1200	1.73		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
8.2	173	Total			

Subcatchment 43S: Bypass 1A



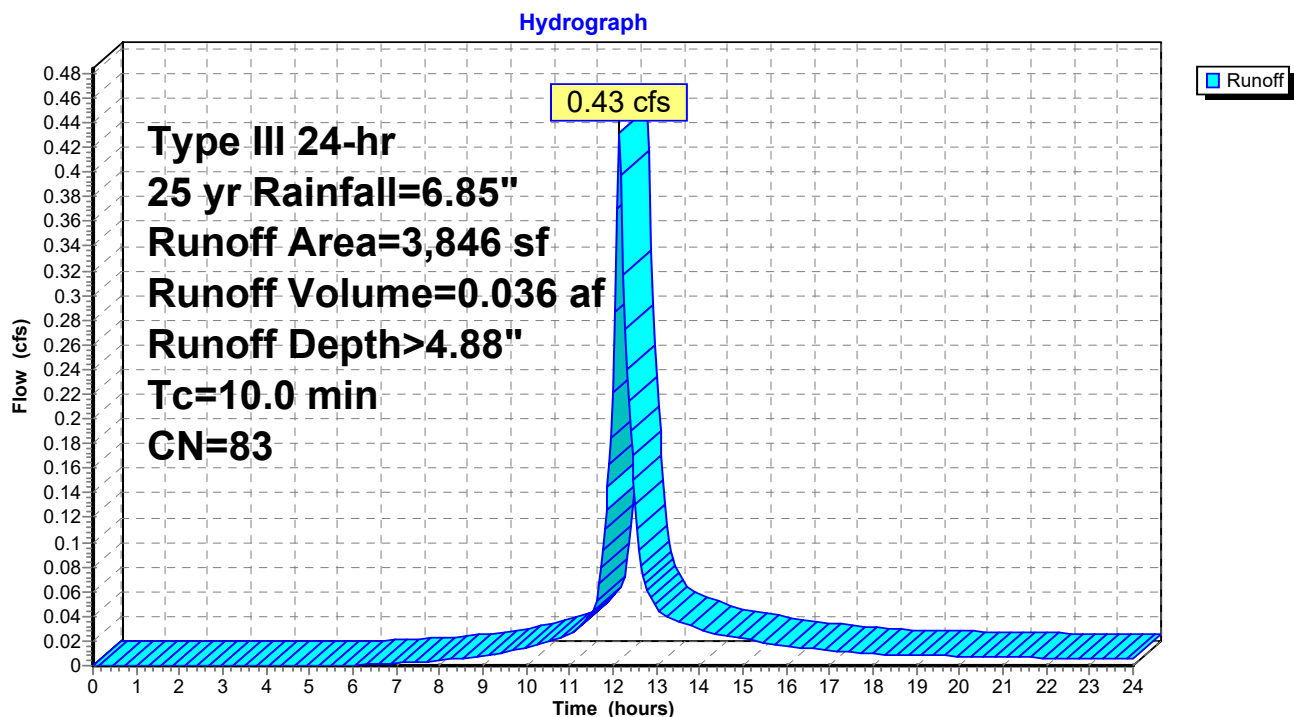
Summary for Subcatchment 46S: Lot 6 Upper Drive

Runoff = 0.43 cfs @ 12.14 hrs, Volume= 0.036 af, Depth> 4.88"
 Routed to Pond 45P : RS L6

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.04 hrs
 Type III 24-hr 25 yr Rainfall=6.85"

Area (sf)	CN	Description
1,561	61	>75% Grass cover, Good, HSG B
0	80	>75% Grass cover, Good, HSG D
0	55	Woods, Good, HSG B
0	77	Woods, Good, HSG D
0	98	Roofs, HSG B
2,285	98	Unconnected pavement, HSG B
3,846	83	Weighted Average
1,561		40.59% Pervious Area
2,285		59.41% Impervious Area
2,285		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					Direct Entry,

Subcatchment 46S: Lot 6 Upper Drive

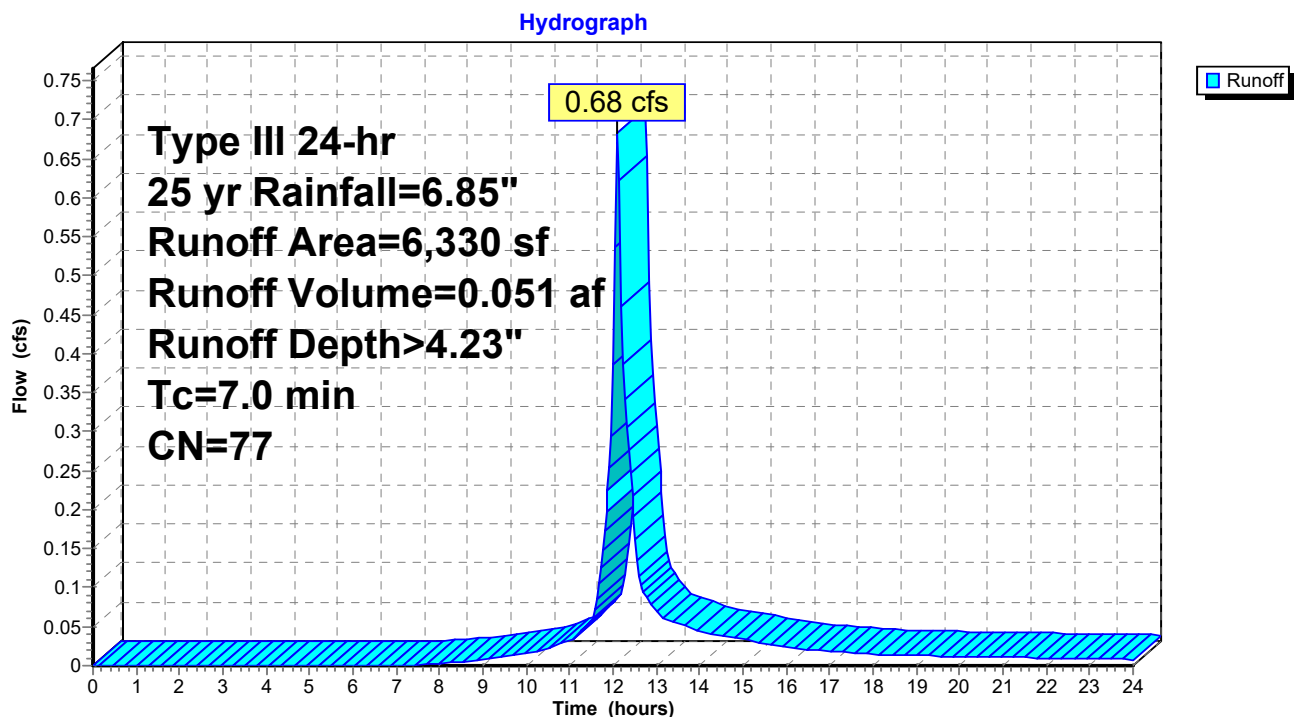
Summary for Subcatchment 49S: Lot 7 Upper Drive

Runoff = 0.68 cfs @ 12.10 hrs, Volume= 0.051 af, Depth> 4.23"
 Routed to Pond 48P : RS L7

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.04 hrs
 Type III 24-hr 25 yr Rainfall=6.85"

Area (sf)	CN	Description
3,658	61	>75% Grass cover, Good, HSG B
0	80	>75% Grass cover, Good, HSG D
0	55	Woods, Good, HSG B
0	77	Woods, Good, HSG D
0	98	Roofs, HSG B
2,672	98	Unconnected pavement, HSG B
6,330	77	Weighted Average
3,658		57.79% Pervious Area
2,672		42.21% Impervious Area
2,672		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.0					Direct Entry,

Subcatchment 49S: Lot 7 Upper Drive

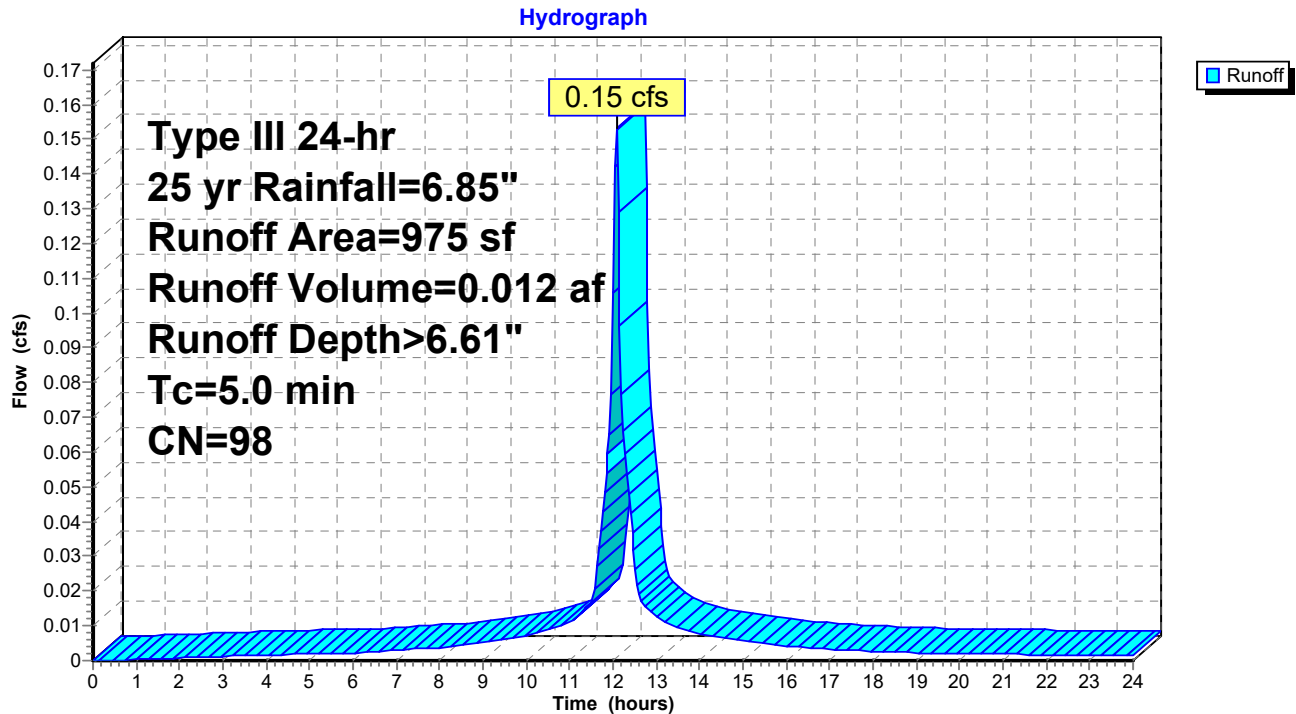
Summary for Subcatchment 50S: Lot 3 (rear roof)

Runoff = 0.15 cfs @ 12.07 hrs, Volume= 0.012 af, Depth> 6.61"
 Routed to Pond 44P : RS L3

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.04 hrs
 Type III 24-hr 25 yr Rainfall=6.85"

Area (sf)	CN	Description
0	61	>75% Grass cover, Good, HSG B
0	80	>75% Grass cover, Good, HSG D
0	55	Woods, Good, HSG B
0	77	Woods, Good, HSG D
975	98	Roofs, HSG B
0	98	Unconnected pavement, HSG B
975	98	Weighted Average
975		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry,

Subcatchment 50S: Lot 3 (rear roof)

Summary for Reach 40R: Reach L4

Inflow Area = 0.428 ac, 29.54% Impervious, Inflow Depth = 2.17" for 25 yr event
 Inflow = 1.55 cfs @ 12.12 hrs, Volume= 0.077 af
 Outflow = 0.66 cfs @ 12.77 hrs, Volume= 0.076 af, Atten= 57%, Lag= 39.4 min
 Routed to Link 37L : POC 2 (Cottage Street)

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.04 hrs

Max. Velocity= 0.14 fps, Min. Travel Time= 23.8 min

Avg. Velocity= 0.05 fps, Avg. Travel Time= 71.3 min

Peak Storage= 949 cf @ 12.38 hrs

Average Depth at Peak Storage= 0.24' , Surface Width= 20.00'

Bank-Full Depth= 1.00' Flow Area= 20.0 sf, Capacity= 6.97 cfs

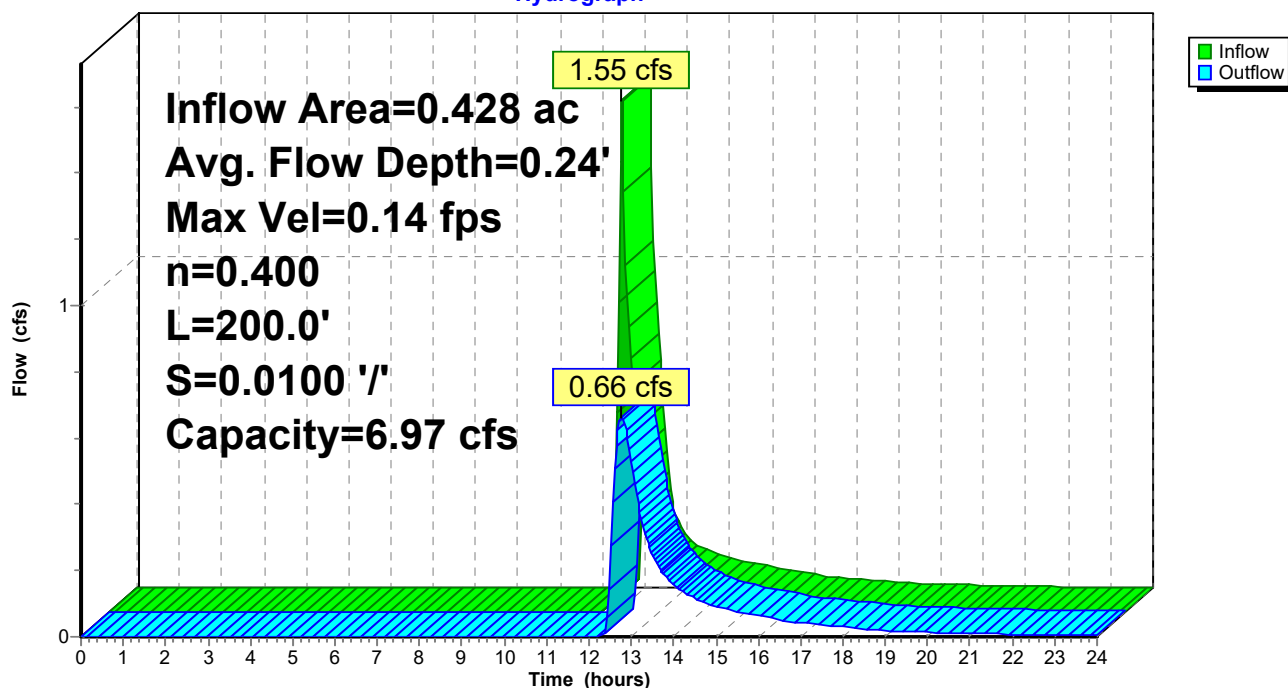
20.00' x 1.00' deep channel, n= 0.400 Sheet flow: Woods+light brush

Length= 200.0' Slope= 0.0100 '/'

Inlet Invert= 270.00', Outlet Invert= 268.00'

**Reach 40R: Reach L4**

Hydrograph



Stage-Area-Storage for Reach 40R: Reach L4

Elevation (feet)	End-Area (sq-ft)	Storage (cubic-feet)	Elevation (feet)	End-Area (sq-ft)	Storage (cubic-feet)
270.00	0.0	0	270.53	10.6	2,120
270.01	0.2	40	270.54	10.8	2,160
270.02	0.4	80	270.55	11.0	2,200
270.03	0.6	120	270.56	11.2	2,240
270.04	0.8	160	270.57	11.4	2,280
270.05	1.0	200	270.58	11.6	2,320
270.06	1.2	240	270.59	11.8	2,360
270.07	1.4	280	270.60	12.0	2,400
270.08	1.6	320	270.61	12.2	2,440
270.09	1.8	360	270.62	12.4	2,480
270.10	2.0	400	270.63	12.6	2,520
270.11	2.2	440	270.64	12.8	2,560
270.12	2.4	480	270.65	13.0	2,600
270.13	2.6	520	270.66	13.2	2,640
270.14	2.8	560	270.67	13.4	2,680
270.15	3.0	600	270.68	13.6	2,720
270.16	3.2	640	270.69	13.8	2,760
270.17	3.4	680	270.70	14.0	2,800
270.18	3.6	720	270.71	14.2	2,840
270.19	3.8	760	270.72	14.4	2,880
270.20	4.0	800	270.73	14.6	2,920
270.21	4.2	840	270.74	14.8	2,960
270.22	4.4	880	270.75	15.0	3,000
270.23	4.6	920	270.76	15.2	3,040
270.24	4.8	960	270.77	15.4	3,080
270.25	5.0	1,000	270.78	15.6	3,120
270.26	5.2	1,040	270.79	15.8	3,160
270.27	5.4	1,080	270.80	16.0	3,200
270.28	5.6	1,120	270.81	16.2	3,240
270.29	5.8	1,160	270.82	16.4	3,280
270.30	6.0	1,200	270.83	16.6	3,320
270.31	6.2	1,240	270.84	16.8	3,360
270.32	6.4	1,280	270.85	17.0	3,400
270.33	6.6	1,320	270.86	17.2	3,440
270.34	6.8	1,360	270.87	17.4	3,480
270.35	7.0	1,400	270.88	17.6	3,520
270.36	7.2	1,440	270.89	17.8	3,560
270.37	7.4	1,480	270.90	18.0	3,600
270.38	7.6	1,520	270.91	18.2	3,640
270.39	7.8	1,560	270.92	18.4	3,680
270.40	8.0	1,600	270.93	18.6	3,720
270.41	8.2	1,640	270.94	18.8	3,760
270.42	8.4	1,680	270.95	19.0	3,800
270.43	8.6	1,720	270.96	19.2	3,840
270.44	8.8	1,760	270.97	19.4	3,880
270.45	9.0	1,800	270.98	19.6	3,920
270.46	9.2	1,840	270.99	19.8	3,960
270.47	9.4	1,880	271.00	20.0	4,000
270.48	9.6	1,920			
270.49	9.8	1,960			
270.50	10.0	2,000			
270.51	10.2	2,040			
270.52	10.4	2,080			

Summary for Reach 41R: Reach L5R

Inflow Area = 0.045 ac, 100.00% Impervious, Inflow Depth = 2.87" for 25 yr event
 Inflow = 0.28 cfs @ 12.10 hrs, Volume= 0.011 af
 Outflow = 0.09 cfs @ 12.99 hrs, Volume= 0.011 af, Atten= 67%, Lag= 53.6 min
 Routed to Link 37L : POC 2 (Cottage Street)

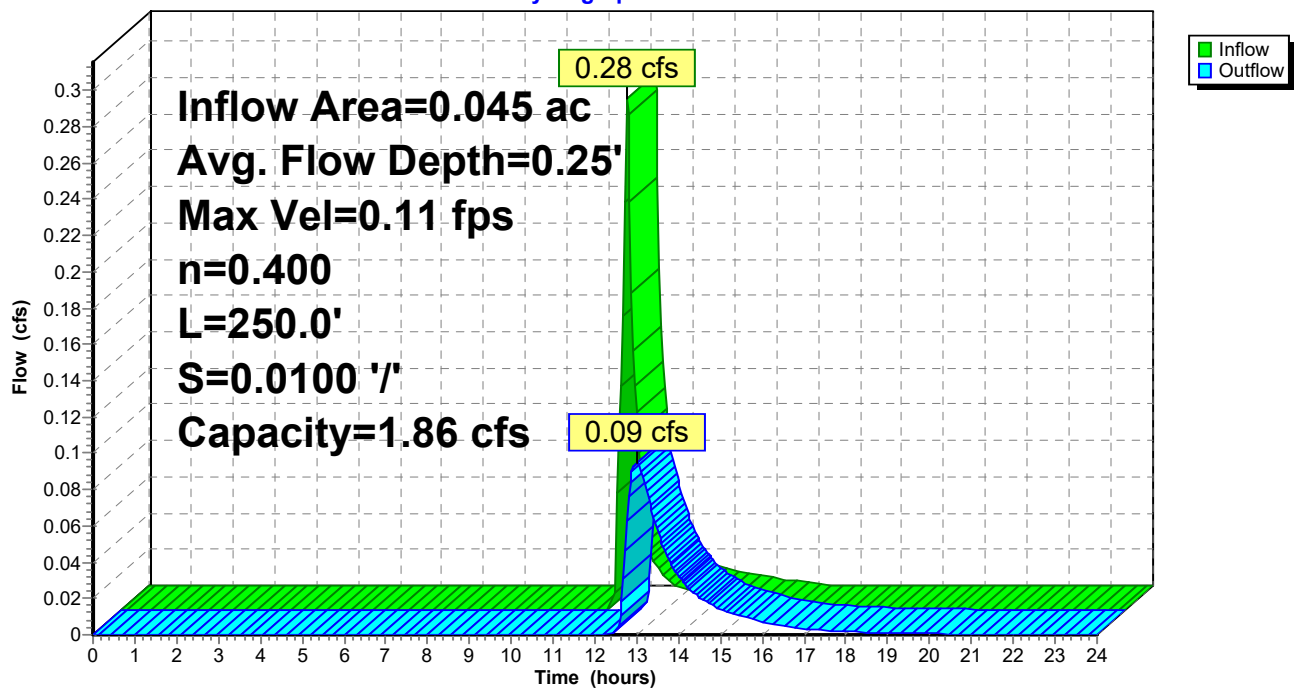
Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.04 hrs
 Max. Velocity= 0.11 fps, Min. Travel Time= 37.1 min
 Avg. Velocity = 0.04 fps, Avg. Travel Time= 103.6 min

Peak Storage= 210 cf @ 12.37 hrs
 Average Depth at Peak Storage= 0.25', Surface Width= 5.01'
 Bank-Full Depth= 1.00' Flow Area= 6.7 sf, Capacity= 1.86 cfs

10.00' x 1.00' deep Parabolic Channel, n= 0.400 Sheet flow: Woods+light brush
 Length= 250.0' Slope= 0.0100 '/'
 Inlet Invert= 288.50', Outlet Invert= 286.00'

**Reach 41R: Reach L5R**

Hydrograph



Stage-Area-Storage for Reach 41R: Reach L5R

Elevation (feet)	End-Area (sq-ft)	Storage (cubic-feet)	Elevation (feet)	End-Area (sq-ft)	Storage (cubic-feet)
288.50	0.0	0	289.03	2.6	643
288.51	0.0	2	289.04	2.6	661
288.52	0.0	5	289.05	2.7	680
288.53	0.0	9	289.06	2.8	698
288.54	0.1	13	289.07	2.9	717
288.55	0.1	19	289.08	2.9	736
288.56	0.1	24	289.09	3.0	755
288.57	0.1	31	289.10	3.1	775
288.58	0.2	38	289.11	3.2	794
288.59	0.2	45	289.12	3.3	814
288.60	0.2	53	289.13	3.3	833
288.61	0.2	61	289.14	3.4	853
288.62	0.3	69	289.15	3.5	873
288.63	0.3	78	289.16	3.6	894
288.64	0.3	87	289.17	3.7	914
288.65	0.4	97	289.18	3.7	935
288.66	0.4	107	289.19	3.8	955
288.67	0.5	117	289.20	3.9	976
288.68	0.5	127	289.21	4.0	997
288.69	0.6	138	289.22	4.1	1,018
288.70	0.6	149	289.23	4.2	1,040
288.71	0.6	160	289.24	4.2	1,061
288.72	0.7	172	289.25	4.3	1,083
288.73	0.7	184	289.26	4.4	1,104
288.74	0.8	196	289.27	4.5	1,126
288.75	0.8	208	289.28	4.6	1,148
288.76	0.9	221	289.29	4.7	1,170
288.77	0.9	234	289.30	4.8	1,193
288.78	1.0	247	289.31	4.9	1,215
288.79	1.0	260	289.32	5.0	1,238
288.80	1.1	274	289.33	5.0	1,260
288.81	1.2	288	289.34	5.1	1,283
288.82	1.2	302	289.35	5.2	1,306
288.83	1.3	316	289.36	5.3	1,329
288.84	1.3	330	289.37	5.4	1,352
288.85	1.4	345	289.38	5.5	1,376
288.86	1.4	360	289.39	5.6	1,399
288.87	1.5	375	289.40	5.7	1,423
288.88	1.6	390	289.41	5.8	1,447
288.89	1.6	406	289.42	5.9	1,471
288.90	1.7	422	289.43	6.0	1,495
288.91	1.8	438	289.44	6.1	1,519
288.92	1.8	454	289.45	6.2	1,543
288.93	1.9	470	289.46	6.3	1,568
288.94	1.9	486	289.47	6.4	1,592
288.95	2.0	503	289.48	6.5	1,617
288.96	2.1	520	289.49	6.6	1,642
288.97	2.1	537	289.50	6.7	1,667
288.98	2.2	554			
288.99	2.3	572			
289.00	2.4	589			
289.01	2.4	607			
289.02	2.5	625			

Summary for Pond 16P: Detention Basin #2 (South)

Inflow Area = 1.946 ac, 20.71% Impervious, Inflow Depth > 3.71" for 25 yr event
 Inflow = 8.66 cfs @ 12.08 hrs, Volume= 0.601 af
 Outflow = 8.22 cfs @ 12.10 hrs, Volume= 0.537 af, Atten= 5%, Lag= 1.5 min
 Discarded = 0.04 cfs @ 12.10 hrs, Volume= 0.041 af
 Primary = 8.18 cfs @ 12.10 hrs, Volume= 0.495 af
 Routed to Link 39L : POC 4 (Culvert Under Monroe Turnpike)

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.04 hrs
 Peak Elev= 284.21' @ 12.10 hrs Surf.Area= 2,297 sf Storage= 3,767 cf

Plug-Flow detention time= 73.5 min calculated for 0.537 af (89% of inflow)
 Center-of-Mass det. time= 22.4 min (847.9 - 825.5)

Volume	Invert	Avail.Storage	Storage Description
#1	282.00'	9,000 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
282.00	1,150	0	0
284.00	2,150	3,300	3,300
286.00	3,550	5,700	9,000

Device	Routing	Invert	Outlet Devices
#1	Primary	285.00'	10.0' long Emergency Weir 2 End Contraction(s) 1.0' Crest Height
#2	Primary	280.50'	24.0" Round Outlet Culvert L= 50.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 280.50' / 277.00' S= 0.0700 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 3.14 sf
#3	Device 2	283.75'	8.0' long Slot Weir Cv= 2.62 (C= 3.28)
#4	Device 2	285.00'	2.0" x 2.0" Horiz. Grate Top X 8.00 columns X 8 rows C= 0.600 in 24.0" x 24.0" Grate (44% open area) Limited to weir flow at low heads
#5	Discarded	282.00'	0.520 in/hr Exfiltration over Surface area Conductivity to Groundwater Elevation = 279.00'

Discarded OutFlow Max=0.04 cfs @ 12.10 hrs HW=284.20' (Free Discharge)

↑ **5=Exfiltration** (Controls 0.04 cfs)

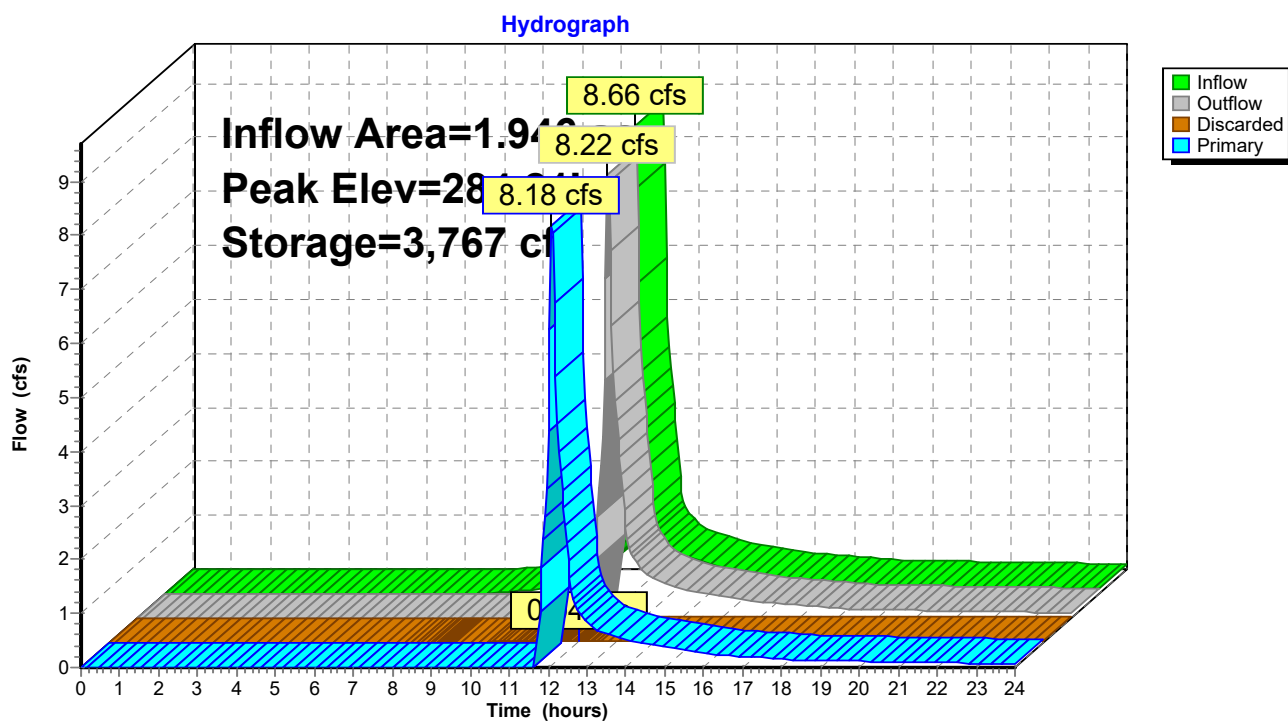
Primary OutFlow Max=8.00 cfs @ 12.10 hrs HW=284.20' (Free Discharge)

↑ **1=Emergency Weir** (Controls 0.00 cfs)

↑ **2=Outlet Culvert** (Passes 8.00 cfs of 24.87 cfs potential flow)

↑ **3=Slot Weir** (Weir Controls 8.00 cfs @ 2.21 fps)

↑ **4=Grate Top** (Controls 0.00 cfs)

Pond 16P: Detention Basin #2 (South)

Stage-Area-Storage for Pond 16P: Detention Basin #2 (South)

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
282.00	1,150	0	284.65	2,605	4,845
282.05	1,175	58	284.70	2,640	4,976
282.10	1,200	118	284.75	2,675	5,109
282.15	1,225	178	284.80	2,710	5,244
282.20	1,250	240	284.85	2,745	5,380
282.25	1,275	303	284.90	2,780	5,518
282.30	1,300	368	284.95	2,815	5,658
282.35	1,325	433	285.00	2,850	5,800
282.40	1,350	500	285.05	2,885	5,943
282.45	1,375	568	285.10	2,920	6,089
282.50	1,400	638	285.15	2,955	6,235
282.55	1,425	708	285.20	2,990	6,384
282.60	1,450	780	285.25	3,025	6,534
282.65	1,475	853	285.30	3,060	6,687
282.70	1,500	927	285.35	3,095	6,840
282.75	1,525	1,003	285.40	3,130	6,996
282.80	1,550	1,080	285.45	3,165	7,153
282.85	1,575	1,158	285.50	3,200	7,313
282.90	1,600	1,237	285.55	3,235	7,473
282.95	1,625	1,318	285.60	3,270	7,636
283.00	1,650	1,400	285.65	3,305	7,800
283.05	1,675	1,483	285.70	3,340	7,966
283.10	1,700	1,568	285.75	3,375	8,134
283.15	1,725	1,653	285.80	3,410	8,304
283.20	1,750	1,740	285.85	3,445	8,475
283.25	1,775	1,828	285.90	3,480	8,648
283.30	1,800	1,918	285.95	3,515	8,823
283.35	1,825	2,008	286.00	3,550	9,000
283.40	1,850	2,100			
283.45	1,875	2,193			
283.50	1,900	2,288			
283.55	1,925	2,383			
283.60	1,950	2,480			
283.65	1,975	2,578			
283.70	2,000	2,677			
283.75	2,025	2,778			
283.80	2,050	2,880			
283.85	2,075	2,983			
283.90	2,100	3,087			
283.95	2,125	3,193			
284.00	2,150	3,300			
284.05	2,185	3,408			
284.10	2,220	3,519			
284.15	2,255	3,630			
284.20	2,290	3,744			
284.25	2,325	3,859			
284.30	2,360	3,977			
284.35	2,395	4,095			
284.40	2,430	4,216			
284.45	2,465	4,338			
284.50	2,500	4,463			
284.55	2,535	4,588			
284.60	2,570	4,716			

Summary for Pond 20P: Detention Basin #1 (North)

Inflow Area = 4.212 ac, 23.32% Impervious, Inflow Depth > 3.16" for 25 yr event
 Inflow = 11.48 cfs @ 12.19 hrs, Volume= 1.109 af
 Outflow = 10.60 cfs @ 12.26 hrs, Volume= 1.051 af, Atten= 8%, Lag= 4.3 min
 Discarded = 0.13 cfs @ 12.26 hrs, Volume= 0.097 af
 Primary = 10.47 cfs @ 12.26 hrs, Volume= 0.954 af
 Routed to Link 38L : POC 3 (Monroe Turnpike)

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.04 hrs
 Peak Elev= 267.56' @ 12.26 hrs Surf.Area= 4,435 sf Storage= 8,515 cf

Plug-Flow detention time= 63.7 min calculated for 1.051 af (95% of inflow)
 Center-of-Mass det. time= 35.9 min (875.9 - 839.9)

Volume	Invert	Avail.Storage	Storage Description
#1	265.00'	18,819 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
265.00	2,255	0	0
266.00	3,071	2,663	2,663
268.00	4,820	7,891	10,554
269.50	6,200	8,265	18,819

Device	Routing	Invert	Outlet Devices
#1	Primary	268.50'	10.0' long Emergency Overflow Weir 2 End Contraction(s) 1.0' Crest Height
#2	Primary	259.00'	24.0" Round Outlet Culvert L= 58.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 259.00' / 253.20' S= 0.1000 1' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf
#3	Device 2	265.75'	6.0" Vert. Orifice C= 0.600 Limited to weir flow at low heads
#4	Device 2	267.00'	7.0' long x 0.50' rise Weir Slot Cv= 2.62 (C= 3.28)
#5	Device 2	268.50'	4.0" x 2.0" Horiz. Grate Top X 8.00 columns X 9 rows C= 0.600 in 36.0" x 24.0" Grate (67% open area) Limited to weir flow at low heads
#6	Device 2	264.00'	4.0" Round Underdrain L= 90.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 264.00' / 264.00' S= 0.0000 1' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.09 sf
#7	Device 6	265.00'	1.020 in/hr Exfil to underdrain X 0.25 over Surface area Conductivity to Groundwater Elevation = 262.00'
#8	Discarded	265.00'	1.020 in/hr Exfiltration X 0.75 over Surface area Conductivity to Groundwater Elevation = 262.00'

Discarded OutFlow Max=0.13 cfs @ 12.26 hrs HW=267.56' (Free Discharge)

8=Exfiltration (Controls 0.13 cfs)

Primary OutFlow Max=10.43 cfs @ 12.26 hrs HW=267.56' (Free Discharge)

1=Emergency Overflow Weir (Controls 0.00 cfs)

2=Outlet Culvert (Passes 10.43 cfs of 41.58 cfs potential flow)

3=Orifice (Orifice Controls 1.18 cfs @ 6.01 fps)

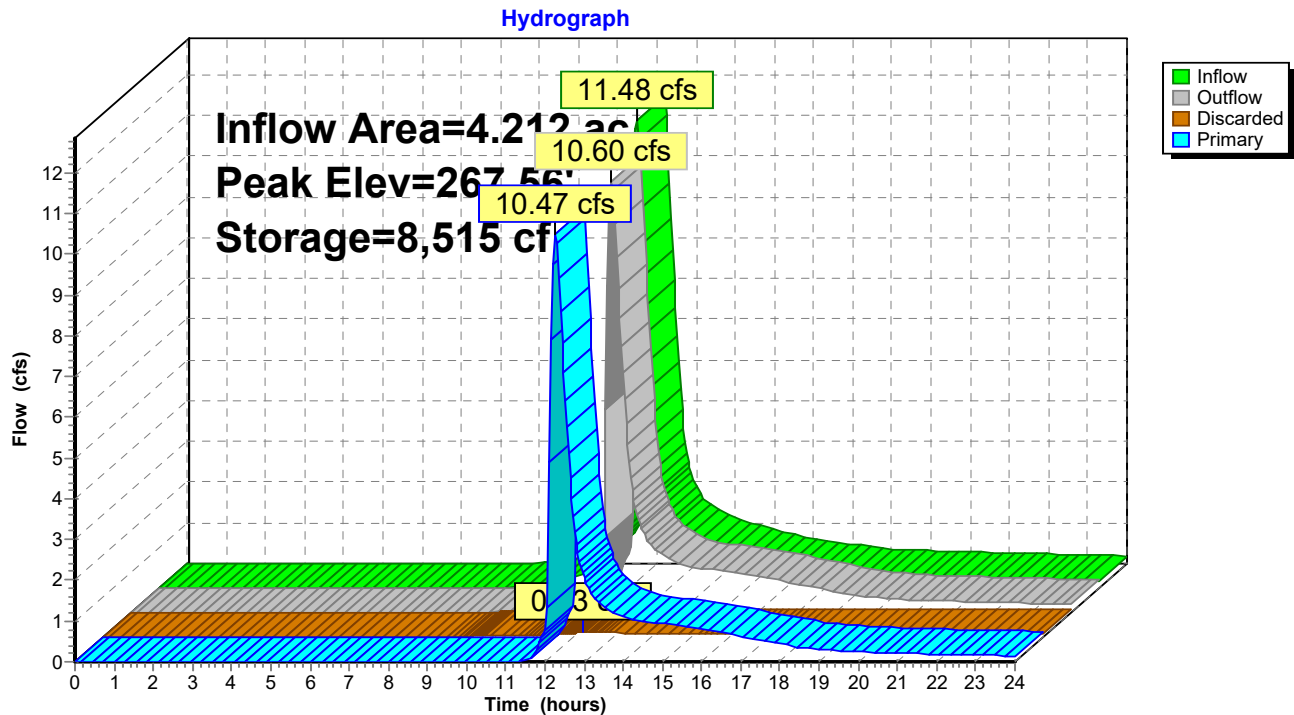
4=Weir Slot (Orifice Controls 9.21 cfs @ 2.63 fps)

5=Grate Top (Controls 0.00 cfs)

6=Underdrain (Passes 0.04 cfs of 0.43 cfs potential flow)

7=Exfil to underdrain (Controls 0.04 cfs)

Pond 20P: Detention Basin #1 (North)



Stage-Area-Storage for Pond 20P: Detention Basin #1 (North)

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
265.00	2,255	0	267.65	4,514	8,921
265.05	2,296	114	267.70	4,558	9,147
265.10	2,337	230	267.75	4,601	9,376
265.15	2,377	347	267.80	4,645	9,607
265.20	2,418	467	267.85	4,689	9,841
265.25	2,459	589	267.90	4,733	10,076
265.30	2,500	713	267.95	4,776	10,314
265.35	2,541	839	268.00	4,820	10,554
265.40	2,581	967	268.05	4,866	10,796
265.45	2,622	1,097	268.10	4,912	11,041
265.50	2,663	1,230	268.15	4,958	11,287
265.55	2,704	1,364	268.20	5,004	11,536
265.60	2,745	1,500	268.25	5,050	11,788
265.65	2,785	1,638	268.30	5,096	12,041
265.70	2,826	1,778	268.35	5,142	12,297
265.75	2,867	1,921	268.40	5,188	12,556
265.80	2,908	2,065	268.45	5,234	12,816
265.85	2,949	2,212	268.50	5,280	13,079
265.90	2,989	2,360	268.55	5,326	13,344
265.95	3,030	2,510	268.60	5,372	13,612
266.00	3,071	2,663	268.65	5,418	13,881
266.05	3,115	2,818	268.70	5,464	14,153
266.10	3,158	2,974	268.75	5,510	14,428
266.15	3,202	3,133	268.80	5,556	14,704
266.20	3,246	3,295	268.85	5,602	14,983
266.25	3,290	3,458	268.90	5,648	15,265
266.30	3,333	3,624	268.95	5,694	15,548
266.35	3,377	3,791	269.00	5,740	15,834
266.40	3,421	3,961	269.05	5,786	16,122
266.45	3,465	4,133	269.10	5,832	16,413
266.50	3,508	4,308	269.15	5,878	16,705
266.55	3,552	4,484	269.20	5,924	17,000
266.60	3,596	4,663	269.25	5,970	17,298
266.65	3,639	4,844	269.30	6,016	17,597
266.70	3,683	5,027	269.35	6,062	17,899
266.75	3,727	5,212	269.40	6,108	18,204
266.80	3,771	5,400	269.45	6,154	18,510
266.85	3,814	5,589	269.50	6,200	18,819
266.90	3,858	5,781			
266.95	3,902	5,975			
267.00	3,946	6,171			
267.05	3,989	6,370			
267.10	4,033	6,570			
267.15	4,077	6,773			
267.20	4,120	6,978			
267.25	4,164	7,185			
267.30	4,208	7,394			
267.35	4,252	7,606			
267.40	4,295	7,819			
267.45	4,339	8,035			
267.50	4,383	8,253			
267.55	4,426	8,474			
267.60	4,470	8,696			

Summary for Pond 40P: Culvert

Inflow Area = 12.471 ac, 0.00% Impervious, Inflow Depth > 3.90" for 25 yr event
 Inflow = 39.51 cfs @ 12.26 hrs, Volume= 4.051 af
 Outflow = 39.34 cfs @ 12.28 hrs, Volume= 4.049 af, Atten= 0%, Lag= 1.0 min
 Primary = 39.34 cfs @ 12.28 hrs, Volume= 4.049 af
 Routed to Link 39L : POC 4 (Culvert Under Monroe Turnpike)

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.04 hrs
 Peak Elev= 296.86' @ 12.28 hrs Surf.Area= 1,964 sf Storage= 1,983 cf

Plug-Flow detention time= 1.0 min calculated for 4.043 af (100% of inflow)
 Center-of-Mass det. time= 0.8 min (833.3 - 832.6)

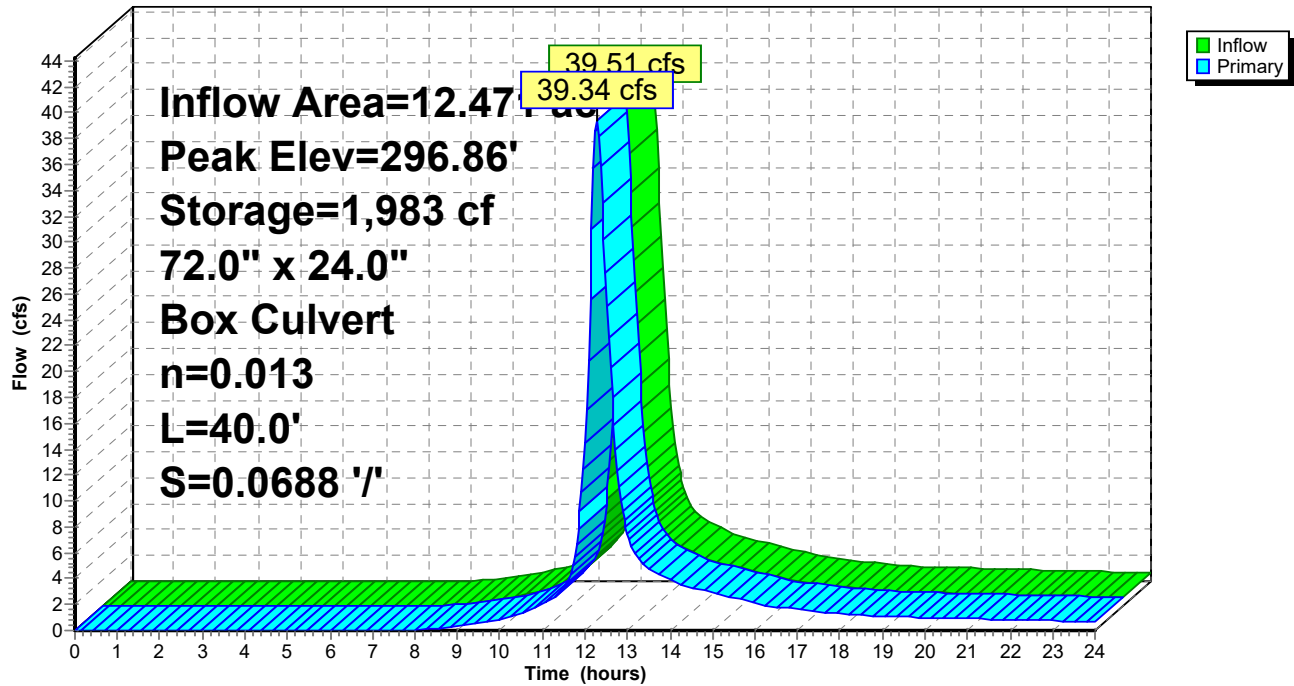
Volume	Invert	Avail.Storage	Storage Description
#1	295.25'	30,417 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
295.25	500	0	0
298.00	3,000	4,813	4,813
300.00	6,260	9,260	14,073
302.00	10,084	16,344	30,417

Device	Routing	Invert	Outlet Devices
#1	Primary	295.25'	72.0" W x 24.0" H Box Box Culvert L= 40.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 295.25' / 292.50' S= 0.0688 ' S= 0.0688 ' Cc= 0.900 n= 0.013 Concrete, trowel finish, Flow Area= 12.00 sf

Primary OutFlow Max=39.26 cfs @ 12.28 hrs HW=296.86' (Free Discharge)

↑**1=Box Culvert** (Inlet Controls 39.26 cfs @ 4.07 fps)

Pond 40P: Culvert**Hydrograph**

Stage-Area-Storage for Pond 40P: Culvert

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
295.25	500	0	300.55	7,312	17,805
295.35	591	55	300.65	7,503	18,545
295.45	682	118	300.75	7,694	19,305
295.55	773	191	300.85	7,885	20,084
295.65	864	273	300.95	8,076	20,882
295.75	955	364	301.05	8,268	21,699
295.85	1,045	464	301.15	8,459	22,536
295.95	1,136	573	301.25	8,650	23,391
296.05	1,227	691	301.35	8,841	24,266
296.15	1,318	818	301.45	9,032	25,159
296.25	1,409	955	301.55	9,224	26,072
296.35	1,500	1,100	301.65	9,415	27,004
296.45	1,591	1,255	301.75	9,606	27,955
296.55	1,682	1,418	301.85	9,797	28,925
296.65	1,773	1,591	301.95	9,988	29,915
296.75	1,864	1,773			
296.85	1,955	1,964			
296.95	2,045	2,164			
297.05	2,136	2,373			
297.15	2,227	2,591			
297.25	2,318	2,818			
297.35	2,409	3,055			
297.45	2,500	3,300			
297.55	2,591	3,555			
297.65	2,682	3,818			
297.75	2,773	4,091			
297.85	2,864	4,373			
297.95	2,955	4,664			
298.05	3,082	4,965			
298.15	3,244	5,281			
298.25	3,408	5,613			
298.35	3,571	5,962			
298.45	3,733	6,328			
298.55	3,897	6,709			
298.65	4,059	7,107			
298.75	4,223	7,521			
298.85	4,386	7,951			
298.95	4,548	8,398			
299.05	4,712	8,861			
299.15	4,874	9,340			
299.25	5,038	9,836			
299.35	5,201	10,348			
299.45	5,363	10,876			
299.55	5,527	11,421			
299.65	5,689	11,981			
299.75	5,853	12,558			
299.85	6,016	13,152			
299.95	6,178	13,762			
300.05	6,356	14,388			
300.15	6,547	15,033			
300.25	6,738	15,697			
300.35	6,929	16,381			
300.45	7,120	17,083			

Summary for Pond 41P: RS L4

Inflow Area = 0.428 ac, 29.54% Impervious, Inflow Depth > 3.29" for 25 yr event
 Inflow = 1.69 cfs @ 12.08 hrs, Volume= 0.117 af
 Outflow = 1.59 cfs @ 12.12 hrs, Volume= 0.106 af, Atten= 6%, Lag= 2.2 min
 Discarded = 0.04 cfs @ 12.11 hrs, Volume= 0.028 af
 Primary = 1.55 cfs @ 12.12 hrs, Volume= 0.077 af
 Routed to Reach 40R : Reach L4

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.04 hrs
 Peak Elev= 275.18' @ 12.12 hrs Surf.Area= 924 sf Storage= 840 cf

Plug-Flow detention time= 71.9 min calculated for 0.105 af (90% of inflow)
 Center-of-Mass det. time= 24.0 min (858.9 - 834.9)

Volume	Invert	Avail.Storage	Storage Description
#1A	272.50'	284 cf	6.00'W x 98.00'L x 2.50'H Field A 1,470 cf Overall - 760 cf Embedded = 710 cf x 40.0% Voids
#2A	273.00'	544 cf	Concrete Galley 4x8x2 x 12 Inside #1 Inside= 42.0"W x 21.0"H => 6.04 sf x 7.50'L = 45.3 cf Outside= 48.0"W x 24.0"H => 7.92 sf x 8.00'L = 63.4 cf
#3	275.00'	50 cf	10.50'W x 32.00'L x 0.75'H Prismatic 252 cf Overall x 20.0% Voids
		878 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	274.00'	8.0" Round Culvert L= 28.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 274.00' / 271.83' S= 0.0775 ' /' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.35 sf
#2	Discarded	272.50'	1.020 in/hr Exfiltration over Surface area Conductivity to Groundwater Elevation = 270.50'

Discarded OutFlow Max=0.04 cfs @ 12.11 hrs HW=275.14' (Free Discharge)

↑ **2=Exfiltration** (Controls 0.04 cfs)

Primary OutFlow Max=1.53 cfs @ 12.12 hrs HW=275.16' (Free Discharge)

↑ **1=Culvert** (Inlet Controls 1.53 cfs @ 4.38 fps)

Pond 41P: RS L4 - Chamber Wizard Field A

Chamber Model = Concrete Galley 4x8x2 (Concrete Galley, UCPI 24" Low Profile Galley or equivalent)

Inside= 42.0"W x 21.0"H => 6.04 sf x 7.50'L = 45.3 cf

Outside= 48.0"W x 24.0"H => 7.92 sf x 8.00'L = 63.4 cf

12 Chambers/Row x 8.00' Long = 96.00' Row Length +12.0" End Stone x 2 = 98.00' Base Length

1 Rows x 48.0" Wide + 12.0" Side Stone x 2 = 6.00' Base Width

6.0" Stone Base + 24.0" Chamber Height = 2.50' Field Height

12 Chambers x 45.3 cf = 543.6 cf Chamber Storage

12 Chambers x 63.4 cf = 760.3 cf Displacement

1,470.0 cf Field - 760.3 cf Chambers = 709.7 cf Stone x 40.0% Voids = 283.9 cf Stone Storage

Chamber Storage + Stone Storage = 827.5 cf = 0.019 af

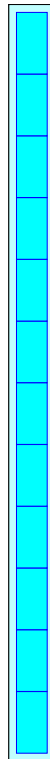
Overall Storage Efficiency = 56.3%

Overall System Size = 98.00' x 6.00' x 2.50'

12 Chambers

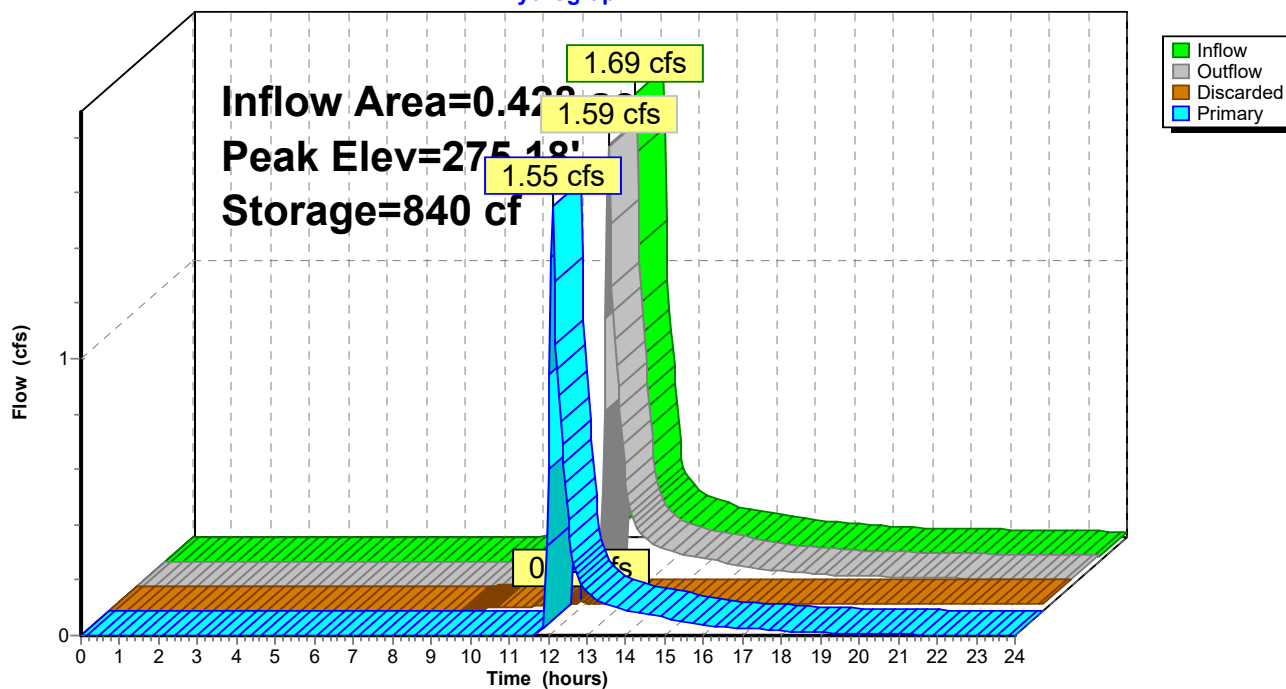
54.4 cy Field

26.3 cy Stone



Pond 41P: RS L4

Hydrograph



Stage-Area-Storage for Pond 41P: RS L4

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
272.50	588	0	275.15	924	838
272.55	588	12	275.20	924	841
272.60	588	24	275.25	924	844
272.65	588	35	275.30	924	848
272.70	588	47	275.35	924	851
272.75	588	59	275.40	924	854
272.80	588	71	275.45	924	858
272.85	588	82	275.50	924	861
272.90	588	94	275.55	924	864
272.95	588	106	275.60	924	868
273.00	588	118	275.65	924	871
273.05	588	138	275.70	924	875
273.10	588	157	275.75	924	878
273.15	588	177			
273.20	588	197			
273.25	588	217			
273.30	588	237			
273.35	588	257			
273.40	588	277			
273.45	588	297			
273.50	588	317			
273.55	588	337			
273.60	588	356			
273.65	588	376			
273.70	588	396			
273.75	588	416			
273.80	588	436			
273.85	588	456			
273.90	588	476			
273.95	588	496			
274.00	588	516			
274.05	588	536			
274.10	588	556			
274.15	588	575			
274.20	588	595			
274.25	588	615			
274.30	588	635			
274.35	588	655			
274.40	588	675			
274.45	588	695			
274.50	588	715			
274.55	588	735			
274.60	588	754			
274.65	588	772			
274.70	588	789			
274.75	588	807			
274.80	588	811			
274.85	588	815			
274.90	588	819			
274.95	588	823			
275.00	924	827			
275.05	924	831			
275.10	924	834			

Summary for Pond 42P: Fire Pond

Inflow Area = 2.532 ac, 0.00% Impervious, Inflow Depth > 3.91" for 25 yr event
 Inflow = 11.89 cfs @ 12.08 hrs, Volume= 0.825 af
 Outflow = 11.75 cfs @ 12.09 hrs, Volume= 0.823 af, Atten= 1%, Lag= 0.7 min
 Primary = 11.75 cfs @ 12.09 hrs, Volume= 0.823 af
 Routed to Pond 46P : Detention Basin #3 (Entrance)

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.04 hrs
 Peak Elev= 304.01' @ 12.09 hrs Surf.Area= 1,340 sf Storage= 1,224 cf

Plug-Flow detention time= 5.3 min calculated for 0.823 af (100% of inflow)
 Center-of-Mass det. time= 3.9 min (825.4 - 821.5)

Volume	Invert	Avail.Storage	Storage Description
#1	303.00'	1,917 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
303.00	1,080	0	0
304.00	1,336	1,208	1,208
304.50	1,500	709	1,917

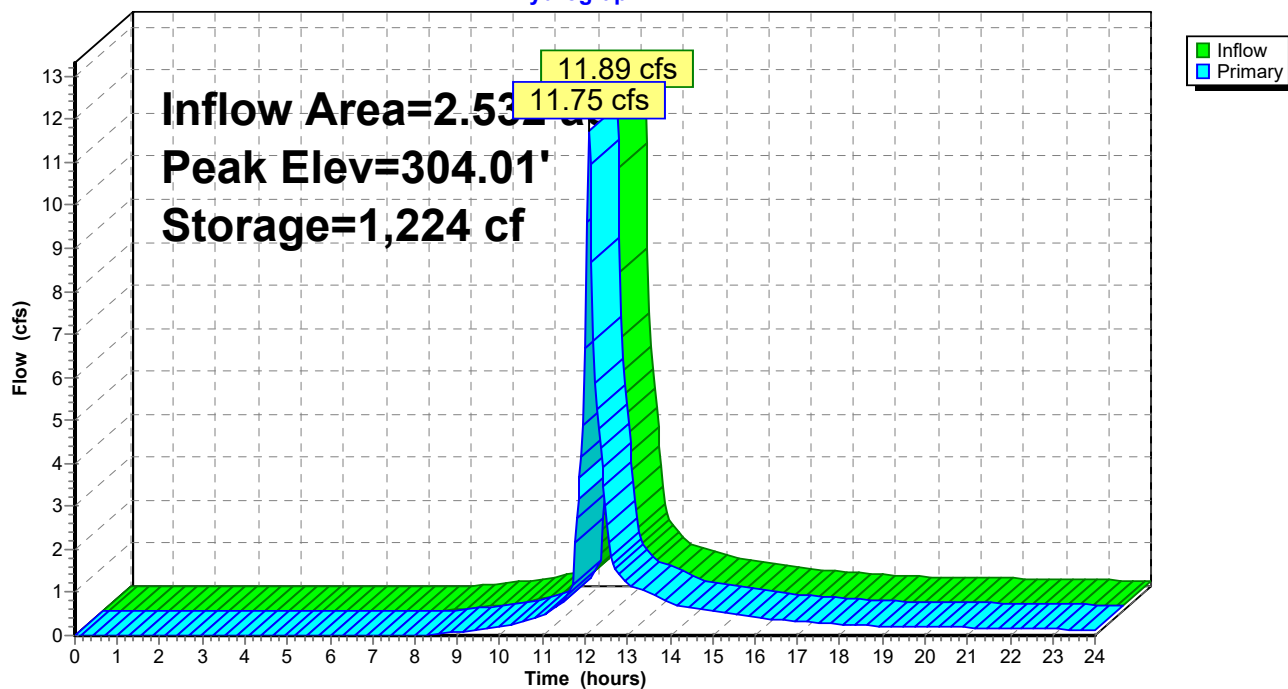
Device	Routing	Invert	Outlet Devices
#1	Primary	303.50'	8.0' long Emergency Weir 2 End Contraction(s) 1.0' Crest Height
#2	Primary	296.00'	8.0" Round Culvert L= 80.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 296.00' / 290.00' S= 0.0750 ' / ' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.35 sf
#3	Device 2	303.00'	8.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=11.49 cfs @ 12.09 hrs HW=304.00' (Free Discharge)

↑ **1=Emergency Weir** (Weir Controls 9.81 cfs @ 2.46 fps)
 ↑ **2=Culvert** (Passes 1.68 cfs of 4.65 cfs potential flow)
 ↑ **3=Orifice/Grate** (Orifice Controls 1.68 cfs @ 4.82 fps)

Pond 42P: Fire Pond

Hydrograph



Stage-Area-Storage for Pond 42P: Fire Pond

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
303.00	1,080	0	304.06	1,356	1,289
303.02	1,085	22	304.08	1,362	1,316
303.04	1,090	43	304.10	1,369	1,343
303.06	1,095	65	304.12	1,375	1,371
303.08	1,100	87	304.14	1,382	1,398
303.10	1,106	109	304.16	1,388	1,426
303.12	1,111	131	304.18	1,395	1,454
303.14	1,116	154	304.20	1,402	1,482
303.16	1,121	176	304.22	1,408	1,510
303.18	1,126	199	304.24	1,415	1,538
303.20	1,131	221	304.26	1,421	1,566
303.22	1,136	244	304.28	1,428	1,595
303.24	1,141	267	304.30	1,434	1,624
303.26	1,147	289	304.32	1,441	1,652
303.28	1,152	312	304.34	1,448	1,681
303.30	1,157	336	304.36	1,454	1,710
303.32	1,162	359	304.38	1,461	1,739
303.34	1,167	382	304.40	1,467	1,769
303.36	1,172	405	304.42	1,474	1,798
303.38	1,177	429	304.44	1,480	1,828
303.40	1,182	452	304.46	1,487	1,857
303.42	1,188	476	304.48	1,493	1,887
303.44	1,193	500	304.50	1,500	1,917
303.46	1,198	524			
303.48	1,203	548			
303.50	1,208	572			
303.52	1,213	596			
303.54	1,218	621			
303.56	1,223	645			
303.58	1,228	669			
303.60	1,234	694			
303.62	1,239	719			
303.64	1,244	744			
303.66	1,249	769			
303.68	1,254	794			
303.70	1,259	819			
303.72	1,264	844			
303.74	1,269	869			
303.76	1,275	895			
303.78	1,280	920			
303.80	1,285	946			
303.82	1,290	972			
303.84	1,295	998			
303.86	1,300	1,023			
303.88	1,305	1,050			
303.90	1,310	1,076			
303.92	1,316	1,102			
303.94	1,321	1,128			
303.96	1,326	1,155			
303.98	1,331	1,181			
304.00	1,336	1,208			
304.02	1,343	1,235			
304.04	1,349	1,262			

Summary for Pond 43P: RS L5R

Inflow Area = 0.045 ac, 100.00% Impervious, Inflow Depth > 6.61" for 25 yr event
 Inflow = 0.31 cfs @ 12.07 hrs, Volume= 0.025 af
 Outflow = 0.29 cfs @ 12.10 hrs, Volume= 0.022 af, Atten= 5%, Lag= 1.5 min
 Discarded = 0.01 cfs @ 12.10 hrs, Volume= 0.012 af
 Primary = 0.28 cfs @ 12.10 hrs, Volume= 0.011 af
 Routed to Reach 41R : Reach L5R

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.04 hrs
 Peak Elev= 290.51' @ 12.10 hrs Surf.Area= 189 sf Storage= 234 cf

Plug-Flow detention time= 118.2 min calculated for 0.022 af (91% of inflow)
 Center-of-Mass det. time= 70.2 min (812.1 - 742.0)

Volume	Invert	Avail.Storage	Storage Description
#1A	288.50'	88 cf	10.50'W x 18.00'L x 2.50'H Field A 473 cf Overall - 253 cf Embedded = 219 cf x 40.0% Voids
#2A	289.00'	181 cf	Concrete Galley 4x8x2 x 4 Inside #1 Inside= 42.0"W x 21.0"H => 6.04 sf x 7.50'L = 45.3 cf Outside= 48.0"W x 24.0"H => 7.92 sf x 8.00'L = 63.4 cf 4 Chambers in 2 Rows
		269 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	290.17'	6.0" Round Culvert L= 13.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 290.17' / 289.00' S= 0.0900 ' S= 0.0900 ' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.20 sf
#2	Discarded	288.50'	1.020 in/hr Exfiltration over Surface area Conductivity to Groundwater Elevation = 286.50'

Discarded OutFlow Max=0.01 cfs @ 12.10 hrs HW=290.50' (Free Discharge)
 ↑ **2=Exfiltration** (Controls 0.01 cfs)

Primary OutFlow Max=0.28 cfs @ 12.10 hrs HW=290.50' (Free Discharge)
 ↑ **1=Culvert** (Inlet Controls 0.28 cfs @ 1.97 fps)

Pond 43P: RS L5R - Chamber Wizard Field A

Chamber Model = Concrete Galley 4x8x2 (Concrete Galley, UCPI 24" Low Profile Galley or equivalent)

Inside= 42.0"W x 21.0"H => 6.04 sf x 7.50'L = 45.3 cf

Outside= 48.0"W x 24.0"H => 7.92 sf x 8.00'L = 63.4 cf

48.0" Wide + 6.0" Spacing = 54.0" C-C Row Spacing

2 Chambers/Row x 8.00' Long = 16.00' Row Length +12.0" End Stone x 2 = 18.00' Base Length

2 Rows x 48.0" Wide + 6.0" Spacing x 1 + 12.0" Side Stone x 2 = 10.50' Base Width

6.0" Stone Base + 24.0" Chamber Height = 2.50' Field Height

4 Chambers x 45.3 cf = 181.2 cf Chamber Storage

4 Chambers x 63.4 cf = 253.4 cf Displacement

472.5 cf Field - 253.4 cf Chambers = 219.1 cf Stone x 40.0% Voids = 87.6 cf Stone Storage

Chamber Storage + Stone Storage = 268.8 cf = 0.006 af

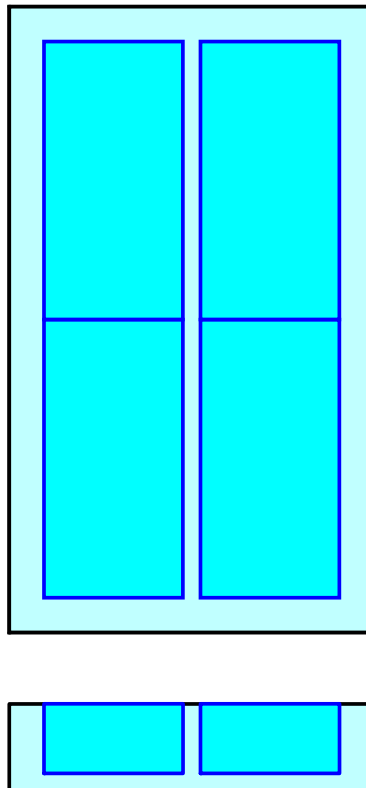
Overall Storage Efficiency = 56.9%

Overall System Size = 18.00' x 10.50' x 2.50'

4 Chambers

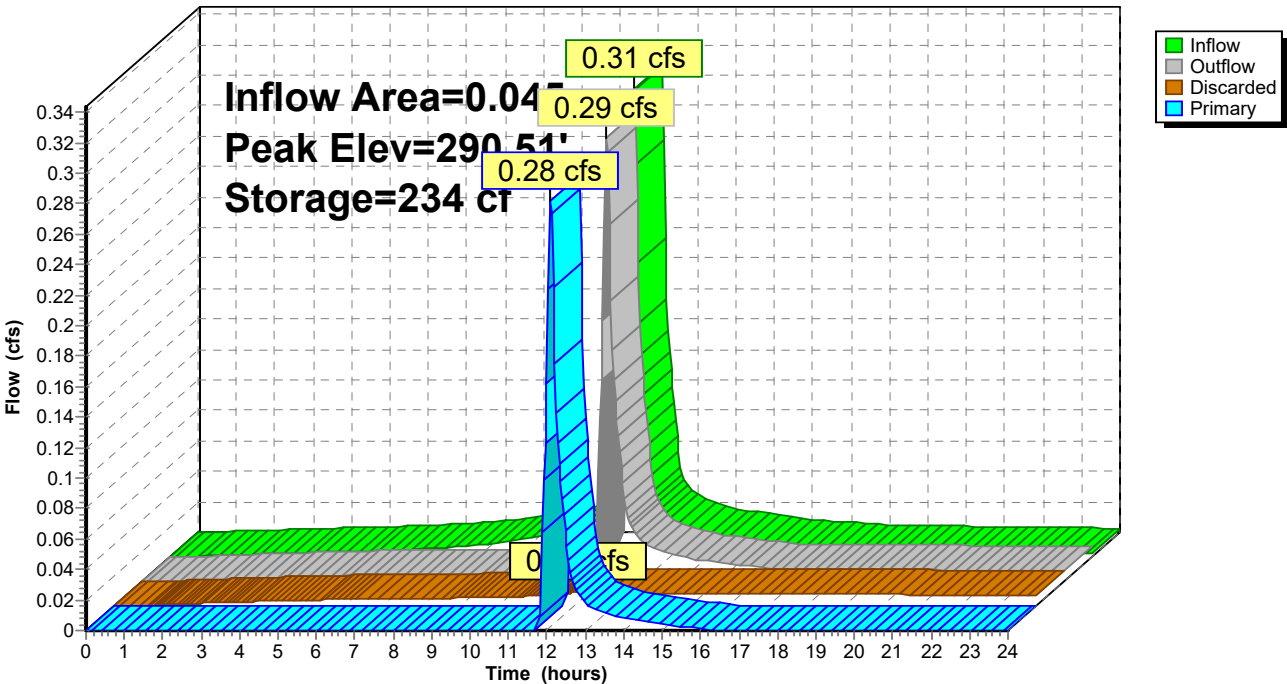
17.5 cy Field

8.1 cy Stone



Pond 43P: RS L5R

Hydrograph



Stage-Area-Storage for Pond 43P: RS L5R

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
288.50	189	0
288.55	189	4
288.60	189	8
288.65	189	11
288.70	189	15
288.75	189	19
288.80	189	23
288.85	189	26
288.90	189	30
288.95	189	34
289.00	189	38
289.05	189	44
289.10	189	51
289.15	189	57
289.20	189	64
289.25	189	70
289.30	189	77
289.35	189	83
289.40	189	90
289.45	189	96
289.50	189	103
289.55	189	109
289.60	189	116
289.65	189	122
289.70	189	129
289.75	189	135
289.80	189	142
289.85	189	148
289.90	189	155
289.95	189	161
290.00	189	168
290.05	189	174
290.10	189	181
290.15	189	187
290.20	189	194
290.25	189	200
290.30	189	207
290.35	189	213
290.40	189	220
290.45	189	226
290.50	189	233
290.55	189	239
290.60	189	245
290.65	189	251
290.70	189	257
290.75	189	263
290.80	189	264
290.85	189	265
290.90	189	266
290.95	189	268
291.00	189	269

Summary for Pond 44P: RS L3

Inflow Area = 0.022 ac, 100.00% Impervious, Inflow Depth > 6.61" for 25 yr event
 Inflow = 0.15 cfs @ 12.07 hrs, Volume= 0.012 af
 Outflow = 0.02 cfs @ 12.80 hrs, Volume= 0.011 af, Atten= 90%, Lag= 43.4 min
 Discarded = 0.01 cfs @ 12.80 hrs, Volume= 0.011 af
 Primary = 0.01 cfs @ 12.80 hrs, Volume= 0.000 af
 Routed to Link 38L : POC 3 (Monroe Turnpike)

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.04 hrs
 Peak Elev= 262.94' @ 12.80 hrs Surf.Area= 204 sf Storage= 237 cf

Plug-Flow detention time= 219.6 min calculated for 0.011 af (90% of inflow)
 Center-of-Mass det. time= 170.5 min (912.5 - 742.0)

Volume	Invert	Avail.Storage	Storage Description
#1A	261.00'	103 cf	6.00'W x 34.00'L x 2.50'H Field A 510 cf Overall - 253 cf Embedded = 257 cf x 40.0% Voids
#2A	261.50'	181 cf	Concrete Galley 4x8x2 x 4 Inside #1 Inside= 42.0"W x 21.0"H => 6.04 sf x 7.50'L = 45.3 cf Outside= 48.0"W x 24.0"H => 7.92 sf x 8.00'L = 63.4 cf
		284 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	262.90'	6.0" Round Culvert L= 101.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 262.90' / 248.36' S= 0.1440 ' /' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.20 sf
#2	Discarded	261.00'	1.020 in/hr Exfiltration over Surface area Conductivity to Groundwater Elevation = 259.00'

Discarded OutFlow Max=0.01 cfs @ 12.80 hrs HW=262.94' (Free Discharge)

↑**2=Exfiltration** (Controls 0.01 cfs)

Primary OutFlow Max=0.01 cfs @ 12.80 hrs HW=262.94' (Free Discharge)

↑**1=Culvert** (Inlet Controls 0.01 cfs @ 0.69 fps)

Pond 44P: RS L3 - Chamber Wizard Field A

Chamber Model = Concrete Galley 4x8x2 (Concrete Galley, UCPI 24" Low Profile Galley or equivalent)

Inside= 42.0"W x 21.0"H => 6.04 sf x 7.50'L = 45.3 cf

Outside= 48.0"W x 24.0"H => 7.92 sf x 8.00'L = 63.4 cf

4 Chambers/Row x 8.00' Long = 32.00' Row Length +12.0" End Stone x 2 = 34.00' Base Length

1 Rows x 48.0" Wide + 12.0" Side Stone x 2 = 6.00' Base Width

6.0" Stone Base + 24.0" Chamber Height = 2.50' Field Height

4 Chambers x 45.3 cf = 181.2 cf Chamber Storage

4 Chambers x 63.4 cf = 253.4 cf Displacement

510.0 cf Field - 253.4 cf Chambers = 256.6 cf Stone x 40.0% Voids = 102.6 cf Stone Storage

Chamber Storage + Stone Storage = 283.8 cf = 0.007 af

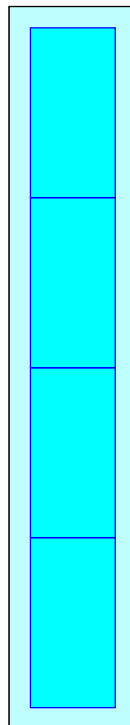
Overall Storage Efficiency = 55.7%

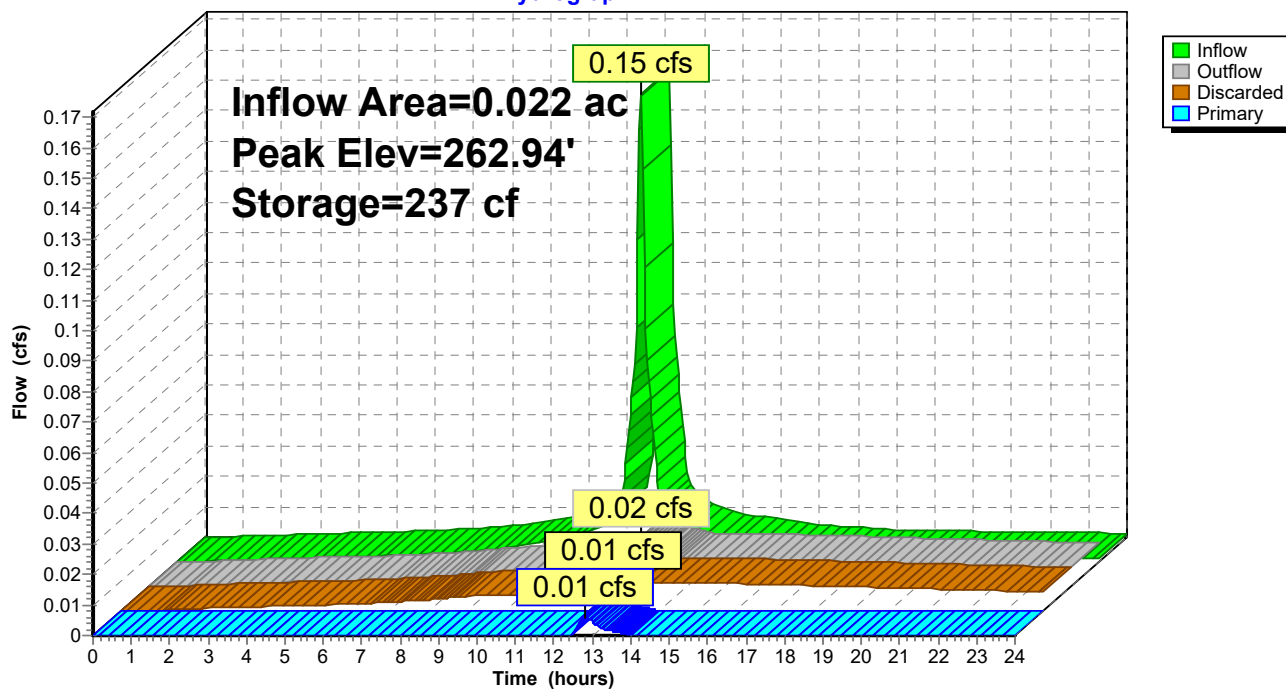
Overall System Size = 34.00' x 6.00' x 2.50'

4 Chambers

18.9 cy Field

9.5 cy Stone



Pond 44P: RS L3**Hydrograph**

Stage-Area-Storage for Pond 44P: RS L3

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
261.00	204	0
261.05	204	4
261.10	204	8
261.15	204	12
261.20	204	16
261.25	204	20
261.30	204	24
261.35	204	29
261.40	204	33
261.45	204	37
261.50	204	41
261.55	204	48
261.60	204	54
261.65	204	61
261.70	204	68
261.75	204	75
261.80	204	82
261.85	204	88
261.90	204	95
261.95	204	102
262.00	204	109
262.05	204	116
262.10	204	122
262.15	204	129
262.20	204	136
262.25	204	143
262.30	204	150
262.35	204	156
262.40	204	163
262.45	204	170
262.50	204	177
262.55	204	184
262.60	204	190
262.65	204	197
262.70	204	204
262.75	204	211
262.80	204	217
262.85	204	224
262.90	204	231
262.95	204	238
263.00	204	245
263.05	204	251
263.10	204	258
263.15	204	264
263.20	204	270
263.25	204	276
263.30	204	278
263.35	204	279
263.40	204	281
263.45	204	282
263.50	204	284

Summary for Pond 45P: RS L6

Inflow Area = 0.088 ac, 59.41% Impervious, Inflow Depth > 4.88" for 25 yr event
 Inflow = 0.43 cfs @ 12.14 hrs, Volume= 0.036 af
 Outflow = 0.05 cfs @ 13.06 hrs, Volume= 0.031 af, Atten= 89%, Lag= 55.1 min
 Discarded = 0.03 cfs @ 13.06 hrs, Volume= 0.029 af
 Primary = 0.02 cfs @ 13.06 hrs, Volume= 0.002 af
 Routed to Pond 20P : Detention Basin #1 (North)

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.04 hrs
 Peak Elev= 302.25' @ 13.06 hrs Surf.Area= 686 sf Storage= 733 cf

Plug-Flow detention time= 243.1 min calculated for 0.031 af (85% of inflow)
 Center-of-Mass det. time= 181.5 min (985.5 - 804.0)

Volume	Invert	Avail.Storage	Storage Description
#1A	300.50'	193 cf	6.00'W x 66.00'L x 2.50'H Field A 990 cf Overall - 507 cf Embedded = 483 cf x 40.0% Voids
#2A	301.00'	362 cf	Concrete Galley 4x8x2 x 8 Inside #1 Inside= 42.0"W x 21.0"H => 6.04 sf x 7.50'L = 45.3 cf Outside= 48.0"W x 24.0"H => 7.92 sf x 8.00'L = 63.4 cf
#3B	300.50'	113 cf	5.00'W x 58.00'L x 2.50'H Field B 725 cf Overall - 444 cf Embedded = 281 cf x 40.0% Voids
#4B	301.00'	317 cf	Concrete Galley 4x8x2 x 7 Inside #3 Inside= 42.0"W x 21.0"H => 6.04 sf x 7.50'L = 45.3 cf Outside= 48.0"W x 24.0"H => 7.92 sf x 8.00'L = 63.4 cf
		985 cf	Total Available Storage

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

Device	Routing	Invert	Outlet Devices
#1	Primary	302.17'	6.0" Round Culvert L= 101.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 302.17' / 287.93' S= 0.1410 1' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.20 sf
#2	Discarded	300.50'	1.020 in/hr Exfiltration over Surface area Conductivity to Groundwater Elevation = 298.00'

Discarded OutFlow Max=0.03 cfs @ 13.06 hrs HW=302.25' (Free Discharge)
 ↑ **2=Exfiltration** (Controls 0.03 cfs)

Primary OutFlow Max=0.02 cfs @ 13.06 hrs HW=302.25' (Free Discharge)
 ↑ **1=Culvert** (Inlet Controls 0.02 cfs @ 0.94 fps)

Pond 45P: RS L6 - Chamber Wizard Field A

Chamber Model = Concrete Galley 4x8x2 (Concrete Galley, UCPI 24" Low Profile Galley or equivalent)

Inside= 42.0"W x 21.0"H => 6.04 sf x 7.50'L = 45.3 cf

Outside= 48.0"W x 24.0"H => 7.92 sf x 8.00'L = 63.4 cf

8 Chambers/Row x 8.00' Long = 64.00' Row Length +12.0" End Stone x 2 = 66.00' Base Length

1 Rows x 48.0" Wide + 12.0" Side Stone x 2 = 6.00' Base Width

6.0" Stone Base + 24.0" Chamber Height = 2.50' Field Height

8 Chambers x 45.3 cf = 362.4 cf Chamber Storage

8 Chambers x 63.4 cf = 506.9 cf Displacement

990.0 cf Field - 506.9 cf Chambers = 483.1 cf Stone x 40.0% Voids = 193.2 cf Stone Storage

Chamber Storage + Stone Storage = 555.6 cf = 0.013 af

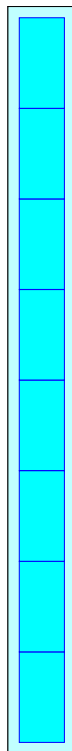
Overall Storage Efficiency = 56.1%

Overall System Size = 66.00' x 6.00' x 2.50'

8 Chambers

36.7 cy Field

17.9 cy Stone



Pond 45P: RS L6 - Chamber Wizard Field B

Chamber Model = Concrete Galley 4x8x2 (Concrete Galley, UCPI 24" Low Profile Galley or equivalent)

Inside= 42.0"W x 21.0"H => 6.04 sf x 7.50'L = 45.3 cf

Outside= 48.0"W x 24.0"H => 7.92 sf x 8.00'L = 63.4 cf

7 Chambers/Row x 8.00' Long = 56.00' Row Length +12.0" End Stone x 2 = 58.00' Base Length

1 Rows x 48.0" Wide + 6.0" Side Stone x 2 = 5.00' Base Width

6.0" Stone Base + 24.0" Chamber Height = 2.50' Field Height

7 Chambers x 45.3 cf = 317.1 cf Chamber Storage

7 Chambers x 63.4 cf = 443.5 cf Displacement

725.0 cf Field - 443.5 cf Chambers = 281.5 cf Stone x 40.0% Voids = 112.6 cf Stone Storage

Chamber Storage + Stone Storage = 429.7 cf = 0.010 af

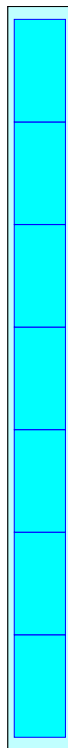
Overall Storage Efficiency = 59.3%

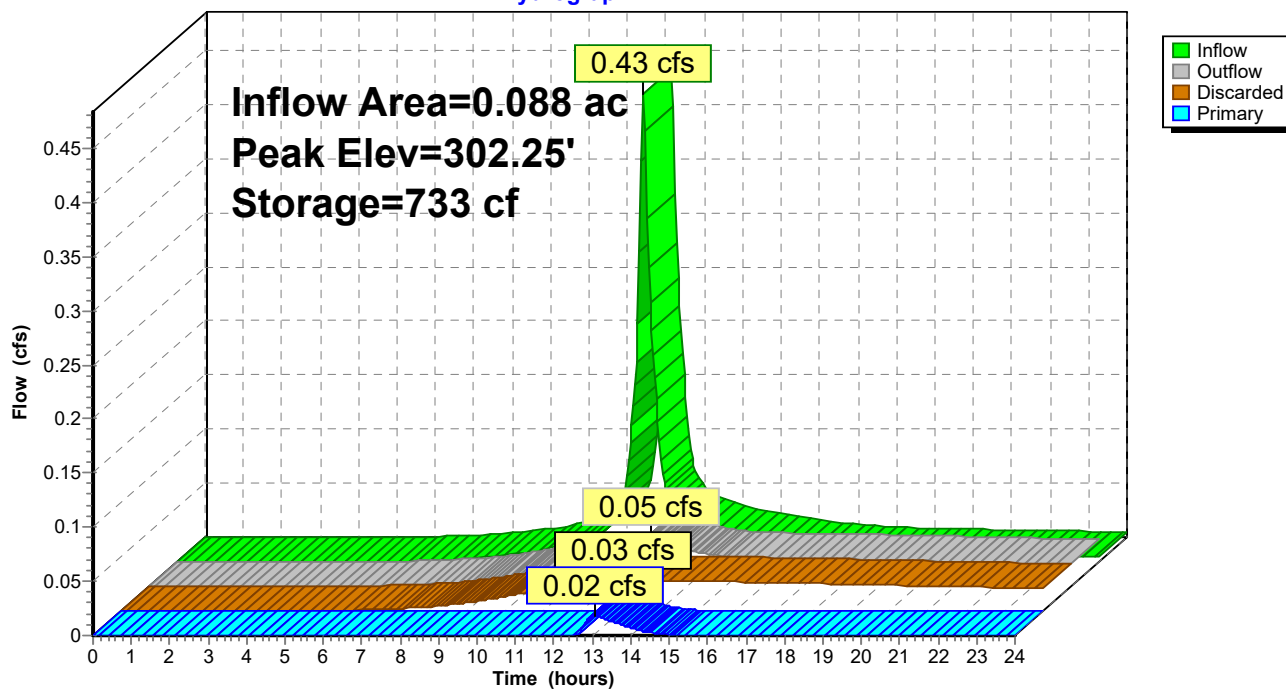
Overall System Size = 58.00' x 5.00' x 2.50'

7 Chambers

26.9 cy Field

10.4 cy Stone



Pond 45P: RS L6**Hydrograph**

Stage-Area-Storage for Pond 45P: RS L6

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
300.50	686	0
300.55	686	14
300.60	686	27
300.65	686	41
300.70	686	55
300.75	686	69
300.80	686	82
300.85	686	96
300.90	686	110
300.95	686	123
301.00	686	137
301.05	686	161
301.10	686	185
301.15	686	209
301.20	686	233
301.25	686	257
301.30	686	281
301.35	686	305
301.40	686	328
301.45	686	352
301.50	686	376
301.55	686	400
301.60	686	424
301.65	686	448
301.70	686	472
301.75	686	496
301.80	686	520
301.85	686	544
301.90	686	567
301.95	686	591
302.00	686	615
302.05	686	639
302.10	686	663
302.15	686	687
302.20	686	711
302.25	686	735
302.30	686	759
302.35	686	783
302.40	686	806
302.45	686	830
302.50	686	854
302.55	686	878
302.60	686	901
302.65	686	922
302.70	686	943
302.75	686	964
302.80	686	968
302.85	686	973
302.90	686	977
302.95	686	981
303.00	686	985

Summary for Pond 46P: Detention Basin #3 (Entrance)

Inflow Area = 2.532 ac, 0.00% Impervious, Inflow Depth > 3.90" for 25 yr event
 Inflow = 11.75 cfs @ 12.09 hrs, Volume= 0.823 af
 Outflow = 11.70 cfs @ 12.10 hrs, Volume= 0.808 af, Atten= 0%, Lag= 0.4 min
 Discarded = 0.01 cfs @ 12.10 hrs, Volume= 0.013 af
 Primary = 11.68 cfs @ 12.10 hrs, Volume= 0.794 af
 Routed to Link 39L : POC 4 (Culvert Under Monroe Turnpike)

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.04 hrs
 Peak Elev= 280.03' @ 12.10 hrs Surf.Area= 666 sf Storage= 971 cf

Plug-Flow detention time= 16.1 min calculated for 0.807 af (98% of inflow)
 Center-of-Mass det. time= 5.4 min (830.9 - 825.4)

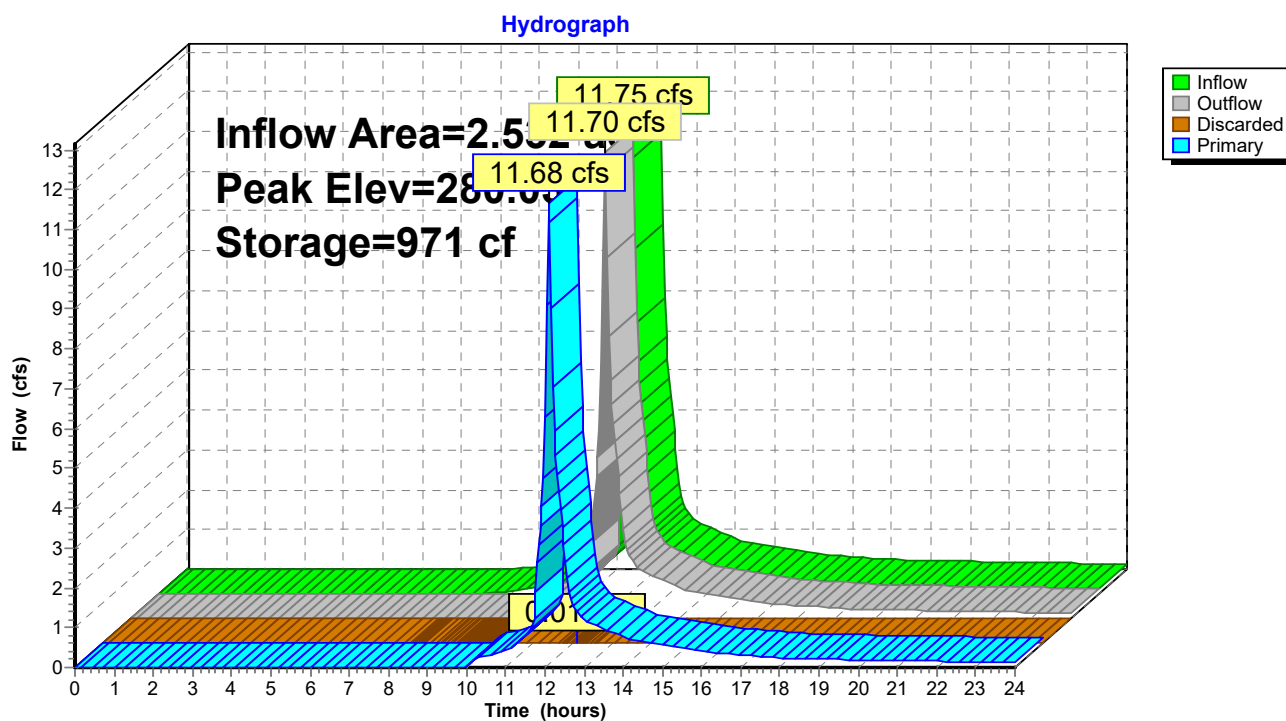
Volume	Invert	Avail.Storage	Storage Description
#1	278.00'	1,739 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
278.00	295	0	0
280.00	659	954	954
281.00	910	785	1,739

Device	Routing	Invert	Outlet Devices
#1	Primary	279.50'	10.0' long (Profile 26) Broad-Crested Rectangular Weir Head (feet) 0.49 0.98 1.48 Coef. (English) 3.06 3.13 3.13
#2	Discarded	278.00'	0.520 in/hr Exfiltration over Surface area Conductivity to Groundwater Elevation = 276.00'

Discarded OutFlow Max=0.01 cfs @ 12.10 hrs HW=280.02' (Free Discharge)
 ↑**2=Exfiltration** (Controls 0.01 cfs)

Primary OutFlow Max=11.36 cfs @ 12.10 hrs HW=280.02' (Free Discharge)
 ↑**1=Broad-Crested Rectangular Weir** (Weir Controls 11.36 cfs @ 2.20 fps)

Pond 46P: Detention Basin #3 (Entrance)

Stage-Area-Storage for Pond 46P: Detention Basin #3 (Entrance)

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
278.00	295	0	280.65	822	1,435
278.05	304	15	280.70	835	1,477
278.10	313	30	280.75	847	1,519
278.15	322	46	280.80	860	1,562
278.20	331	63	280.85	872	1,605
278.25	341	79	280.90	885	1,649
278.30	350	97	280.95	897	1,693
278.35	359	114	281.00	910	1,739
278.40	368	133			
278.45	377	151			
278.50	386	170			
278.55	395	190			
278.60	404	210			
278.65	413	230			
278.70	422	251			
278.75	432	272			
278.80	441	294			
278.85	450	316			
278.90	459	339			
278.95	468	362			
279.00	477	386			
279.05	486	410			
279.10	495	435			
279.15	504	460			
279.20	513	485			
279.25	523	511			
279.30	532	537			
279.35	541	564			
279.40	550	591			
279.45	559	619			
279.50	568	647			
279.55	577	676			
279.60	586	705			
279.65	595	734			
279.70	604	764			
279.75	614	795			
279.80	623	826			
279.85	632	857			
279.90	641	889			
279.95	650	921			
280.00	659	954			
280.05	672	987			
280.10	684	1,021			
280.15	697	1,056			
280.20	709	1,091			
280.25	722	1,127			
280.30	734	1,163			
280.35	747	1,200			
280.40	759	1,238			
280.45	772	1,276			
280.50	785	1,315			
280.55	797	1,354			
280.60	810	1,395			

Summary for Pond 47P: RS L1

Inflow Area = 0.290 ac, 35.75% Impervious, Inflow Depth > 4.44" for 25 yr event
 Inflow = 1.54 cfs @ 12.08 hrs, Volume= 0.107 af
 Outflow = 1.42 cfs @ 12.12 hrs, Volume= 0.096 af, Atten= 7%, Lag= 2.7 min
 Discarded = 0.04 cfs @ 12.12 hrs, Volume= 0.035 af
 Primary = 1.38 cfs @ 12.12 hrs, Volume= 0.061 af
 Routed to Link 38L : POC 3 (Monroe Turnpike)

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.04 hrs
 Peak Elev= 282.51' @ 12.12 hrs Surf.Area= 686 sf Storage= 985 cf

Plug-Flow detention time= 91.6 min calculated for 0.096 af (89% of inflow)
 Center-of-Mass det. time= 41.5 min (851.4 - 809.9)

Volume	Invert	Avail.Storage	Storage Description
#1A	280.00'	193 cf	6.00'W x 66.00'L x 2.50'H Field A 990 cf Overall - 507 cf Embedded = 483 cf x 40.0% Voids
#2A	280.50'	362 cf	Concrete Galley 4x8x2 x 8 Inside #1 Inside= 42.0"W x 21.0"H => 6.04 sf x 7.50'L = 45.3 cf Outside= 48.0"W x 24.0"H => 7.92 sf x 8.00'L = 63.4 cf
#3B	280.00'	113 cf	5.00'W x 58.00'L x 2.50'H Field B 725 cf Overall - 444 cf Embedded = 281 cf x 40.0% Voids
#4B	280.50'	317 cf	Concrete Galley 4x8x2 x 7 Inside #3 Inside= 42.0"W x 21.0"H => 6.04 sf x 7.50'L = 45.3 cf Outside= 48.0"W x 24.0"H => 7.92 sf x 8.00'L = 63.4 cf
		985 cf	Total Available Storage

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

Device	Routing	Invert	Outlet Devices
#1	Primary	281.50'	8.0" Round Culvert L= 15.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 281.50' / 279.83' S= 0.1113 '/ Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.35 sf
#2	Discarded	280.00'	1.020 in/hr Exfiltration over Surface area Conductivity to Groundwater Elevation = 278.00'

Discarded OutFlow Max=0.04 cfs @ 12.12 hrs HW=282.50' (Free Discharge)
 ↳ **2=Exfiltration** (Controls 0.04 cfs)

Primary OutFlow Max=1.37 cfs @ 12.12 hrs HW=282.50' (Free Discharge)
 ↳ **1=Culvert** (Inlet Controls 1.37 cfs @ 3.94 fps)

Pond 47P: RS L1 - Chamber Wizard Field A

Chamber Model = Concrete Galley 4x8x2 (Concrete Galley, UCPI 24" Low Profile Galley or equivalent)

Inside= 42.0"W x 21.0"H => 6.04 sf x 7.50'L = 45.3 cf

Outside= 48.0"W x 24.0"H => 7.92 sf x 8.00'L = 63.4 cf

8 Chambers/Row x 8.00' Long = 64.00' Row Length +12.0" End Stone x 2 = 66.00' Base Length

1 Rows x 48.0" Wide + 12.0" Side Stone x 2 = 6.00' Base Width

6.0" Stone Base + 24.0" Chamber Height = 2.50' Field Height

8 Chambers x 45.3 cf = 362.4 cf Chamber Storage

8 Chambers x 63.4 cf = 506.9 cf Displacement

990.0 cf Field - 506.9 cf Chambers = 483.1 cf Stone x 40.0% Voids = 193.2 cf Stone Storage

Chamber Storage + Stone Storage = 555.6 cf = 0.013 af

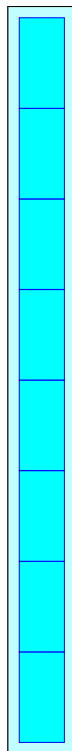
Overall Storage Efficiency = 56.1%

Overall System Size = 66.00' x 6.00' x 2.50'

8 Chambers

36.7 cy Field

17.9 cy Stone



Pond 47P: RS L1 - Chamber Wizard Field B

Chamber Model = Concrete Galley 4x8x2 (Concrete Galley, UCPI 24" Low Profile Galley or equivalent)

Inside= 42.0"W x 21.0"H => 6.04 sf x 7.50'L = 45.3 cf

Outside= 48.0"W x 24.0"H => 7.92 sf x 8.00'L = 63.4 cf

7 Chambers/Row x 8.00' Long = 56.00' Row Length +12.0" End Stone x 2 = 58.00' Base Length

1 Rows x 48.0" Wide + 6.0" Side Stone x 2 = 5.00' Base Width

6.0" Stone Base + 24.0" Chamber Height = 2.50' Field Height

7 Chambers x 45.3 cf = 317.1 cf Chamber Storage

7 Chambers x 63.4 cf = 443.5 cf Displacement

725.0 cf Field - 443.5 cf Chambers = 281.5 cf Stone x 40.0% Voids = 112.6 cf Stone Storage

Chamber Storage + Stone Storage = 429.7 cf = 0.010 af

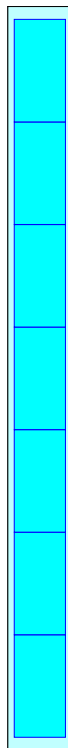
Overall Storage Efficiency = 59.3%

Overall System Size = 58.00' x 5.00' x 2.50'

7 Chambers

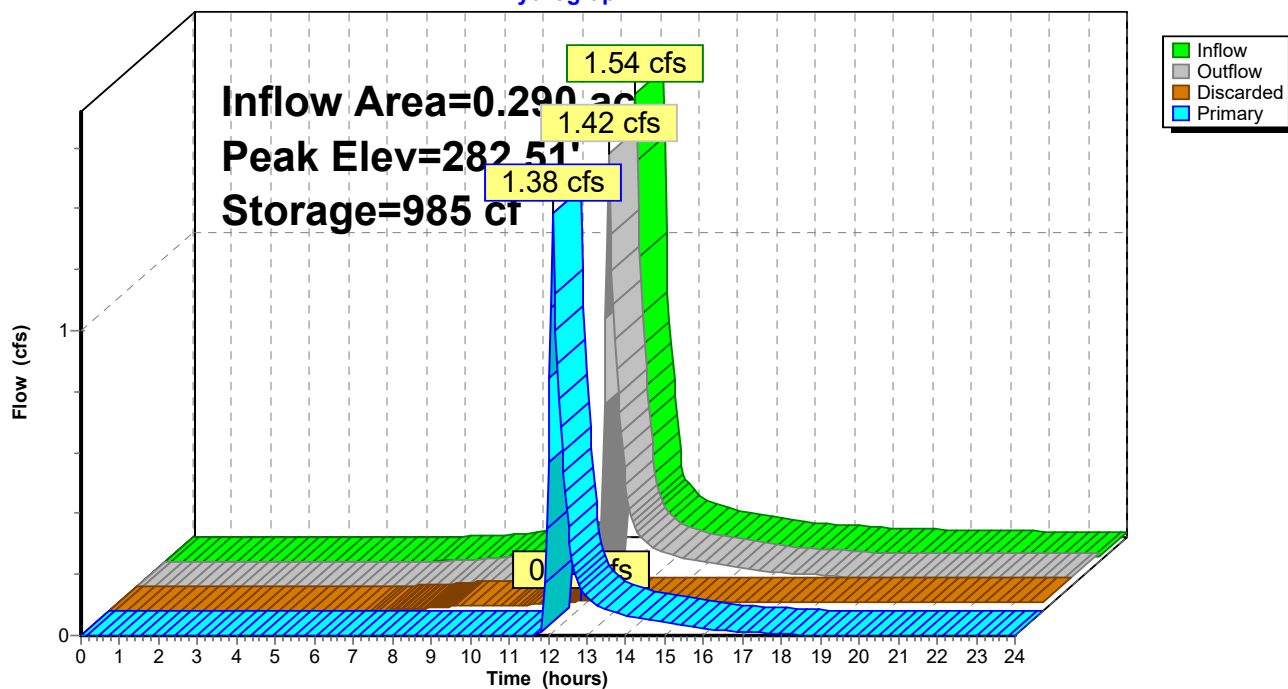
26.9 cy Field

10.4 cy Stone



Pond 47P: RS L1

Hydrograph



Stage-Area-Storage for Pond 47P: RS L1

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
280.00	686	0
280.05	686	14
280.10	686	27
280.15	686	41
280.20	686	55
280.25	686	69
280.30	686	82
280.35	686	96
280.40	686	110
280.45	686	123
280.50	686	137
280.55	686	161
280.60	686	185
280.65	686	209
280.70	686	233
280.75	686	257
280.80	686	281
280.85	686	305
280.90	686	328
280.95	686	352
281.00	686	376
281.05	686	400
281.10	686	424
281.15	686	448
281.20	686	472
281.25	686	496
281.30	686	520
281.35	686	544
281.40	686	567
281.45	686	591
281.50	686	615
281.55	686	639
281.60	686	663
281.65	686	687
281.70	686	711
281.75	686	735
281.80	686	759
281.85	686	783
281.90	686	806
281.95	686	830
282.00	686	854
282.05	686	878
282.10	686	901
282.15	686	922
282.20	686	943
282.25	686	964
282.30	686	968
282.35	686	973
282.40	686	977
282.45	686	981
282.50	686	985

Summary for Pond 48P: RS L7

Inflow Area = 0.145 ac, 42.21% Impervious, Inflow Depth > 4.23" for 25 yr event
 Inflow = 0.68 cfs @ 12.10 hrs, Volume= 0.051 af
 Outflow = 0.40 cfs @ 12.24 hrs, Volume= 0.040 af, Atten= 42%, Lag= 8.4 min
 Discarded = 0.01 cfs @ 12.24 hrs, Volume= 0.016 af
 Primary = 0.39 cfs @ 12.24 hrs, Volume= 0.024 af
 Routed to Pond 20P : Detention Basin #1 (North)

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.04 hrs
 Peak Elev= 309.09' @ 12.24 hrs Surf.Area= 525 sf Storage= 697 cf

Plug-Flow detention time= 137.8 min calculated for 0.040 af (78% of inflow)
 Center-of-Mass det. time= 57.2 min (873.4 - 816.2)

Volume	Invert	Avail.Storage	Storage Description
#1A	307.00'	221 cf	10.50'W x 50.00'L x 2.50'H Field A 1,313 cf Overall - 760 cf Embedded = 552 cf x 40.0% Voids
#2A	307.50'	544 cf	Concrete Galley 4x8x2 x 12 Inside #1 Inside= 42.0"W x 21.0"H => 6.04 sf x 7.50'L = 45.3 cf Outside= 48.0"W x 24.0"H => 7.92 sf x 8.00'L = 63.4 cf 12 Chambers in 2 Rows
		764 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	308.67'	6.0" Round Culvert L= 56.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 308.67' / 294.05' S= 0.2611 '/ Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.20 sf
#2	Discarded	307.00'	1.020 in/hr Exfiltration over Surface area Conductivity to Groundwater Elevation = 259.00'

Discarded OutFlow Max=0.01 cfs @ 12.24 hrs HW=309.09' (Free Discharge)
 ↑ **2=Exfiltration** (Controls 0.01 cfs)

Primary OutFlow Max=0.39 cfs @ 12.24 hrs HW=309.09' (Free Discharge)
 ↑ **1=Culvert** (Inlet Controls 0.39 cfs @ 2.20 fps)

Pond 48P: RS L7 - Chamber Wizard Field A

Chamber Model = Concrete Galley 4x8x2 (Concrete Galley, UCPI 24" Low Profile Galley or equivalent)

Inside= 42.0"W x 21.0"H => 6.04 sf x 7.50'L = 45.3 cf

Outside= 48.0"W x 24.0"H => 7.92 sf x 8.00'L = 63.4 cf

48.0" Wide + 6.0" Spacing = 54.0" C-C Row Spacing

6 Chambers/Row x 8.00' Long = 48.00' Row Length +12.0" End Stone x 2 = 50.00' Base Length

2 Rows x 48.0" Wide + 6.0" Spacing x 1 + 12.0" Side Stone x 2 = 10.50' Base Width

6.0" Stone Base + 24.0" Chamber Height = 2.50' Field Height

12 Chambers x 45.3 cf = 543.6 cf Chamber Storage

12 Chambers x 63.4 cf = 760.3 cf Displacement

1,312.5 cf Field - 760.3 cf Chambers = 552.2 cf Stone x 40.0% Voids = 220.9 cf Stone Storage

Chamber Storage + Stone Storage = 764.5 cf = 0.018 af

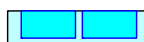
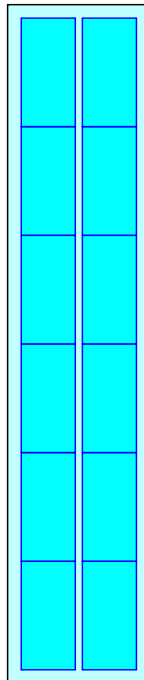
Overall Storage Efficiency = 58.2%

Overall System Size = 50.00' x 10.50' x 2.50'

12 Chambers

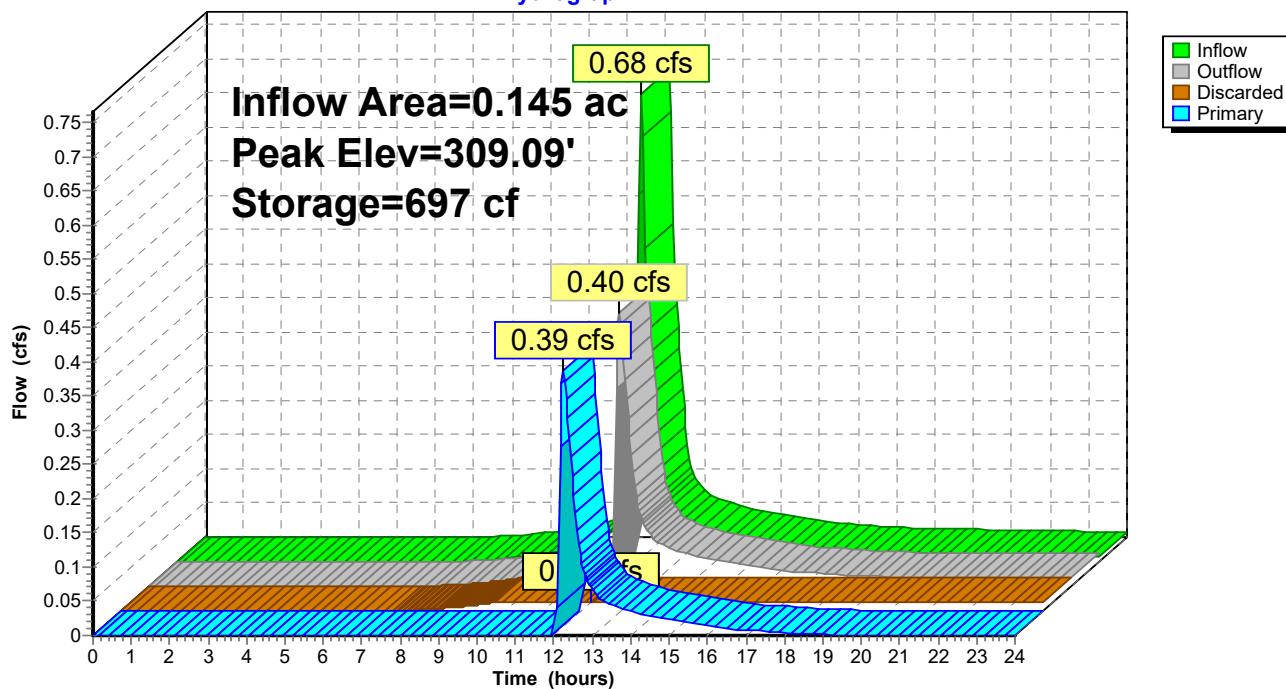
48.6 cy Field

20.5 cy Stone



Pond 48P: RS L7

Hydrograph



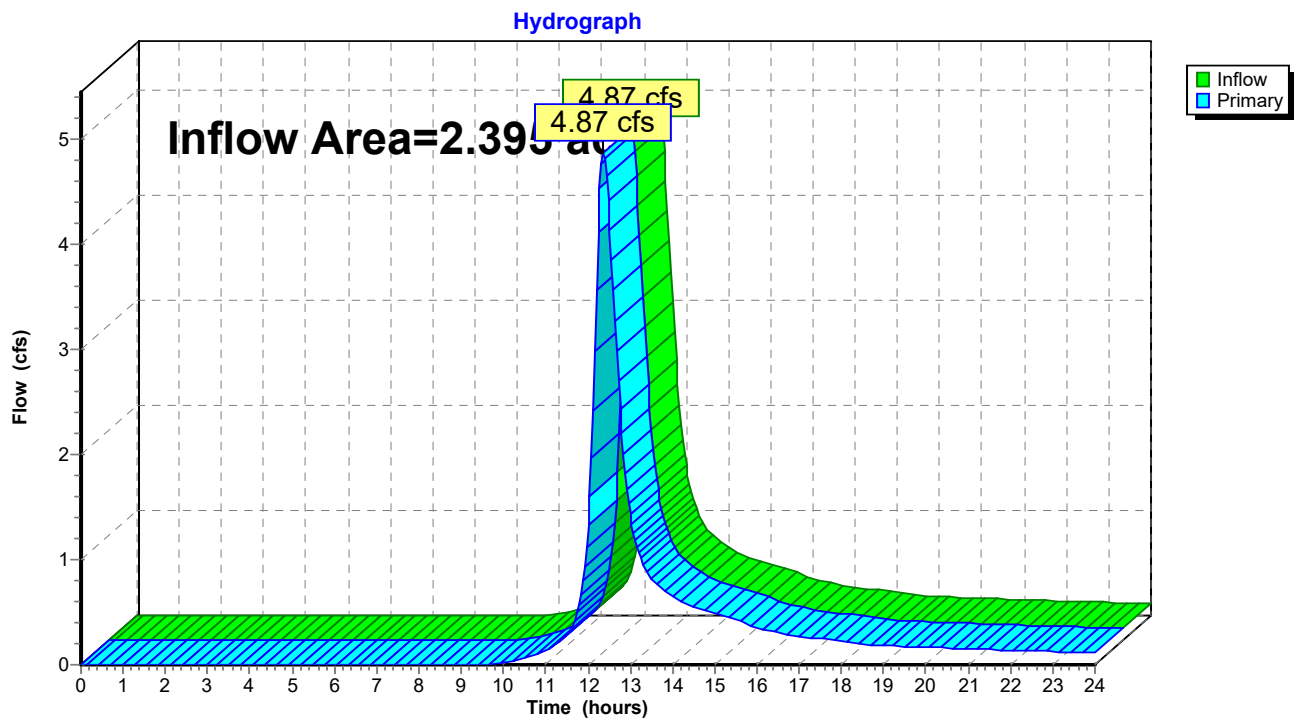
Stage-Area-Storage for Pond 48P: RS L7

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
307.00	525	0
307.05	525	11
307.10	525	21
307.15	525	31
307.20	525	42
307.25	525	53
307.30	525	63
307.35	525	74
307.40	525	84
307.45	525	94
307.50	525	105
307.55	525	124
307.60	525	142
307.65	525	161
307.70	525	180
307.75	525	198
307.80	525	217
307.85	525	236
307.90	525	254
307.95	525	273
308.00	525	291
308.05	525	310
308.10	525	329
308.15	525	347
308.20	525	366
308.25	525	385
308.30	525	403
308.35	525	422
308.40	525	441
308.45	525	459
308.50	525	478
308.55	525	497
308.60	525	515
308.65	525	534
308.70	525	553
308.75	525	571
308.80	525	590
308.85	525	608
308.90	525	627
308.95	525	646
309.00	525	664
309.05	525	683
309.10	525	701
309.15	525	717
309.20	525	734
309.25	525	750
309.30	525	753
309.35	525	756
309.40	525	759
309.45	525	762
309.50	525	764

Summary for Link 36L: POC 1 (Downs Road)

Inflow Area = 2.395 ac, 0.00% Impervious, Inflow Depth > 2.87" for 25 yr event
Inflow = 4.87 cfs @ 12.37 hrs, Volume= 0.573 af
Primary = 4.87 cfs @ 12.37 hrs, Volume= 0.573 af, Atten= 0%, Lag= 0.0 min

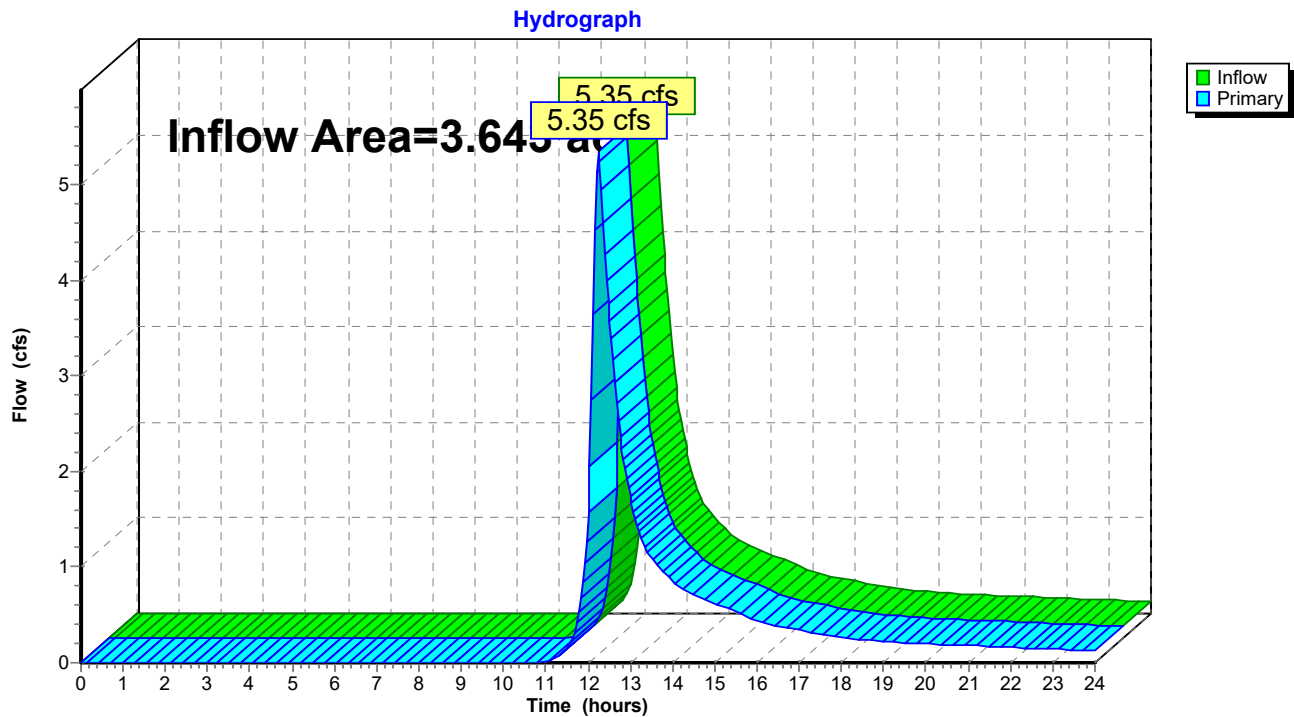
Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.04 hrs

Link 36L: POC 1 (Downs Road)

Summary for Link 37L: POC 2 (Cottage Street)

Inflow Area = 3.643 ac, 4.70% Impervious, Inflow Depth > 2.13" for 25 yr event
Inflow = 5.35 cfs @ 12.25 hrs, Volume= 0.645 af
Primary = 5.35 cfs @ 12.25 hrs, Volume= 0.645 af, Atten= 0%, Lag= 0.0 min

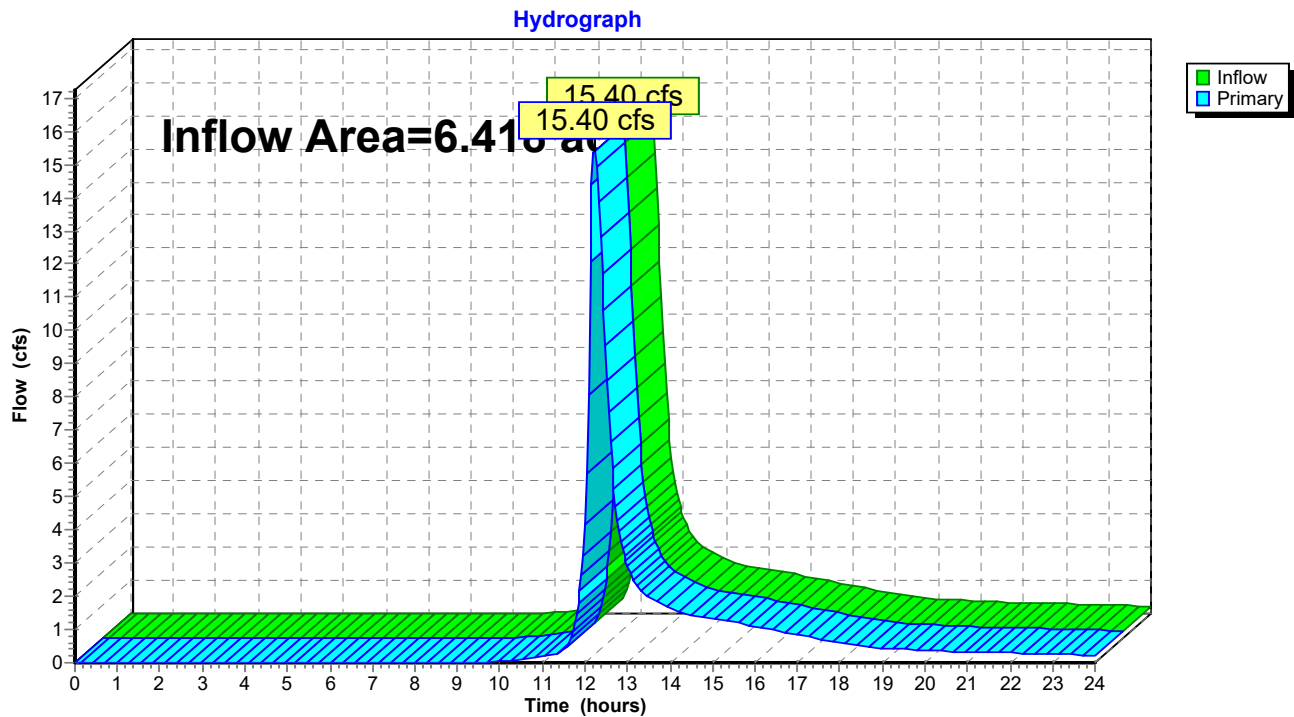
Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.04 hrs

Link 37L: POC 2 (Cottage Street)

Summary for Link 38L: POC 3 (Monroe Turnpike)

Inflow Area = 6.418 ac, 17.27% Impervious, Inflow Depth > 2.75" for 25 yr event
Inflow = 15.40 cfs @ 12.21 hrs, Volume= 1.471 af
Primary = 15.40 cfs @ 12.21 hrs, Volume= 1.471 af, Atten= 0%, Lag= 0.0 min

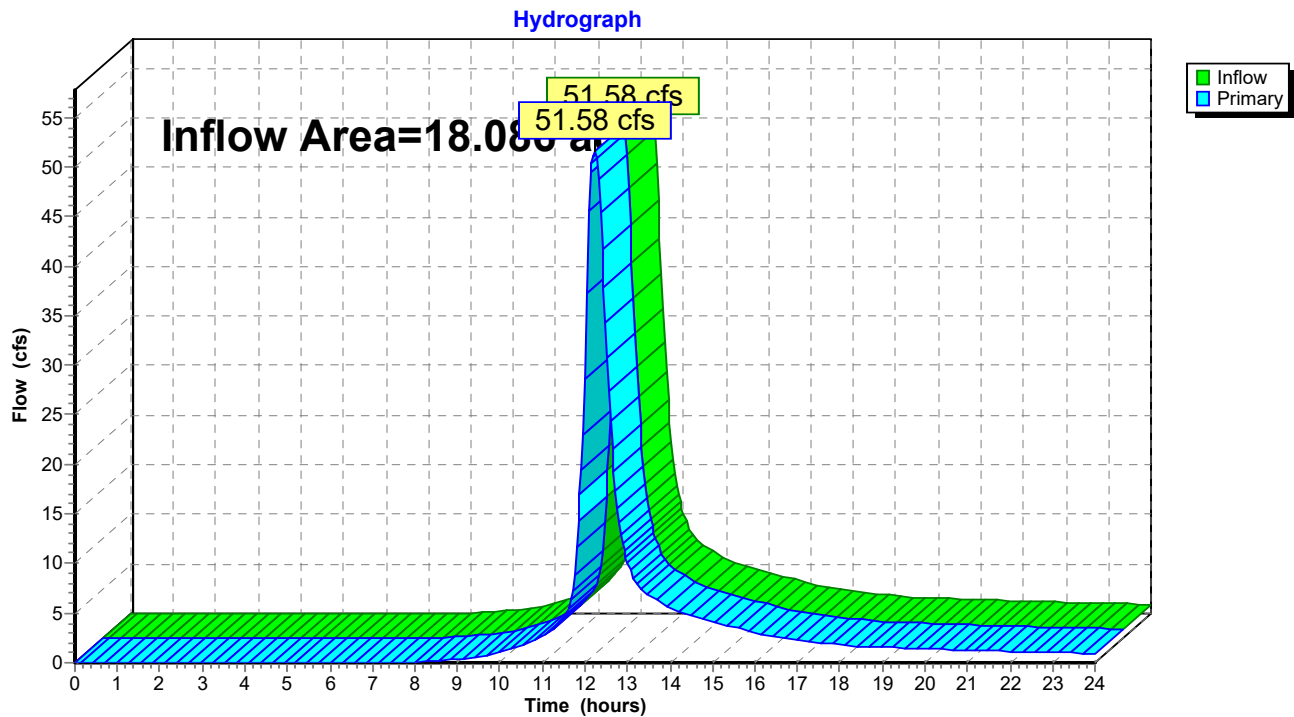
Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.04 hrs

Link 38L: POC 3 (Monroe Turnpike)

Summary for Link 39L: POC 4 (Culvert Under Monroe Turnpike)

Inflow Area = 18.086 ac, 2.23% Impervious, Inflow Depth > 3.79" for 25 yr event
Inflow = 51.58 cfs @ 12.24 hrs, Volume= 5.709 af
Primary = 51.58 cfs @ 12.24 hrs, Volume= 5.709 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.04 hrs

Link 39L: POC 4 (Culvert Under Monroe Turnpike)

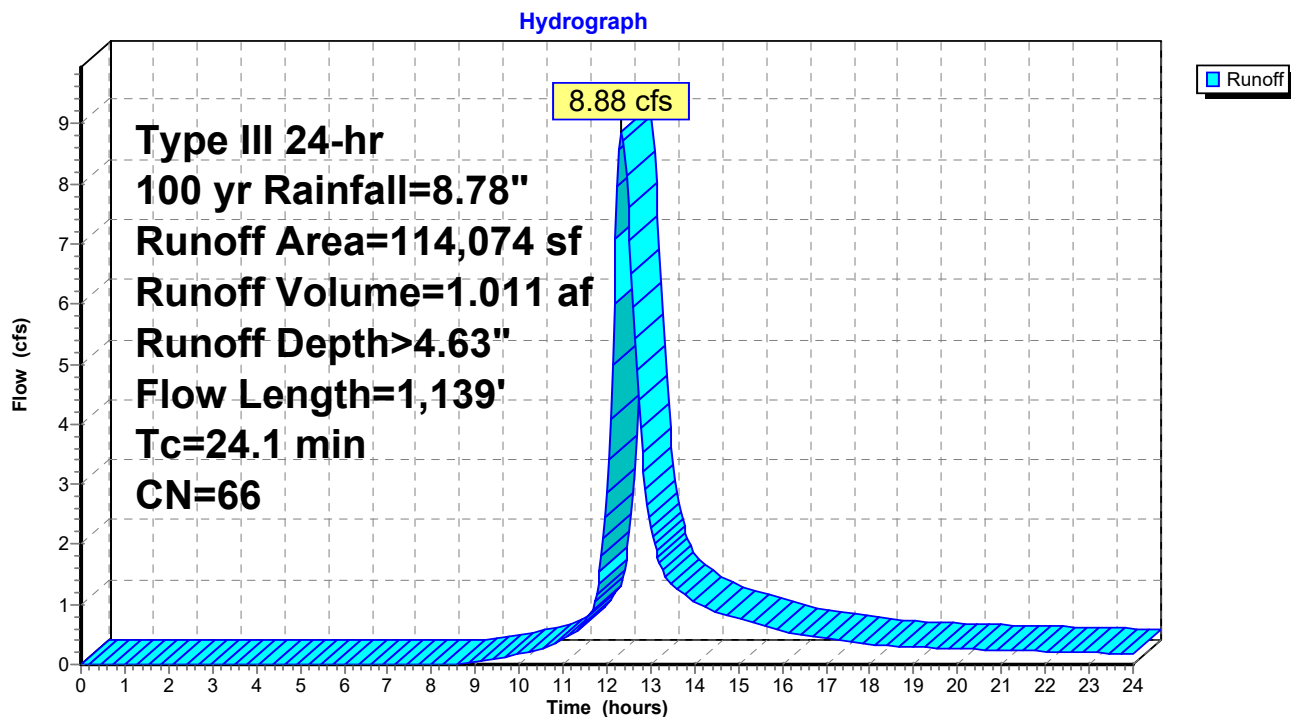
Summary for Subcatchment 1S: Existing to POC 1 (Downs Road)

Runoff = 8.88 cfs @ 12.34 hrs, Volume= 1.011 af, Depth> 4.63"
 Routed to nonexistent node 18L

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.04 hrs
 Type III 24-hr 100 yr Rainfall=8.78"

Area (sf)	CN	Description
40,140	55	Woods, Good, HSG B
48,562	70	Woods, Good, HSG C
25,372	77	Woods, Good, HSG D
114,074	66	Weighted Average
114,074		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.5	100	0.2200	0.12		Sheet Flow, Woods: Dense underbrush n= 0.800 P2= 3.60"
2.8	400	0.2200	2.35		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
7.8	639	0.0750	1.37		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
24.1	1,139	Total			

Subcatchment 1S: Existing to POC 1 (Downs Road)

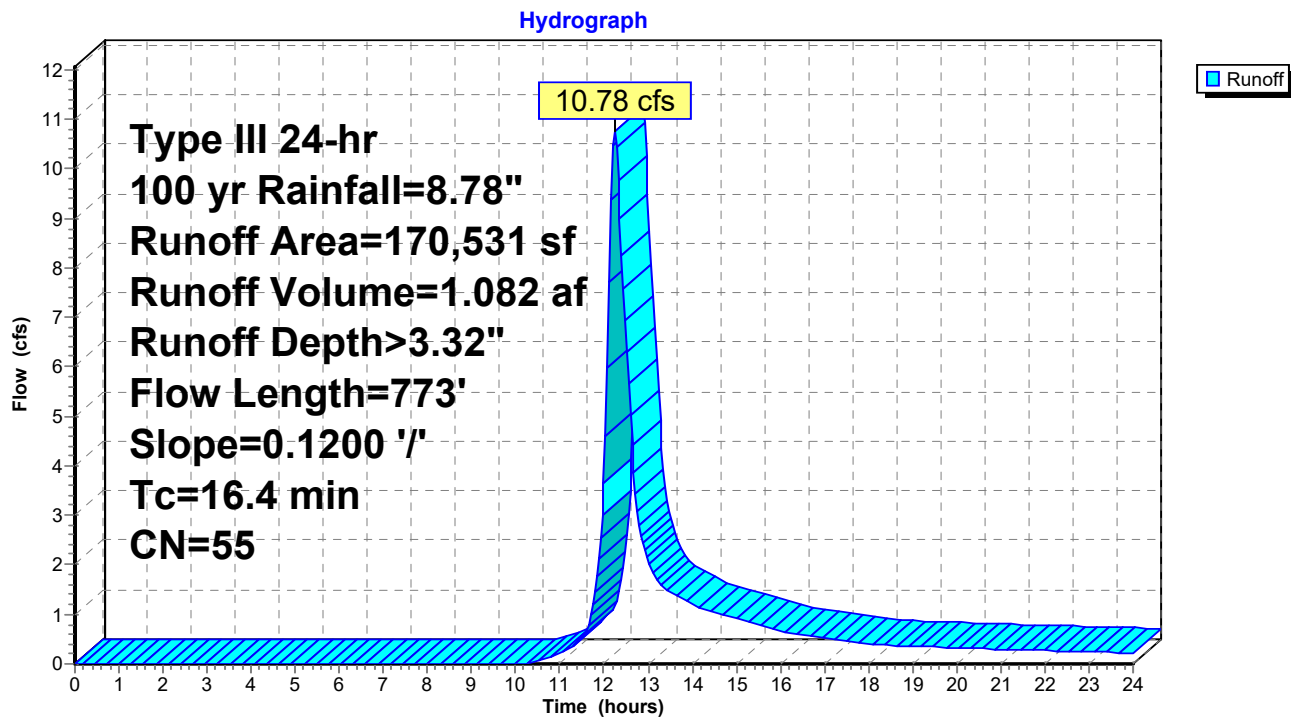
Summary for Subcatchment 2S: Existing to POC 2 (Cottage Street)

Runoff = 10.78 cfs @ 12.24 hrs, Volume= 1.082 af, Depth> 3.32"
 Routed to nonexistent node 18L

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.04 hrs
 Type III 24-hr 100 yr Rainfall=8.78"

Area (sf)	CN	Description
170,531	55	Woods, Good, HSG B
0	77	Woods, Good, HSG D
170,531	55	Weighted Average
170,531		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.9	100	0.1200	0.17		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 3.60"
6.5	673	0.1200	1.73		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
16.4	773	Total			

Subcatchment 2S: Existing to POC 2 (Cottage Street)

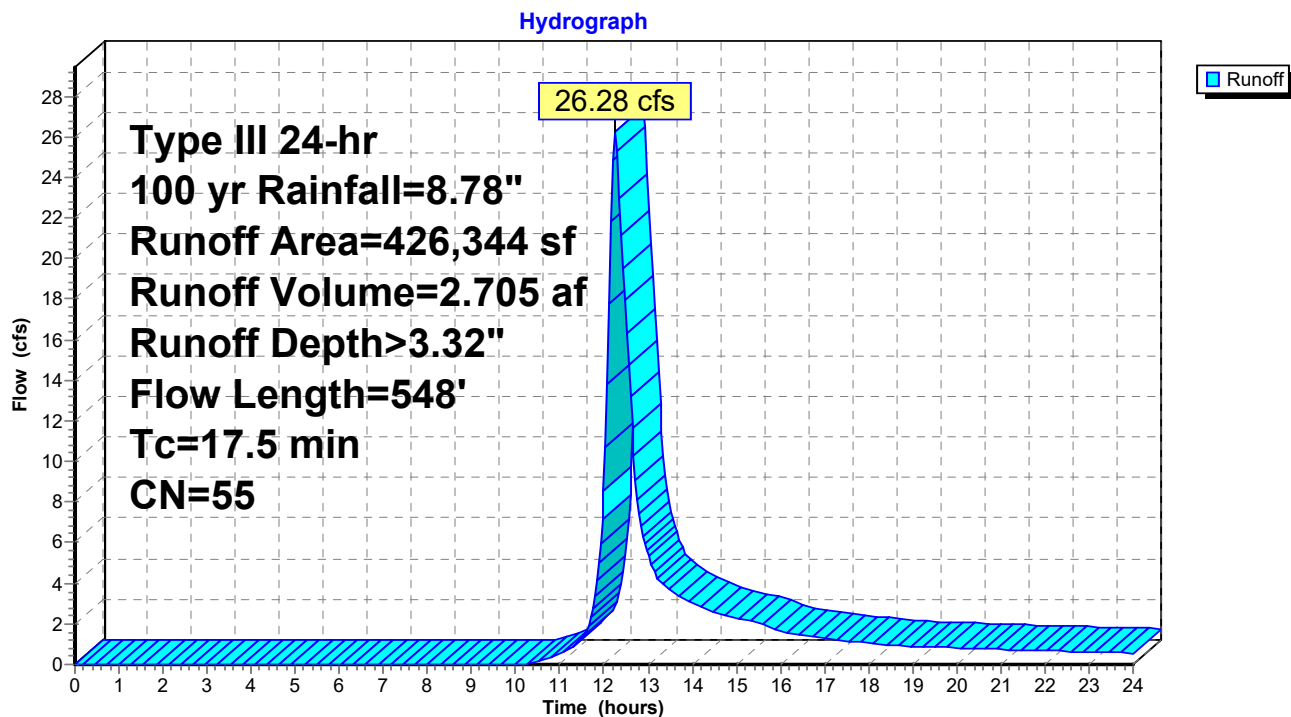
Summary for Subcatchment 3S: Existing to POC 3 (Monroe Turnpike CBs)

Runoff = 26.28 cfs @ 12.25 hrs, Volume= 2.705 af, Depth> 3.32"
 Routed to nonexistent node 18L

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.04 hrs
 Type III 24-hr 100 yr Rainfall=8.78"

Area (sf)	CN	Description
426,344	55	Woods, Good, HSG B
0	70	Woods, Good, HSG C
0	77	Woods, Good, HSG D
426,344	55	Weighted Average
426,344		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.8	100	0.2100	0.12		Sheet Flow, Woods: Dense underbrush n= 0.800 P2= 3.60"
2.5	349	0.2100	2.29		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
1.2	99	0.0700	1.32		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
17.5	548	Total			

Subcatchment 3S: Existing to POC 3 (Monroe Turnpike CBs)

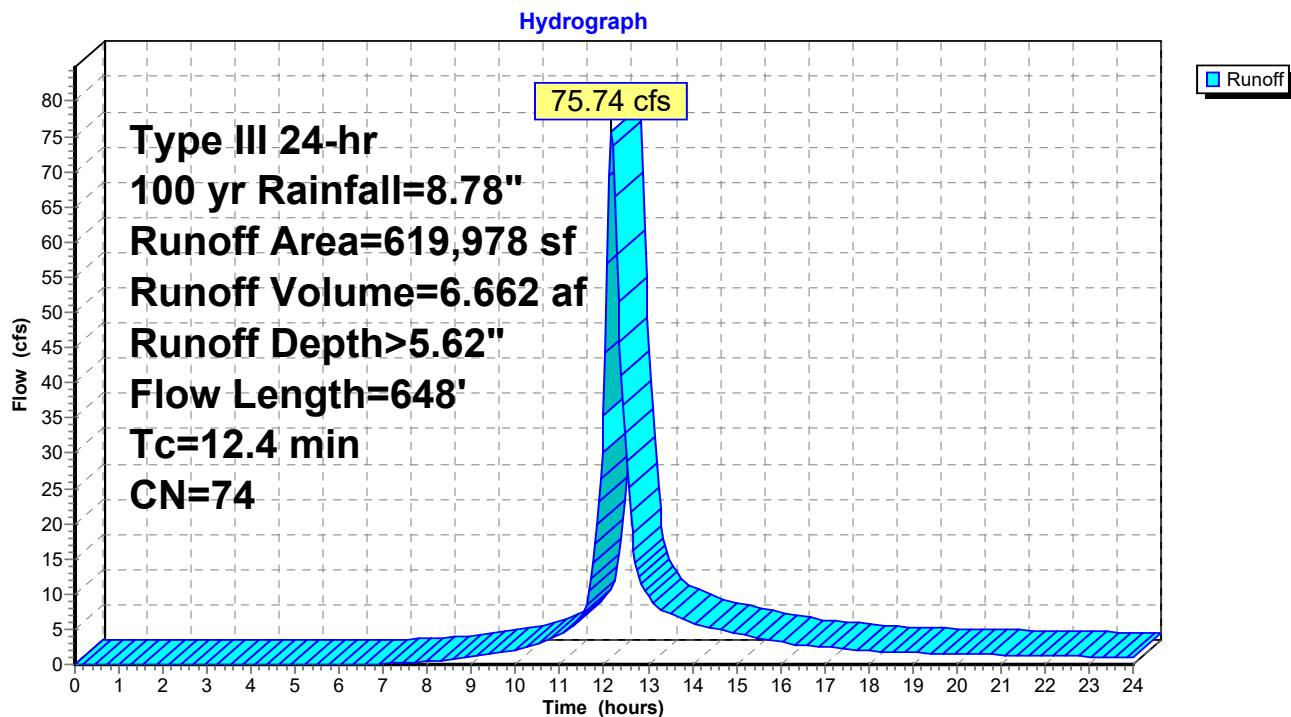
Summary for Subcatchment 4S: Existing to POC 4 (Culvert Under Monroe Turnpike)

Runoff = 75.74 cfs @ 12.17 hrs, Volume= 6.662 af, Depth> 5.62"
 Routed to nonexistent node 18L

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.04 hrs
 Type III 24-hr 100 yr Rainfall=8.78"

Area (sf)	CN	Description
8,094	55	Woods, Good, HSG B
257,742	70	Woods, Good, HSG C
354,142	77	Woods, Good, HSG D
619,978	74	Weighted Average
619,978		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.9	100	0.2100	0.21		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 3.60"
3.3	449	0.2100	2.29		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
1.2	99	0.0700	1.32		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
12.4	648	Total			

Subcatchment 4S: Existing to POC 4 (Culvert Under Monroe Turnpike)

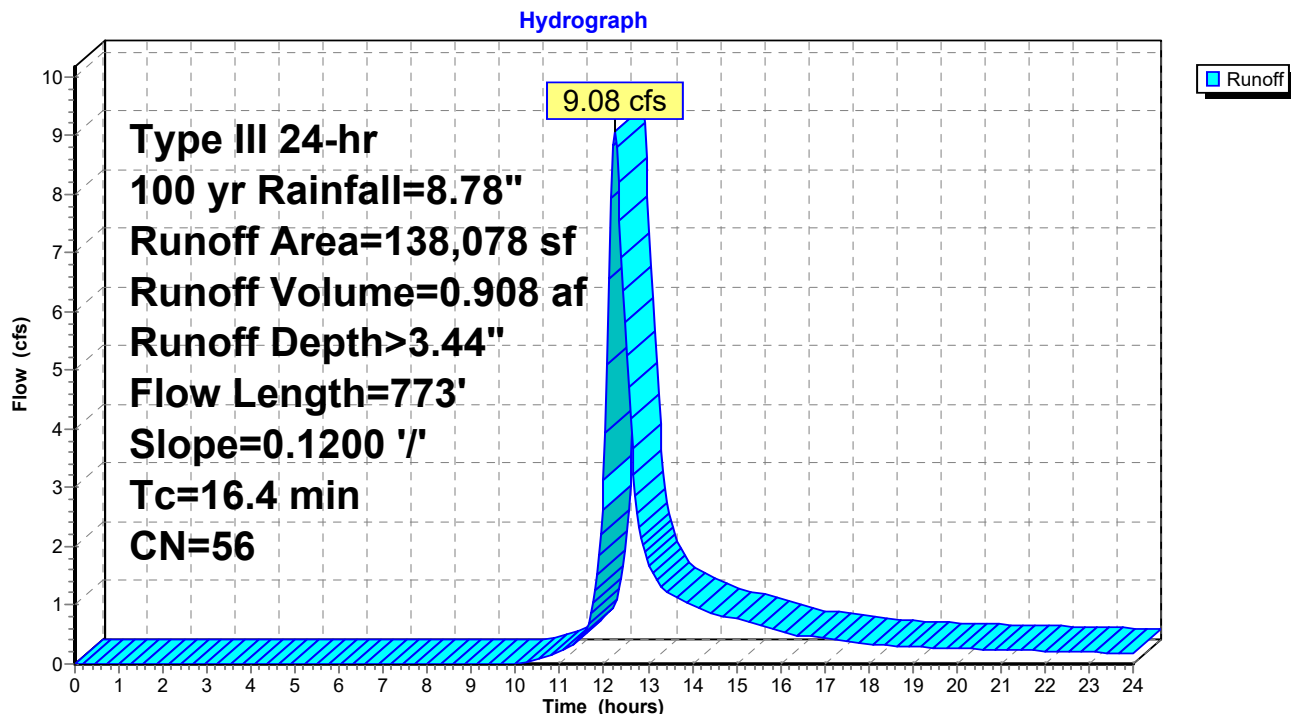
Summary for Subcatchment 21S: Bypass 1

Runoff = 9.08 cfs @ 12.24 hrs, Volume= 0.908 af, Depth> 3.44"
 Routed to Link 37L : POC 2 (Cottage Street)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.04 hrs
 Type III 24-hr 100 yr Rainfall=8.78"

Area (sf)	CN	Description
25,613	61	>75% Grass cover, Good, HSG B
0	74	>75% Grass cover, Good, HSG C
0	80	>75% Grass cover, Good, HSG D
112,465	55	Woods, Good, HSG B
0	70	Woods, Good, HSG C
0	77	Woods, Good, HSG D
138,078	56	Weighted Average
138,078		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.9	100	0.1200	0.17		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 3.60"
6.5	673	0.1200	1.73		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
16.4	773	Total			

Subcatchment 21S: Bypass 1

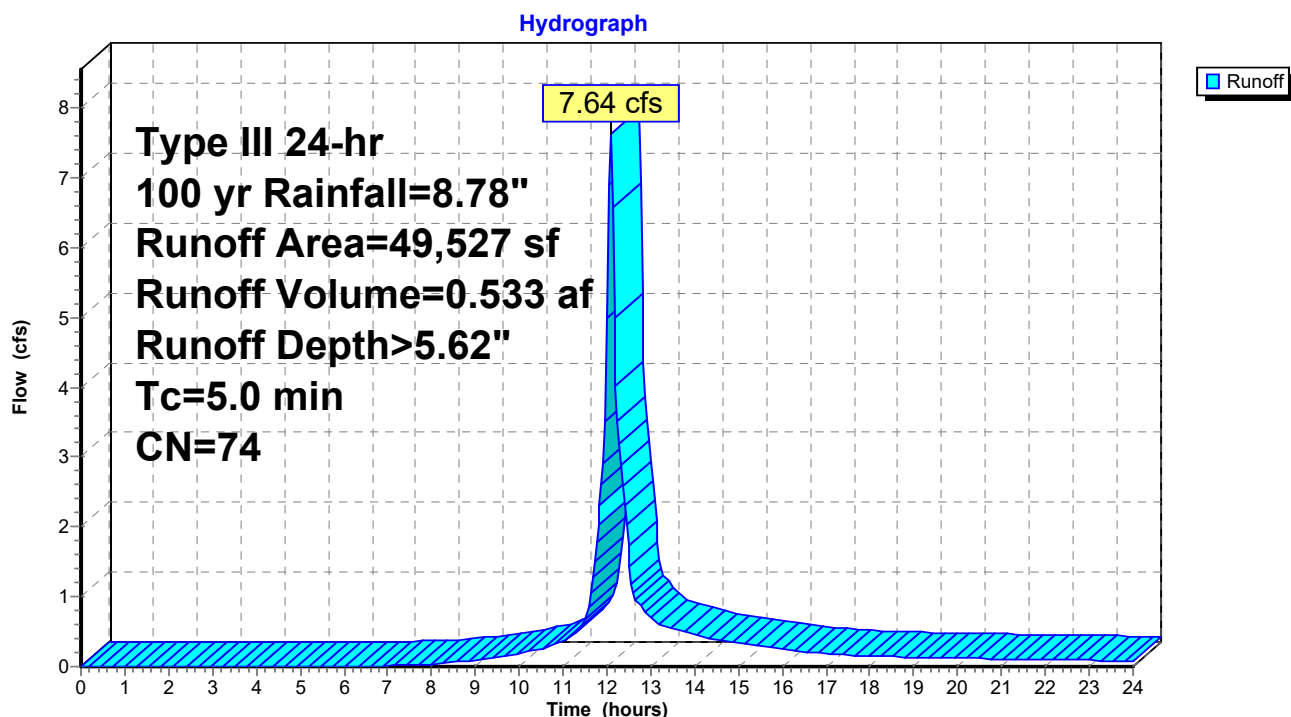
Summary for Subcatchment 22S: Bypass 2

Runoff = 7.64 cfs @ 12.08 hrs, Volume= 0.533 af, Depth> 5.62"
 Routed to Link 39L : POC 4 (Culvert Under Monroe Turnpike)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.04 hrs
 Type III 24-hr 100 yr Rainfall=8.78"

Area (sf)	CN	Description
1,172	61	>75% Grass cover, Good, HSG B
4,836	80	>75% Grass cover, Good, HSG D
7,389	55	Woods, Good, HSG B
36,130	77	Woods, Good, HSG D
49,527	74	Weighted Average
49,527		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry,

Subcatchment 22S: Bypass 2

Summary for Subcatchment 23S: Bypass 3

Runoff = 7.54 cfs @ 12.36 hrs, Volume= 0.876 af, Depth> 4.39"
 Routed to Link 36L : POC 1 (Downs Road)

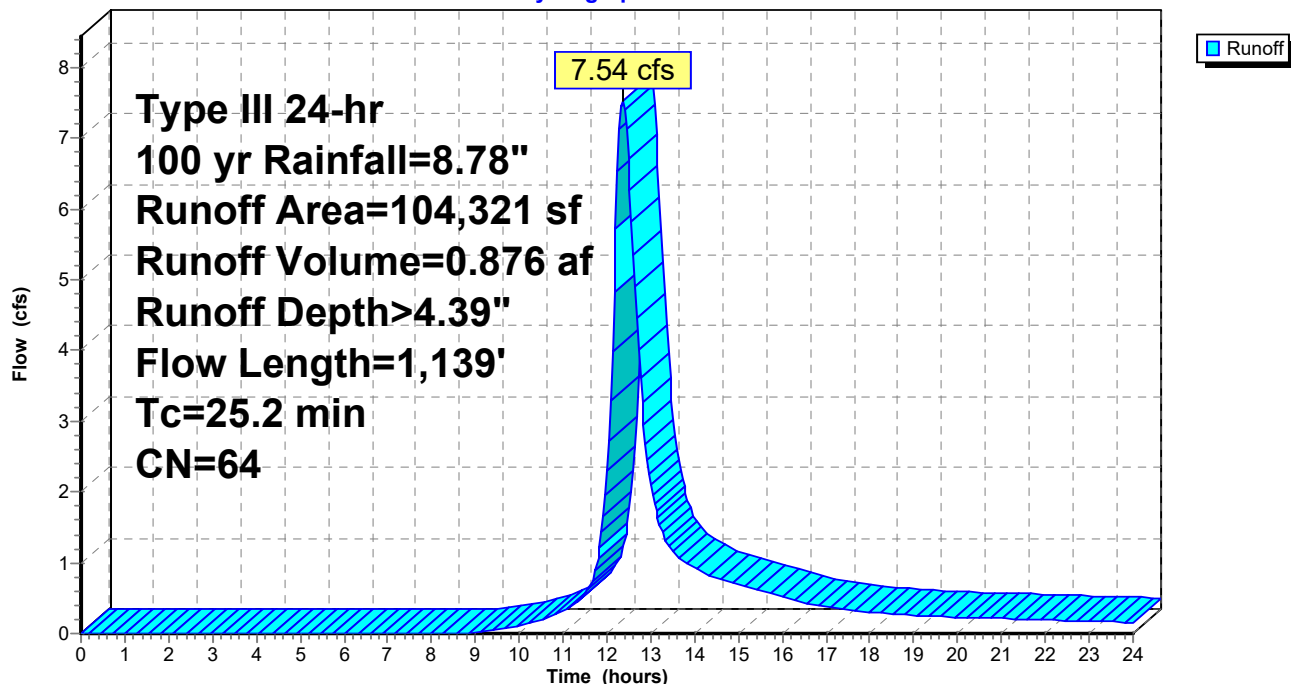
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.04 hrs
 Type III 24-hr 100 yr Rainfall=8.78"

Area (sf)	CN	Description
48,265	61	>75% Grass cover, Good, HSG B
4,089	74	>75% Grass cover, Good, HSG C
24,132	55	Woods, Good, HSG B
4,157	73	Woods, Fair, HSG C
23,678	77	Woods, Good, HSG D
104,321	64	Weighted Average
104,321		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.6	100	0.1800	0.11		Sheet Flow, Woods: Dense underbrush n= 0.800 P2= 3.60"
2.8	400	0.2200	2.35		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
7.8	639	0.0750	1.37		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
25.2	1,139	Total			

Subcatchment 23S: Bypass 3

Hydrograph



Summary for Subcatchment 24S: Road to Basin 1

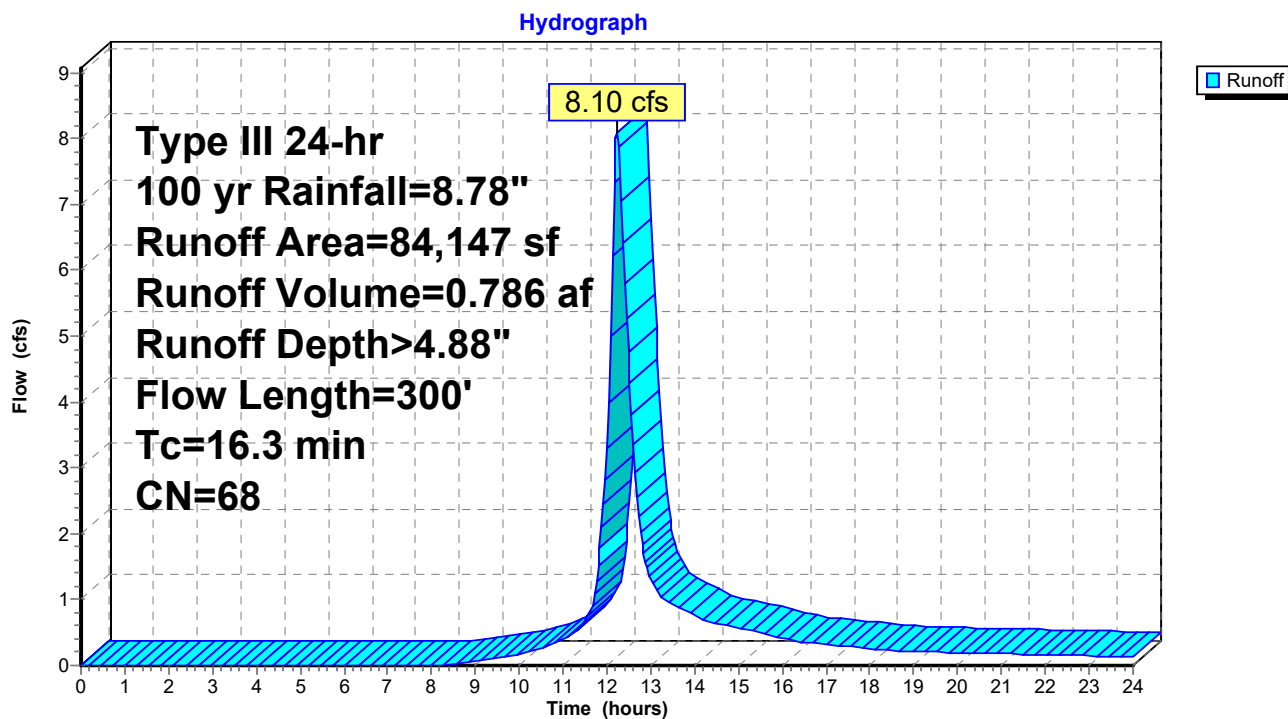
Runoff = 8.10 cfs @ 12.23 hrs, Volume= 0.786 af, Depth> 4.88"
 Routed to Pond 20P : Detention Basin #1 (North)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.04 hrs
 Type III 24-hr 100 yr Rainfall=8.78"

Area (sf)	CN	Description
63,879	61	>75% Grass cover, Good, HSG B
0	80	>75% Grass cover, Good, HSG D
3,256	55	Woods, Good, HSG B
0	77	Woods, Good, HSG D
17,012	98	Paved parking, HSG B
84,147	68	Weighted Average
67,135		79.78% Pervious Area
17,012		20.22% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.1	25	0.0500	0.05		Sheet Flow, Woods: Dense underbrush n= 0.800 P2= 3.60"
7.4	75	0.0500	0.17		Sheet Flow, Grass: Dense n= 0.240 P2= 3.60"
0.4	108	0.1000	4.74		Shallow Concentrated Flow, Grassed Waterway Kv= 15.0 fps
0.4	92	0.0330	3.69		Shallow Concentrated Flow, Paved Kv= 20.3 fps
16.3	300	Total			

Subcatchment 24S: Road to Basin 1



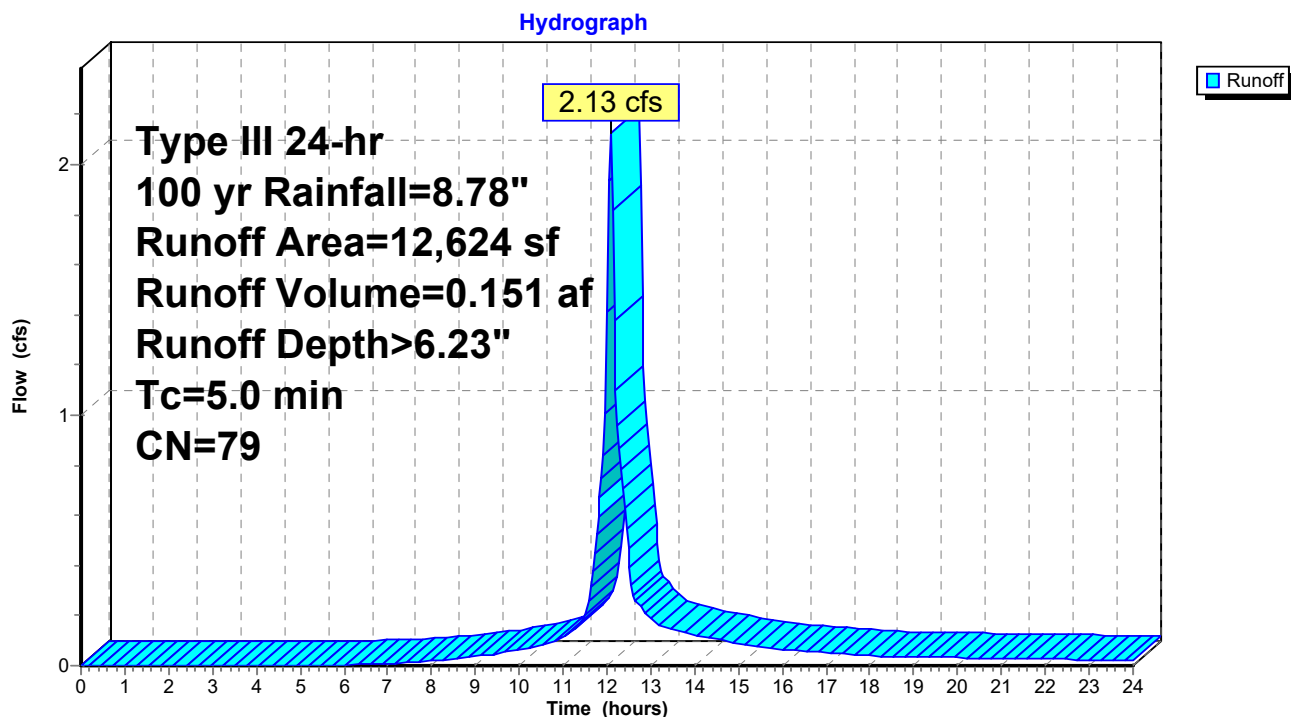
Summary for Subcatchment 25S: Lot 1

Runoff = 2.13 cfs @ 12.08 hrs, Volume= 0.151 af, Depth> 6.23"
 Routed to Pond 47P : RS L1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.04 hrs
 Type III 24-hr 100 yr Rainfall=8.78"

Area (sf)	CN	Description
5,267	61	>75% Grass cover, Good, HSG B
2,844	80	>75% Grass cover, Good, HSG D
0	55	Woods, Good, HSG B
0	77	Woods, Good, HSG D
1,950	98	Roofs, HSG B
2,563	98	Unconnected pavement, HSG B
12,624	79	Weighted Average
8,111		64.25% Pervious Area
4,513		35.75% Impervious Area
2,563		56.79% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry,

Subcatchment 25S: Lot 1

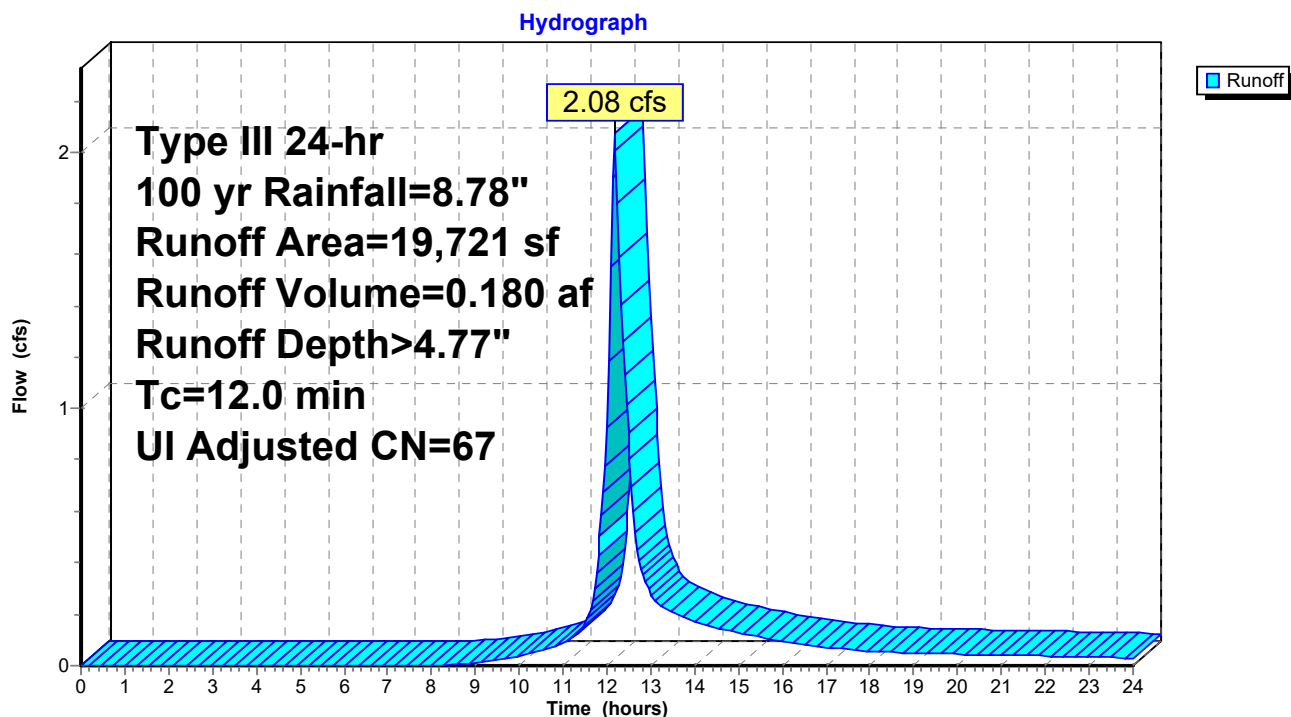
Summary for Subcatchment 26S: Lot 2

Runoff = 2.08 cfs @ 12.17 hrs, Volume= 0.180 af, Depth> 4.77"
 Routed to Pond 20P : Detention Basin #1 (North)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.04 hrs
 Type III 24-hr 100 yr Rainfall=8.78"

Area (sf)	CN	Adj	Description
15,135	61		>75% Grass cover, Good, HSG B
0	80		>75% Grass cover, Good, HSG D
0	55		Woods, Good, HSG B
0	77		Woods, Good, HSG D
1,950	98		Roofs, HSG B
2,636	98		Unconnected pavement, HSG B
19,721	70	67	Weighted Average, UI Adjusted
15,135			76.75% Pervious Area
4,586			23.25% Impervious Area
2,636			57.48% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.0					Direct Entry,

Subcatchment 26S: Lot 2

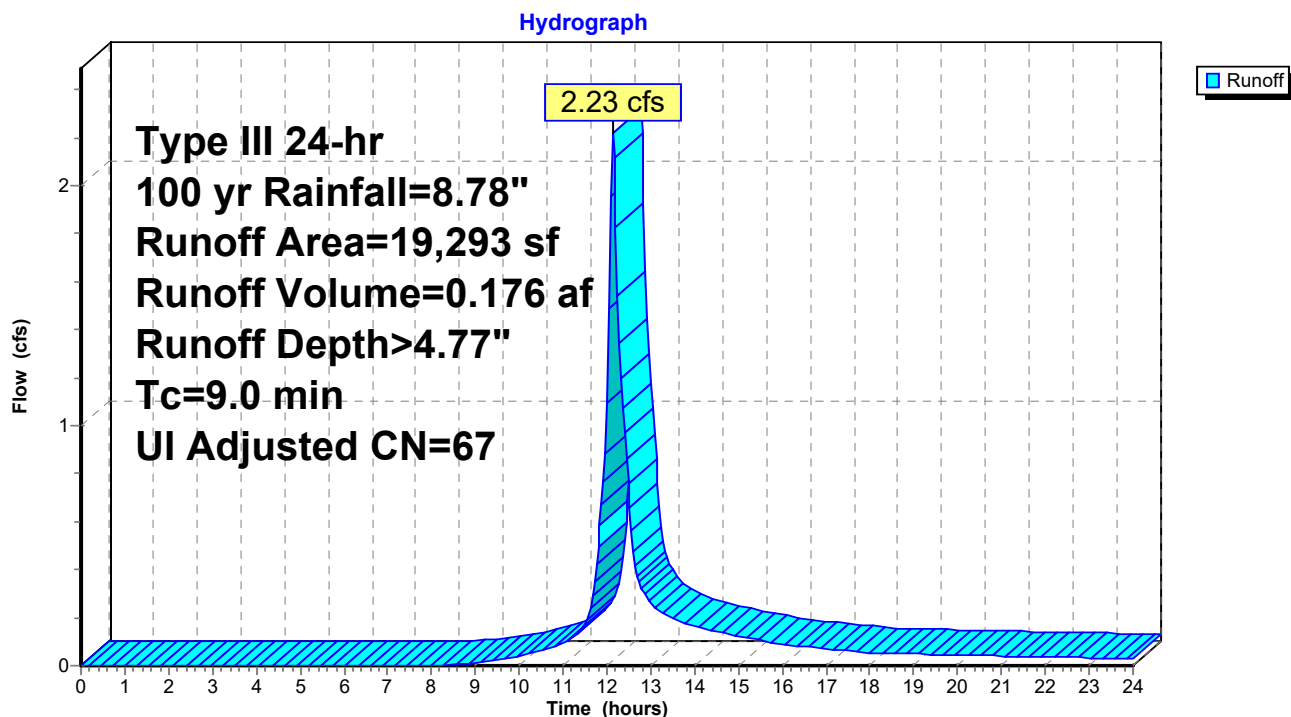
Summary for Subcatchment 27S: Lot 3

Runoff = 2.23 cfs @ 12.13 hrs, Volume= 0.176 af, Depth> 4.77"
 Routed to Pond 20P : Detention Basin #1 (North)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.04 hrs
 Type III 24-hr 100 yr Rainfall=8.78"

Area (sf)	CN	Adj	Description
14,132	61		>75% Grass cover, Good, HSG B
0	80		>75% Grass cover, Good, HSG D
0	55		Woods, Good, HSG B
0	77		Woods, Good, HSG D
975	98		Roofs, HSG B
4,186	98		Unconnected pavement, HSG B
19,293	71	67	Weighted Average, UI Adjusted
14,132			73.25% Pervious Area
5,161			26.75% Impervious Area
4,186			81.11% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.0					Direct Entry,

Subcatchment 27S: Lot 3

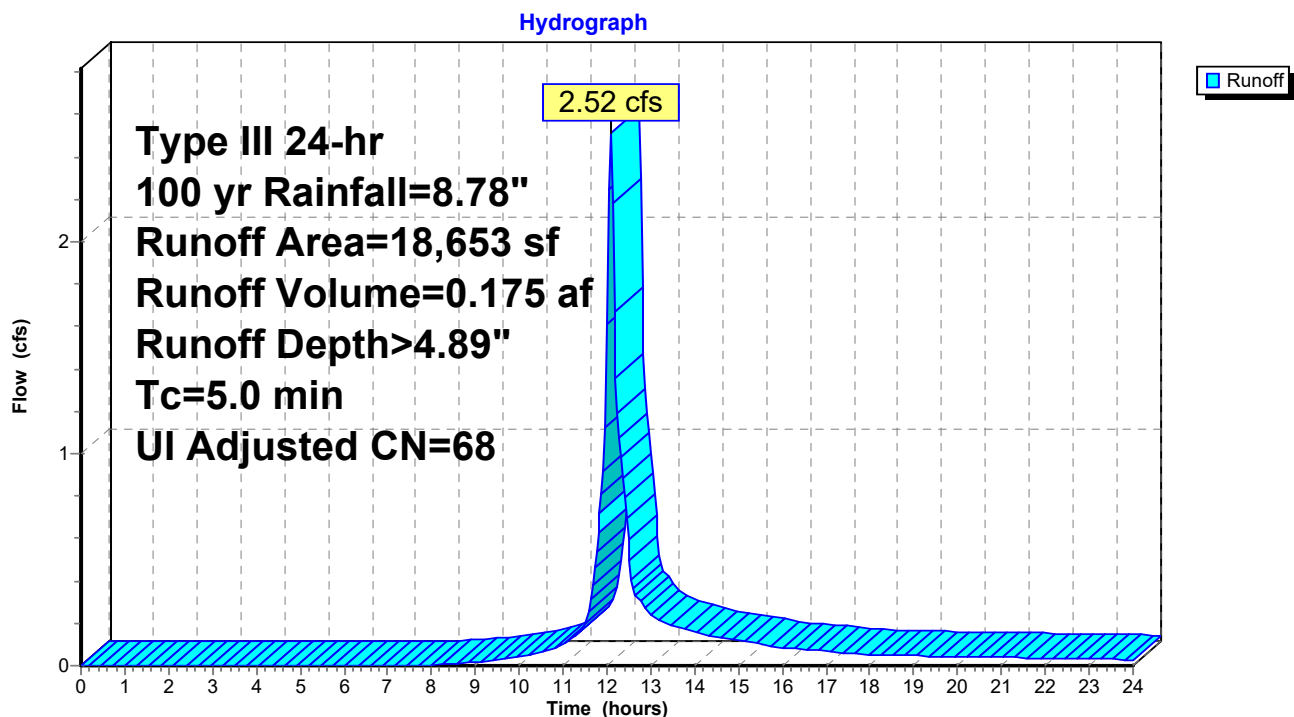
Summary for Subcatchment 28S: Lot 4

Runoff = 2.52 cfs @ 12.08 hrs, Volume= 0.175 af, Depth> 4.89"
 Routed to Pond 41P : RS L4

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.04 hrs
 Type III 24-hr 100 yr Rainfall=8.78"

Area (sf)	CN	Adj	Description
13,142	61		>75% Grass cover, Good, HSG B
0	80		>75% Grass cover, Good, HSG D
0	55		Woods, Good, HSG B
0	77		Woods, Good, HSG D
1,950	98		Roofs, HSG B
3,561	98		Unconnected pavement, HSG B
18,653	72	68	Weighted Average, UI Adjusted
13,142			70.46% Pervious Area
5,511			29.54% Impervious Area
3,561			64.62% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry,

Subcatchment 28S: Lot 4

Summary for Subcatchment 29S: Lot 5

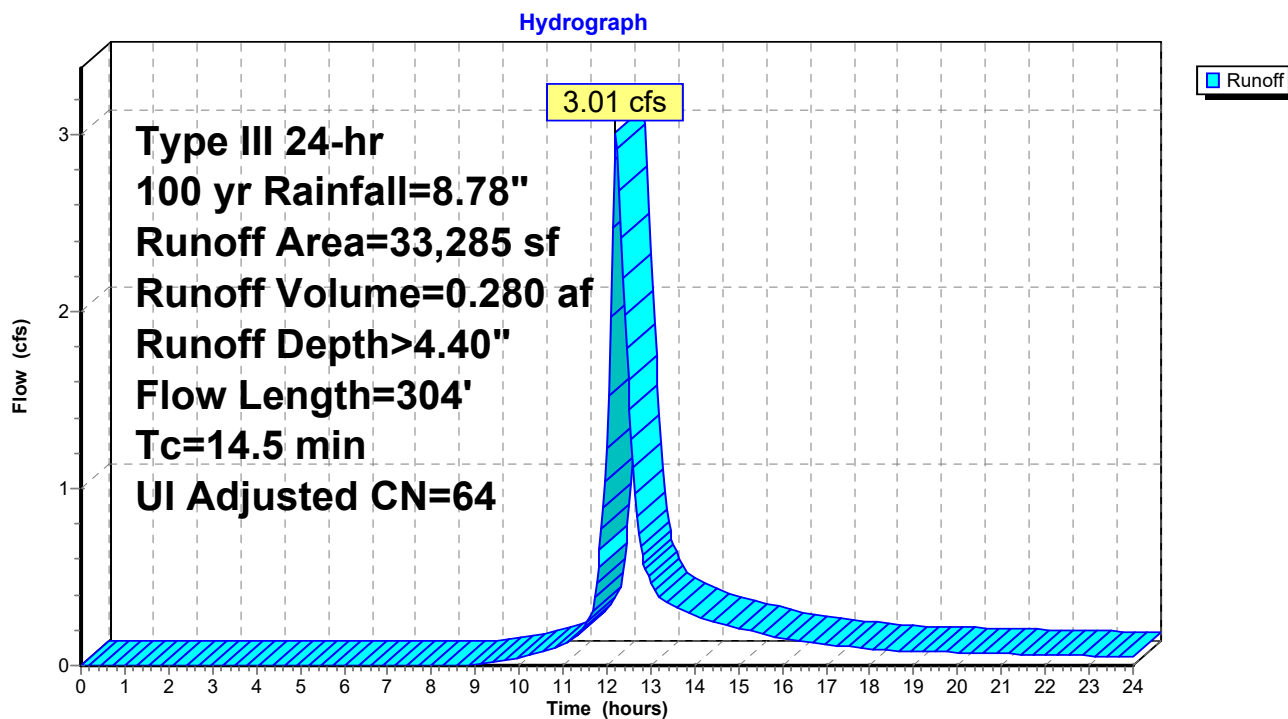
Runoff = 3.01 cfs @ 12.20 hrs, Volume= 0.280 af, Depth> 4.40"
 Routed to Pond 20P : Detention Basin #1 (North)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.04 hrs
 Type III 24-hr 100 yr Rainfall=8.78"

Area (sf)	CN	Adj	Description
27,652	61		>75% Grass cover, Good, HSG B
1,635	80		>75% Grass cover, Good, HSG D
0	55		Woods, Good, HSG B
0	77		Woods, Good, HSG D
0	98		Roofs, HSG B
3,998	98		Unconnected pavement, HSG B
33,285	66	64	Weighted Average, UI Adjusted
29,287			87.99% Pervious Area
3,998			12.01% Impervious Area
3,998			100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.3	20	0.0600	0.05		Sheet Flow, Woods: Dense underbrush n= 0.800 P2= 3.60"
7.3	80	0.0600	0.18		Sheet Flow, Grass: Dense n= 0.240 P2= 3.60"
0.4	119	0.1000	4.74		Shallow Concentrated Flow, Grassed Waterway Kv= 15.0 fps
0.5	85	0.0200	2.87		Shallow Concentrated Flow, Paved Kv= 20.3 fps
14.5	304	Total			

Subcatchment 29S: Lot 5



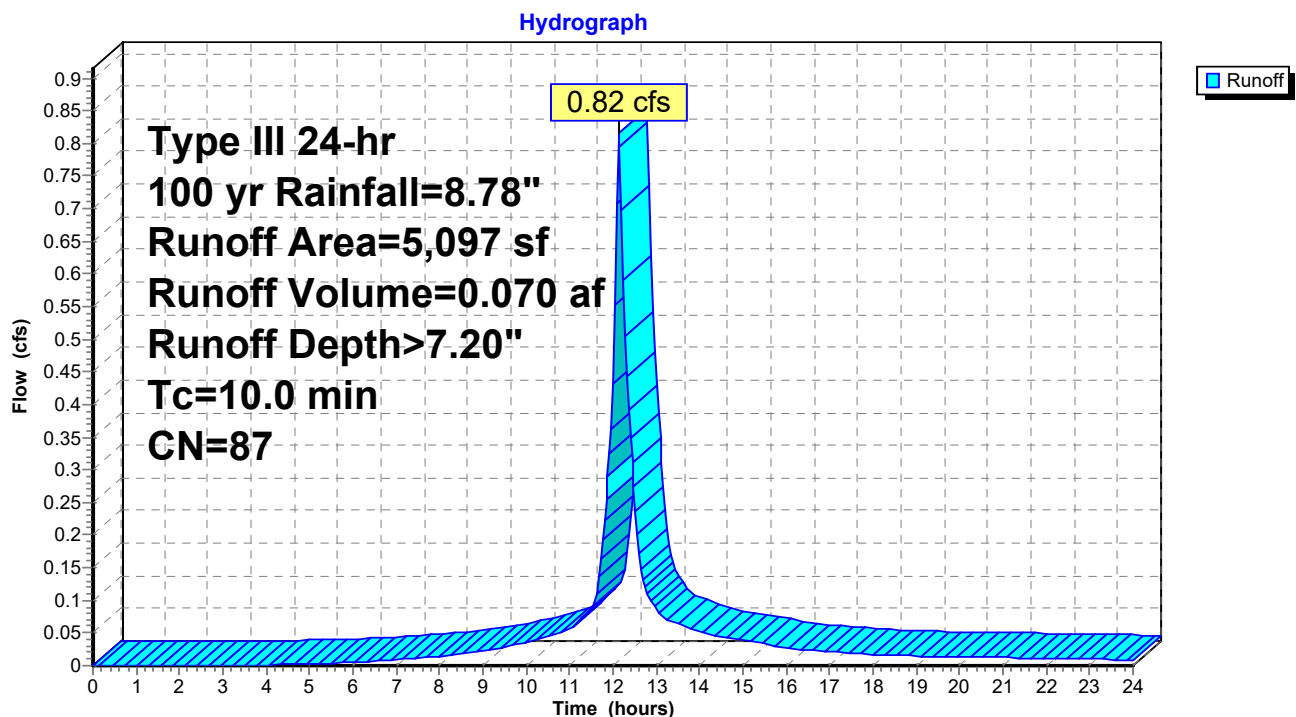
Summary for Subcatchment 30S: Lot 6

Runoff = 0.82 cfs @ 12.14 hrs, Volume= 0.070 af, Depth> 7.20"
 Routed to Pond 20P : Detention Basin #1 (North)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.04 hrs
 Type III 24-hr 100 yr Rainfall=8.78"

Area (sf)	CN	Description
1,562	61	>75% Grass cover, Good, HSG B
0	80	>75% Grass cover, Good, HSG D
0	55	Woods, Good, HSG B
0	77	Woods, Good, HSG D
1,950	98	Roofs, HSG B
1,585	98	Unconnected pavement, HSG B
5,097	87	Weighted Average
1,562		30.65% Pervious Area
3,535		69.35% Impervious Area
1,585		44.84% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					Direct Entry,

Subcatchment 30S: Lot 6

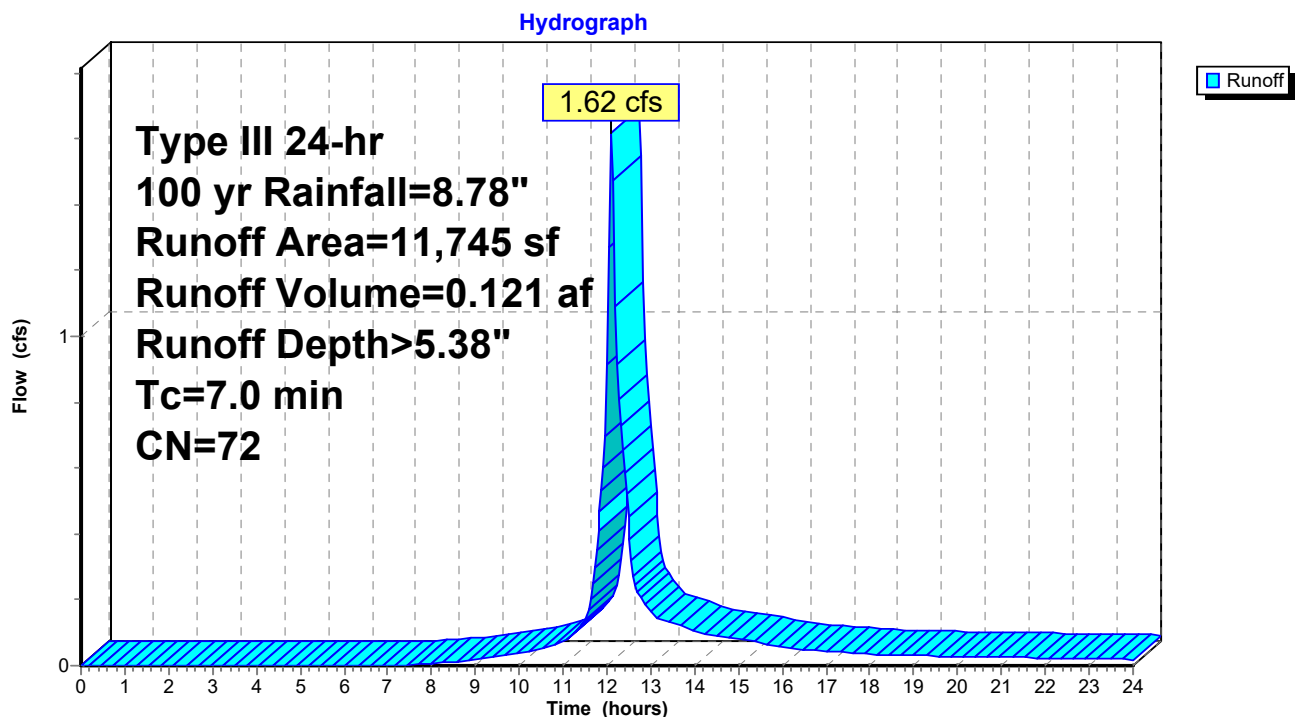
Summary for Subcatchment 31S: Lot 7

Runoff = 1.62 cfs @ 12.10 hrs, Volume= 0.121 af, Depth> 5.38"
 Routed to Pond 20P : Detention Basin #1 (North)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.04 hrs
 Type III 24-hr 100 yr Rainfall=8.78"

Area (sf)	CN	Description
8,215	61	>75% Grass cover, Good, HSG B
0	80	>75% Grass cover, Good, HSG D
0	55	Woods, Good, HSG B
0	77	Woods, Good, HSG D
1,950	98	Roofs, HSG B
1,580	98	Unconnected pavement, HSG B
11,745	72	Weighted Average
8,215		69.94% Pervious Area
3,530		30.06% Impervious Area
1,580		44.76% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.0					Direct Entry,

Subcatchment 31S: Lot 7

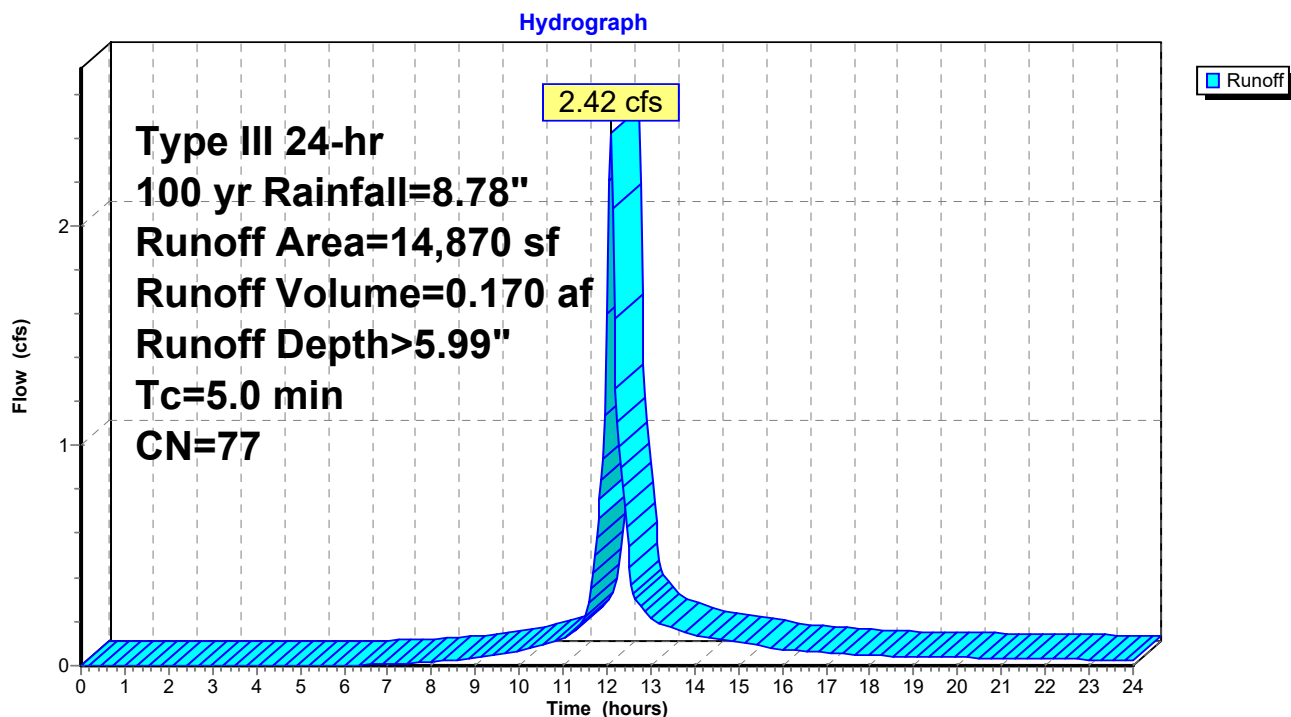
Summary for Subcatchment 32S: Lot 8

Runoff = 2.42 cfs @ 12.08 hrs, Volume= 0.170 af, Depth> 5.99"
 Routed to Pond 16P : Detention Basin #2 (South)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.04 hrs
 Type III 24-hr 100 yr Rainfall=8.78"

Area (sf)	CN	Description
7,658	61	>75% Grass cover, Good, HSG B
1,385	80	>75% Grass cover, Good, HSG D
0	55	Woods, Good, HSG B
0	77	Woods, Good, HSG D
1,950	98	Roofs, HSG B
3,877	98	Unconnected pavement, HSG B
14,870	77	Weighted Average
9,043		60.81% Pervious Area
5,827		39.19% Impervious Area
3,877		66.54% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry,

Subcatchment 32S: Lot 8

Summary for Subcatchment 34S: To Culvert

Runoff = 56.67 cfs @ 12.26 hrs, Volume= 5.830 af, Depth> 5.61"
 Routed to Pond 40P : Culvert

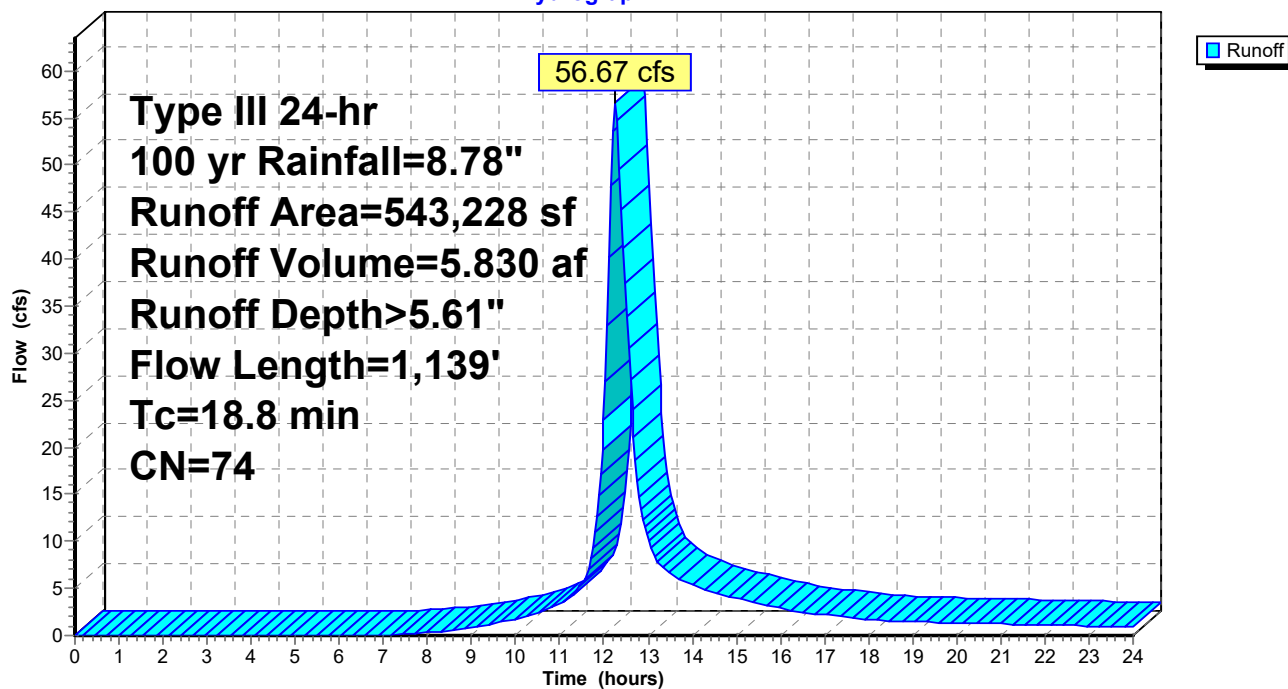
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.04 hrs
 Type III 24-hr 100 yr Rainfall=8.78"

Area (sf)	CN	Description
0	61	>75% Grass cover, Good, HSG B
2,100	74	>75% Grass cover, Good, HSG C
10,935	80	>75% Grass cover, Good, HSG D
0	55	Woods, Good, HSG B
236,861	70	Woods, Good, HSG C
293,332	77	Woods, Good, HSG D
0	98	Roofs, HSG B
0	98	Unconnected pavement, HSG B
543,228	74	Weighted Average
543,228		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.5	100	0.2200	0.12		Sheet Flow, Woods: Dense underbrush n= 0.800 P2= 3.60"
2.8	400	0.2200	2.35		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
2.5	639	0.7500	4.33		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
18.8	1,139	Total			

Subcatchment 34S: To Culvert

Hydrograph



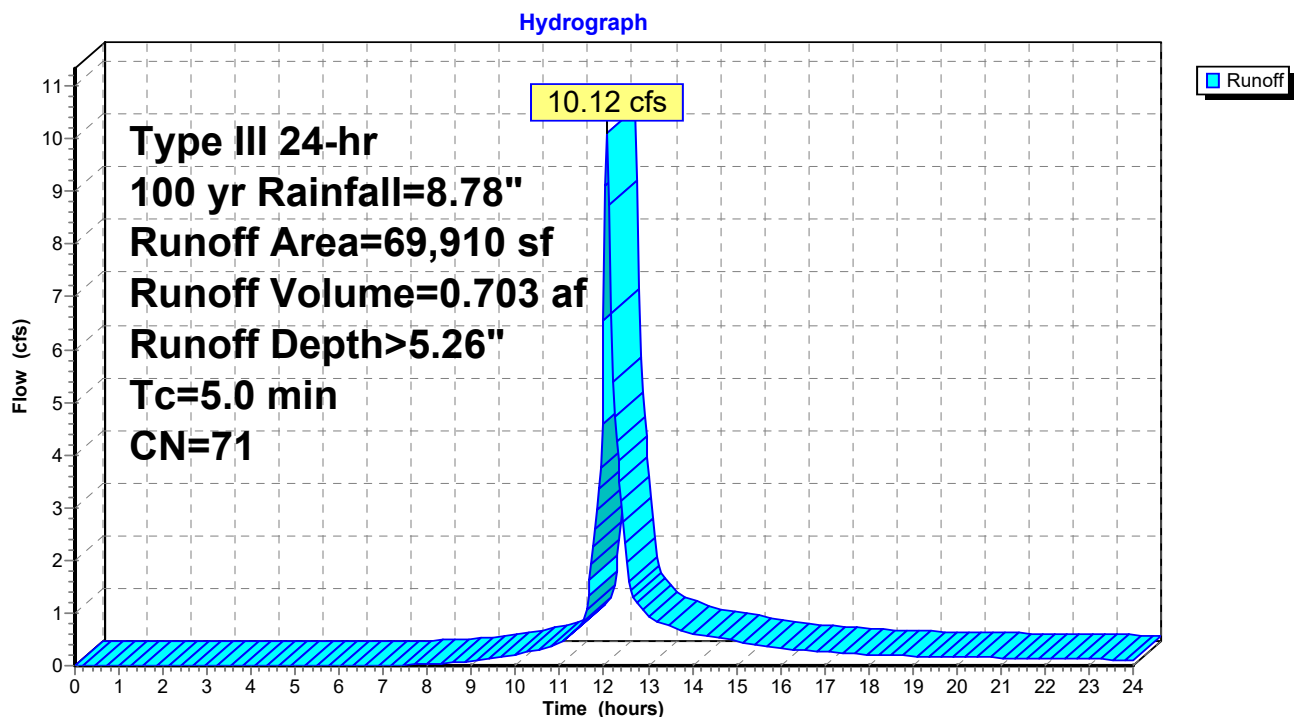
Summary for Subcatchment 35S: Road to Basin 2

Runoff = 10.12 cfs @ 12.08 hrs, Volume= 0.703 af, Depth> 5.26"
 Routed to Pond 16P : Detention Basin #2 (South)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.04 hrs
 Type III 24-hr 100 yr Rainfall=8.78"

Area (sf)	CN	Description
15,061	61	>75% Grass cover, Good, HSG B
0	74	>75% Grass cover, Good, HSG C
4,058	80	>75% Grass cover, Good, HSG D
15,055	55	Woods, Good, HSG B
11,839	70	Woods, Good, HSG C
12,167	77	Woods, Good, HSG D
11,730	98	Paved parking, HSG B
69,910	71	Weighted Average
58,180		83.22% Pervious Area
11,730		16.78% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry,

Subcatchment 35S: Road to Basin 2

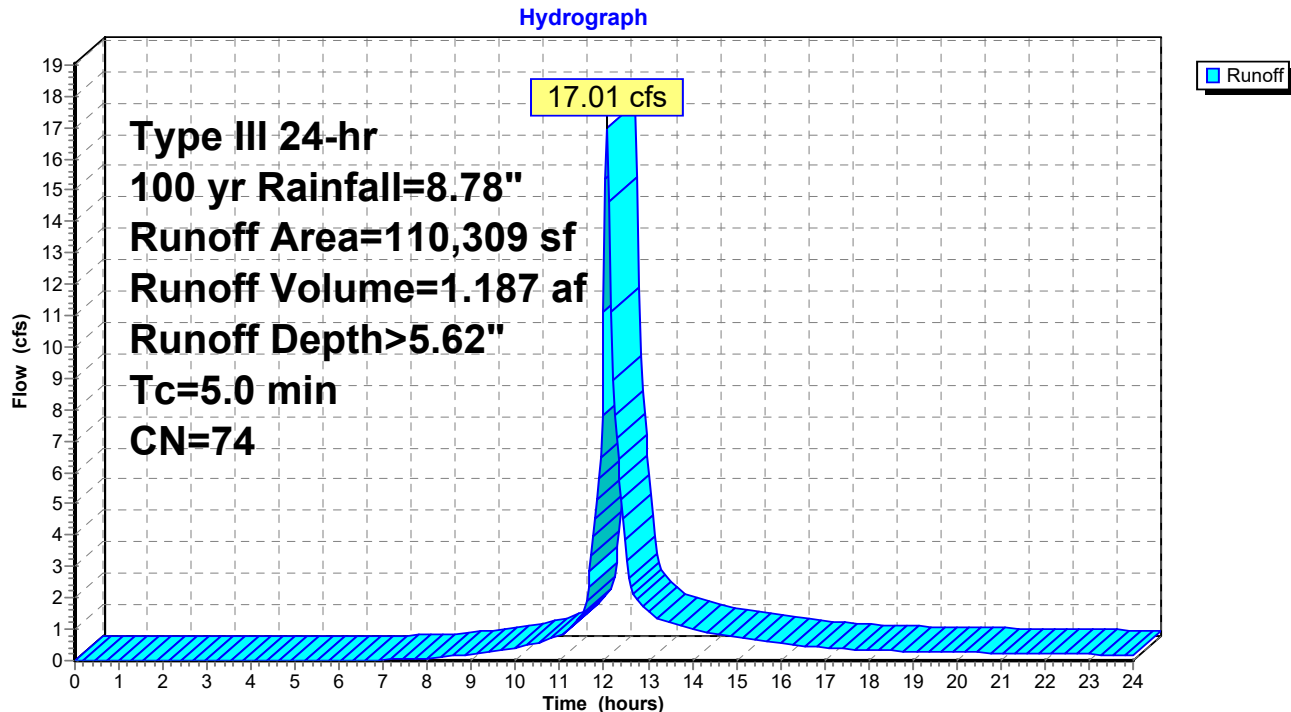
Summary for Subcatchment 40S: To Fire Pond

Runoff = 17.01 cfs @ 12.08 hrs, Volume= 1.187 af, Depth> 5.62"
 Routed to Pond 42P : Fire Pond

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.04 hrs
 Type III 24-hr 100 yr Rainfall=8.78"

Area (sf)	CN	Description
0	61	>75% Grass cover, Good, HSG B
0	80	>75% Grass cover, Good, HSG D
1,617	55	Woods, Good, HSG B
40,460	70	Woods, Good, HSG C
68,232	77	Woods, Good, HSG D
0	98	Paved parking, HSG B
110,309	74	Weighted Average
110,309		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry,

Subcatchment 40S: To Fire Pond

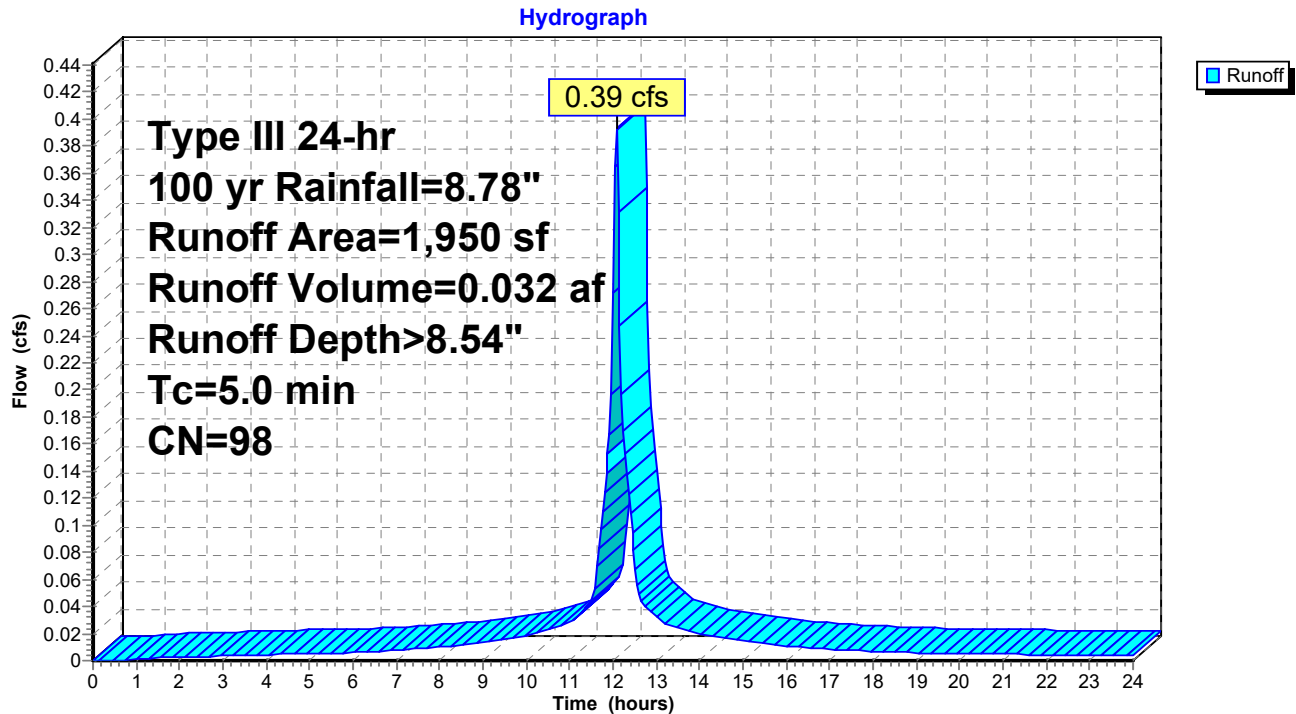
Summary for Subcatchment 42S: Lot 5 Roof

Runoff = 0.39 cfs @ 12.07 hrs, Volume= 0.032 af, Depth> 8.54"
 Routed to Pond 43P : RS L5R

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.04 hrs
 Type III 24-hr 100 yr Rainfall=8.78"

Area (sf)	CN	Description
0	61	>75% Grass cover, Good, HSG B
0	80	>75% Grass cover, Good, HSG D
0	55	Woods, Good, HSG B
0	77	Woods, Good, HSG D
1,950	98	Roofs, HSG B
0	98	Unconnected pavement, HSG B
1,950	98	Weighted Average
1,950		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry,

Subcatchment 42S: Lot 5 Roof

Summary for Subcatchment 43S: Bypass 1A

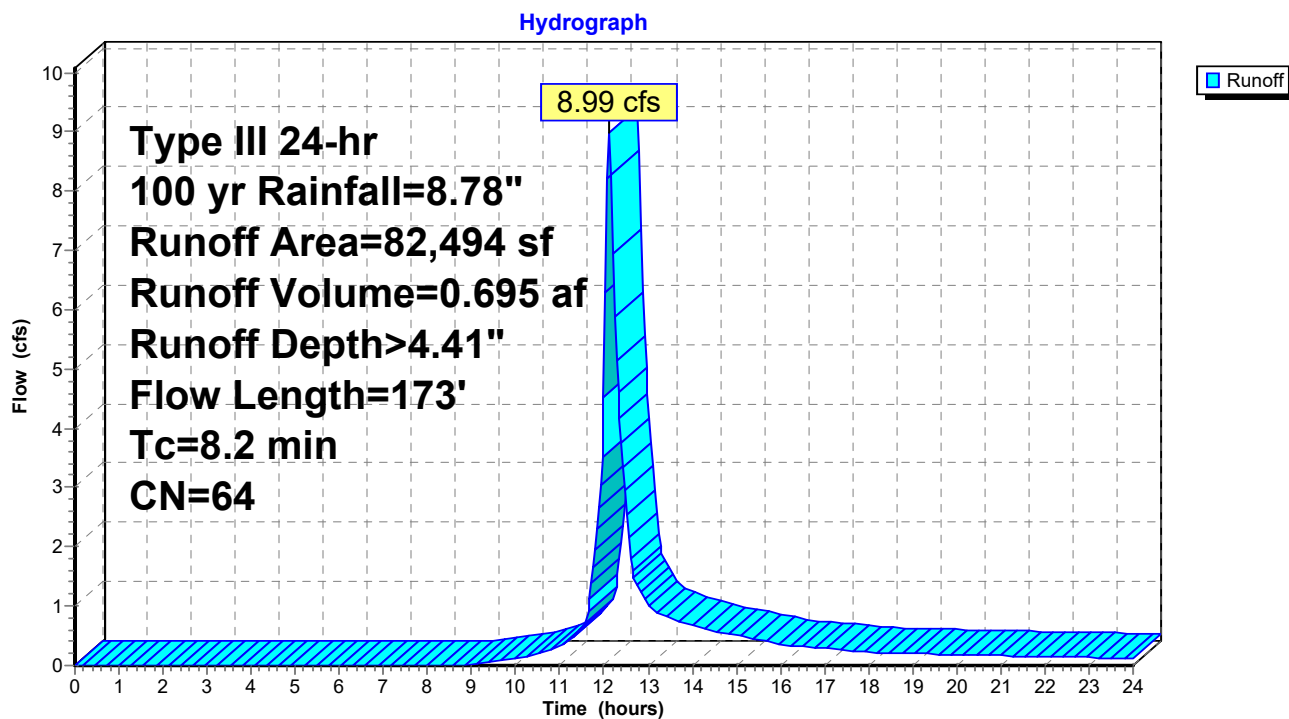
Runoff = 8.99 cfs @ 12.12 hrs, Volume= 0.695 af, Depth> 4.41"
 Routed to Link 38L : POC 3 (Monroe Turnpike)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.04 hrs
 Type III 24-hr 100 yr Rainfall=8.78"

Area (sf)	CN	Description
20,895	61	>75% Grass cover, Good, HSG B
1,200	74	>75% Grass cover, Good, HSG C
14,896	80	>75% Grass cover, Good, HSG D
34,967	55	Woods, Good, HSG B
3,524	70	Woods, Good, HSG C
7,012	77	Woods, Good, HSG D
82,494	64	Weighted Average
82,494		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.0	50	0.2100	0.28		Sheet Flow, Grass: Dense n= 0.240 P2= 3.60"
4.5	50	0.2100	0.18		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 3.60"
0.7	73	0.1200	1.73		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
8.2	173	Total			

Subcatchment 43S: Bypass 1A



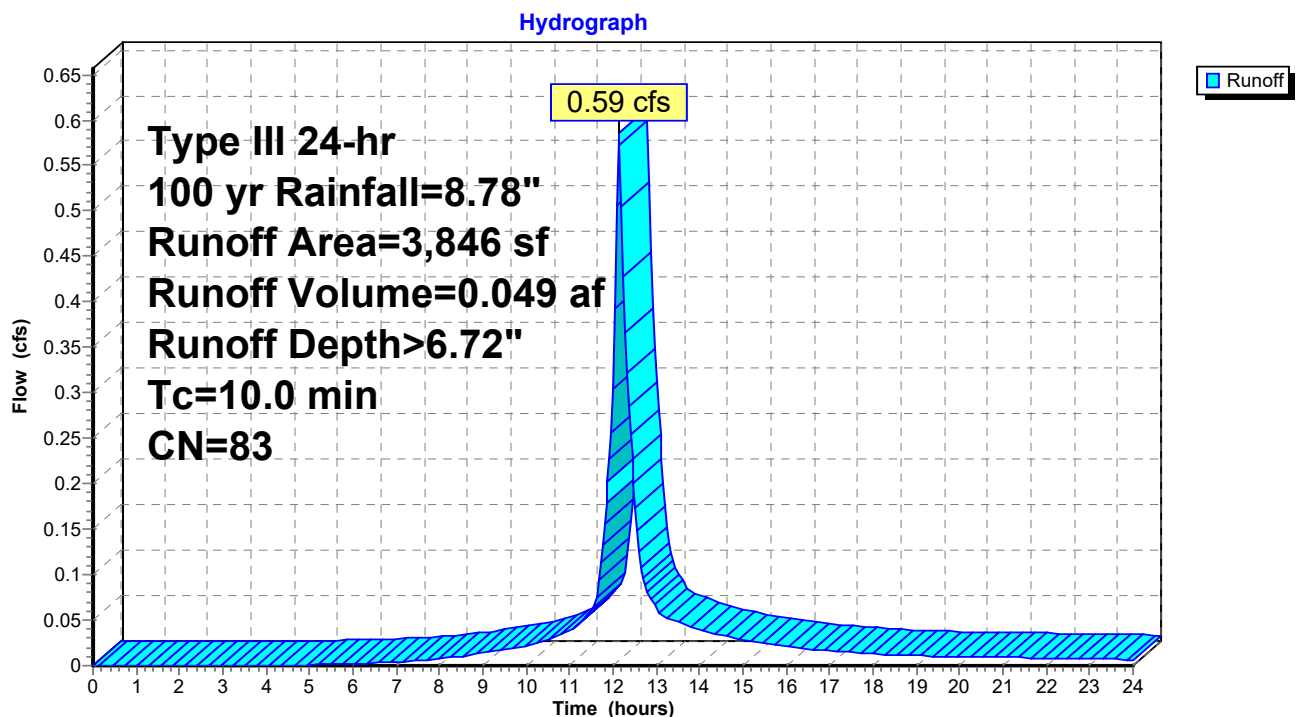
Summary for Subcatchment 46S: Lot 6 Upper Drive

Runoff = 0.59 cfs @ 12.14 hrs, Volume= 0.049 af, Depth> 6.72"
 Routed to Pond 45P : RS L6

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.04 hrs
 Type III 24-hr 100 yr Rainfall=8.78"

Area (sf)	CN	Description
1,561	61	>75% Grass cover, Good, HSG B
0	80	>75% Grass cover, Good, HSG D
0	55	Woods, Good, HSG B
0	77	Woods, Good, HSG D
0	98	Roofs, HSG B
2,285	98	Unconnected pavement, HSG B
3,846	83	Weighted Average
1,561		40.59% Pervious Area
2,285		59.41% Impervious Area
2,285		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					Direct Entry,

Subcatchment 46S: Lot 6 Upper Drive

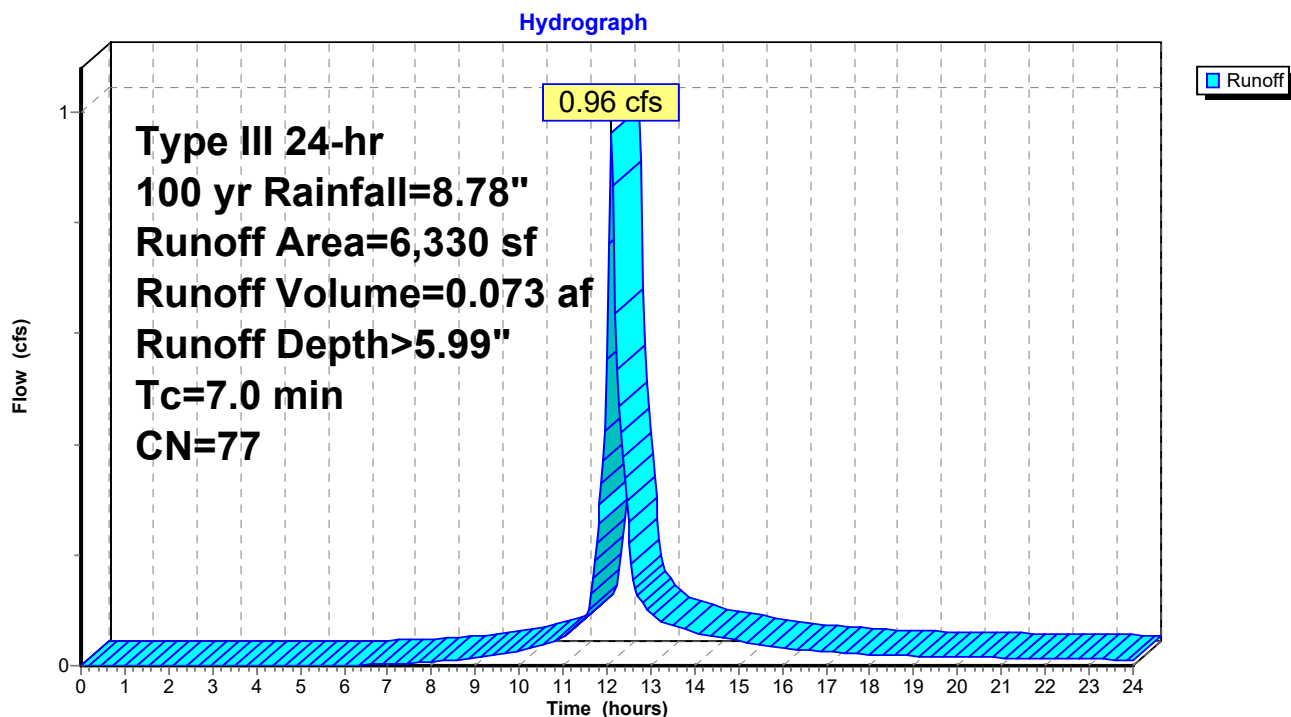
Summary for Subcatchment 49S: Lot 7 Upper Drive

Runoff = 0.96 cfs @ 12.10 hrs, Volume= 0.073 af, Depth> 5.99"
 Routed to Pond 48P : RS L7

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.04 hrs
 Type III 24-hr 100 yr Rainfall=8.78"

Area (sf)	CN	Description
3,658	61	>75% Grass cover, Good, HSG B
0	80	>75% Grass cover, Good, HSG D
0	55	Woods, Good, HSG B
0	77	Woods, Good, HSG D
0	98	Roofs, HSG B
2,672	98	Unconnected pavement, HSG B
6,330	77	Weighted Average
3,658		57.79% Pervious Area
2,672		42.21% Impervious Area
2,672		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.0					Direct Entry,

Subcatchment 49S: Lot 7 Upper Drive

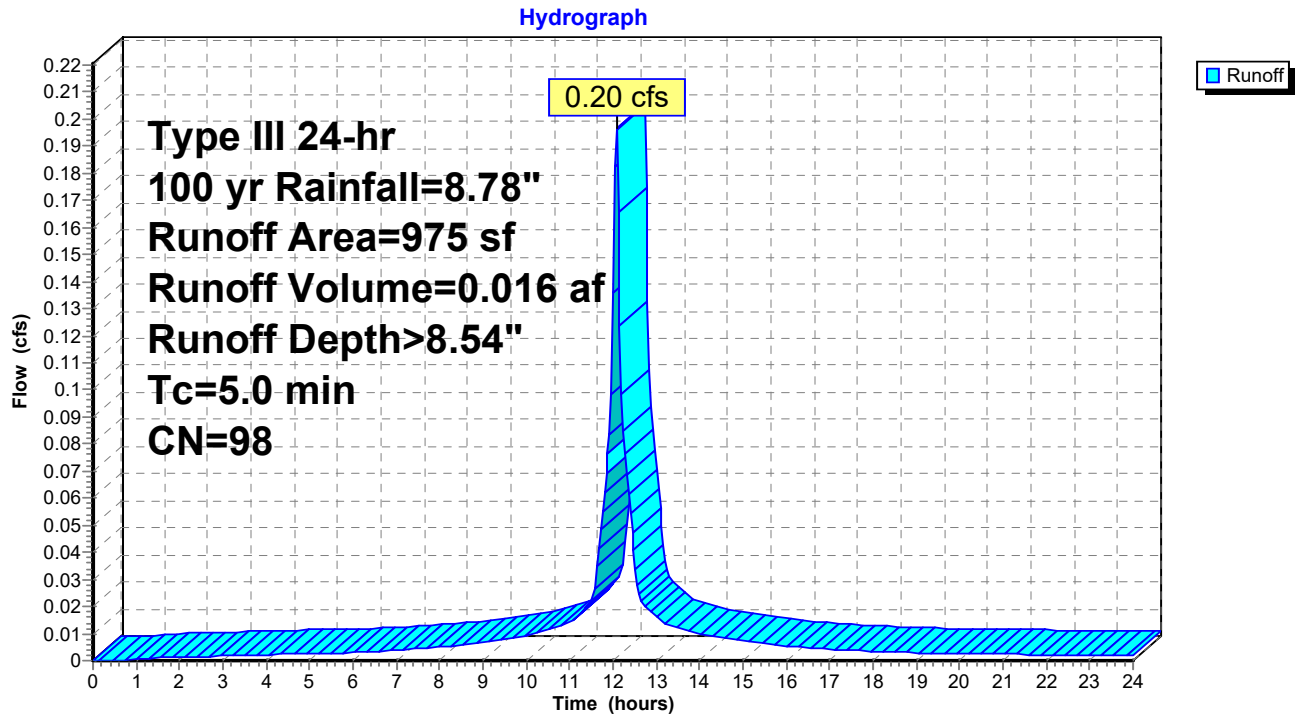
Summary for Subcatchment 50S: Lot 3 (rear roof)

Runoff = 0.20 cfs @ 12.07 hrs, Volume= 0.016 af, Depth> 8.54"
 Routed to Pond 44P : RS L3

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.04 hrs
 Type III 24-hr 100 yr Rainfall=8.78"

Area (sf)	CN	Description
0	61	>75% Grass cover, Good, HSG B
0	80	>75% Grass cover, Good, HSG D
0	55	Woods, Good, HSG B
0	77	Woods, Good, HSG D
975	98	Roofs, HSG B
0	98	Unconnected pavement, HSG B
975	98	Weighted Average
975		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry,

Subcatchment 50S: Lot 3 (rear roof)

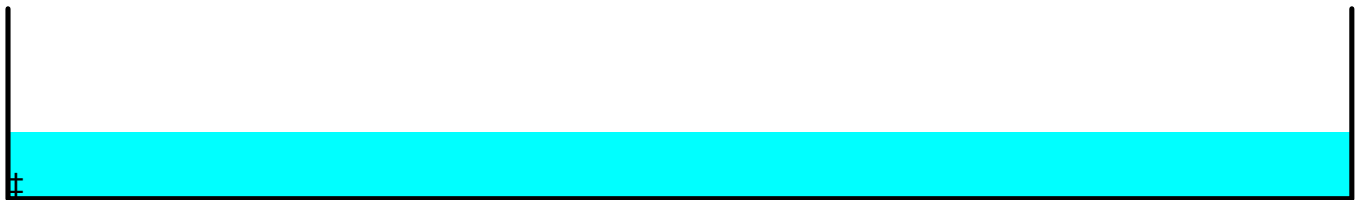
Summary for Reach 40R: Reach L4

Inflow Area = 0.428 ac, 29.54% Impervious, Inflow Depth > 3.70" for 100 yr event
 Inflow = 2.64 cfs @ 12.08 hrs, Volume= 0.132 af
 Outflow = 1.26 cfs @ 12.55 hrs, Volume= 0.130 af, Atten= 52%, Lag= 28.3 min
 Routed to Link 37L : POC 2 (Cottage Street)

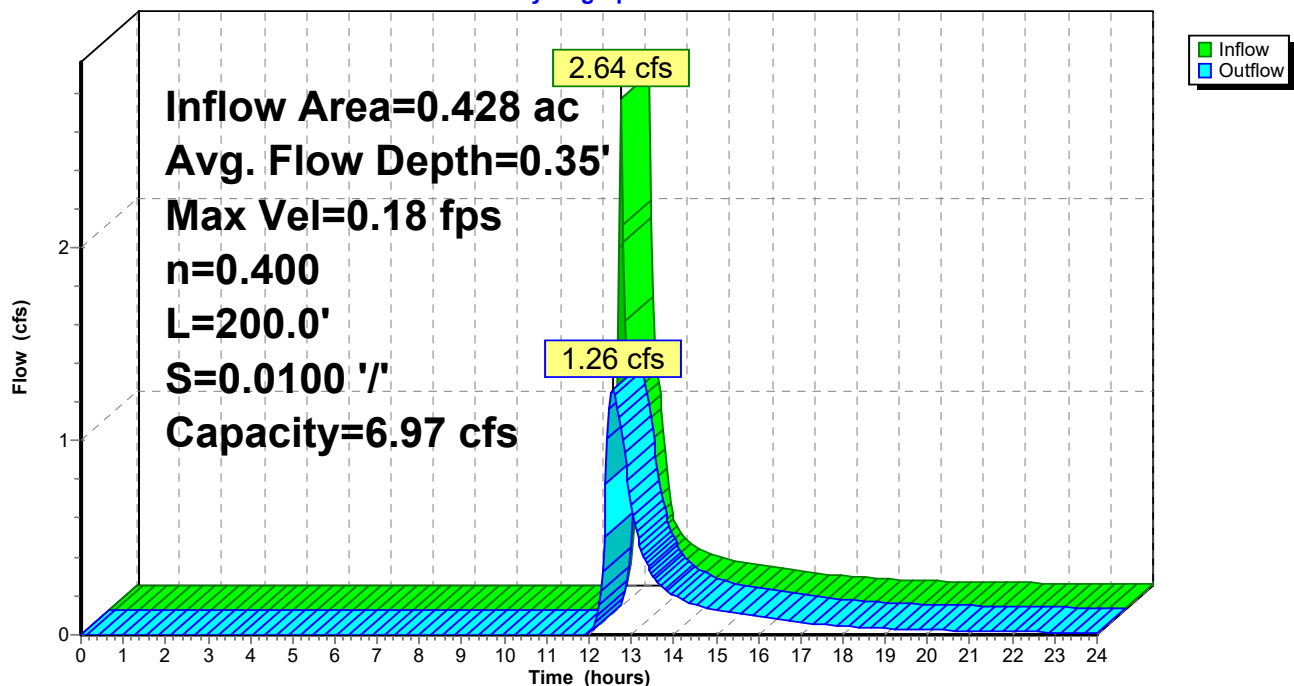
Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.04 hrs
 Max. Velocity= 0.18 fps, Min. Travel Time= 18.5 min
 Avg. Velocity= 0.06 fps, Avg. Travel Time= 57.7 min

Peak Storage= 1,403 cf @ 12.24 hrs
 Average Depth at Peak Storage= 0.35' , Surface Width= 20.00'
 Bank-Full Depth= 1.00' Flow Area= 20.0 sf, Capacity= 6.97 cfs

20.00' x 1.00' deep channel, n= 0.400 Sheet flow: Woods+light brush
 Length= 200.0' Slope= 0.0100 '/'
 Inlet Invert= 270.00', Outlet Invert= 268.00'

**Reach 40R: Reach L4**

Hydrograph



Stage-Area-Storage for Reach 40R: Reach L4

Elevation (feet)	End-Area (sq-ft)	Storage (cubic-feet)	Elevation (feet)	End-Area (sq-ft)	Storage (cubic-feet)
270.00	0.0	0	270.53	10.6	2,120
270.01	0.2	40	270.54	10.8	2,160
270.02	0.4	80	270.55	11.0	2,200
270.03	0.6	120	270.56	11.2	2,240
270.04	0.8	160	270.57	11.4	2,280
270.05	1.0	200	270.58	11.6	2,320
270.06	1.2	240	270.59	11.8	2,360
270.07	1.4	280	270.60	12.0	2,400
270.08	1.6	320	270.61	12.2	2,440
270.09	1.8	360	270.62	12.4	2,480
270.10	2.0	400	270.63	12.6	2,520
270.11	2.2	440	270.64	12.8	2,560
270.12	2.4	480	270.65	13.0	2,600
270.13	2.6	520	270.66	13.2	2,640
270.14	2.8	560	270.67	13.4	2,680
270.15	3.0	600	270.68	13.6	2,720
270.16	3.2	640	270.69	13.8	2,760
270.17	3.4	680	270.70	14.0	2,800
270.18	3.6	720	270.71	14.2	2,840
270.19	3.8	760	270.72	14.4	2,880
270.20	4.0	800	270.73	14.6	2,920
270.21	4.2	840	270.74	14.8	2,960
270.22	4.4	880	270.75	15.0	3,000
270.23	4.6	920	270.76	15.2	3,040
270.24	4.8	960	270.77	15.4	3,080
270.25	5.0	1,000	270.78	15.6	3,120
270.26	5.2	1,040	270.79	15.8	3,160
270.27	5.4	1,080	270.80	16.0	3,200
270.28	5.6	1,120	270.81	16.2	3,240
270.29	5.8	1,160	270.82	16.4	3,280
270.30	6.0	1,200	270.83	16.6	3,320
270.31	6.2	1,240	270.84	16.8	3,360
270.32	6.4	1,280	270.85	17.0	3,400
270.33	6.6	1,320	270.86	17.2	3,440
270.34	6.8	1,360	270.87	17.4	3,480
270.35	7.0	1,400	270.88	17.6	3,520
270.36	7.2	1,440	270.89	17.8	3,560
270.37	7.4	1,480	270.90	18.0	3,600
270.38	7.6	1,520	270.91	18.2	3,640
270.39	7.8	1,560	270.92	18.4	3,680
270.40	8.0	1,600	270.93	18.6	3,720
270.41	8.2	1,640	270.94	18.8	3,760
270.42	8.4	1,680	270.95	19.0	3,800
270.43	8.6	1,720	270.96	19.2	3,840
270.44	8.8	1,760	270.97	19.4	3,880
270.45	9.0	1,800	270.98	19.6	3,920
270.46	9.2	1,840	270.99	19.8	3,960
270.47	9.4	1,880	271.00	20.0	4,000
270.48	9.6	1,920			
270.49	9.8	1,960			
270.50	10.0	2,000			
270.51	10.2	2,040			
270.52	10.4	2,080			

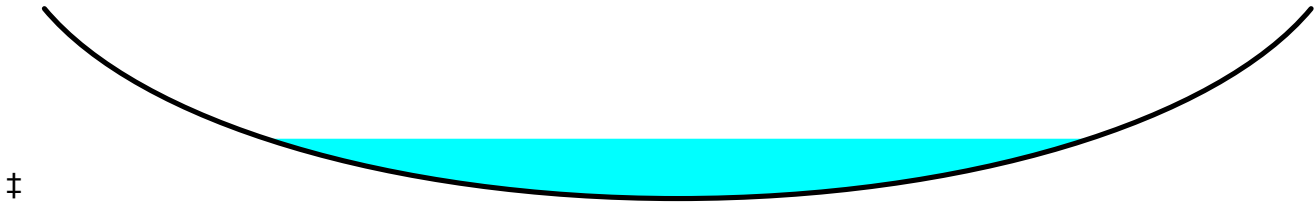
Summary for Reach 41R: Reach L5R

Inflow Area = 0.045 ac, 100.00% Impervious, Inflow Depth = 4.43" for 100 yr event
 Inflow = 0.36 cfs @ 12.10 hrs, Volume= 0.017 af
 Outflow = 0.15 cfs @ 12.83 hrs, Volume= 0.016 af, Atten= 58%, Lag= 44.1 min
 Routed to Link 37L : POC 2 (Cottage Street)

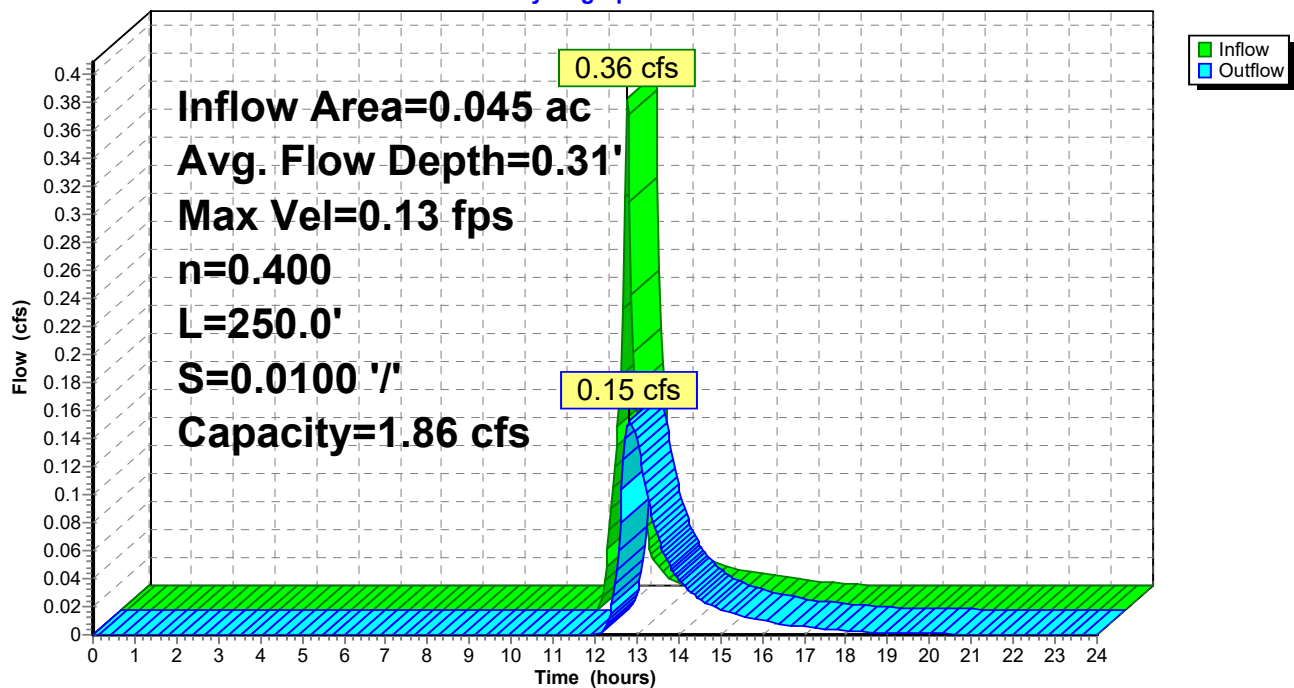
Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.04 hrs
 Max. Velocity= 0.13 fps, Min. Travel Time= 32.0 min
 Avg. Velocity= 0.05 fps, Avg. Travel Time= 91.4 min

Peak Storage= 293 cf @ 12.30 hrs
 Average Depth at Peak Storage= 0.31', Surface Width= 5.60'
 Bank-Full Depth= 1.00' Flow Area= 6.7 sf, Capacity= 1.86 cfs

10.00' x 1.00' deep Parabolic Channel, n= 0.400 Sheet flow: Woods+light brush
 Length= 250.0' Slope= 0.0100 '/'
 Inlet Invert= 288.50', Outlet Invert= 286.00'

**Reach 41R: Reach L5R**

Hydrograph



Stage-Area-Storage for Reach 41R: Reach L5R

Elevation (feet)	End-Area (sq-ft)	Storage (cubic-feet)	Elevation (feet)	End-Area (sq-ft)	Storage (cubic-feet)
288.50	0.0	0	289.03	2.6	643
288.51	0.0	2	289.04	2.6	661
288.52	0.0	5	289.05	2.7	680
288.53	0.0	9	289.06	2.8	698
288.54	0.1	13	289.07	2.9	717
288.55	0.1	19	289.08	2.9	736
288.56	0.1	24	289.09	3.0	755
288.57	0.1	31	289.10	3.1	775
288.58	0.2	38	289.11	3.2	794
288.59	0.2	45	289.12	3.3	814
288.60	0.2	53	289.13	3.3	833
288.61	0.2	61	289.14	3.4	853
288.62	0.3	69	289.15	3.5	873
288.63	0.3	78	289.16	3.6	894
288.64	0.3	87	289.17	3.7	914
288.65	0.4	97	289.18	3.7	935
288.66	0.4	107	289.19	3.8	955
288.67	0.5	117	289.20	3.9	976
288.68	0.5	127	289.21	4.0	997
288.69	0.6	138	289.22	4.1	1,018
288.70	0.6	149	289.23	4.2	1,040
288.71	0.6	160	289.24	4.2	1,061
288.72	0.7	172	289.25	4.3	1,083
288.73	0.7	184	289.26	4.4	1,104
288.74	0.8	196	289.27	4.5	1,126
288.75	0.8	208	289.28	4.6	1,148
288.76	0.9	221	289.29	4.7	1,170
288.77	0.9	234	289.30	4.8	1,193
288.78	1.0	247	289.31	4.9	1,215
288.79	1.0	260	289.32	5.0	1,238
288.80	1.1	274	289.33	5.0	1,260
288.81	1.2	288	289.34	5.1	1,283
288.82	1.2	302	289.35	5.2	1,306
288.83	1.3	316	289.36	5.3	1,329
288.84	1.3	330	289.37	5.4	1,352
288.85	1.4	345	289.38	5.5	1,376
288.86	1.4	360	289.39	5.6	1,399
288.87	1.5	375	289.40	5.7	1,423
288.88	1.6	390	289.41	5.8	1,447
288.89	1.6	406	289.42	5.9	1,471
288.90	1.7	422	289.43	6.0	1,495
288.91	1.8	438	289.44	6.1	1,519
288.92	1.8	454	289.45	6.2	1,543
288.93	1.9	470	289.46	6.3	1,568
288.94	1.9	486	289.47	6.4	1,592
288.95	2.0	503	289.48	6.5	1,617
288.96	2.1	520	289.49	6.6	1,642
288.97	2.1	537	289.50	6.7	1,667
288.98	2.2	554			
288.99	2.3	572			
289.00	2.4	589			
289.01	2.4	607			
289.02	2.5	625			

Summary for Pond 16P: Detention Basin #2 (South)

Inflow Area = 1.946 ac, 20.71% Impervious, Inflow Depth > 5.39" for 100 yr event
 Inflow = 12.55 cfs @ 12.08 hrs, Volume= 0.874 af
 Outflow = 12.03 cfs @ 12.10 hrs, Volume= 0.809 af, Atten= 4%, Lag= 1.3 min
 Discarded = 0.04 cfs @ 12.10 hrs, Volume= 0.044 af
 Primary = 11.99 cfs @ 12.10 hrs, Volume= 0.765 af
 Routed to Link 39L : POC 4 (Culvert Under Monroe Turnpike)

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.04 hrs
 Peak Elev= 284.34' @ 12.10 hrs Surf.Area= 2,391 sf Storage= 4,081 cf

Plug-Flow detention time= 56.8 min calculated for 0.809 af (93% of inflow)
 Center-of-Mass det. time= 18.6 min (833.5 - 814.9)

Volume	Invert	Avail.Storage	Storage Description
#1	282.00'	9,000 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
282.00	1,150	0	0
284.00	2,150	3,300	3,300
286.00	3,550	5,700	9,000

Device	Routing	Invert	Outlet Devices
#1	Primary	285.00'	10.0' long Emergency Weir 2 End Contraction(s) 1.0' Crest Height
#2	Primary	280.50'	24.0" Round Outlet Culvert L= 50.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 280.50' / 277.00' S= 0.0700 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 3.14 sf
#3	Device 2	283.75'	8.0' long Slot Weir Cv= 2.62 (C= 3.28)
#4	Device 2	285.00'	2.0" x 2.0" Horiz. Grate Top X 8.00 columns X 8 rows C= 0.600 in 24.0" x 24.0" Grate (44% open area) Limited to weir flow at low heads
#5	Discarded	282.00'	0.520 in/hr Exfiltration over Surface area Conductivity to Groundwater Elevation = 279.00'

Discarded OutFlow Max=0.04 cfs @ 12.10 hrs HW=284.33' (Free Discharge)

↑ **5=Exfiltration** (Controls 0.04 cfs)

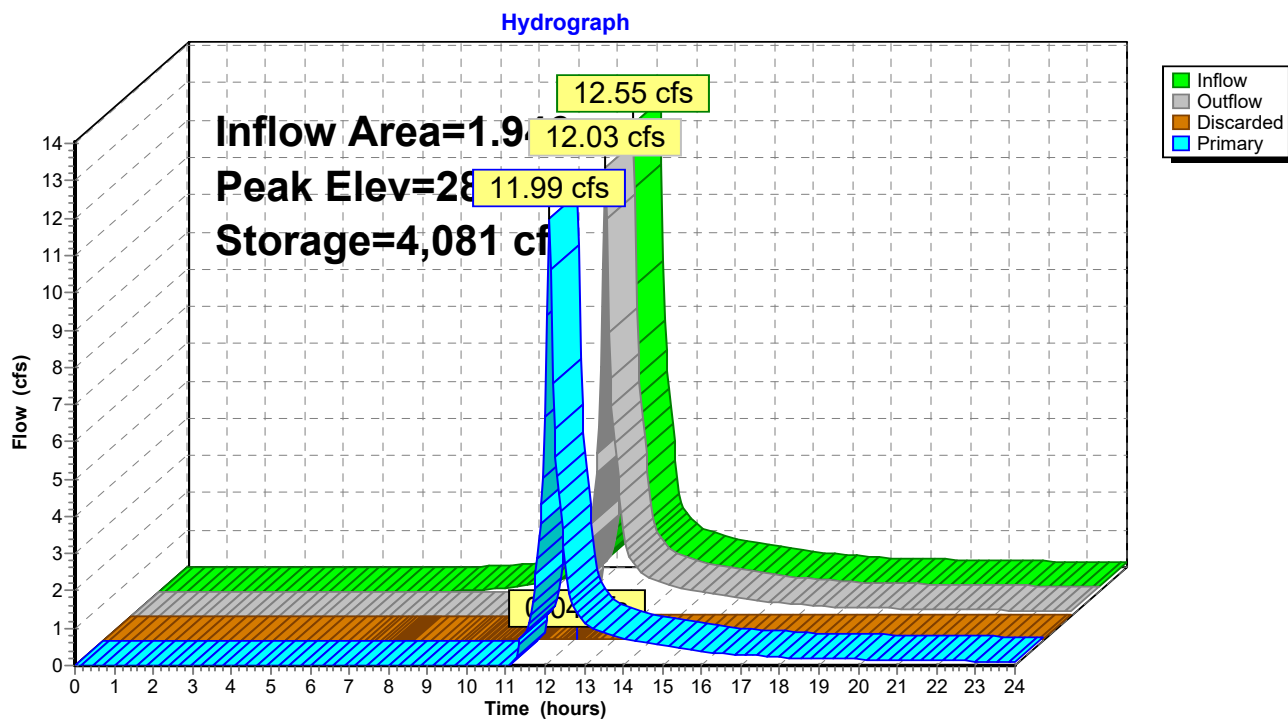
Primary OutFlow Max=11.69 cfs @ 12.10 hrs HW=284.33' (Free Discharge)

↑ **1=Emergency Weir** (Controls 0.00 cfs)

↑ **2=Outlet Culvert** (Passes 11.69 cfs of 25.46 cfs potential flow)

↑ **3=Slot Weir** (Weir Controls 11.69 cfs @ 2.50 fps)

↑ **4=Grate Top** (Controls 0.00 cfs)

Pond 16P: Detention Basin #2 (South)

Stage-Area-Storage for Pond 16P: Detention Basin #2 (South)

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
282.00	1,150	0	284.65	2,605	4,845
282.05	1,175	58	284.70	2,640	4,976
282.10	1,200	118	284.75	2,675	5,109
282.15	1,225	178	284.80	2,710	5,244
282.20	1,250	240	284.85	2,745	5,380
282.25	1,275	303	284.90	2,780	5,518
282.30	1,300	368	284.95	2,815	5,658
282.35	1,325	433	285.00	2,850	5,800
282.40	1,350	500	285.05	2,885	5,943
282.45	1,375	568	285.10	2,920	6,089
282.50	1,400	638	285.15	2,955	6,235
282.55	1,425	708	285.20	2,990	6,384
282.60	1,450	780	285.25	3,025	6,534
282.65	1,475	853	285.30	3,060	6,687
282.70	1,500	927	285.35	3,095	6,840
282.75	1,525	1,003	285.40	3,130	6,996
282.80	1,550	1,080	285.45	3,165	7,153
282.85	1,575	1,158	285.50	3,200	7,313
282.90	1,600	1,237	285.55	3,235	7,473
282.95	1,625	1,318	285.60	3,270	7,636
283.00	1,650	1,400	285.65	3,305	7,800
283.05	1,675	1,483	285.70	3,340	7,966
283.10	1,700	1,568	285.75	3,375	8,134
283.15	1,725	1,653	285.80	3,410	8,304
283.20	1,750	1,740	285.85	3,445	8,475
283.25	1,775	1,828	285.90	3,480	8,648
283.30	1,800	1,918	285.95	3,515	8,823
283.35	1,825	2,008	286.00	3,550	9,000
283.40	1,850	2,100			
283.45	1,875	2,193			
283.50	1,900	2,288			
283.55	1,925	2,383			
283.60	1,950	2,480			
283.65	1,975	2,578			
283.70	2,000	2,677			
283.75	2,025	2,778			
283.80	2,050	2,880			
283.85	2,075	2,983			
283.90	2,100	3,087			
283.95	2,125	3,193			
284.00	2,150	3,300			
284.05	2,185	3,408			
284.10	2,220	3,519			
284.15	2,255	3,630			
284.20	2,290	3,744			
284.25	2,325	3,859			
284.30	2,360	3,977			
284.35	2,395	4,095			
284.40	2,430	4,216			
284.45	2,465	4,338			
284.50	2,500	4,463			
284.55	2,535	4,588			
284.60	2,570	4,716			

Summary for Pond 20P: Detention Basin #1 (North)

Inflow Area = 4.212 ac, 23.32% Impervious, Inflow Depth > 4.75" for 100 yr event
 Inflow = 17.42 cfs @ 12.18 hrs, Volume= 1.667 af
 Outflow = 15.56 cfs @ 12.27 hrs, Volume= 1.605 af, Atten= 11%, Lag= 5.3 min
 Discarded = 0.14 cfs @ 12.27 hrs, Volume= 0.108 af
 Primary = 15.42 cfs @ 12.27 hrs, Volume= 1.497 af
 Routed to Link 38L : POC 3 (Monroe Turnpike)

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.04 hrs
 Peak Elev= 267.93' @ 12.27 hrs Surf.Area= 4,756 sf Storage= 10,202 cf

Plug-Flow detention time= 50.6 min calculated for 1.605 af (96% of inflow)
 Center-of-Mass det. time= 29.8 min (858.4 - 828.6)

Volume	Invert	Avail.Storage	Storage Description
#1	265.00'	18,819 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
265.00	2,255	0	0
266.00	3,071	2,663	2,663
268.00	4,820	7,891	10,554
269.50	6,200	8,265	18,819

Device	Routing	Invert	Outlet Devices
#1	Primary	268.50'	10.0' long Emergency Overflow Weir 2 End Contraction(s) 1.0' Crest Height
#2	Primary	259.00'	24.0" Round Outlet Culvert L= 58.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 259.00' / 253.20' S= 0.1000 1' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf
#3	Device 2	265.75'	6.0" Vert. Orifice C= 0.600 Limited to weir flow at low heads
#4	Device 2	267.00'	7.0' long x 0.50' rise Weir Slot Cv= 2.62 (C= 3.28)
#5	Device 2	268.50'	4.0" x 2.0" Horiz. Grate Top X 8.00 columns X 9 rows C= 0.600 in 36.0" x 24.0" Grate (67% open area) Limited to weir flow at low heads
#6	Device 2	264.00'	4.0" Round Underdrain L= 90.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 264.00' / 264.00' S= 0.0000 1' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.09 sf
#7	Device 6	265.00'	1.020 in/hr Exfil to underdrain X 0.25 over Surface area Conductivity to Groundwater Elevation = 262.00'
#8	Discarded	265.00'	1.020 in/hr Exfiltration X 0.75 over Surface area Conductivity to Groundwater Elevation = 262.00'

Discarded OutFlow Max=0.14 cfs @ 12.27 hrs HW=267.92' (Free Discharge)

8=Exfiltration (Controls 0.14 cfs)

Primary OutFlow Max=15.38 cfs @ 12.27 hrs HW=267.92' (Free Discharge)

1=Emergency Overflow Weir (Controls 0.00 cfs)

2=Outlet Culvert (Passes 15.38 cfs of 42.58 cfs potential flow)

3=Orifice (Orifice Controls 1.31 cfs @ 6.68 fps)

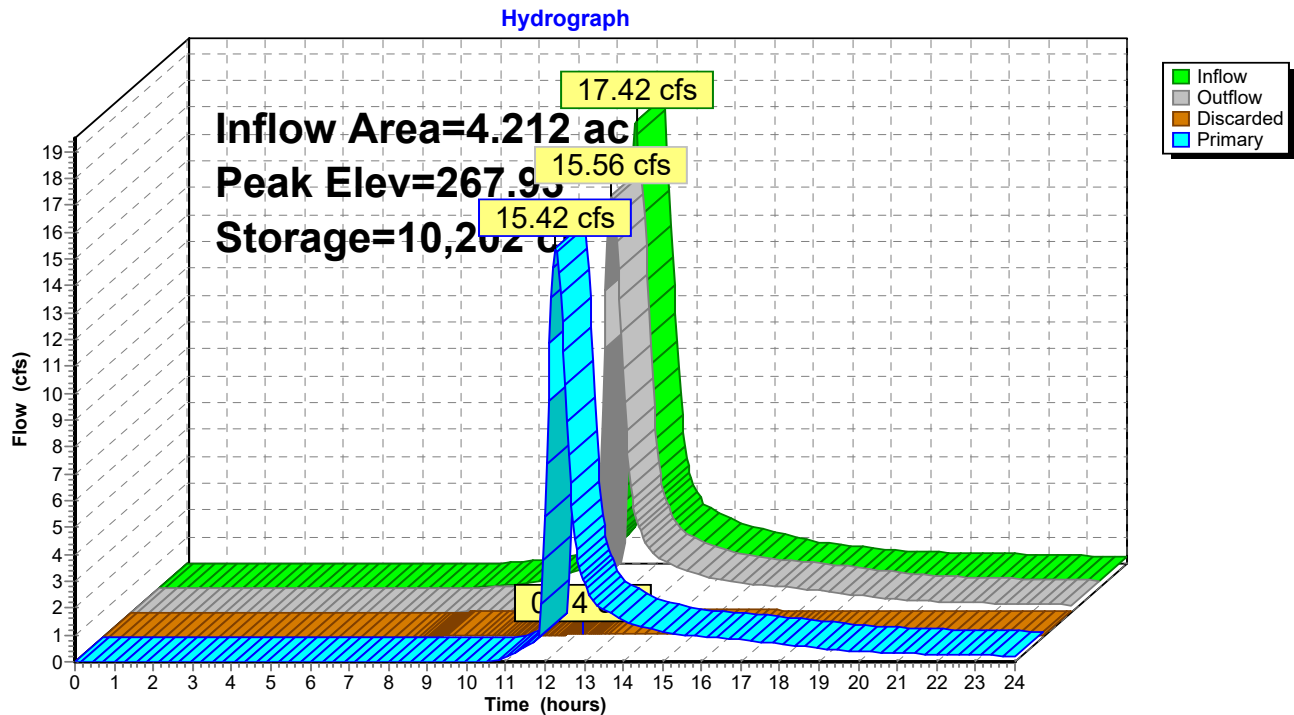
4=Weir Slot (Orifice Controls 14.02 cfs @ 4.01 fps)

5=Grate Top (Controls 0.00 cfs)

6=Underdrain (Passes 0.05 cfs of 0.45 cfs potential flow)

7=Exfil to underdrain (Controls 0.05 cfs)

Pond 20P: Detention Basin #1 (North)



Stage-Area-Storage for Pond 20P: Detention Basin #1 (North)

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
265.00	2,255	0	267.65	4,514	8,921
265.05	2,296	114	267.70	4,558	9,147
265.10	2,337	230	267.75	4,601	9,376
265.15	2,377	347	267.80	4,645	9,607
265.20	2,418	467	267.85	4,689	9,841
265.25	2,459	589	267.90	4,733	10,076
265.30	2,500	713	267.95	4,776	10,314
265.35	2,541	839	268.00	4,820	10,554
265.40	2,581	967	268.05	4,866	10,796
265.45	2,622	1,097	268.10	4,912	11,041
265.50	2,663	1,230	268.15	4,958	11,287
265.55	2,704	1,364	268.20	5,004	11,536
265.60	2,745	1,500	268.25	5,050	11,788
265.65	2,785	1,638	268.30	5,096	12,041
265.70	2,826	1,778	268.35	5,142	12,297
265.75	2,867	1,921	268.40	5,188	12,556
265.80	2,908	2,065	268.45	5,234	12,816
265.85	2,949	2,212	268.50	5,280	13,079
265.90	2,989	2,360	268.55	5,326	13,344
265.95	3,030	2,510	268.60	5,372	13,612
266.00	3,071	2,663	268.65	5,418	13,881
266.05	3,115	2,818	268.70	5,464	14,153
266.10	3,158	2,974	268.75	5,510	14,428
266.15	3,202	3,133	268.80	5,556	14,704
266.20	3,246	3,295	268.85	5,602	14,983
266.25	3,290	3,458	268.90	5,648	15,265
266.30	3,333	3,624	268.95	5,694	15,548
266.35	3,377	3,791	269.00	5,740	15,834
266.40	3,421	3,961	269.05	5,786	16,122
266.45	3,465	4,133	269.10	5,832	16,413
266.50	3,508	4,308	269.15	5,878	16,705
266.55	3,552	4,484	269.20	5,924	17,000
266.60	3,596	4,663	269.25	5,970	17,298
266.65	3,639	4,844	269.30	6,016	17,597
266.70	3,683	5,027	269.35	6,062	17,899
266.75	3,727	5,212	269.40	6,108	18,204
266.80	3,771	5,400	269.45	6,154	18,510
266.85	3,814	5,589	269.50	6,200	18,819
266.90	3,858	5,781			
266.95	3,902	5,975			
267.00	3,946	6,171			
267.05	3,989	6,370			
267.10	4,033	6,570			
267.15	4,077	6,773			
267.20	4,120	6,978			
267.25	4,164	7,185			
267.30	4,208	7,394			
267.35	4,252	7,606			
267.40	4,295	7,819			
267.45	4,339	8,035			
267.50	4,383	8,253			
267.55	4,426	8,474			
267.60	4,470	8,696			

Summary for Pond 40P: Culvert

Inflow Area = 12.471 ac, 0.00% Impervious, Inflow Depth > 5.61" for 100 yr event
 Inflow = 56.67 cfs @ 12.26 hrs, Volume= 5.830 af
 Outflow = 56.32 cfs @ 12.27 hrs, Volume= 5.829 af, Atten= 1%, Lag= 1.1 min
 Primary = 56.32 cfs @ 12.27 hrs, Volume= 5.829 af
 Routed to Link 39L : POC 4 (Culvert Under Monroe Turnpike)

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.04 hrs
 Peak Elev= 297.30' @ 12.27 hrs Surf.Area= 2,364 sf Storage= 2,937 cf

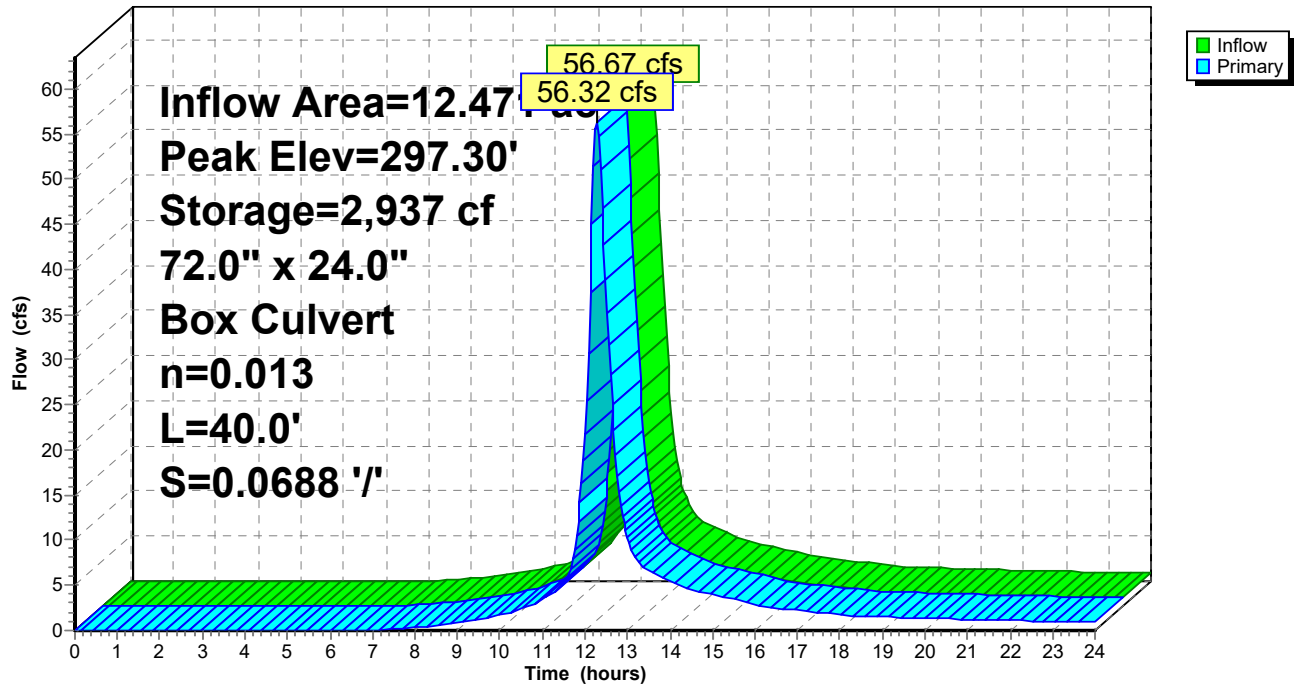
Plug-Flow detention time= 0.9 min calculated for 5.819 af (100% of inflow)
 Center-of-Mass det. time= 0.8 min (823.0 - 822.3)

Volume	Invert	Avail.Storage	Storage Description
#1	295.25'	30,417 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
295.25	500	0	0
298.00	3,000	4,813	4,813
300.00	6,260	9,260	14,073
302.00	10,084	16,344	30,417

Device	Routing	Invert	Outlet Devices
#1	Primary	295.25'	72.0" W x 24.0" H Box Box Culvert L= 40.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 295.25' / 292.50' S= 0.0688 ' S= 0.0688 ' Cc= 0.900 n= 0.013 Concrete, trowel finish, Flow Area= 12.00 sf

Primary OutFlow Max=56.18 cfs @ 12.27 hrs HW=297.30' (Free Discharge)
 ↑**1=Box Culvert** (Inlet Controls 56.18 cfs @ 4.68 fps)

Pond 40P: Culvert**Hydrograph**

Stage-Area-Storage for Pond 40P: Culvert

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
295.25	500	0	300.55	7,312	17,805
295.35	591	55	300.65	7,503	18,545
295.45	682	118	300.75	7,694	19,305
295.55	773	191	300.85	7,885	20,084
295.65	864	273	300.95	8,076	20,882
295.75	955	364	301.05	8,268	21,699
295.85	1,045	464	301.15	8,459	22,536
295.95	1,136	573	301.25	8,650	23,391
296.05	1,227	691	301.35	8,841	24,266
296.15	1,318	818	301.45	9,032	25,159
296.25	1,409	955	301.55	9,224	26,072
296.35	1,500	1,100	301.65	9,415	27,004
296.45	1,591	1,255	301.75	9,606	27,955
296.55	1,682	1,418	301.85	9,797	28,925
296.65	1,773	1,591	301.95	9,988	29,915
296.75	1,864	1,773			
296.85	1,955	1,964			
296.95	2,045	2,164			
297.05	2,136	2,373			
297.15	2,227	2,591			
297.25	2,318	2,818			
297.35	2,409	3,055			
297.45	2,500	3,300			
297.55	2,591	3,555			
297.65	2,682	3,818			
297.75	2,773	4,091			
297.85	2,864	4,373			
297.95	2,955	4,664			
298.05	3,082	4,965			
298.15	3,244	5,281			
298.25	3,408	5,613			
298.35	3,571	5,962			
298.45	3,733	6,328			
298.55	3,897	6,709			
298.65	4,059	7,107			
298.75	4,223	7,521			
298.85	4,386	7,951			
298.95	4,548	8,398			
299.05	4,712	8,861			
299.15	4,874	9,340			
299.25	5,038	9,836			
299.35	5,201	10,348			
299.45	5,363	10,876			
299.55	5,527	11,421			
299.65	5,689	11,981			
299.75	5,853	12,558			
299.85	6,016	13,152			
299.95	6,178	13,762			
300.05	6,356	14,388			
300.15	6,547	15,033			
300.25	6,738	15,697			
300.35	6,929	16,381			
300.45	7,120	17,083			

Summary for Pond 41P: RS L4

Inflow Area = 0.428 ac, 29.54% Impervious, Inflow Depth > 4.89" for 100 yr event
 Inflow = 2.52 cfs @ 12.08 hrs, Volume= 0.175 af
 Outflow = 2.69 cfs @ 12.08 hrs, Volume= 0.163 af, Atten= 0%, Lag= 0.2 min
 Discarded = 0.05 cfs @ 12.08 hrs, Volume= 0.031 af
 Primary = 2.64 cfs @ 12.08 hrs, Volume= 0.132 af
 Routed to Reach 40R : Reach L4

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.04 hrs
 Peak Elev= 276.80' @ 12.08 hrs Surf.Area= 924 sf Storage= 878 cf

Plug-Flow detention time= 53.5 min calculated for 0.162 af (93% of inflow)
 Center-of-Mass det. time= 17.6 min (841.0 - 823.4)

Volume	Invert	Avail.Storage	Storage Description
#1A	272.50'	284 cf	6.00'W x 98.00'L x 2.50'H Field A 1,470 cf Overall - 760 cf Embedded = 710 cf x 40.0% Voids
#2A	273.00'	544 cf	Concrete Galley 4x8x2 x 12 Inside #1 Inside= 42.0"W x 21.0"H => 6.04 sf x 7.50'L = 45.3 cf Outside= 48.0"W x 24.0"H => 7.92 sf x 8.00'L = 63.4 cf
#3	275.00'	50 cf	10.50'W x 32.00'L x 0.75'H Prismatoid 252 cf Overall x 20.0% Voids
		878 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	274.00'	8.0" Round Culvert L= 28.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 274.00' / 271.83' S= 0.0775 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.35 sf
#2	Discarded	272.50'	1.020 in/hr Exfiltration over Surface area Conductivity to Groundwater Elevation = 270.50'

Discarded OutFlow Max=0.05 cfs @ 12.08 hrs HW=276.76' (Free Discharge)

↑ **2=Exfiltration** (Controls 0.05 cfs)

Primary OutFlow Max=2.62 cfs @ 12.08 hrs HW=276.76' (Free Discharge)

↑ **1=Culvert** (Inlet Controls 2.62 cfs @ 7.49 fps)

Pond 41P: RS L4 - Chamber Wizard Field A

Chamber Model = Concrete Galley 4x8x2 (Concrete Galley, UCPI 24" Low Profile Galley or equivalent)

Inside= 42.0"W x 21.0"H => 6.04 sf x 7.50'L = 45.3 cf

Outside= 48.0"W x 24.0"H => 7.92 sf x 8.00'L = 63.4 cf

12 Chambers/Row x 8.00' Long = 96.00' Row Length +12.0" End Stone x 2 = 98.00' Base Length

1 Rows x 48.0" Wide + 12.0" Side Stone x 2 = 6.00' Base Width

6.0" Stone Base + 24.0" Chamber Height = 2.50' Field Height

12 Chambers x 45.3 cf = 543.6 cf Chamber Storage

12 Chambers x 63.4 cf = 760.3 cf Displacement

1,470.0 cf Field - 760.3 cf Chambers = 709.7 cf Stone x 40.0% Voids = 283.9 cf Stone Storage

Chamber Storage + Stone Storage = 827.5 cf = 0.019 af

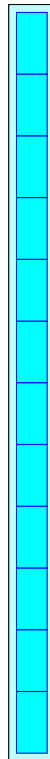
Overall Storage Efficiency = 56.3%

Overall System Size = 98.00' x 6.00' x 2.50'

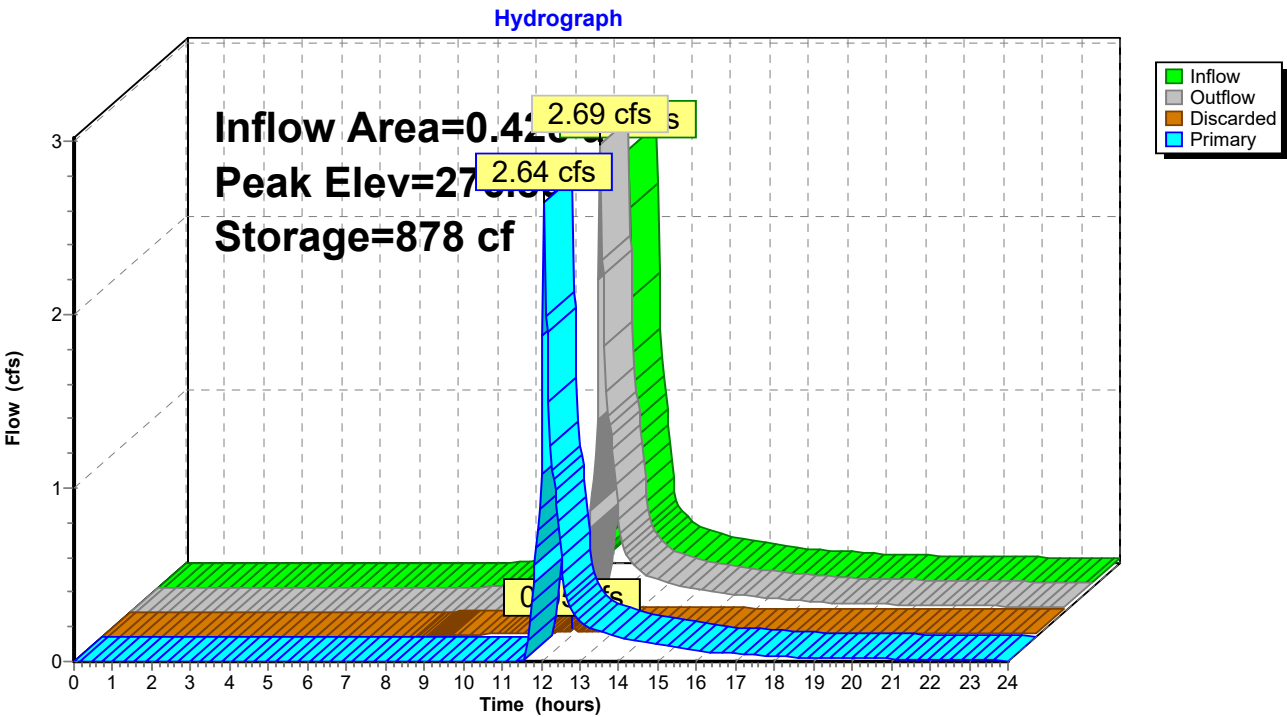
12 Chambers

54.4 cy Field

26.3 cy Stone



Pond 41P: RS L4



Stage-Area-Storage for Pond 41P: RS L4

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
272.50	588	0	275.15	924	838
272.55	588	12	275.20	924	841
272.60	588	24	275.25	924	844
272.65	588	35	275.30	924	848
272.70	588	47	275.35	924	851
272.75	588	59	275.40	924	854
272.80	588	71	275.45	924	858
272.85	588	82	275.50	924	861
272.90	588	94	275.55	924	864
272.95	588	106	275.60	924	868
273.00	588	118	275.65	924	871
273.05	588	138	275.70	924	875
273.10	588	157	275.75	924	878
273.15	588	177	275.80	924	878
273.20	588	197	275.85	924	878
273.25	588	217	275.90	924	878
273.30	588	237	275.95	924	878
273.35	588	257	276.00	924	878
273.40	588	277	276.05	924	878
273.45	588	297	276.10	924	878
273.50	588	317	276.15	924	878
273.55	588	337	276.20	924	878
273.60	588	356	276.25	924	878
273.65	588	376	276.30	924	878
273.70	588	396	276.35	924	878
273.75	588	416	276.40	924	878
273.80	588	436	276.45	924	878
273.85	588	456	276.50	924	878
273.90	588	476	276.55	924	878
273.95	588	496	276.60	924	878
274.00	588	516	276.65	924	878
274.05	588	536	276.70	924	878
274.10	588	556	276.75	924	878
274.15	588	575	276.80	924	878
274.20	588	595			
274.25	588	615			
274.30	588	635			
274.35	588	655			
274.40	588	675			
274.45	588	695			
274.50	588	715			
274.55	588	735			
274.60	588	754			
274.65	588	772			
274.70	588	789			
274.75	588	807			
274.80	588	811			
274.85	588	815			
274.90	588	819			
274.95	588	823			
275.00	924	827			
275.05	924	831			
275.10	924	834			

Summary for Pond 42P: Fire Pond

Inflow Area = 2.532 ac, 0.00% Impervious, Inflow Depth > 5.62" for 100 yr event
 Inflow = 17.01 cfs @ 12.08 hrs, Volume= 1.187 af
 Outflow = 16.86 cfs @ 12.09 hrs, Volume= 1.185 af, Atten= 1%, Lag= 0.7 min
 Primary = 16.86 cfs @ 12.09 hrs, Volume= 1.185 af
 Routed to Pond 46P : Detention Basin #3 (Entrance)

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.04 hrs
 Peak Elev= 304.16' @ 12.09 hrs Surf.Area= 1,390 sf Storage= 1,431 cf

Plug-Flow detention time= 4.8 min calculated for 1.183 af (100% of inflow)
 Center-of-Mass det. time= 3.7 min (814.8 - 811.1)

Volume	Invert	Avail.Storage	Storage Description
#1	303.00'	1,917 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
303.00	1,080	0	0
304.00	1,336	1,208	1,208
304.50	1,500	709	1,917

Device	Routing	Invert	Outlet Devices
#1	Primary	303.50'	8.0' long Emergency Weir 2 End Contraction(s) 1.0' Crest Height
#2	Primary	296.00'	8.0" Round Culvert L= 80.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 296.00' / 290.00' S= 0.0750 ' / ' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.35 sf
#3	Device 2	303.00'	8.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=16.56 cfs @ 12.09 hrs HW=304.16' (Free Discharge)

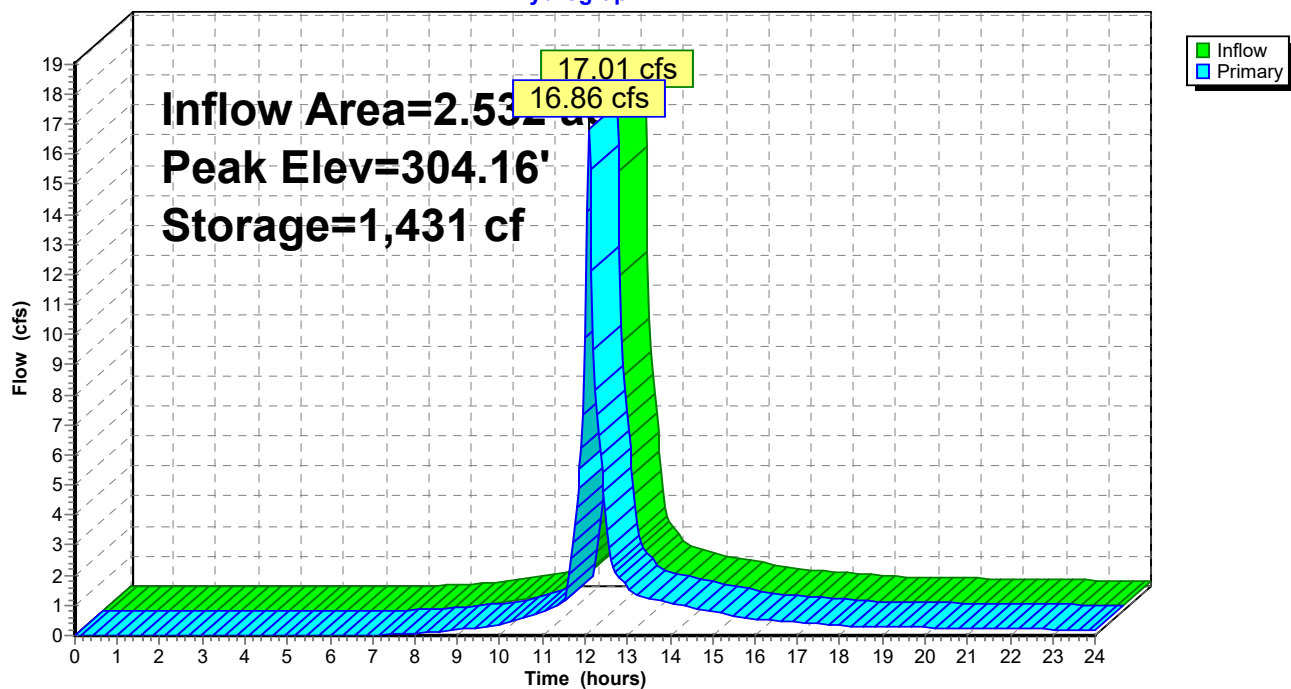
↑ **1=Emergency Weir** (Weir Controls 14.75 cfs @ 2.86 fps)

↑ **2=Culvert** (Passes 1.81 cfs of 4.70 cfs potential flow)

↑ **3=Orifice/Grate** (Orifice Controls 1.81 cfs @ 5.18 fps)

Pond 42P: Fire Pond

Hydrograph



Stage-Area-Storage for Pond 42P: Fire Pond

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
303.00	1,080	0	304.06	1,356	1,289
303.02	1,085	22	304.08	1,362	1,316
303.04	1,090	43	304.10	1,369	1,343
303.06	1,095	65	304.12	1,375	1,371
303.08	1,100	87	304.14	1,382	1,398
303.10	1,106	109	304.16	1,388	1,426
303.12	1,111	131	304.18	1,395	1,454
303.14	1,116	154	304.20	1,402	1,482
303.16	1,121	176	304.22	1,408	1,510
303.18	1,126	199	304.24	1,415	1,538
303.20	1,131	221	304.26	1,421	1,566
303.22	1,136	244	304.28	1,428	1,595
303.24	1,141	267	304.30	1,434	1,624
303.26	1,147	289	304.32	1,441	1,652
303.28	1,152	312	304.34	1,448	1,681
303.30	1,157	336	304.36	1,454	1,710
303.32	1,162	359	304.38	1,461	1,739
303.34	1,167	382	304.40	1,467	1,769
303.36	1,172	405	304.42	1,474	1,798
303.38	1,177	429	304.44	1,480	1,828
303.40	1,182	452	304.46	1,487	1,857
303.42	1,188	476	304.48	1,493	1,887
303.44	1,193	500	304.50	1,500	1,917
303.46	1,198	524			
303.48	1,203	548			
303.50	1,208	572			
303.52	1,213	596			
303.54	1,218	621			
303.56	1,223	645			
303.58	1,228	669			
303.60	1,234	694			
303.62	1,239	719			
303.64	1,244	744			
303.66	1,249	769			
303.68	1,254	794			
303.70	1,259	819			
303.72	1,264	844			
303.74	1,269	869			
303.76	1,275	895			
303.78	1,280	920			
303.80	1,285	946			
303.82	1,290	972			
303.84	1,295	998			
303.86	1,300	1,023			
303.88	1,305	1,050			
303.90	1,310	1,076			
303.92	1,316	1,102			
303.94	1,321	1,128			
303.96	1,326	1,155			
303.98	1,331	1,181			
304.00	1,336	1,208			
304.02	1,343	1,235			
304.04	1,349	1,262			

Summary for Pond 43P: RS L5R

Inflow Area = 0.045 ac, 100.00% Impervious, Inflow Depth > 8.54" for 100 yr event
 Inflow = 0.39 cfs @ 12.07 hrs, Volume= 0.032 af
 Outflow = 0.37 cfs @ 12.10 hrs, Volume= 0.029 af, Atten= 5%, Lag= 1.5 min
 Discarded = 0.01 cfs @ 12.10 hrs, Volume= 0.012 af
 Primary = 0.36 cfs @ 12.10 hrs, Volume= 0.017 af
 Routed to Reach 41R : Reach L5R

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.04 hrs
 Peak Elev= 290.57' @ 12.10 hrs Surf.Area= 189 sf Storage= 242 cf

Plug-Flow detention time= 100.7 min calculated for 0.029 af (91% of inflow)
 Center-of-Mass det. time= 53.9 min (792.7 - 738.8)

Volume	Invert	Avail.Storage	Storage Description
#1A	288.50'	88 cf	10.50'W x 18.00'L x 2.50'H Field A 473 cf Overall - 253 cf Embedded = 219 cf x 40.0% Voids
#2A	289.00'	181 cf	Concrete Galley 4x8x2 x 4 Inside #1 Inside= 42.0"W x 21.0"H => 6.04 sf x 7.50'L = 45.3 cf Outside= 48.0"W x 24.0"H => 7.92 sf x 8.00'L = 63.4 cf 4 Chambers in 2 Rows
		269 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	290.17'	6.0" Round Culvert L= 13.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 290.17' / 289.00' S= 0.0900 ' S= 0.0900 ' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.20 sf
#2	Discarded	288.50'	1.020 in/hr Exfiltration over Surface area Conductivity to Groundwater Elevation = 286.50'

Discarded OutFlow Max=0.01 cfs @ 12.10 hrs HW=290.57' (Free Discharge)
 ↑ **2=Exfiltration** (Controls 0.01 cfs)

Primary OutFlow Max=0.36 cfs @ 12.10 hrs HW=290.57' (Free Discharge)
 ↑ **1=Culvert** (Inlet Controls 0.36 cfs @ 2.14 fps)

Pond 43P: RS L5R - Chamber Wizard Field A

Chamber Model = Concrete Galley 4x8x2 (Concrete Galley, UCPI 24" Low Profile Galley or equivalent)

Inside= 42.0"W x 21.0"H => 6.04 sf x 7.50'L = 45.3 cf

Outside= 48.0"W x 24.0"H => 7.92 sf x 8.00'L = 63.4 cf

48.0" Wide + 6.0" Spacing = 54.0" C-C Row Spacing

2 Chambers/Row x 8.00' Long = 16.00' Row Length +12.0" End Stone x 2 = 18.00' Base Length

2 Rows x 48.0" Wide + 6.0" Spacing x 1 + 12.0" Side Stone x 2 = 10.50' Base Width

6.0" Stone Base + 24.0" Chamber Height = 2.50' Field Height

4 Chambers x 45.3 cf = 181.2 cf Chamber Storage

4 Chambers x 63.4 cf = 253.4 cf Displacement

472.5 cf Field - 253.4 cf Chambers = 219.1 cf Stone x 40.0% Voids = 87.6 cf Stone Storage

Chamber Storage + Stone Storage = 268.8 cf = 0.006 af

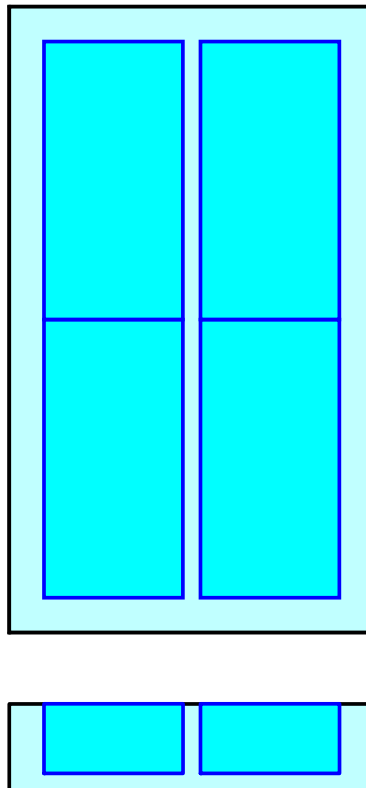
Overall Storage Efficiency = 56.9%

Overall System Size = 18.00' x 10.50' x 2.50'

4 Chambers

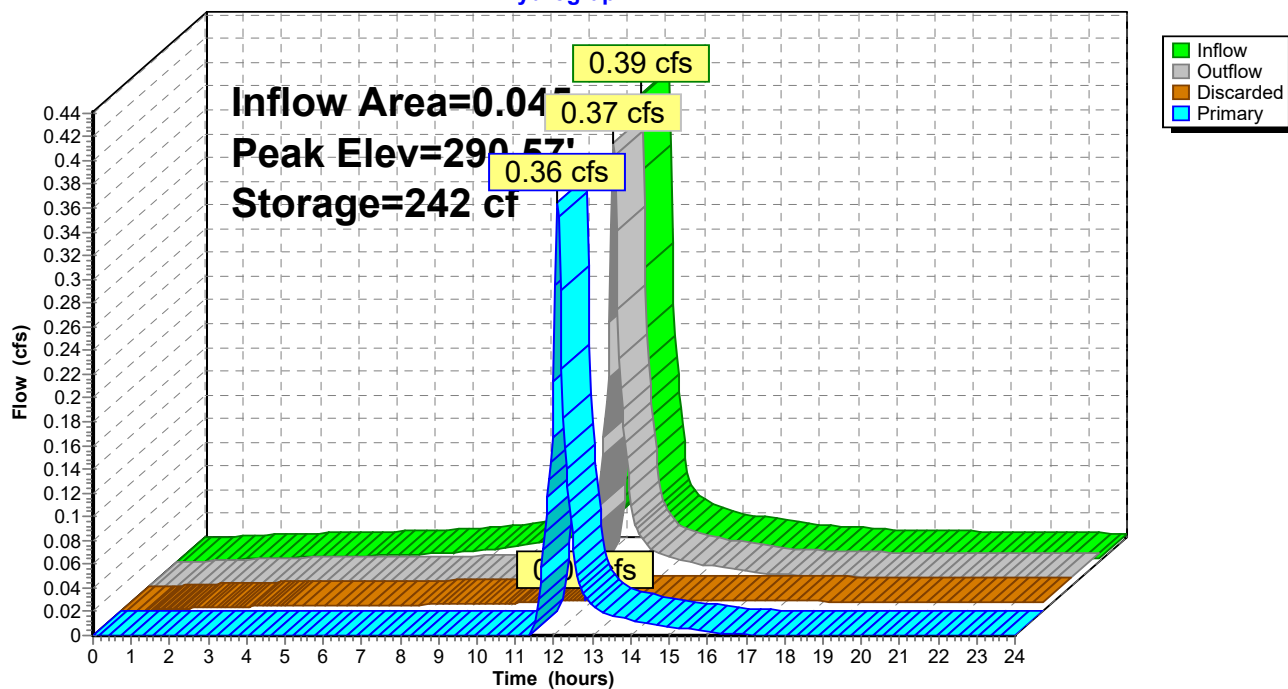
17.5 cy Field

8.1 cy Stone



Pond 43P: RS L5R

Hydrograph



Stage-Area-Storage for Pond 43P: RS L5R

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
288.50	189	0
288.55	189	4
288.60	189	8
288.65	189	11
288.70	189	15
288.75	189	19
288.80	189	23
288.85	189	26
288.90	189	30
288.95	189	34
289.00	189	38
289.05	189	44
289.10	189	51
289.15	189	57
289.20	189	64
289.25	189	70
289.30	189	77
289.35	189	83
289.40	189	90
289.45	189	96
289.50	189	103
289.55	189	109
289.60	189	116
289.65	189	122
289.70	189	129
289.75	189	135
289.80	189	142
289.85	189	148
289.90	189	155
289.95	189	161
290.00	189	168
290.05	189	174
290.10	189	181
290.15	189	187
290.20	189	194
290.25	189	200
290.30	189	207
290.35	189	213
290.40	189	220
290.45	189	226
290.50	189	233
290.55	189	239
290.60	189	245
290.65	189	251
290.70	189	257
290.75	189	263
290.80	189	264
290.85	189	265
290.90	189	266
290.95	189	268
291.00	189	269

Summary for Pond 44P: RS L3

Inflow Area = 0.022 ac, 100.00% Impervious, Inflow Depth > 8.54" for 100 yr event
 Inflow = 0.20 cfs @ 12.07 hrs, Volume= 0.016 af
 Outflow = 0.08 cfs @ 12.26 hrs, Volume= 0.014 af, Atten= 58%, Lag= 11.2 min
 Discarded = 0.01 cfs @ 12.26 hrs, Volume= 0.012 af
 Primary = 0.07 cfs @ 12.26 hrs, Volume= 0.003 af
 Routed to Link 38L : POC 3 (Monroe Turnpike)

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.04 hrs
 Peak Elev= 263.06' @ 12.26 hrs Surf.Area= 204 sf Storage= 253 cf

Plug-Flow detention time= 184.2 min calculated for 0.014 af (89% of inflow)
 Center-of-Mass det. time= 132.4 min (871.2 - 738.8)

Volume	Invert	Avail.Storage	Storage Description
#1A	261.00'	103 cf	6.00'W x 34.00'L x 2.50'H Field A 510 cf Overall - 253 cf Embedded = 257 cf x 40.0% Voids
#2A	261.50'	181 cf	Concrete Galley 4x8x2 x 4 Inside #1 Inside= 42.0"W x 21.0"H => 6.04 sf x 7.50'L = 45.3 cf Outside= 48.0"W x 24.0"H => 7.92 sf x 8.00'L = 63.4 cf
		284 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	262.90'	6.0" Round Culvert L= 101.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 262.90' / 248.36' S= 0.1440 '/ Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.20 sf
#2	Discarded	261.00'	1.020 in/hr Exfiltration over Surface area Conductivity to Groundwater Elevation = 259.00'

Discarded OutFlow Max=0.01 cfs @ 12.26 hrs HW=263.06' (Free Discharge)

↑**2=Exfiltration** (Controls 0.01 cfs)

Primary OutFlow Max=0.07 cfs @ 12.26 hrs HW=263.06' (Free Discharge)

↑**1=Culvert** (Inlet Controls 0.07 cfs @ 1.35 fps)

Pond 44P: RS L3 - Chamber Wizard Field A

Chamber Model = Concrete Galley 4x8x2 (Concrete Galley, UCPI 24" Low Profile Galley or equivalent)

Inside= 42.0"W x 21.0"H => 6.04 sf x 7.50'L = 45.3 cf

Outside= 48.0"W x 24.0"H => 7.92 sf x 8.00'L = 63.4 cf

4 Chambers/Row x 8.00' Long = 32.00' Row Length +12.0" End Stone x 2 = 34.00' Base Length

1 Rows x 48.0" Wide + 12.0" Side Stone x 2 = 6.00' Base Width

6.0" Stone Base + 24.0" Chamber Height = 2.50' Field Height

4 Chambers x 45.3 cf = 181.2 cf Chamber Storage

4 Chambers x 63.4 cf = 253.4 cf Displacement

510.0 cf Field - 253.4 cf Chambers = 256.6 cf Stone x 40.0% Voids = 102.6 cf Stone Storage

Chamber Storage + Stone Storage = 283.8 cf = 0.007 af

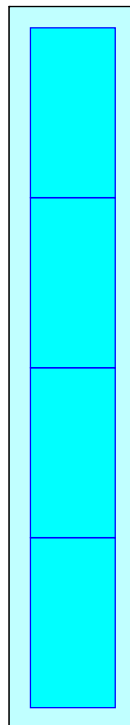
Overall Storage Efficiency = 55.7%

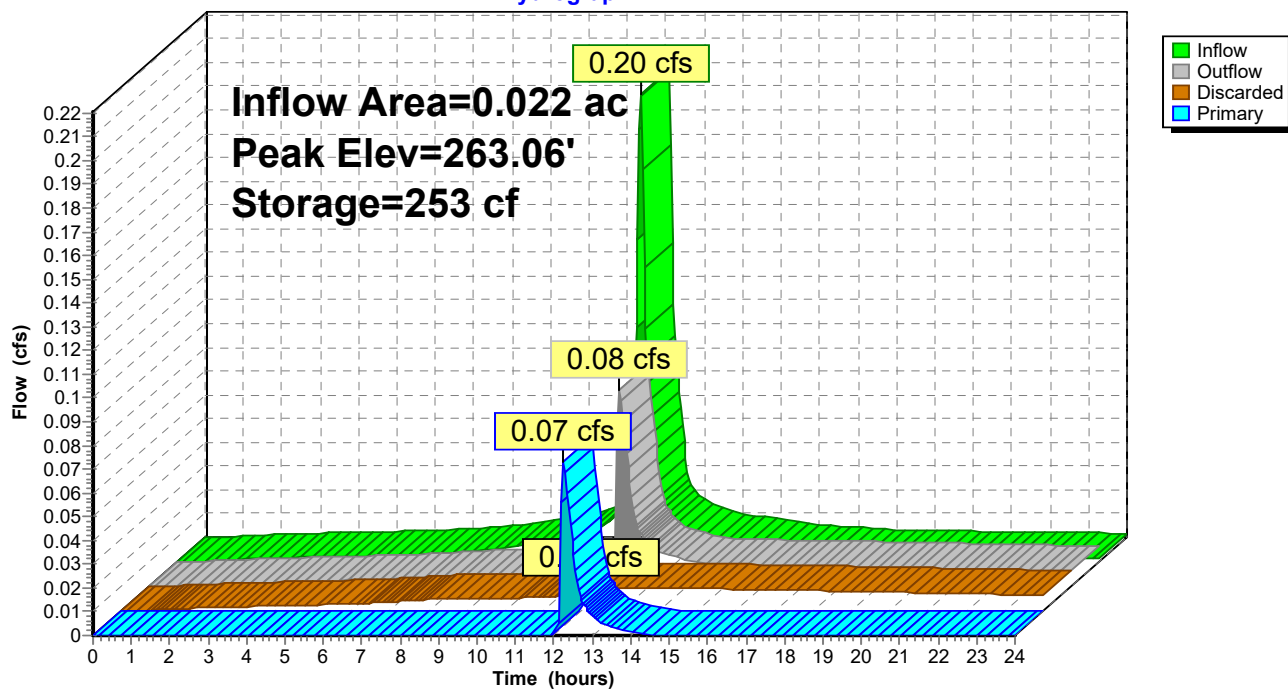
Overall System Size = 34.00' x 6.00' x 2.50'

4 Chambers

18.9 cy Field

9.5 cy Stone



Pond 44P: RS L3**Hydrograph**

Stage-Area-Storage for Pond 44P: RS L3

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
261.00	204	0
261.05	204	4
261.10	204	8
261.15	204	12
261.20	204	16
261.25	204	20
261.30	204	24
261.35	204	29
261.40	204	33
261.45	204	37
261.50	204	41
261.55	204	48
261.60	204	54
261.65	204	61
261.70	204	68
261.75	204	75
261.80	204	82
261.85	204	88
261.90	204	95
261.95	204	102
262.00	204	109
262.05	204	116
262.10	204	122
262.15	204	129
262.20	204	136
262.25	204	143
262.30	204	150
262.35	204	156
262.40	204	163
262.45	204	170
262.50	204	177
262.55	204	184
262.60	204	190
262.65	204	197
262.70	204	204
262.75	204	211
262.80	204	217
262.85	204	224
262.90	204	231
262.95	204	238
263.00	204	245
263.05	204	251
263.10	204	258
263.15	204	264
263.20	204	270
263.25	204	276
263.30	204	278
263.35	204	279
263.40	204	281
263.45	204	282
263.50	204	284

Summary for Pond 45P: RS L6

Inflow Area = 0.088 ac, 59.41% Impervious, Inflow Depth > 6.72" for 100 yr event
 Inflow = 0.59 cfs @ 12.14 hrs, Volume= 0.049 af
 Outflow = 0.23 cfs @ 12.43 hrs, Volume= 0.042 af, Atten= 60%, Lag= 17.8 min
 Discarded = 0.03 cfs @ 12.43 hrs, Volume= 0.031 af
 Primary = 0.20 cfs @ 12.43 hrs, Volume= 0.011 af
 Routed to Pond 20P : Detention Basin #1 (North)

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.04 hrs
 Peak Elev= 302.45' @ 12.43 hrs Surf.Area= 686 sf Storage= 831 cf

Plug-Flow detention time= 189.1 min calculated for 0.042 af (86% of inflow)
 Center-of-Mass det. time= 128.2 min (923.3 - 795.1)

Volume	Invert	Avail.Storage	Storage Description
#1A	300.50'	193 cf	6.00'W x 66.00'L x 2.50'H Field A 990 cf Overall - 507 cf Embedded = 483 cf x 40.0% Voids
#2A	301.00'	362 cf	Concrete Galley 4x8x2 x 8 Inside #1 Inside= 42.0"W x 21.0"H => 6.04 sf x 7.50'L = 45.3 cf Outside= 48.0"W x 24.0"H => 7.92 sf x 8.00'L = 63.4 cf
#3B	300.50'	113 cf	5.00'W x 58.00'L x 2.50'H Field B 725 cf Overall - 444 cf Embedded = 281 cf x 40.0% Voids
#4B	301.00'	317 cf	Concrete Galley 4x8x2 x 7 Inside #3 Inside= 42.0"W x 21.0"H => 6.04 sf x 7.50'L = 45.3 cf Outside= 48.0"W x 24.0"H => 7.92 sf x 8.00'L = 63.4 cf
		985 cf	Total Available Storage

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

Device	Routing	Invert	Outlet Devices
#1	Primary	302.17'	6.0" Round Culvert L= 101.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 302.17' / 287.93' S= 0.1410 1' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.20 sf
#2	Discarded	300.50'	1.020 in/hr Exfiltration over Surface area Conductivity to Groundwater Elevation = 298.00'

Discarded OutFlow Max=0.03 cfs @ 12.43 hrs HW=302.45' (Free Discharge)
 ↑**2=Exfiltration** (Controls 0.03 cfs)

Primary OutFlow Max=0.20 cfs @ 12.43 hrs HW=302.45' (Free Discharge)
 ↑**1=Culvert** (Inlet Controls 0.20 cfs @ 1.80 fps)

Pond 45P: RS L6 - Chamber Wizard Field A

Chamber Model = Concrete Galley 4x8x2 (Concrete Galley, UCPI 24" Low Profile Galley or equivalent)

Inside= 42.0"W x 21.0"H => 6.04 sf x 7.50'L = 45.3 cf

Outside= 48.0"W x 24.0"H => 7.92 sf x 8.00'L = 63.4 cf

8 Chambers/Row x 8.00' Long = 64.00' Row Length +12.0" End Stone x 2 = 66.00' Base Length

1 Rows x 48.0" Wide + 12.0" Side Stone x 2 = 6.00' Base Width

6.0" Stone Base + 24.0" Chamber Height = 2.50' Field Height

8 Chambers x 45.3 cf = 362.4 cf Chamber Storage

8 Chambers x 63.4 cf = 506.9 cf Displacement

990.0 cf Field - 506.9 cf Chambers = 483.1 cf Stone x 40.0% Voids = 193.2 cf Stone Storage

Chamber Storage + Stone Storage = 555.6 cf = 0.013 af

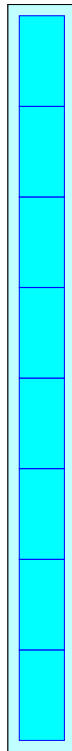
Overall Storage Efficiency = 56.1%

Overall System Size = 66.00' x 6.00' x 2.50'

8 Chambers

36.7 cy Field

17.9 cy Stone



Pond 45P: RS L6 - Chamber Wizard Field B

Chamber Model = Concrete Galley 4x8x2 (Concrete Galley, UCPI 24" Low Profile Galley or equivalent)

Inside= 42.0"W x 21.0"H => 6.04 sf x 7.50'L = 45.3 cf

Outside= 48.0"W x 24.0"H => 7.92 sf x 8.00'L = 63.4 cf

7 Chambers/Row x 8.00' Long = 56.00' Row Length +12.0" End Stone x 2 = 58.00' Base Length

1 Rows x 48.0" Wide + 6.0" Side Stone x 2 = 5.00' Base Width

6.0" Stone Base + 24.0" Chamber Height = 2.50' Field Height

7 Chambers x 45.3 cf = 317.1 cf Chamber Storage

7 Chambers x 63.4 cf = 443.5 cf Displacement

725.0 cf Field - 443.5 cf Chambers = 281.5 cf Stone x 40.0% Voids = 112.6 cf Stone Storage

Chamber Storage + Stone Storage = 429.7 cf = 0.010 af

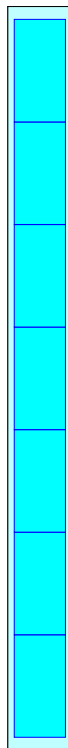
Overall Storage Efficiency = 59.3%

Overall System Size = 58.00' x 5.00' x 2.50'

7 Chambers

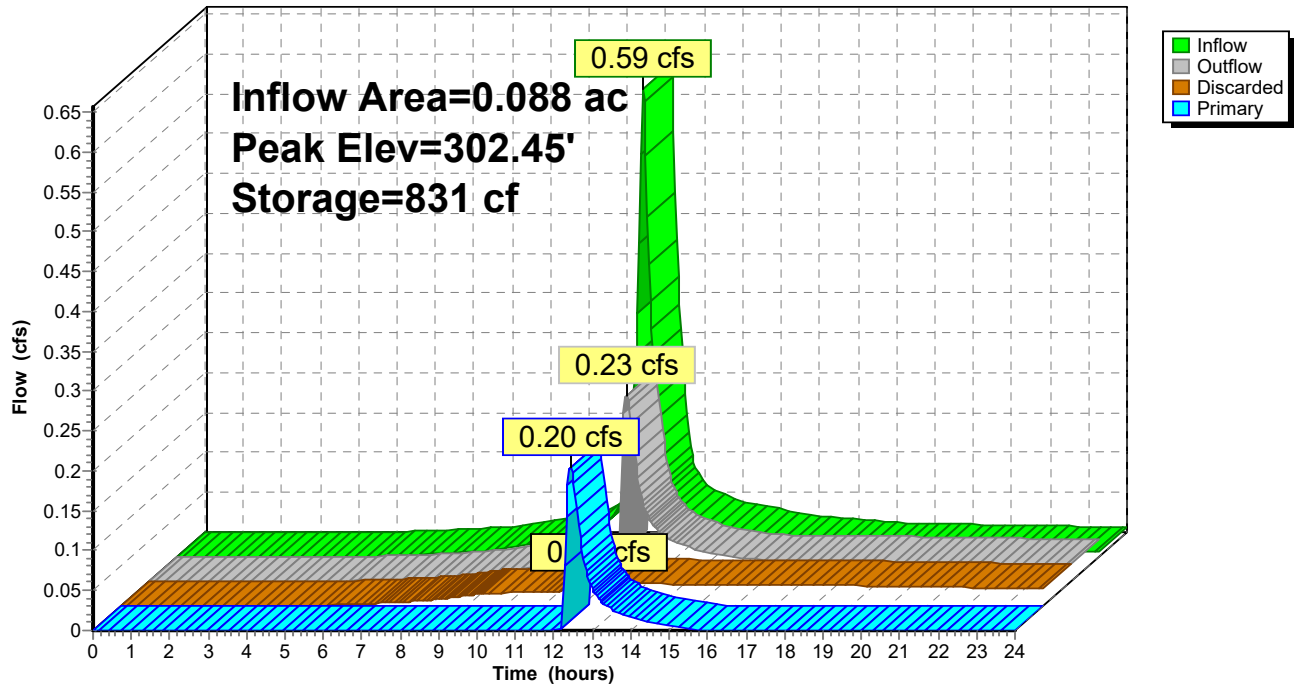
26.9 cy Field

10.4 cy Stone



Pond 45P: RS L6

Hydrograph



Stage-Area-Storage for Pond 45P: RS L6

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
300.50	686	0
300.55	686	14
300.60	686	27
300.65	686	41
300.70	686	55
300.75	686	69
300.80	686	82
300.85	686	96
300.90	686	110
300.95	686	123
301.00	686	137
301.05	686	161
301.10	686	185
301.15	686	209
301.20	686	233
301.25	686	257
301.30	686	281
301.35	686	305
301.40	686	328
301.45	686	352
301.50	686	376
301.55	686	400
301.60	686	424
301.65	686	448
301.70	686	472
301.75	686	496
301.80	686	520
301.85	686	544
301.90	686	567
301.95	686	591
302.00	686	615
302.05	686	639
302.10	686	663
302.15	686	687
302.20	686	711
302.25	686	735
302.30	686	759
302.35	686	783
302.40	686	806
302.45	686	830
302.50	686	854
302.55	686	878
302.60	686	901
302.65	686	922
302.70	686	943
302.75	686	964
302.80	686	968
302.85	686	973
302.90	686	977
302.95	686	981
303.00	686	985

Summary for Pond 46P: Detention Basin #3 (Entrance)

Inflow Area = 2.532 ac, 0.00% Impervious, Inflow Depth > 5.61" for 100 yr event
 Inflow = 16.86 cfs @ 12.09 hrs, Volume= 1.185 af
 Outflow = 16.79 cfs @ 12.09 hrs, Volume= 1.170 af, Atten= 0%, Lag= 0.3 min
 Discarded = 0.01 cfs @ 12.09 hrs, Volume= 0.014 af
 Primary = 16.78 cfs @ 12.09 hrs, Volume= 1.155 af
 Routed to Link 39L : POC 4 (Culvert Under Monroe Turnpike)

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.04 hrs
 Peak Elev= 280.17' @ 12.09 hrs Surf.Area= 701 sf Storage= 1,067 cf

Plug-Flow detention time= 12.2 min calculated for 1.168 af (99% of inflow)
 Center-of-Mass det. time= 4.5 min (819.3 - 814.8)

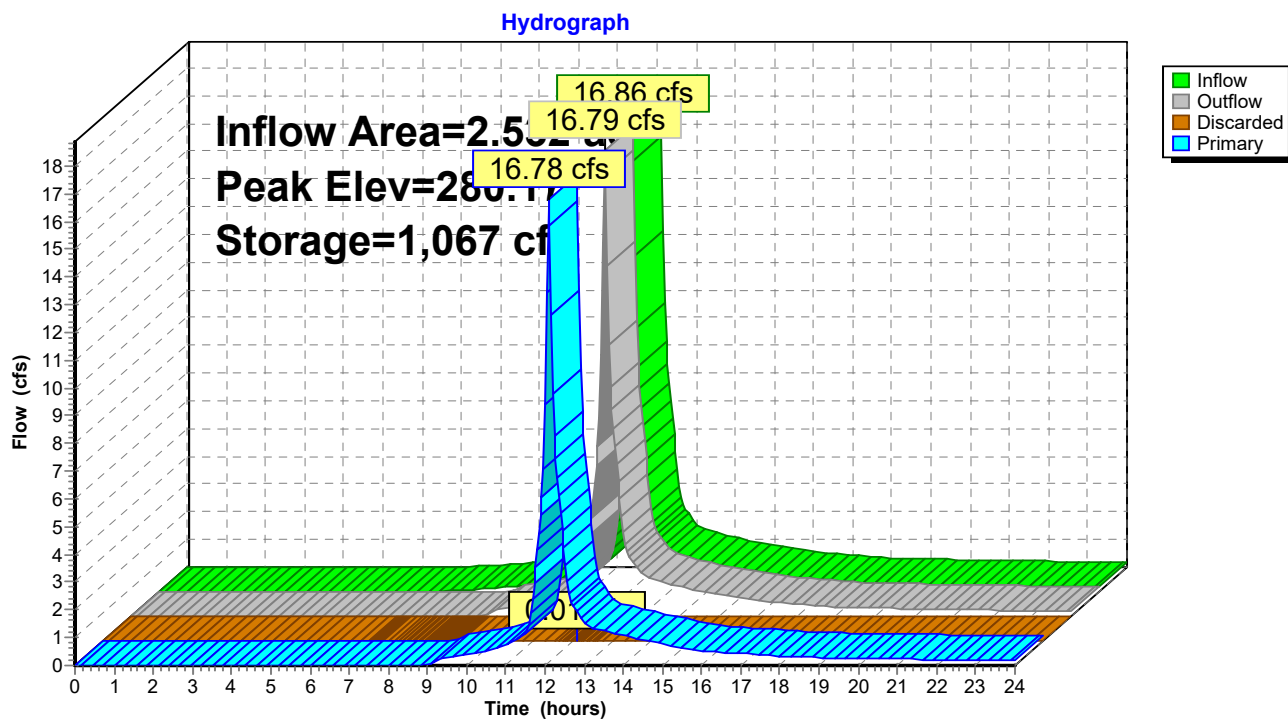
Volume	Invert	Avail.Storage	Storage Description
#1	278.00'	1,739 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
278.00	295	0	0
280.00	659	954	954
281.00	910	785	1,739

Device	Routing	Invert	Outlet Devices
#1	Primary	279.50'	10.0' long (Profile 26) Broad-Crested Rectangular Weir Head (feet) 0.49 0.98 1.48 Coef. (English) 3.06 3.13 3.13
#2	Discarded	278.00'	0.520 in/hr Exfiltration over Surface area Conductivity to Groundwater Elevation = 276.00'

Discarded OutFlow Max=0.01 cfs @ 12.09 hrs HW=280.16' (Free Discharge)
 ↑**2=Exfiltration** (Controls 0.01 cfs)

Primary OutFlow Max=16.36 cfs @ 12.09 hrs HW=280.16' (Free Discharge)
 ↑**1=Broad-Crested Rectangular Weir** (Weir Controls 16.36 cfs @ 2.50 fps)

Pond 46P: Detention Basin #3 (Entrance)

Stage-Area-Storage for Pond 46P: Detention Basin #3 (Entrance)

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
278.00	295	0	280.65	822	1,435
278.05	304	15	280.70	835	1,477
278.10	313	30	280.75	847	1,519
278.15	322	46	280.80	860	1,562
278.20	331	63	280.85	872	1,605
278.25	341	79	280.90	885	1,649
278.30	350	97	280.95	897	1,693
278.35	359	114	281.00	910	1,739
278.40	368	133			
278.45	377	151			
278.50	386	170			
278.55	395	190			
278.60	404	210			
278.65	413	230			
278.70	422	251			
278.75	432	272			
278.80	441	294			
278.85	450	316			
278.90	459	339			
278.95	468	362			
279.00	477	386			
279.05	486	410			
279.10	495	435			
279.15	504	460			
279.20	513	485			
279.25	523	511			
279.30	532	537			
279.35	541	564			
279.40	550	591			
279.45	559	619			
279.50	568	647			
279.55	577	676			
279.60	586	705			
279.65	595	734			
279.70	604	764			
279.75	614	795			
279.80	623	826			
279.85	632	857			
279.90	641	889			
279.95	650	921			
280.00	659	954			
280.05	672	987			
280.10	684	1,021			
280.15	697	1,056			
280.20	709	1,091			
280.25	722	1,127			
280.30	734	1,163			
280.35	747	1,200			
280.40	759	1,238			
280.45	772	1,276			
280.50	785	1,315			
280.55	797	1,354			
280.60	810	1,395			

Summary for Pond 47P: RS L1

Inflow Area = 0.290 ac, 35.75% Impervious, Inflow Depth > 6.23" for 100 yr event
 Inflow = 2.13 cfs @ 12.08 hrs, Volume= 0.151 af
 Outflow = 2.57 cfs @ 12.08 hrs, Volume= 0.137 af, Atten= 0%, Lag= 0.2 min
 Discarded = 0.05 cfs @ 12.08 hrs, Volume= 0.038 af
 Primary = 2.52 cfs @ 12.08 hrs, Volume= 0.100 af
 Routed to Link 38L : POC 3 (Monroe Turnpike)

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.04 hrs
 Peak Elev= 284.09' @ 12.08 hrs Surf.Area= 686 sf Storage= 985 cf

Plug-Flow detention time= 71.5 min calculated for 0.137 af (91% of inflow)
 Center-of-Mass det. time= 27.2 min (827.5 - 800.4)

Volume	Invert	Avail.Storage	Storage Description
#1A	280.00'	193 cf	6.00'W x 66.00'L x 2.50'H Field A 990 cf Overall - 507 cf Embedded = 483 cf x 40.0% Voids
#2A	280.50'	362 cf	Concrete Galley 4x8x2 x 8 Inside #1 Inside= 42.0"W x 21.0"H => 6.04 sf x 7.50'L = 45.3 cf Outside= 48.0"W x 24.0"H => 7.92 sf x 8.00'L = 63.4 cf
#3B	280.00'	113 cf	5.00'W x 58.00'L x 2.50'H Field B 725 cf Overall - 444 cf Embedded = 281 cf x 40.0% Voids
#4B	280.50'	317 cf	Concrete Galley 4x8x2 x 7 Inside #3 Inside= 42.0"W x 21.0"H => 6.04 sf x 7.50'L = 45.3 cf Outside= 48.0"W x 24.0"H => 7.92 sf x 8.00'L = 63.4 cf
		985 cf	Total Available Storage

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

Device	Routing	Invert	Outlet Devices
#1	Primary	281.50'	8.0" Round Culvert L= 15.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 281.50' / 279.83' S= 0.1113 '/ Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.35 sf
#2	Discarded	280.00'	1.020 in/hr Exfiltration over Surface area Conductivity to Groundwater Elevation = 278.00'

Discarded OutFlow Max=0.05 cfs @ 12.08 hrs HW=284.06' (Free Discharge)
 ↳ **2=Exfiltration** (Controls 0.05 cfs)

Primary OutFlow Max=2.50 cfs @ 12.08 hrs HW=284.05' (Free Discharge)
 ↳ **1=Culvert** (Inlet Controls 2.50 cfs @ 7.18 fps)

Pond 47P: RS L1 - Chamber Wizard Field A

Chamber Model = Concrete Galley 4x8x2 (Concrete Galley, UCPI 24" Low Profile Galley or equivalent)

Inside= 42.0"W x 21.0"H => 6.04 sf x 7.50'L = 45.3 cf

Outside= 48.0"W x 24.0"H => 7.92 sf x 8.00'L = 63.4 cf

8 Chambers/Row x 8.00' Long = 64.00' Row Length +12.0" End Stone x 2 = 66.00' Base Length

1 Rows x 48.0" Wide + 12.0" Side Stone x 2 = 6.00' Base Width

6.0" Stone Base + 24.0" Chamber Height = 2.50' Field Height

8 Chambers x 45.3 cf = 362.4 cf Chamber Storage

8 Chambers x 63.4 cf = 506.9 cf Displacement

990.0 cf Field - 506.9 cf Chambers = 483.1 cf Stone x 40.0% Voids = 193.2 cf Stone Storage

Chamber Storage + Stone Storage = 555.6 cf = 0.013 af

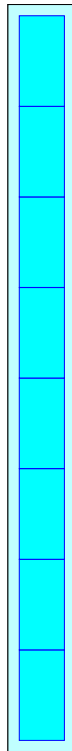
Overall Storage Efficiency = 56.1%

Overall System Size = 66.00' x 6.00' x 2.50'

8 Chambers

36.7 cy Field

17.9 cy Stone



Pond 47P: RS L1 - Chamber Wizard Field B

Chamber Model = Concrete Galley 4x8x2 (Concrete Galley, UCPI 24" Low Profile Galley or equivalent)

Inside= 42.0"W x 21.0"H => 6.04 sf x 7.50'L = 45.3 cf

Outside= 48.0"W x 24.0"H => 7.92 sf x 8.00'L = 63.4 cf

7 Chambers/Row x 8.00' Long = 56.00' Row Length +12.0" End Stone x 2 = 58.00' Base Length

1 Rows x 48.0" Wide + 6.0" Side Stone x 2 = 5.00' Base Width

6.0" Stone Base + 24.0" Chamber Height = 2.50' Field Height

7 Chambers x 45.3 cf = 317.1 cf Chamber Storage

7 Chambers x 63.4 cf = 443.5 cf Displacement

725.0 cf Field - 443.5 cf Chambers = 281.5 cf Stone x 40.0% Voids = 112.6 cf Stone Storage

Chamber Storage + Stone Storage = 429.7 cf = 0.010 af

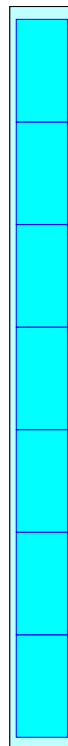
Overall Storage Efficiency = 59.3%

Overall System Size = 58.00' x 5.00' x 2.50'

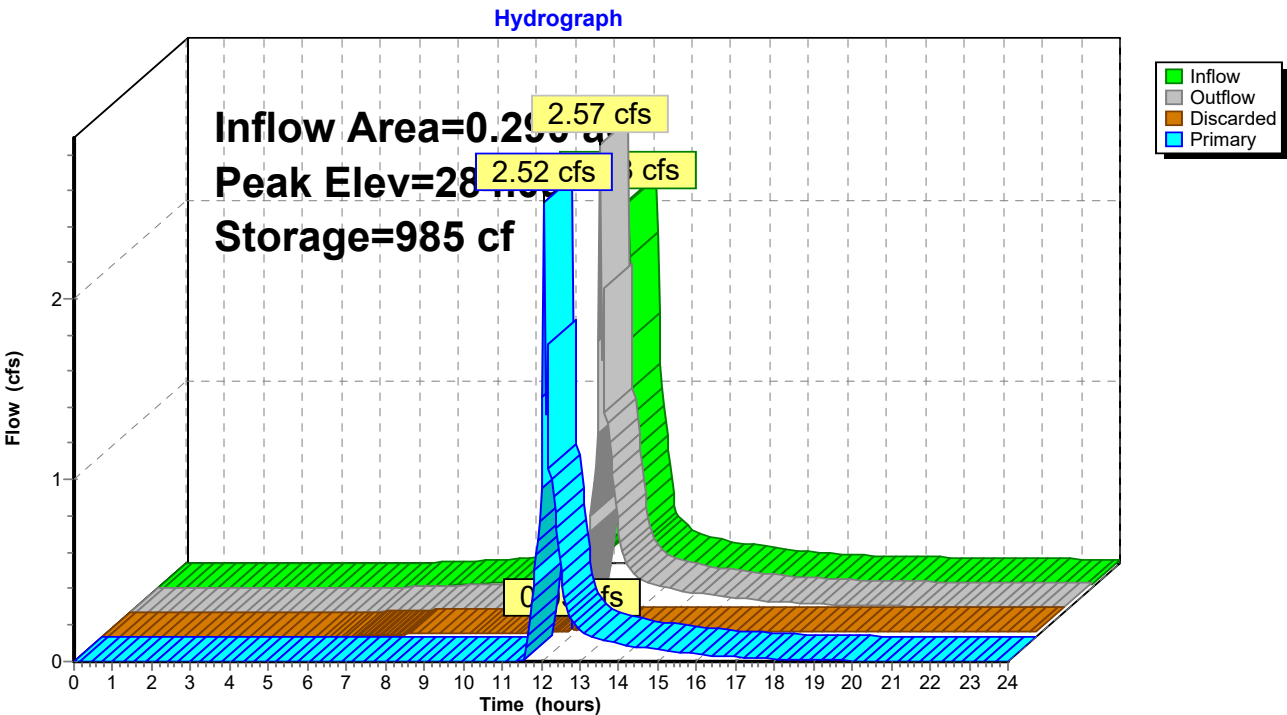
7 Chambers

26.9 cy Field

10.4 cy Stone



Pond 47P: RS L1



Stage-Area-Storage for Pond 47P: RS L1

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
280.00	686	0	282.65	686	985
280.05	686	14	282.70	686	985
280.10	686	27	282.75	686	985
280.15	686	41	282.80	686	985
280.20	686	55	282.85	686	985
280.25	686	69	282.90	686	985
280.30	686	82	282.95	686	985
280.35	686	96	283.00	686	985
280.40	686	110	283.05	686	985
280.45	686	123	283.10	686	985
280.50	686	137	283.15	686	985
280.55	686	161	283.20	686	985
280.60	686	185	283.25	686	985
280.65	686	209	283.30	686	985
280.70	686	233	283.35	686	985
280.75	686	257	283.40	686	985
280.80	686	281	283.45	686	985
280.85	686	305	283.50	686	985
280.90	686	328	283.55	686	985
280.95	686	352	283.60	686	985
281.00	686	376	283.65	686	985
281.05	686	400	283.70	686	985
281.10	686	424	283.75	686	985
281.15	686	448	283.80	686	985
281.20	686	472	283.85	686	985
281.25	686	496	283.90	686	985
281.30	686	520	283.95	686	985
281.35	686	544	284.00	686	985
281.40	686	567	284.05	686	985
281.45	686	591	284.10	686	985
281.50	686	615			
281.55	686	639			
281.60	686	663			
281.65	686	687			
281.70	686	711			
281.75	686	735			
281.80	686	759			
281.85	686	783			
281.90	686	806			
281.95	686	830			
282.00	686	854			
282.05	686	878			
282.10	686	901			
282.15	686	922			
282.20	686	943			
282.25	686	964			
282.30	686	968			
282.35	686	973			
282.40	686	977			
282.45	686	981			
282.50	686	985			
282.55	686	985			
282.60	686	985			

Summary for Pond 48P: RS L7

Inflow Area = 0.145 ac, 42.21% Impervious, Inflow Depth > 5.99" for 100 yr event
 Inflow = 0.96 cfs @ 12.10 hrs, Volume= 0.073 af
 Outflow = 1.02 cfs @ 12.13 hrs, Volume= 0.060 af, Atten= 0%, Lag= 1.5 min
 Discarded = 0.01 cfs @ 12.12 hrs, Volume= 0.017 af
 Primary = 1.01 cfs @ 12.13 hrs, Volume= 0.043 af
 Routed to Pond 20P : Detention Basin #1 (North)

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.04 hrs
 Peak Elev= 310.04' @ 12.12 hrs Surf.Area= 525 sf Storage= 764 cf

Plug-Flow detention time= 104.2 min calculated for 0.060 af (83% of inflow)
 Center-of-Mass det. time= 36.1 min (842.5 - 806.4)

Volume	Invert	Avail.Storage	Storage Description
#1A	307.00'	221 cf	10.50'W x 50.00'L x 2.50'H Field A 1,313 cf Overall - 760 cf Embedded = 552 cf x 40.0% Voids
#2A	307.50'	544 cf	Concrete Galley 4x8x2 x 12 Inside #1 Inside= 42.0"W x 21.0"H => 6.04 sf x 7.50'L = 45.3 cf Outside= 48.0"W x 24.0"H => 7.92 sf x 8.00'L = 63.4 cf 12 Chambers in 2 Rows
		764 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	308.67'	6.0" Round Culvert L= 56.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 308.67' / 294.05' S= 0.2611 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.20 sf
#2	Discarded	307.00'	1.020 in/hr Exfiltration over Surface area Conductivity to Groundwater Elevation = 259.00'

Discarded OutFlow Max=0.01 cfs @ 12.12 hrs HW=309.98' (Free Discharge)
 ↑ **2=Exfiltration** (Controls 0.01 cfs)

Primary OutFlow Max=0.97 cfs @ 12.13 hrs HW=309.97' (Free Discharge)
 ↑ **1=Culvert** (Inlet Controls 0.97 cfs @ 4.93 fps)

Pond 48P: RS L7 - Chamber Wizard Field A

Chamber Model = Concrete Galley 4x8x2 (Concrete Galley, UCPI 24" Low Profile Galley or equivalent)

Inside= 42.0"W x 21.0"H => 6.04 sf x 7.50'L = 45.3 cf

Outside= 48.0"W x 24.0"H => 7.92 sf x 8.00'L = 63.4 cf

48.0" Wide + 6.0" Spacing = 54.0" C-C Row Spacing

6 Chambers/Row x 8.00' Long = 48.00' Row Length +12.0" End Stone x 2 = 50.00' Base Length

2 Rows x 48.0" Wide + 6.0" Spacing x 1 + 12.0" Side Stone x 2 = 10.50' Base Width

6.0" Stone Base + 24.0" Chamber Height = 2.50' Field Height

12 Chambers x 45.3 cf = 543.6 cf Chamber Storage

12 Chambers x 63.4 cf = 760.3 cf Displacement

1,312.5 cf Field - 760.3 cf Chambers = 552.2 cf Stone x 40.0% Voids = 220.9 cf Stone Storage

Chamber Storage + Stone Storage = 764.5 cf = 0.018 af

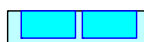
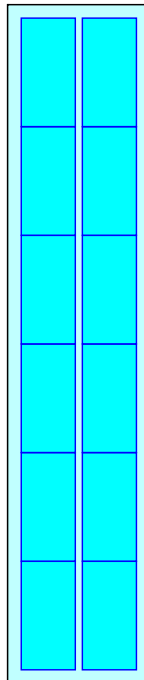
Overall Storage Efficiency = 58.2%

Overall System Size = 50.00' x 10.50' x 2.50'

12 Chambers

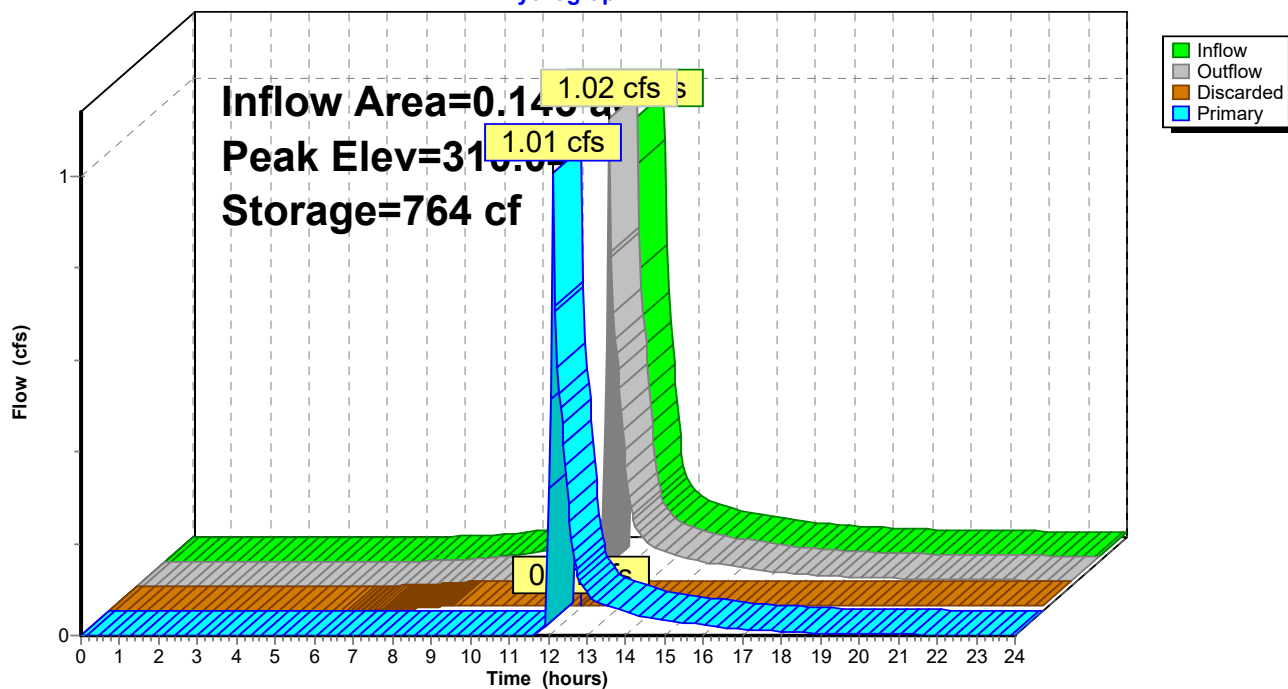
48.6 cy Field

20.5 cy Stone



Pond 48P: RS L7

Hydrograph



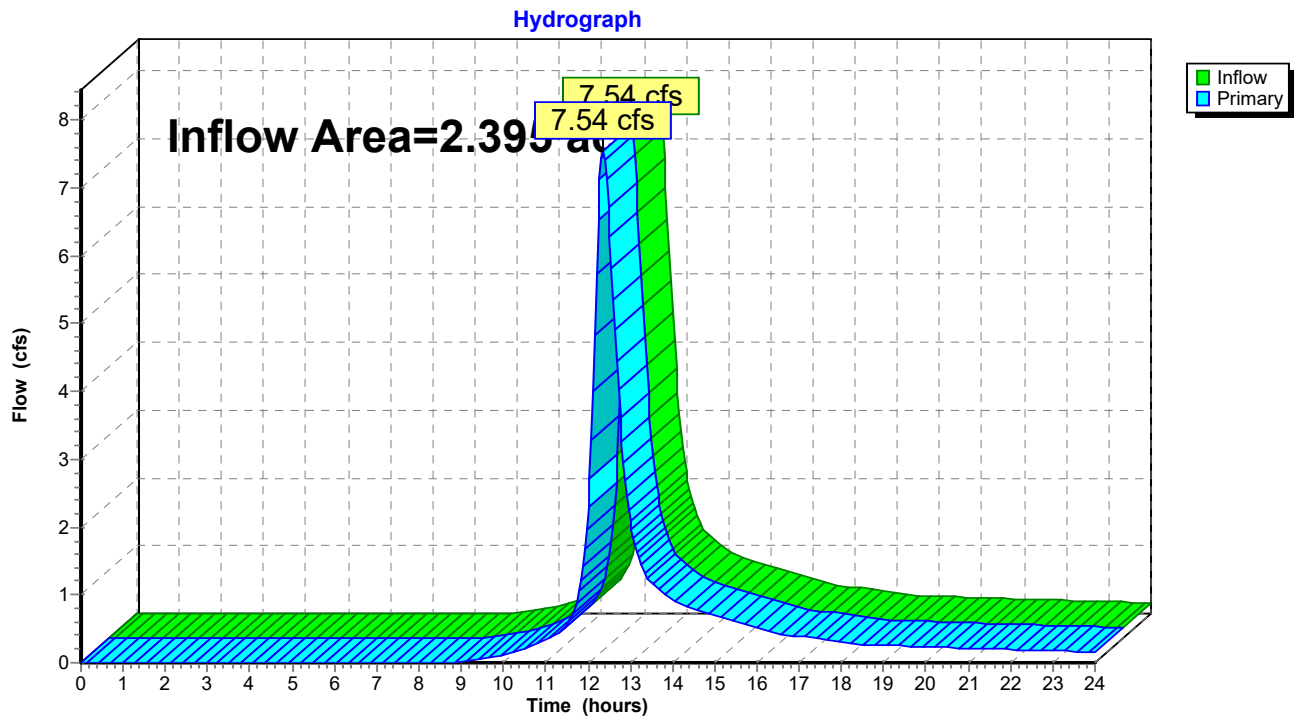
Stage-Area-Storage for Pond 48P: RS L7

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
307.00	525	0	309.65	525	764
307.05	525	11	309.70	525	764
307.10	525	21	309.75	525	764
307.15	525	31	309.80	525	764
307.20	525	42	309.85	525	764
307.25	525	53	309.90	525	764
307.30	525	63	309.95	525	764
307.35	525	74	310.00	525	764
307.40	525	84	310.05	525	764
307.45	525	94			
307.50	525	105			
307.55	525	124			
307.60	525	142			
307.65	525	161			
307.70	525	180			
307.75	525	198			
307.80	525	217			
307.85	525	236			
307.90	525	254			
307.95	525	273			
308.00	525	291			
308.05	525	310			
308.10	525	329			
308.15	525	347			
308.20	525	366			
308.25	525	385			
308.30	525	403			
308.35	525	422			
308.40	525	441			
308.45	525	459			
308.50	525	478			
308.55	525	497			
308.60	525	515			
308.65	525	534			
308.70	525	553			
308.75	525	571			
308.80	525	590			
308.85	525	608			
308.90	525	627			
308.95	525	646			
309.00	525	664			
309.05	525	683			
309.10	525	701			
309.15	525	717			
309.20	525	734			
309.25	525	750			
309.30	525	753			
309.35	525	756			
309.40	525	759			
309.45	525	762			
309.50	525	764			
309.55	525	764			
309.60	525	764			

Summary for Link 36L: POC 1 (Downs Road)

Inflow Area = 2.395 ac, 0.00% Impervious, Inflow Depth > 4.39" for 100 yr event
Inflow = 7.54 cfs @ 12.36 hrs, Volume= 0.876 af
Primary = 7.54 cfs @ 12.36 hrs, Volume= 0.876 af, Atten= 0%, Lag= 0.0 min

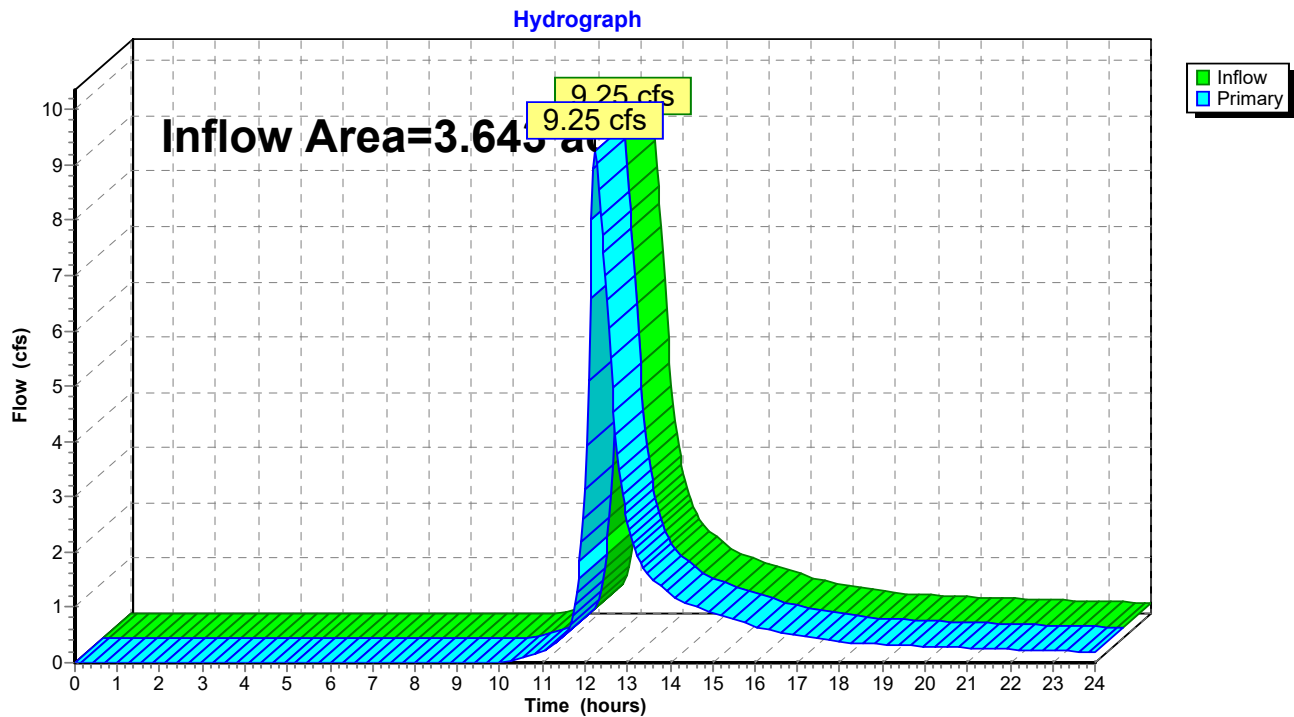
Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.04 hrs

Link 36L: POC 1 (Downs Road)

Summary for Link 37L: POC 2 (Cottage Street)

Inflow Area = 3.643 ac, 4.70% Impervious, Inflow Depth > 3.47" for 100 yr event
Inflow = 9.25 cfs @ 12.24 hrs, Volume= 1.054 af
Primary = 9.25 cfs @ 12.24 hrs, Volume= 1.054 af, Atten= 0%, Lag= 0.0 min

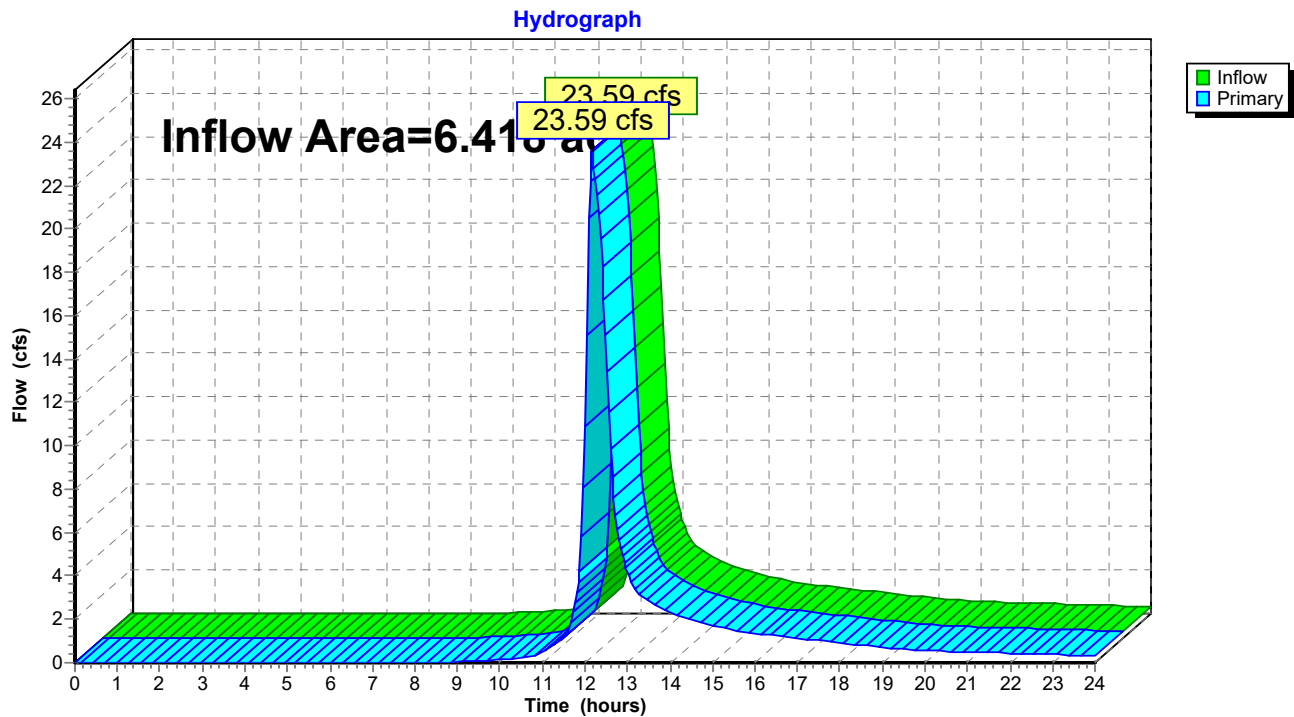
Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.04 hrs

Link 37L: POC 2 (Cottage Street)

Summary for Link 38L: POC 3 (Monroe Turnpike)

Inflow Area = 6.418 ac, 17.27% Impervious, Inflow Depth > 4.29" for 100 yr event
Inflow = 23.59 cfs @ 12.17 hrs, Volume= 2.295 af
Primary = 23.59 cfs @ 12.17 hrs, Volume= 2.295 af, Atten= 0%, Lag= 0.0 min

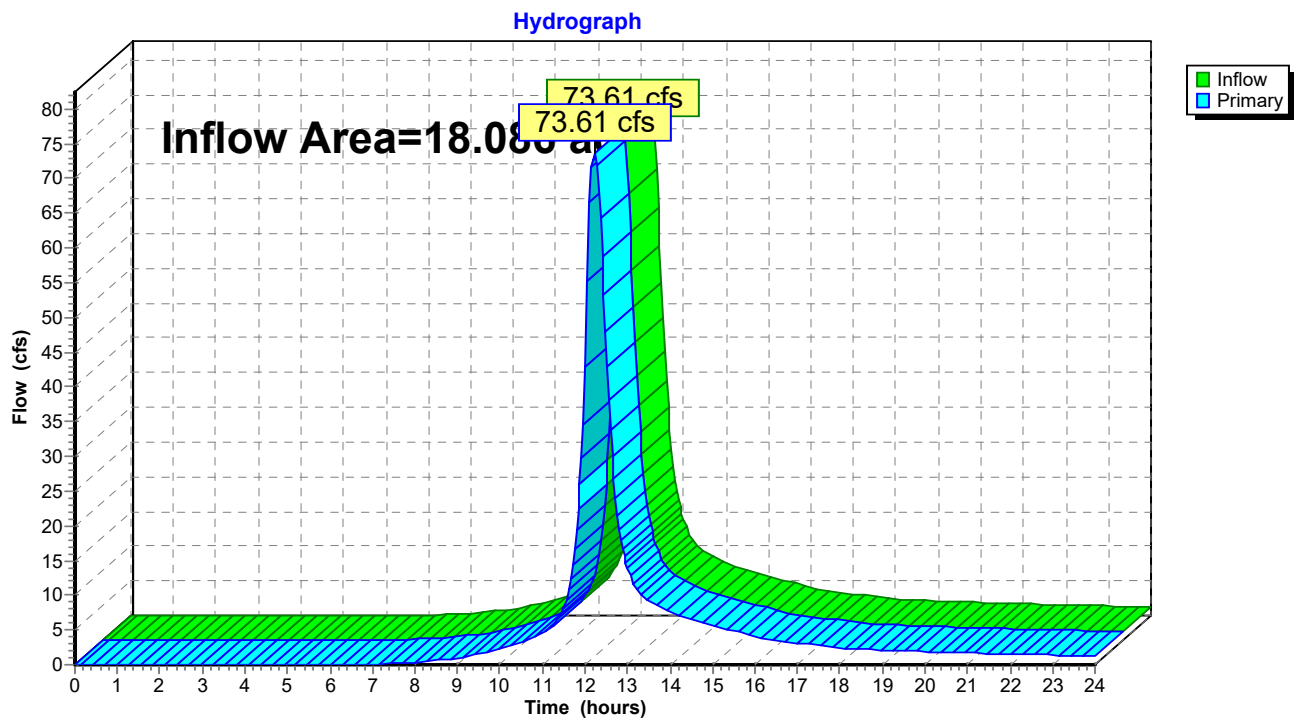
Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.04 hrs

Link 38L: POC 3 (Monroe Turnpike)

Summary for Link 39L: POC 4 (Culvert Under Monroe Turnpike)

Inflow Area = 18.086 ac, 2.23% Impervious, Inflow Depth > 5.49" for 100 yr event
Inflow = 73.61 cfs @ 12.24 hrs, Volume= 8.281 af
Primary = 73.61 cfs @ 12.24 hrs, Volume= 8.281 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.04 hrs

Link 39L: POC 4 (Culvert Under Monroe Turnpike)

Time span=0.00-24.00 hrs, dt=0.04 hrs, 601 points
 Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
 Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1S: Existing to POC 1	Runoff Area=114,074 sf 0.00% Impervious Runoff Depth>0.85" Flow Length=1,139' Tc=24.1 min CN=66 Runoff=1.42 cfs 0.185 af
Subcatchment2S: Existing to POC 2	Runoff Area=170,531 sf 0.00% Impervious Runoff Depth>0.38" Flow Length=773' Slope=0.1200 '/' Tc=16.4 min CN=55 Runoff=0.68 cfs 0.123 af
Subcatchment3S: Existing to POC 3	Runoff Area=426,344 sf 0.00% Impervious Runoff Depth>0.38" Flow Length=548' Tc=17.5 min CN=55 Runoff=1.66 cfs 0.308 af
Subcatchment4S: Existing to POC 4	Runoff Area=619,978 sf 0.00% Impervious Runoff Depth>1.31" Flow Length=648' Tc=12.4 min CN=74 Runoff=16.94 cfs 1.549 af
Subcatchment21S: Bypass 1	Runoff Area=138,078 sf 0.00% Impervious Runoff Depth>0.41" Flow Length=773' Slope=0.1200 '/' Tc=16.4 min CN=56 Runoff=0.64 cfs 0.109 af
Subcatchment22S: Bypass 2	Runoff Area=49,527 sf 0.00% Impervious Runoff Depth>1.31" Tc=5.0 min CN=74 Runoff=1.73 cfs 0.124 af
Subcatchment23S: Bypass 3	Runoff Area=104,321 sf 0.00% Impervious Runoff Depth>0.75" Flow Length=1,139' Tc=25.2 min CN=64 Runoff=1.08 cfs 0.150 af
Subcatchment24S: Road to Basin 1	Runoff Area=84,147 sf 20.22% Impervious Runoff Depth>0.96" Flow Length=300' Tc=16.3 min CN=68 Runoff=1.42 cfs 0.154 af
Subcatchment25S: Lot 1	Runoff Area=12,624 sf 35.75% Impervious Runoff Depth>1.64" Tc=5.0 min CN=79 Runoff=0.57 cfs 0.040 af
Subcatchment26S: Lot 2	Runoff Area=19,721 sf 23.25% Impervious Runoff Depth>0.90" Tc=12.0 min UI Adjusted CN=67 Runoff=0.34 cfs 0.034 af
Subcatchment27S: Lot 3	Runoff Area=19,293 sf 26.75% Impervious Runoff Depth>0.90" Tc=9.0 min UI Adjusted CN=67 Runoff=0.37 cfs 0.033 af
Subcatchment28S: Lot 4	Runoff Area=18,653 sf 29.54% Impervious Runoff Depth>0.96" Tc=5.0 min UI Adjusted CN=68 Runoff=0.45 cfs 0.034 af
Subcatchment29S: Lot 5	Runoff Area=33,285 sf 12.01% Impervious Runoff Depth>0.75" Flow Length=304' Tc=14.5 min UI Adjusted CN=64 Runoff=0.42 cfs 0.048 af
Subcatchment30S: Lot 6	Runoff Area=5,097 sf 69.35% Impervious Runoff Depth>2.27" Tc=10.0 min CN=87 Runoff=0.27 cfs 0.022 af
Subcatchment31S: Lot 7	Runoff Area=11,745 sf 30.06% Impervious Runoff Depth>1.19" Tc=7.0 min CN=72 Runoff=0.34 cfs 0.027 af
Subcatchment32S: Lot 8	Runoff Area=14,870 sf 39.19% Impervious Runoff Depth>1.50" Tc=5.0 min CN=77 Runoff=0.61 cfs 0.043 af

Subcatchment34S: To Culvert	Runoff Area=543,228 sf 0.00% Impervious Runoff Depth>1.30" Flow Length=1,139' Tc=18.8 min CN=74 Runoff=12.70 cfs 1.355 af
Subcatchment35S: Road to Basin 2	Runoff Area=69,910 sf 16.78% Impervious Runoff Depth>1.13" Tc=5.0 min CN=71 Runoff=2.05 cfs 0.151 af
Subcatchment40S: To Fire Pond	Runoff Area=110,309 sf 0.00% Impervious Runoff Depth>1.31" Tc=5.0 min CN=74 Runoff=3.86 cfs 0.276 af
Subcatchment42S: Lot 5 Roof	Runoff Area=1,950 sf 100.00% Impervious Runoff Depth>3.36" Tc=5.0 min CN=98 Runoff=0.16 cfs 0.013 af
Subcatchment43S: Bypass 1A	Runoff Area=82,494 sf 0.00% Impervious Runoff Depth>0.75" Flow Length=173' Tc=8.2 min CN=64 Runoff=1.27 cfs 0.119 af
Subcatchment46S: Lot 6 Upper Drive	Runoff Area=3,846 sf 59.41% Impervious Runoff Depth>1.94" Tc=10.0 min CN=83 Runoff=0.17 cfs 0.014 af
Subcatchment49S: Lot 7 Upper Drive	Runoff Area=6,330 sf 42.21% Impervious Runoff Depth>1.50" Tc=7.0 min CN=77 Runoff=0.24 cfs 0.018 af
Subcatchment50S: Lot 3 (rear roof)	Runoff Area=975 sf 100.00% Impervious Runoff Depth>3.36" Tc=5.0 min CN=98 Runoff=0.08 cfs 0.006 af
Reach 40R: Reach L4	Avg. Flow Depth=0.03' Max Vel=0.03 fps Inflow=0.04 cfs 0.005 af n=0.400 L=200.0' S=0.0100 ' Capacity=6.97 cfs Outflow=0.02 cfs 0.005 af
Reach 41R: Reach L5R	Avg. Flow Depth=0.09' Max Vel=0.06 fps Inflow=0.05 cfs 0.002 af n=0.400 L=250.0' S=0.0100 ' Capacity=1.86 cfs Outflow=0.01 cfs 0.002 af
Pond 16P: Detention Basin #2 (South)	Peak Elev=283.86' Storage=3,002 cf Inflow=2.66 cfs 0.193 af Discarded=0.04 cfs 0.036 af Primary=0.96 cfs 0.093 af Outflow=0.99 cfs 0.130 af
Pond 20P: Detention Basin #1 (North)	Peak Elev=266.55' Storage=4,493 cf Inflow=2.92 cfs 0.318 af Discarded=0.09 cfs 0.072 af Primary=0.73 cfs 0.199 af Outflow=0.82 cfs 0.271 af
Pond 40P: Culvert	Peak Elev=296.01' Storage=638 cf Inflow=12.70 cfs 1.355 af 72.0" x 24.0" Box Culvert n=0.013 L=40.0' S=0.0688 ' Outflow=12.68 cfs 1.354 af
Pond 41P: RS L4	Peak Elev=274.11' Storage=560 cf Inflow=0.45 cfs 0.034 af Discarded=0.03 cfs 0.023 af Primary=0.04 cfs 0.005 af Outflow=0.07 cfs 0.029 af
Pond 42P: Fire Pond	Peak Elev=303.69' Storage=812 cf Inflow=3.86 cfs 0.276 af Outflow=3.69 cfs 0.275 af
Pond 43P: RS L5R	Peak Elev=290.30' Storage=206 cf Inflow=0.16 cfs 0.013 af Discarded=0.01 cfs 0.010 af Primary=0.05 cfs 0.002 af Outflow=0.06 cfs 0.011 af
Pond 44P: RS L3	Peak Elev=261.96' Storage=103 cf Inflow=0.08 cfs 0.006 af Discarded=0.01 cfs 0.006 af Primary=0.00 cfs 0.000 af Outflow=0.01 cfs 0.006 af
Pond 45P: RS L6	Peak Elev=301.21' Storage=237 cf Inflow=0.17 cfs 0.014 af Discarded=0.02 cfs 0.014 af Primary=0.00 cfs 0.000 af Outflow=0.02 cfs 0.014 af

Pond 46P: Detention Basin #3 (Entrance) Peak Elev=279.75' Storage=793 cf Inflow=3.69 cfs 0.275 af
Discarded=0.01 cfs 0.011 af Primary=3.77 cfs 0.249 af Outflow=3.79 cfs 0.260 af

Pond 47P: RS L1 Peak Elev=281.66' Storage=691 cf Inflow=0.57 cfs 0.040 af
Discarded=0.03 cfs 0.028 af Primary=0.09 cfs 0.006 af Outflow=0.12 cfs 0.035 af

Pond 48P: RS L7 Peak Elev=308.30' Storage=405 cf Inflow=0.24 cfs 0.018 af
Discarded=0.01 cfs 0.014 af Primary=0.00 cfs 0.000 af Outflow=0.01 cfs 0.014 af

Link 36L: POC 1 (Downs Road) Inflow=1.08 cfs 0.150 af
Primary=1.08 cfs 0.150 af

Link 37L: POC 2 (Cottage Street) Inflow=0.64 cfs 0.116 af
Primary=0.64 cfs 0.116 af

Link 38L: POC 3 (Monroe Turnpike) Inflow=1.30 cfs 0.325 af
Primary=1.30 cfs 0.325 af

Link 39L: POC 4 (Culvert Under Monroe Turnpike) Inflow=15.71 cfs 1.820 af
Primary=15.71 cfs 1.820 af

Total Runoff Area = 61.096 ac Runoff Volume = 4.934 af Average Runoff Depth = 0.97"
97.25% Pervious = 59.413 ac 2.75% Impervious = 1.682 ac

Time span=0.00-24.00 hrs, dt=0.04 hrs, 601 points
 Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
 Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1S: Existing to POC 1	Runoff Area=114,074 sf 0.00% Impervious Runoff Depth>1.51" Flow Length=1,139' Tc=24.1 min CN=66 Runoff=2.74 cfs 0.330 af
Subcatchment2S: Existing to POC 2	Runoff Area=170,531 sf 0.00% Impervious Runoff Depth>0.83" Flow Length=773' Slope=0.1200 '/' Tc=16.4 min CN=55 Runoff=2.08 cfs 0.269 af
Subcatchment3S: Existing to POC 3	Runoff Area=426,344 sf 0.00% Impervious Runoff Depth>0.83" Flow Length=548' Tc=17.5 min CN=55 Runoff=5.08 cfs 0.673 af
Subcatchment4S: Existing to POC 4	Runoff Area=619,978 sf 0.00% Impervious Runoff Depth>2.11" Flow Length=648' Tc=12.4 min CN=74 Runoff=28.33 cfs 2.508 af
Subcatchment21S: Bypass 1	Runoff Area=138,078 sf 0.00% Impervious Runoff Depth>0.88" Flow Length=773' Slope=0.1200 '/' Tc=16.4 min CN=56 Runoff=1.86 cfs 0.233 af
Subcatchment22S: Bypass 2	Runoff Area=49,527 sf 0.00% Impervious Runoff Depth>2.12" Tc=5.0 min CN=74 Runoff=2.87 cfs 0.201 af
Subcatchment23S: Bypass 3	Runoff Area=104,321 sf 0.00% Impervious Runoff Depth>1.37" Flow Length=1,139' Tc=25.2 min CN=64 Runoff=2.19 cfs 0.274 af
Subcatchment24S: Road to Basin 1	Runoff Area=84,147 sf 20.22% Impervious Runoff Depth>1.66" Flow Length=300' Tc=16.3 min CN=68 Runoff=2.63 cfs 0.267 af
Subcatchment25S: Lot 1	Runoff Area=12,624 sf 35.75% Impervious Runoff Depth>2.53" Tc=5.0 min CN=79 Runoff=0.88 cfs 0.061 af
Subcatchment26S: Lot 2	Runoff Area=19,721 sf 23.25% Impervious Runoff Depth>1.59" Tc=12.0 min UI Adjusted CN=67 Runoff=0.66 cfs 0.060 af
Subcatchment27S: Lot 3	Runoff Area=19,293 sf 26.75% Impervious Runoff Depth>1.59" Tc=9.0 min UI Adjusted CN=67 Runoff=0.71 cfs 0.059 af
Subcatchment28S: Lot 4	Runoff Area=18,653 sf 29.54% Impervious Runoff Depth>1.66" Tc=5.0 min UI Adjusted CN=68 Runoff=0.83 cfs 0.059 af
Subcatchment29S: Lot 5	Runoff Area=33,285 sf 12.01% Impervious Runoff Depth>1.38" Flow Length=304' Tc=14.5 min UI Adjusted CN=64 Runoff=0.87 cfs 0.088 af
Subcatchment30S: Lot 6	Runoff Area=5,097 sf 69.35% Impervious Runoff Depth>3.27" Tc=10.0 min CN=87 Runoff=0.39 cfs 0.032 af
Subcatchment31S: Lot 7	Runoff Area=11,745 sf 30.06% Impervious Runoff Depth>1.96" Tc=7.0 min CN=72 Runoff=0.58 cfs 0.044 af
Subcatchment32S: Lot 8	Runoff Area=14,870 sf 39.19% Impervious Runoff Depth>2.36" Tc=5.0 min CN=77 Runoff=0.97 cfs 0.067 af

Subcatchment34S: To Culvert	Runoff Area=543,228 sf 0.00% Impervious Runoff Depth>2.11" Flow Length=1,139' Tc=18.8 min CN=74 Runoff=21.13 cfs 2.194 af
Subcatchment35S: Road to Basin 2	Runoff Area=69,910 sf 16.78% Impervious Runoff Depth>1.88" Tc=5.0 min CN=71 Runoff=3.57 cfs 0.252 af
Subcatchment40S: To Fire Pond	Runoff Area=110,309 sf 0.00% Impervious Runoff Depth>2.12" Tc=5.0 min CN=74 Runoff=6.40 cfs 0.447 af
Subcatchment42S: Lot 5 Roof	Runoff Area=1,950 sf 100.00% Impervious Runoff Depth>4.45" Tc=5.0 min CN=98 Runoff=0.21 cfs 0.017 af
Subcatchment43S: Bypass 1A	Runoff Area=82,494 sf 0.00% Impervious Runoff Depth>1.38" Flow Length=173' Tc=8.2 min CN=64 Runoff=2.61 cfs 0.218 af
Subcatchment46S: Lot 6 Upper Drive	Runoff Area=3,846 sf 59.41% Impervious Runoff Depth>2.89" Tc=10.0 min CN=83 Runoff=0.26 cfs 0.021 af
Subcatchment49S: Lot 7 Upper Drive	Runoff Area=6,330 sf 42.21% Impervious Runoff Depth>2.36" Tc=7.0 min CN=77 Runoff=0.38 cfs 0.029 af
Subcatchment50S: Lot 3 (rear roof)	Runoff Area=975 sf 100.00% Impervious Runoff Depth>4.45" Tc=5.0 min CN=98 Runoff=0.10 cfs 0.008 af
Reach 40R: Reach L4	Avg. Flow Depth=0.09' Max Vel=0.08 fps Inflow=0.40 cfs 0.025 af n=0.400 L=200.0' S=0.0100 ' Capacity=6.97 cfs Outflow=0.15 cfs 0.025 af
Reach 41R: Reach L5R	Avg. Flow Depth=0.16' Max Vel=0.08 fps Inflow=0.16 cfs 0.005 af n=0.400 L=250.0' S=0.0100 ' Capacity=1.86 cfs Outflow=0.03 cfs 0.005 af
Pond 16P: Detention Basin #2 (South)	Peak Elev=284.02' Storage=3,335 cf Inflow=4.54 cfs 0.319 af Discarded=0.04 cfs 0.038 af Primary=3.60 cfs 0.217 af Outflow=3.64 cfs 0.255 af
Pond 20P: Detention Basin #1 (North)	Peak Elev=267.19' Storage=6,955 cf Inflow=5.41 cfs 0.553 af Discarded=0.11 cfs 0.082 af Primary=3.04 cfs 0.420 af Outflow=3.16 cfs 0.502 af
Pond 40P: Culvert	Peak Elev=296.31' Storage=1,044 cf Inflow=21.13 cfs 2.194 af 72.0" x 24.0" Box Culvert n=0.013 L=40.0' S=0.0688 ' Outflow=21.09 cfs 2.193 af
Pond 41P: RS L4	Peak Elev=274.36' Storage=661 cf Inflow=0.83 cfs 0.059 af Discarded=0.03 cfs 0.025 af Primary=0.40 cfs 0.025 af Outflow=0.43 cfs 0.051 af
Pond 42P: Fire Pond	Peak Elev=303.81' Storage=965 cf Inflow=6.40 cfs 0.447 af Outflow=6.27 cfs 0.446 af
Pond 43P: RS L5R	Peak Elev=290.42' Storage=222 cf Inflow=0.21 cfs 0.017 af Discarded=0.01 cfs 0.010 af Primary=0.16 cfs 0.005 af Outflow=0.17 cfs 0.015 af
Pond 44P: RS L3	Peak Elev=262.29' Storage=148 cf Inflow=0.10 cfs 0.008 af Discarded=0.01 cfs 0.008 af Primary=0.00 cfs 0.000 af Outflow=0.01 cfs 0.008 af
Pond 45P: RS L6	Peak Elev=301.55' Storage=400 cf Inflow=0.26 cfs 0.021 af Discarded=0.02 cfs 0.021 af Primary=0.00 cfs 0.000 af Outflow=0.02 cfs 0.021 af

Pond 46P: Detention Basin #3 (Entrance) Peak Elev=279.84' Storage=854 cf Inflow=6.27 cfs 0.446 af
Discarded=0.01 cfs 0.012 af Primary=6.20 cfs 0.419 af Outflow=6.21 cfs 0.431 af

Pond 47P: RS L1 Peak Elev=281.88' Storage=796 cf Inflow=0.88 cfs 0.061 af
Discarded=0.03 cfs 0.031 af Primary=0.43 cfs 0.023 af Outflow=0.46 cfs 0.054 af

Pond 48P: RS L7 Peak Elev=308.77' Storage=580 cf Inflow=0.38 cfs 0.029 af
Discarded=0.01 cfs 0.015 af Primary=0.03 cfs 0.005 af Outflow=0.04 cfs 0.019 af

Link 36L: POC 1 (Downs Road) Inflow=2.19 cfs 0.274 af
Primary=2.19 cfs 0.274 af

Link 37L: POC 2 (Cottage Street) Inflow=1.86 cfs 0.262 af
Primary=1.86 cfs 0.262 af

Link 38L: POC 3 (Monroe Turnpike) Inflow=4.36 cfs 0.660 af
Primary=4.36 cfs 0.660 af

Link 39L: POC 4 (Culvert Under Monroe Turnpike) Inflow=27.87 cfs 3.029 af
Primary=27.87 cfs 3.029 af

Total Runoff Area = 61.096 ac Runoff Volume = 8.409 af Average Runoff Depth = 1.65"
97.25% Pervious = 59.413 ac 2.75% Impervious = 1.682 ac

Time span=0.00-24.00 hrs, dt=0.04 hrs, 601 points
 Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
 Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1S: Existing to POC 1	Runoff Area=114,074 sf 0.00% Impervious Runoff Depth>2.14" Flow Length=1,139' Tc=24.1 min CN=66 Runoff=3.98 cfs 0.466 af
Subcatchment2S: Existing to POC 2	Runoff Area=170,531 sf 0.00% Impervious Runoff Depth>1.29" Flow Length=773' Slope=0.1200 '/' Tc=16.4 min CN=55 Runoff=3.67 cfs 0.420 af
Subcatchment3S: Existing to POC 3	Runoff Area=426,344 sf 0.00% Impervious Runoff Depth>1.29" Flow Length=548' Tc=17.5 min CN=55 Runoff=8.97 cfs 1.050 af
Subcatchment4S: Existing to POC 4	Runoff Area=619,978 sf 0.00% Impervious Runoff Depth>2.84" Flow Length=648' Tc=12.4 min CN=74 Runoff=38.42 cfs 3.374 af
Subcatchment21S: Bypass 1	Runoff Area=138,078 sf 0.00% Impervious Runoff Depth>1.36" Flow Length=773' Slope=0.1200 '/' Tc=16.4 min CN=56 Runoff=3.21 cfs 0.359 af
Subcatchment22S: Bypass 2	Runoff Area=49,527 sf 0.00% Impervious Runoff Depth>2.85" Tc=5.0 min CN=74 Runoff=3.89 cfs 0.270 af
Subcatchment23S: Bypass 3	Runoff Area=104,321 sf 0.00% Impervious Runoff Depth>1.97" Flow Length=1,139' Tc=25.2 min CN=64 Runoff=3.26 cfs 0.393 af
Subcatchment24S: Road to Basin 1	Runoff Area=84,147 sf 20.22% Impervious Runoff Depth>2.31" Flow Length=300' Tc=16.3 min CN=68 Runoff=3.75 cfs 0.372 af
Subcatchment25S: Lot 1	Runoff Area=12,624 sf 35.75% Impervious Runoff Depth>3.32" Tc=5.0 min CN=79 Runoff=1.16 cfs 0.080 af
Subcatchment26S: Lot 2	Runoff Area=19,721 sf 23.25% Impervious Runoff Depth>2.23" Tc=12.0 min UI Adjusted CN=67 Runoff=0.95 cfs 0.084 af
Subcatchment27S: Lot 3	Runoff Area=19,293 sf 26.75% Impervious Runoff Depth>2.23" Tc=9.0 min UI Adjusted CN=67 Runoff=1.02 cfs 0.082 af
Subcatchment28S: Lot 4	Runoff Area=18,653 sf 29.54% Impervious Runoff Depth>2.32" Tc=5.0 min UI Adjusted CN=68 Runoff=1.17 cfs 0.083 af
Subcatchment29S: Lot 5	Runoff Area=33,285 sf 12.01% Impervious Runoff Depth>1.98" Flow Length=304' Tc=14.5 min UI Adjusted CN=64 Runoff=1.30 cfs 0.126 af
Subcatchment30S: Lot 6	Runoff Area=5,097 sf 69.35% Impervious Runoff Depth>4.13" Tc=10.0 min CN=87 Runoff=0.48 cfs 0.040 af
Subcatchment31S: Lot 7	Runoff Area=11,745 sf 30.06% Impervious Runoff Depth>2.67" Tc=7.0 min CN=72 Runoff=0.80 cfs 0.060 af
Subcatchment32S: Lot 8	Runoff Area=14,870 sf 39.19% Impervious Runoff Depth>3.13" Tc=5.0 min CN=77 Runoff=1.28 cfs 0.089 af

Subcatchment34S: To Culvert	Runoff Area=543,228 sf 0.00% Impervious Runoff Depth>2.84" Flow Length=1,139' Tc=18.8 min CN=74 Runoff=28.67 cfs 2.952 af
Subcatchment35S: Road to Basin 2	Runoff Area=69,910 sf 16.78% Impervious Runoff Depth>2.58" Tc=5.0 min CN=71 Runoff=4.95 cfs 0.345 af
Subcatchment40S: To Fire Pond	Runoff Area=110,309 sf 0.00% Impervious Runoff Depth>2.85" Tc=5.0 min CN=74 Runoff=8.67 cfs 0.601 af
Subcatchment42S: Lot 5 Roof	Runoff Area=1,950 sf 100.00% Impervious Runoff Depth>5.36" Tc=5.0 min CN=98 Runoff=0.25 cfs 0.020 af
Subcatchment43S: Bypass 1A	Runoff Area=82,494 sf 0.00% Impervious Runoff Depth>1.98" Flow Length=173' Tc=8.2 min CN=64 Runoff=3.89 cfs 0.312 af
Subcatchment46S: Lot 6 Upper Drive	Runoff Area=3,846 sf 59.41% Impervious Runoff Depth>3.72" Tc=10.0 min CN=83 Runoff=0.33 cfs 0.027 af
Subcatchment49S: Lot 7 Upper Drive	Runoff Area=6,330 sf 42.21% Impervious Runoff Depth>3.13" Tc=7.0 min CN=77 Runoff=0.51 cfs 0.038 af
Subcatchment50S: Lot 3 (rear roof)	Runoff Area=975 sf 100.00% Impervious Runoff Depth>5.36" Tc=5.0 min CN=98 Runoff=0.13 cfs 0.010 af
Reach 40R: Reach L4	Avg. Flow Depth=0.16' Max Vel=0.11 fps Inflow=0.86 cfs 0.045 af n=0.400 L=200.0' S=0.0100 ' Capacity=6.97 cfs Outflow=0.34 cfs 0.045 af
Reach 41R: Reach L5R	Avg. Flow Depth=0.20' Max Vel=0.10 fps Inflow=0.22 cfs 0.007 af n=0.400 L=250.0' S=0.0100 ' Capacity=1.86 cfs Outflow=0.06 cfs 0.007 af
Pond 16P: Detention Basin #2 (South)	Peak Elev=284.12' Storage=3,556 cf Inflow=6.23 cfs 0.434 af Discarded=0.04 cfs 0.040 af Primary=5.82 cfs 0.330 af Outflow=5.86 cfs 0.369 af
Pond 20P: Detention Basin #1 (North)	Peak Elev=267.37' Storage=7,675 cf Inflow=7.72 cfs 0.776 af Discarded=0.12 cfs 0.088 af Primary=6.23 cfs 0.633 af Outflow=6.35 cfs 0.722 af
Pond 40P: Culvert	Peak Elev=296.55' Storage=1,421 cf Inflow=28.67 cfs 2.952 af 72.0" x 24.0" Box Culvert n=0.013 L=40.0' S=0.0688 ' Outflow=28.61 cfs 2.951 af
Pond 41P: RS L4	Peak Elev=274.60' Storage=752 cf Inflow=1.17 cfs 0.083 af Discarded=0.03 cfs 0.027 af Primary=0.86 cfs 0.045 af Outflow=0.89 cfs 0.072 af
Pond 42P: Fire Pond	Peak Elev=303.90' Storage=1,079 cf Inflow=8.67 cfs 0.601 af Outflow=8.53 cfs 0.600 af
Pond 43P: RS L5R	Peak Elev=290.47' Storage=228 cf Inflow=0.25 cfs 0.020 af Discarded=0.01 cfs 0.011 af Primary=0.22 cfs 0.007 af Outflow=0.23 cfs 0.018 af
Pond 44P: RS L3	Peak Elev=262.58' Storage=188 cf Inflow=0.13 cfs 0.010 af Discarded=0.01 cfs 0.010 af Primary=0.00 cfs 0.000 af Outflow=0.01 cfs 0.010 af
Pond 45P: RS L6	Peak Elev=301.87' Storage=552 cf Inflow=0.33 cfs 0.027 af Discarded=0.03 cfs 0.026 af Primary=0.00 cfs 0.000 af Outflow=0.03 cfs 0.026 af

Pond 46P: Detention Basin #3 (Entrance) Peak Elev=279.92' Storage=905 cf Inflow=8.53 cfs 0.600 af
Discarded=0.01 cfs 0.013 af Primary=8.47 cfs 0.572 af Outflow=8.48 cfs 0.585 af

Pond 47P: RS L1 Peak Elev=282.07' Storage=889 cf Inflow=1.16 cfs 0.080 af
Discarded=0.03 cfs 0.033 af Primary=0.82 cfs 0.038 af Outflow=0.85 cfs 0.071 af

Pond 48P: RS L7 Peak Elev=308.92' Storage=634 cf Inflow=0.51 cfs 0.038 af
Discarded=0.01 cfs 0.015 af Primary=0.16 cfs 0.012 af Outflow=0.18 cfs 0.028 af

Link 36L: POC 1 (Downs Road) Inflow=3.26 cfs 0.393 af
Primary=3.26 cfs 0.393 af

Link 37L: POC 2 (Cottage Street) Inflow=3.21 cfs 0.411 af
Primary=3.21 cfs 0.411 af

Link 38L: POC 3 (Monroe Turnpike) Inflow=8.86 cfs 0.984 af
Primary=8.86 cfs 0.984 af

Link 39L: POC 4 (Culvert Under Monroe Turnpike) Inflow=37.65 cfs 4.123 af
Primary=37.65 cfs 4.123 af

Total Runoff Area = 61.096 ac Runoff Volume = 11.653 af Average Runoff Depth = 2.29"
97.25% Pervious = 59.413 ac 2.75% Impervious = 1.682 ac

Time span=0.00-24.00 hrs, dt=0.04 hrs, 601 points
 Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
 Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1S: Existing to POC 1	Runoff Area=114,074 sf 0.00% Impervious Runoff Depth>3.07" Flow Length=1,139' Tc=24.1 min CN=66 Runoff=5.83 cfs 0.670 af
Subcatchment2S: Existing to POC 2	Runoff Area=170,531 sf 0.00% Impervious Runoff Depth>2.02" Flow Length=773' Slope=0.1200 '/' Tc=16.4 min CN=55 Runoff=6.25 cfs 0.659 af
Subcatchment3S: Existing to POC 3	Runoff Area=426,344 sf 0.00% Impervious Runoff Depth>2.02" Flow Length=548' Tc=17.5 min CN=55 Runoff=15.21 cfs 1.647 af
Subcatchment4S: Existing to POC 4	Runoff Area=619,978 sf 0.00% Impervious Runoff Depth>3.90" Flow Length=648' Tc=12.4 min CN=74 Runoff=52.84 cfs 4.629 af
Subcatchment21S: Bypass 1	Runoff Area=138,078 sf 0.00% Impervious Runoff Depth>2.11" Flow Length=773' Slope=0.1200 '/' Tc=16.4 min CN=56 Runoff=5.35 cfs 0.558 af
Subcatchment22S: Bypass 2	Runoff Area=49,527 sf 0.00% Impervious Runoff Depth>3.91" Tc=5.0 min CN=74 Runoff=5.34 cfs 0.370 af
Subcatchment23S: Bypass 3	Runoff Area=104,321 sf 0.00% Impervious Runoff Depth>2.87" Flow Length=1,139' Tc=25.2 min CN=64 Runoff=4.87 cfs 0.573 af
Subcatchment24S: Road to Basin 1	Runoff Area=84,147 sf 20.22% Impervious Runoff Depth>3.28" Flow Length=300' Tc=16.3 min CN=68 Runoff=5.40 cfs 0.528 af
Subcatchment25S: Lot 1	Runoff Area=12,624 sf 35.75% Impervious Runoff Depth>4.44" Tc=5.0 min CN=79 Runoff=1.54 cfs 0.107 af
Subcatchment26S: Lot 2	Runoff Area=19,721 sf 23.25% Impervious Runoff Depth>3.18" Tc=12.0 min UI Adjusted CN=67 Runoff=1.37 cfs 0.120 af
Subcatchment27S: Lot 3	Runoff Area=19,293 sf 26.75% Impervious Runoff Depth>3.18" Tc=9.0 min UI Adjusted CN=67 Runoff=1.47 cfs 0.117 af
Subcatchment28S: Lot 4	Runoff Area=18,653 sf 29.54% Impervious Runoff Depth>3.29" Tc=5.0 min UI Adjusted CN=68 Runoff=1.69 cfs 0.117 af
Subcatchment29S: Lot 5	Runoff Area=33,285 sf 12.01% Impervious Runoff Depth>2.88" Flow Length=304' Tc=14.5 min UI Adjusted CN=64 Runoff=1.94 cfs 0.183 af
Subcatchment30S: Lot 6	Runoff Area=5,097 sf 69.35% Impervious Runoff Depth>5.33" Tc=10.0 min CN=87 Runoff=0.61 cfs 0.052 af
Subcatchment31S: Lot 7	Runoff Area=11,745 sf 30.06% Impervious Runoff Depth>3.70" Tc=7.0 min CN=72 Runoff=1.11 cfs 0.083 af
Subcatchment32S: Lot 8	Runoff Area=14,870 sf 39.19% Impervious Runoff Depth>4.23" Tc=5.0 min CN=77 Runoff=1.73 cfs 0.120 af

Subcatchment34S: To Culvert	Runoff Area=543,228 sf 0.00% Impervious Runoff Depth>3.90" Flow Length=1,139' Tc=18.8 min CN=74 Runoff=39.51 cfs 4.051 af
Subcatchment35S: Road to Basin 2	Runoff Area=69,910 sf 16.78% Impervious Runoff Depth>3.59" Tc=5.0 min CN=71 Runoff=6.93 cfs 0.481 af
Subcatchment40S: To Fire Pond	Runoff Area=110,309 sf 0.00% Impervious Runoff Depth>3.91" Tc=5.0 min CN=74 Runoff=11.89 cfs 0.825 af
Subcatchment42S: Lot 5 Roof	Runoff Area=1,950 sf 100.00% Impervious Runoff Depth>6.61" Tc=5.0 min CN=98 Runoff=0.31 cfs 0.025 af
Subcatchment43S: Bypass 1A	Runoff Area=82,494 sf 0.00% Impervious Runoff Depth>2.88" Flow Length=173' Tc=8.2 min CN=64 Runoff=5.81 cfs 0.455 af
Subcatchment46S: Lot 6 Upper Drive	Runoff Area=3,846 sf 59.41% Impervious Runoff Depth>4.88" Tc=10.0 min CN=83 Runoff=0.43 cfs 0.036 af
Subcatchment49S: Lot 7 Upper Drive	Runoff Area=6,330 sf 42.21% Impervious Runoff Depth>4.23" Tc=7.0 min CN=77 Runoff=0.68 cfs 0.051 af
Subcatchment50S: Lot 3 (rear roof)	Runoff Area=975 sf 100.00% Impervious Runoff Depth>6.61" Tc=5.0 min CN=98 Runoff=0.15 cfs 0.012 af
Reach 40R: Reach L4	Avg. Flow Depth=0.24' Max Vel=0.14 fps Inflow=1.55 cfs 0.077 af n=0.400 L=200.0' S=0.0100 ' Capacity=6.97 cfs Outflow=0.66 cfs 0.076 af
Reach 41R: Reach L5R	Avg. Flow Depth=0.25' Max Vel=0.11 fps Inflow=0.28 cfs 0.011 af n=0.400 L=250.0' S=0.0100 ' Capacity=1.86 cfs Outflow=0.09 cfs 0.011 af
Pond 16P: Detention Basin #2 (South)	Peak Elev=284.21' Storage=3,767 cf Inflow=8.66 cfs 0.601 af Discarded=0.04 cfs 0.041 af Primary=8.18 cfs 0.495 af Outflow=8.22 cfs 0.537 af
Pond 20P: Detention Basin #1 (North)	Peak Elev=267.56' Storage=8,515 cf Inflow=11.48 cfs 1.109 af Discarded=0.13 cfs 0.097 af Primary=10.47 cfs 0.954 af Outflow=10.60 cfs 1.051 af
Pond 40P: Culvert	Peak Elev=296.86' Storage=1,983 cf Inflow=39.51 cfs 4.051 af 72.0" x 24.0" Box Culvert n=0.013 L=40.0' S=0.0688 ' Outflow=39.34 cfs 4.049 af
Pond 41P: RS L4	Peak Elev=275.18' Storage=840 cf Inflow=1.69 cfs 0.117 af Discarded=0.04 cfs 0.028 af Primary=1.55 cfs 0.077 af Outflow=1.59 cfs 0.106 af
Pond 42P: Fire Pond	Peak Elev=304.01' Storage=1,224 cf Inflow=11.89 cfs 0.825 af Outflow=11.75 cfs 0.823 af
Pond 43P: RS L5R	Peak Elev=290.51' Storage=234 cf Inflow=0.31 cfs 0.025 af Discarded=0.01 cfs 0.012 af Primary=0.28 cfs 0.011 af Outflow=0.29 cfs 0.022 af
Pond 44P: RS L3	Peak Elev=262.94' Storage=237 cf Inflow=0.15 cfs 0.012 af Discarded=0.01 cfs 0.011 af Primary=0.01 cfs 0.000 af Outflow=0.02 cfs 0.011 af
Pond 45P: RS L6	Peak Elev=302.25' Storage=733 cf Inflow=0.43 cfs 0.036 af Discarded=0.03 cfs 0.029 af Primary=0.02 cfs 0.002 af Outflow=0.05 cfs 0.031 af

Pond 46P: Detention Basin #3 (Entrance) Peak Elev=280.03' Storage=971 cf Inflow=11.75 cfs 0.823 af
Discarded=0.01 cfs 0.013 af Primary=11.68 cfs 0.794 af Outflow=11.70 cfs 0.808 af

Pond 47P: RS L1 Peak Elev=282.51' Storage=985 cf Inflow=1.54 cfs 0.107 af
Discarded=0.04 cfs 0.035 af Primary=1.38 cfs 0.061 af Outflow=1.42 cfs 0.096 af

Pond 48P: RS L7 Peak Elev=309.09' Storage=697 cf Inflow=0.68 cfs 0.051 af
Discarded=0.01 cfs 0.016 af Primary=0.39 cfs 0.024 af Outflow=0.40 cfs 0.040 af

Link 36L: POC 1 (Downs Road) Inflow=4.87 cfs 0.573 af
Primary=4.87 cfs 0.573 af

Link 37L: POC 2 (Cottage Street) Inflow=5.35 cfs 0.645 af
Primary=5.35 cfs 0.645 af

Link 38L: POC 3 (Monroe Turnpike) Inflow=15.40 cfs 1.471 af
Primary=15.40 cfs 1.471 af

Link 39L: POC 4 (Culvert Under Monroe Turnpike) Inflow=51.58 cfs 5.709 af
Primary=51.58 cfs 5.709 af

Total Runoff Area = 61.096 ac Runoff Volume = 16.471 af Average Runoff Depth = 3.24"
97.25% Pervious = 59.413 ac 2.75% Impervious = 1.682 ac

Time span=0.00-24.00 hrs, dt=0.04 hrs, 601 points
 Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
 Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1S: Existing to POC 1	Runoff Area=114,074 sf 0.00% Impervious Runoff Depth>3.80" Flow Length=1,139' Tc=24.1 min CN=66 Runoff=7.26 cfs 0.829 af
Subcatchment2S: Existing to POC 2	Runoff Area=170,531 sf 0.00% Impervious Runoff Depth>2.62" Flow Length=773' Slope=0.1200 '/' Tc=16.4 min CN=55 Runoff=8.34 cfs 0.854 af
Subcatchment3S: Existing to POC 3	Runoff Area=426,344 sf 0.00% Impervious Runoff Depth>2.62" Flow Length=548' Tc=17.5 min CN=55 Runoff=20.33 cfs 2.134 af
Subcatchment4S: Existing to POC 4	Runoff Area=619,978 sf 0.00% Impervious Runoff Depth>4.71" Flow Length=648' Tc=12.4 min CN=74 Runoff=63.70 cfs 5.587 af
Subcatchment21S: Bypass 1	Runoff Area=138,078 sf 0.00% Impervious Runoff Depth>2.72" Flow Length=773' Slope=0.1200 '/' Tc=16.4 min CN=56 Runoff=7.07 cfs 0.719 af
Subcatchment22S: Bypass 2	Runoff Area=49,527 sf 0.00% Impervious Runoff Depth>4.72" Tc=5.0 min CN=74 Runoff=6.43 cfs 0.447 af
Subcatchment23S: Bypass 3	Runoff Area=104,321 sf 0.00% Impervious Runoff Depth>3.58" Flow Length=1,139' Tc=25.2 min CN=64 Runoff=6.12 cfs 0.714 af
Subcatchment24S: Road to Basin 1	Runoff Area=84,147 sf 20.22% Impervious Runoff Depth>4.03" Flow Length=300' Tc=16.3 min CN=68 Runoff=6.67 cfs 0.649 af
Subcatchment25S: Lot 1	Runoff Area=12,624 sf 35.75% Impervious Runoff Depth>5.29" Tc=5.0 min CN=79 Runoff=1.82 cfs 0.128 af
Subcatchment26S: Lot 2	Runoff Area=19,721 sf 23.25% Impervious Runoff Depth>3.92" Tc=12.0 min UI Adjusted CN=67 Runoff=1.70 cfs 0.148 af
Subcatchment27S: Lot 3	Runoff Area=19,293 sf 26.75% Impervious Runoff Depth>3.92" Tc=9.0 min UI Adjusted CN=67 Runoff=1.83 cfs 0.145 af
Subcatchment28S: Lot 4	Runoff Area=18,653 sf 29.54% Impervious Runoff Depth>4.04" Tc=5.0 min UI Adjusted CN=68 Runoff=2.08 cfs 0.144 af
Subcatchment29S: Lot 5	Runoff Area=33,285 sf 12.01% Impervious Runoff Depth>3.59" Flow Length=304' Tc=14.5 min UI Adjusted CN=64 Runoff=2.44 cfs 0.228 af
Subcatchment30S: Lot 6	Runoff Area=5,097 sf 69.35% Impervious Runoff Depth>6.22" Tc=10.0 min CN=87 Runoff=0.71 cfs 0.061 af
Subcatchment31S: Lot 7	Runoff Area=11,745 sf 30.06% Impervious Runoff Depth>4.49" Tc=7.0 min CN=72 Runoff=1.35 cfs 0.101 af
Subcatchment32S: Lot 8	Runoff Area=14,870 sf 39.19% Impervious Runoff Depth>5.06" Tc=5.0 min CN=77 Runoff=2.06 cfs 0.144 af

Subcatchment34S: To Culvert	Runoff Area=543,228 sf 0.00% Impervious Runoff Depth>4.70" Flow Length=1,139' Tc=18.8 min CN=74 Runoff=47.64 cfs 4.889 af
Subcatchment35S: Road to Basin 2	Runoff Area=69,910 sf 16.78% Impervious Runoff Depth>4.38" Tc=5.0 min CN=71 Runoff=8.44 cfs 0.585 af
Subcatchment40S: To Fire Pond	Runoff Area=110,309 sf 0.00% Impervious Runoff Depth>4.72" Tc=5.0 min CN=74 Runoff=14.32 cfs 0.995 af
Subcatchment42S: Lot 5 Roof	Runoff Area=1,950 sf 100.00% Impervious Runoff Depth>7.53" Tc=5.0 min CN=98 Runoff=0.35 cfs 0.028 af
Subcatchment43S: Bypass 1A	Runoff Area=82,494 sf 0.00% Impervious Runoff Depth>3.59" Flow Length=173' Tc=8.2 min CN=64 Runoff=7.30 cfs 0.567 af
Subcatchment46S: Lot 6 Upper Drive	Runoff Area=3,846 sf 59.41% Impervious Runoff Depth>5.75" Tc=10.0 min CN=83 Runoff=0.51 cfs 0.042 af
Subcatchment49S: Lot 7 Upper Drive	Runoff Area=6,330 sf 42.21% Impervious Runoff Depth>5.06" Tc=7.0 min CN=77 Runoff=0.82 cfs 0.061 af
Subcatchment50S: Lot 3 (rear roof)	Runoff Area=975 sf 100.00% Impervious Runoff Depth>7.53" Tc=5.0 min CN=98 Runoff=0.17 cfs 0.014 af
Reach 40R: Reach L4	Avg. Flow Depth=0.29' Max Vel=0.16 fps Inflow=1.98 cfs 0.103 af n=0.400 L=200.0' S=0.0100 ' Capacity=6.97 cfs Outflow=0.93 cfs 0.102 af
Reach 41R: Reach L5R	Avg. Flow Depth=0.28' Max Vel=0.12 fps Inflow=0.32 cfs 0.013 af n=0.400 L=250.0' S=0.0100 ' Capacity=1.86 cfs Outflow=0.12 cfs 0.013 af
Pond 16P: Detention Basin #2 (South)	Peak Elev=284.27' Storage=3,917 cf Inflow=10.50 cfs 0.729 af Discarded=0.04 cfs 0.043 af Primary=9.95 cfs 0.622 af Outflow=9.99 cfs 0.665 af
Pond 20P: Detention Basin #1 (North)	Peak Elev=267.72' Storage=9,245 cf Inflow=14.33 cfs 1.370 af Discarded=0.13 cfs 0.102 af Primary=12.94 cfs 1.208 af Outflow=13.07 cfs 1.310 af
Pond 40P: Culvert	Peak Elev=297.07' Storage=2,423 cf Inflow=47.64 cfs 4.889 af 72.0" x 24.0" Box Culvert n=0.013 L=40.0' S=0.0688 ' Outflow=47.43 cfs 4.887 af
Pond 41P: RS L4	Peak Elev=275.70' Storage=874 cf Inflow=2.08 cfs 0.144 af Discarded=0.05 cfs 0.029 af Primary=1.98 cfs 0.103 af Outflow=2.02 cfs 0.132 af
Pond 42P: Fire Pond	Peak Elev=304.09' Storage=1,325 cf Inflow=14.32 cfs 0.995 af Outflow=14.17 cfs 0.993 af
Pond 43P: RS L5R	Peak Elev=290.54' Storage=238 cf Inflow=0.35 cfs 0.028 af Discarded=0.01 cfs 0.012 af Primary=0.32 cfs 0.013 af Outflow=0.33 cfs 0.025 af
Pond 44P: RS L3	Peak Elev=263.01' Storage=246 cf Inflow=0.17 cfs 0.014 af Discarded=0.01 cfs 0.011 af Primary=0.04 cfs 0.001 af Outflow=0.05 cfs 0.013 af
Pond 45P: RS L6	Peak Elev=302.36' Storage=786 cf Inflow=0.51 cfs 0.042 af Discarded=0.03 cfs 0.030 af Primary=0.10 cfs 0.006 af Outflow=0.13 cfs 0.036 af

Pond 46P: Detention Basin #3 (Entrance) Peak Elev=280.09' Storage=1,018 cf Inflow=14.17 cfs 0.993 af
Discarded=0.01 cfs 0.014 af Primary=14.10 cfs 0.964 af Outflow=14.12 cfs 0.978 af

Pond 47P: RS L1 Peak Elev=283.08' Storage=985 cf Inflow=1.82 cfs 0.128 af
Discarded=0.04 cfs 0.036 af Primary=1.88 cfs 0.079 af Outflow=1.92 cfs 0.115 af

Pond 48P: RS L7 Peak Elev=309.30' Storage=753 cf Inflow=0.82 cfs 0.061 af
Discarded=0.01 cfs 0.017 af Primary=0.59 cfs 0.033 af Outflow=0.60 cfs 0.049 af

Link 36L: POC 1 (Downs Road) Inflow=6.12 cfs 0.714 af
Primary=6.12 cfs 0.714 af

Link 37L: POC 2 (Cottage Street) Inflow=7.09 cfs 0.834 af
Primary=7.09 cfs 0.834 af

Link 38L: POC 3 (Monroe Turnpike) Inflow=19.39 cfs 1.855 af
Primary=19.39 cfs 1.855 af

Link 39L: POC 4 (Culvert Under Monroe Turnpike) Inflow=62.04 cfs 6.920 af
Primary=62.04 cfs 6.920 af

Total Runoff Area = 61.096 ac Runoff Volume = 20.214 af Average Runoff Depth = 3.97"
97.25% Pervious = 59.413 ac 2.75% Impervious = 1.682 ac

Time span=0.00-24.00 hrs, dt=0.04 hrs, 601 points
 Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
 Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1S: Existing to POC 1	Runoff Area=114,074 sf 0.00% Impervious Runoff Depth>4.63" Flow Length=1,139' Tc=24.1 min CN=66 Runoff=8.88 cfs 1.011 af
Subcatchment2S: Existing to POC 2	Runoff Area=170,531 sf 0.00% Impervious Runoff Depth>3.32" Flow Length=773' Slope=0.1200 '/' Tc=16.4 min CN=55 Runoff=10.78 cfs 1.082 af
Subcatchment3S: Existing to POC 3	Runoff Area=426,344 sf 0.00% Impervious Runoff Depth>3.32" Flow Length=548' Tc=17.5 min CN=55 Runoff=26.28 cfs 2.705 af
Subcatchment4S: Existing to POC 4	Runoff Area=619,978 sf 0.00% Impervious Runoff Depth>5.62" Flow Length=648' Tc=12.4 min CN=74 Runoff=75.74 cfs 6.662 af
Subcatchment21S: Bypass 1	Runoff Area=138,078 sf 0.00% Impervious Runoff Depth>3.44" Flow Length=773' Slope=0.1200 '/' Tc=16.4 min CN=56 Runoff=9.08 cfs 0.908 af
Subcatchment22S: Bypass 2	Runoff Area=49,527 sf 0.00% Impervious Runoff Depth>5.62" Tc=5.0 min CN=74 Runoff=7.64 cfs 0.533 af
Subcatchment23S: Bypass 3	Runoff Area=104,321 sf 0.00% Impervious Runoff Depth>4.39" Flow Length=1,139' Tc=25.2 min CN=64 Runoff=7.54 cfs 0.876 af
Subcatchment24S: Road to Basin 1	Runoff Area=84,147 sf 20.22% Impervious Runoff Depth>4.88" Flow Length=300' Tc=16.3 min CN=68 Runoff=8.10 cfs 0.786 af
Subcatchment25S: Lot 1	Runoff Area=12,624 sf 35.75% Impervious Runoff Depth>6.23" Tc=5.0 min CN=79 Runoff=2.13 cfs 0.151 af
Subcatchment26S: Lot 2	Runoff Area=19,721 sf 23.25% Impervious Runoff Depth>4.77" Tc=12.0 min UI Adjusted CN=67 Runoff=2.08 cfs 0.180 af
Subcatchment27S: Lot 3	Runoff Area=19,293 sf 26.75% Impervious Runoff Depth>4.77" Tc=9.0 min UI Adjusted CN=67 Runoff=2.23 cfs 0.176 af
Subcatchment28S: Lot 4	Runoff Area=18,653 sf 29.54% Impervious Runoff Depth>4.89" Tc=5.0 min UI Adjusted CN=68 Runoff=2.52 cfs 0.175 af
Subcatchment29S: Lot 5	Runoff Area=33,285 sf 12.01% Impervious Runoff Depth>4.40" Flow Length=304' Tc=14.5 min UI Adjusted CN=64 Runoff=3.01 cfs 0.280 af
Subcatchment30S: Lot 6	Runoff Area=5,097 sf 69.35% Impervious Runoff Depth>7.20" Tc=10.0 min CN=87 Runoff=0.82 cfs 0.070 af
Subcatchment31S: Lot 7	Runoff Area=11,745 sf 30.06% Impervious Runoff Depth>5.38" Tc=7.0 min CN=72 Runoff=1.62 cfs 0.121 af
Subcatchment32S: Lot 8	Runoff Area=14,870 sf 39.19% Impervious Runoff Depth>5.99" Tc=5.0 min CN=77 Runoff=2.42 cfs 0.170 af

Subcatchment34S: To Culvert	Runoff Area=543,228 sf 0.00% Impervious Runoff Depth>5.61" Flow Length=1,139' Tc=18.8 min CN=74 Runoff=56.67 cfs 5.830 af
Subcatchment35S: Road to Basin 2	Runoff Area=69,910 sf 16.78% Impervious Runoff Depth>5.26" Tc=5.0 min CN=71 Runoff=10.12 cfs 0.703 af
Subcatchment40S: To Fire Pond	Runoff Area=110,309 sf 0.00% Impervious Runoff Depth>5.62" Tc=5.0 min CN=74 Runoff=17.01 cfs 1.187 af
Subcatchment42S: Lot 5 Roof	Runoff Area=1,950 sf 100.00% Impervious Runoff Depth>8.54" Tc=5.0 min CN=98 Runoff=0.39 cfs 0.032 af
Subcatchment43S: Bypass 1A	Runoff Area=82,494 sf 0.00% Impervious Runoff Depth>4.41" Flow Length=173' Tc=8.2 min CN=64 Runoff=8.99 cfs 0.695 af
Subcatchment46S: Lot 6 Upper Drive	Runoff Area=3,846 sf 59.41% Impervious Runoff Depth>6.72" Tc=10.0 min CN=83 Runoff=0.59 cfs 0.049 af
Subcatchment49S: Lot 7 Upper Drive	Runoff Area=6,330 sf 42.21% Impervious Runoff Depth>5.99" Tc=7.0 min CN=77 Runoff=0.96 cfs 0.073 af
Subcatchment50S: Lot 3 (rear roof)	Runoff Area=975 sf 100.00% Impervious Runoff Depth>8.54" Tc=5.0 min CN=98 Runoff=0.20 cfs 0.016 af
Reach 40R: Reach L4	Avg. Flow Depth=0.35' Max Vel=0.18 fps Inflow=2.64 cfs 0.132 af n=0.400 L=200.0' S=0.0100 ' Capacity=6.97 cfs Outflow=1.26 cfs 0.130 af
Reach 41R: Reach L5R	Avg. Flow Depth=0.31' Max Vel=0.13 fps Inflow=0.36 cfs 0.017 af n=0.400 L=250.0' S=0.0100 ' Capacity=1.86 cfs Outflow=0.15 cfs 0.016 af
Pond 16P: Detention Basin #2 (South)	Peak Elev=284.34' Storage=4,081 cf Inflow=12.55 cfs 0.874 af Discarded=0.04 cfs 0.044 af Primary=11.99 cfs 0.765 af Outflow=12.03 cfs 0.809 af
Pond 20P: Detention Basin #1 (North)	Peak Elev=267.93' Storage=10,202 cf Inflow=17.42 cfs 1.667 af Discarded=0.14 cfs 0.108 af Primary=15.42 cfs 1.497 af Outflow=15.56 cfs 1.605 af
Pond 40P: Culvert	Peak Elev=297.30' Storage=2,937 cf Inflow=56.67 cfs 5.830 af 72.0" x 24.0" Box Culvert n=0.013 L=40.0' S=0.0688 ' Outflow=56.32 cfs 5.829 af
Pond 41P: RS L4	Peak Elev=276.80' Storage=878 cf Inflow=2.52 cfs 0.175 af Discarded=0.05 cfs 0.031 af Primary=2.64 cfs 0.132 af Outflow=2.69 cfs 0.163 af
Pond 42P: Fire Pond	Peak Elev=304.16' Storage=1,431 cf Inflow=17.01 cfs 1.187 af Outflow=16.86 cfs 1.185 af
Pond 43P: RS L5R	Peak Elev=290.57' Storage=242 cf Inflow=0.39 cfs 0.032 af Discarded=0.01 cfs 0.012 af Primary=0.36 cfs 0.017 af Outflow=0.37 cfs 0.029 af
Pond 44P: RS L3	Peak Elev=263.06' Storage=253 cf Inflow=0.20 cfs 0.016 af Discarded=0.01 cfs 0.012 af Primary=0.07 cfs 0.003 af Outflow=0.08 cfs 0.014 af
Pond 45P: RS L6	Peak Elev=302.45' Storage=831 cf Inflow=0.59 cfs 0.049 af Discarded=0.03 cfs 0.031 af Primary=0.20 cfs 0.011 af Outflow=0.23 cfs 0.042 af

Pond 46P: Detention Basin #3 (Entrance) Peak Elev=280.17' Storage=1,067 cf Inflow=16.86 cfs 1.185 af
Discarded=0.01 cfs 0.014 af Primary=16.78 cfs 1.155 af Outflow=16.79 cfs 1.170 af

Pond 47P: RS L1 Peak Elev=284.09' Storage=985 cf Inflow=2.13 cfs 0.151 af
Discarded=0.05 cfs 0.038 af Primary=2.52 cfs 0.100 af Outflow=2.57 cfs 0.137 af

Pond 48P: RS L7 Peak Elev=310.04' Storage=764 cf Inflow=0.96 cfs 0.073 af
Discarded=0.01 cfs 0.017 af Primary=1.01 cfs 0.043 af Outflow=1.02 cfs 0.060 af

Link 36L: POC 1 (Downs Road) Inflow=7.54 cfs 0.876 af
Primary=7.54 cfs 0.876 af

Link 37L: POC 2 (Cottage Street) Inflow=9.25 cfs 1.054 af
Primary=9.25 cfs 1.054 af

Link 38L: POC 3 (Monroe Turnpike) Inflow=23.59 cfs 2.295 af
Primary=23.59 cfs 2.295 af

Link 39L: POC 4 (Culvert Under Monroe Turnpike) Inflow=73.61 cfs 8.281 af
Primary=73.61 cfs 8.281 af

Total Runoff Area = 61.096 ac Runoff Volume = 24.471 af Average Runoff Depth = 4.81"
97.25% Pervious = 59.413 ac 2.75% Impervious = 1.682 ac

APPENDIX C:

SOIL TESTING DATA

**M. CZESNOWSKI
1536 & 1564 MONROE TURNPIKE
MONROE, CT**

DEEP TEST RESULTS

TESTING PERFORMED: 8/23/23 - NDC, M.Czesnowski, Amy Lehaney Monroe Health

#201 Roots @ 26"

0	-	7"	Top Soil
7"	-	40"	Orange Brown Fine Sandy Loam
40"	-	85"	Olive Brown Sandy Loam (Compact)
No Ledge			No Water Redoximorphic Features at 40"

#202 Roots @ 23"

0	-	8"	Top Soil
8"	-	33"	Orange Brown Fine Sandy Loam
33"	-	84"	Olive Brown Sandy Loam (Compact)
No Ledge			Water @ 63" Redoximorphic Features at 32"

#203 Roots @ 26"

0	-	8"	Top Soil
8"	-	31"	Orange Brown Fine Sandy Loam
31"	-	79"	Olive Brown Sandy Loam (Compact)
No Ledge			Water @ 65" Redoximorphic Features at 32"

#204 Roots @ 28"

0	-	7"	Top Soil
7"	-	30"	Orange Brown Fine Sandy Loam
30"	-	92"	Olive Brown Sandy Loam (Compact)
No Ledge			No Water Redoximorphic Features at 40"

#205 Roots @ 31"

0	-	11"	Top Soil
11"	-	38"	Orange Brown Fine Sandy Loam
38"	-	81"	Olive Brown Sandy Loam (Compact)
No Ledge			No Water Redoximorphic Features at 43"

#206 Roots @ 33"

0	-	10"	Top Soil
10"	-	35"	Orange Brown Fine Sandy Loam
35"	-	85"	Olive Brown Sandy Loam (Compact)
No Ledge			No Water No Redoximorphic Features

#207 Roots @ 28"

0	-	10"	Top Soil
10"	-	32"	Orange Brown Fine Sandy Loam
32"	-	101"	Olive Brown Sandy Loam (Compact)
No Ledge			No Water Redoximorphic Features at 38"

#208				Roots @ 24"
	0	-	10"	Top Soil
	10"	-	32"	Orange Brown Fine Sandy Loam
	32"	-	85"	Olive Brown Sandy Loam (Compact)
No Ledge				Water @ 44" Redoximorphic Features at 32"
#209				Roots @ 28"
	0	-	10"	Top Soil
	10"	-	27"	Yellow Brown Fine Sandy Loam
	27"	-	86"	Olive Brown Sandy Loam (Compact)
No Ledge				No Water Redoximorphic Features at 33"
#210				Roots @ 25"
	0	-	8"	Top Soil
	8"	-	32"	Orange Brown Fine Sandy Loam
	32"	-	85"	Olive Brown Sandy Loam (Compact)
Fractured Ledge @ 85"				Weep @ 51" Redoximorphic Features at 32"
#211				Roots @ 18"
	0	-	10"	Top Soil
	10"	-	28"	Orange Brown Fine Sandy Loam
	28"	-	109"	Olive Brown Sandy Loam (Compact)
No Ledge				Weep @ 64" Redoximorphic Features at 27"
#212				Roots @ 29"
	0	-	11"	Top Soil
	11"	-	32"	Orange Brown Fine Sandy Loam
	32"	-	85"	Olive Brown Sandy Loam (Compact)
No Ledge				Water @ 52 Redoximorphic Features at 32"
#213				Roots @ 22"
	0	-	10"	Top Soil
	10"	-	39"	Orange Brown Fine Sandy Loam
	39"	-	89"	Olive Brown Sandy Loam (Compact)
No Ledge				Water @ 72" Redoximorphic Features at 37"
#214				Roots @ 28"
	0	-	10"	Top Soil
	10"	-	34"	Orange Brown Fine Sandy Loam
	34"	-	90"	Olive Brown Sandy Loam (Compact)
No Ledge				Water @ 46" Redoximorphic Features at 30"
#215				Roots @ 20"
	0	-	6"	Top Soil
	6"	-	19"	Orange Brown Fine Sandy Loam
	19"	-	92"	Olive Brown Sandy Loam (Compact)
No Ledge				Water @ 59" Redoximorphic Features at 21"
#216				Roots @ 28"

0	-	7"	Top Soil	
7"	-	34"	Orange Brown Fine Sandy Loam	
34"	-	95"	Olive Brown Sandy Loam (Compact)	
No Ledge			Weep @ 77"	No Redoximorphic Features
#217				Roots @ 24"
0	-	9"	Top Soil	
9"	-	38"	Orange Brown Fine Sandy Loam	
38"	-	93"	Olive Brown Sandy Loam (Compact)	
No Ledge			Water @ 82"	Redoximorphic Features at 44"
#218				Roots @ 29"
0	-	10"	Top Soil	
10"	-	40"	Orange Brown Fine Sandy Loam	
40"	-	87"	Olive Brown Sandy Loam (Compact)	
Boulder @ 87"			Water @ 79"	Redoximorphic Features at 38"
#219				Roots @ 34"
0	-	10"	Top Soil	
10"	-	37"	Orange Brown Fine Sandy Loam	
37"	-	96"	Olive Brown Sandy Loam (Compact)	
No Ledge			Water @ 80"	Redoximorphic Features at 48"
#220				Roots @ 42"
0	-	10"	Top Soil	
10"	-	34"	Orange Brown Fine Sandy Loam	
34"	-	91"	Olive Brown Sandy Loam (Compact)	
No Ledge			No Water	Redoximorphic Features at 42"
#221				Roots @ 40"
0	-	9"	Top Soil	
9"	-	38"	Orange Brown Fine Sandy Loam	
38"	-	95"	Olive Brown Sandy Loam (Compact)	
No Ledge			No Water	Redoximorphic Features at 37"
#222				Roots @ 30"
0	-	7"	Top Soil	
7"	-	34"	Orange Brown Fine Sandy Loam	
34"	-	90"	Olive Brown Sandy Loam (Compact)	
No Ledge			No Water	Redoximorphic Features at 39"
#223				Roots @ 32"
0	-	10"	Top Soil	
10"	-	40"	Orange Brown Fine Sandy Loam	
40"	-	98"	Olive Brown Sandy Loam (Compact)	
No Ledge			Weep @ 84"	Redoximorphic Features at 41"
#224				Roots @ 18"

0	-	10"	Top Soil	
10"	-	28"	Orange Brown Fine Sandy Loam	
28"	-	96"	Olive Brown Sandy Loam (Compact)	
No Ledge			No Water	No Redoximorphic Features
#225				Roots @ 40"
0	-	10"	Top Soil	
10"	-	28"	Orange Brown Fine Sandy Loam	
28"	-	80"	Olive Brown Sandy Loam (Compact)	
No Ledge			No Water	No Redoximorphic Features
#226				Roots @ 26"
0	-	8"	Top Soil	
8"	-	31"	Orange Brown Fine Sandy Loam	
31"	-	88"	Olive Brown Sandy Loam (Compact)	
No Ledge			No Water	Redoximorphic Features at 38"
#227				Roots @ 41"
0	-	8"	Top Soil	
8"	-	34"	Orange Brown Fine Sandy Loam	
34"	-	94"	Olive Brown Sandy Loam (Compact)	
No Ledge			No Water	No Redoximorphic Features
#228				Roots @ 22"
0	-	9"	Top Soil	
9"	-	24"	Orange Brown Fine Sandy Loam	
24"	-	99"	Olive Brown Sandy Loam (Compact)	
No Ledge			No Water	Redoximorphic Features at 36"
#229				Roots @ 14"
0	-	8"	Top Soil	
8"	-	32"	Orange Brown Fine Sandy Loam	
32"	-	97"	Olive Brown Sandy Loam (Compact)	
No Ledge			No Water	No Redoximorphic Features
#230				Roots @ 26"
0	-	8"	Top Soil	
8"	-	26"	Orange Brown Fine Sandy Loam	
26"	-	98"	Olive Brown Sandy Loam (Compact)	
No Ledge			No Water	No Redoximorphic Features
#231				Roots @ 28"
0	-	9"	Top Soil	
9"	-	35"	Orange Brown Fine Sandy Loam	
35"	-	100"	Olive Brown Sandy Loam (Compact)	
No Ledge			No Water	No Redoximorphic Features

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#301				Roots @ 26"
	0	-	9"	Top Soil
	9"	-	28"	Orange Brown Fine Sandy Loam
	28"	-	82"	Olive Brown Sandy Loam (Compact)
No Ledge				Water @ 45" Redoximorphic Features at 30"
#302				Roots @ 26"
	0	-	9"	Top Soil
	9"	-	33"	Orange Brown Fine Sandy Loam
	33"	-	82"	Olive Brown Sandy Loam (Compact)
No Ledge				Weep @ 28" Redoximorphic Features at 28"
#303				Roots @ 30"
	0	-	9"	Top Soil
	9"	-	30"	Orange Brown Fine Sandy Loam
	30"	-	90"	Olive Brown Sandy Loam (Compact)
No Ledge				Weep @ 28" Redoximorphic Features at 28"
#304				Roots @ 26"
	0	-	8"	Top Soil
	8"	-	25"	Orange Brown Fine Sandy Loam
	25"	-	82"	Olive Brown Sandy Loam (Compact)
No Ledge				Weep @ 43" Redoximorphic Features at 25"
Boulder @ south end				
#305				Roots @ 30"
	0	-	8"	Top Soil
	8"	-	33"	Orange Brown Fine Sandy Loam
	33"	-	40"	Tan Sandy Loam (friable)
	40"	-	87"	Olive Brown Sandy Loam (Compact)
No Ledge				No Water Redoximorphic Features at 40"
#306				Roots @ 28"
	0	-	9"	Top Soil
	9"	-	28"	Orange Brown Fine Sandy Loam
	28"	-	86"	Olive Brown Sandy Loam (Compact)
No Ledge				No Water No Redoximorphic Features
#307				Roots @ 32"
	0	-	8"	Top Soil
	8"	-	29"	Orange Brown Fine Sandy Loam
	29"	-	96"	Olive Brown Sandy Loam (Compact)
No Ledge				Weep @ 70" Redoximorphic Features at 29"
#308				Roots @ 24"
	0	-	8"	Top Soil
	8"	-	32"	Orange Brown Fine Sandy Loam
	32"	-	93"	Olive Brown Sandy Loam (Compact)
No Ledge				Weep @ 70" Redoximorphic Features at 26"

#309 Roots @ 26"
 0 - 8" Top Soil
 8" - 21" Orange Brown Fine Sandy Loam
 21" - 29" Tan Sandy Loam (friable)
 29" - 89" Olive Brown Sandy Loam (Compact)
 No Ledge Weep @ 65" Redoximorphic Features at 31"

#310 Roots @ 29"
 0 - 9" Top Soil
 9" - 31" Orange Brown Fine Sandy Loam
 31" - 88" Olive Brown Sandy Loam (Compact)
 No Ledge No Water Redoximorphic Features at 35"

PERCOLATION TEST RESULTS

TESTING PERFORMED: 8/24/23

P-1A
 Depth: 21"
 Diameter: 8"
 9:42 Presoak
 12:10 3"
 12:20 10"
 12:30 12-1/2"
 12:40 15"
 12:50 16-1/2"
 1:00 17-1/2"
 1:10 18-1/4"
 Rate: 1" = 13.3 minutes

P-1B
 Depth: 21"
 Diameter: 8"
 9:40 Presoak
 12:10 3"
 12:20 8"
 12:30 10-1/2"
 12:40 13"
 12:50 14-1/2"
 1:00 15-3/4"
 1:10 16-1/2"
 Rate: 1" = 13.3 minutes

P-2A
 Depth: 22"
 Diameter: 8"
 9:30 Presoak
 12:18 2"
 12:28 10-1/2"
 12:38 15"
 12:48 18-1/4"
 12:58 DRY
 Rate: 1" = 3.1 minutes

P-2B
 Depth: 21"
 Diameter: 8"
 9:33 Presoak
 12:18 2"
 12:28 10-1/2"
 12:38 15"
 12:48 16-1/4"
 12:58 17-1/2"
 1:08 DRY
 Rate: 1" = 13.3 minutes

P-3A
 Depth: 21"
 Diameter: 8"
 9:25 Presoak
 12:19 2"
 12:29 11"
 12:39 15-1/2"

P-3B
 Depth: 22"
 Diameter: 8"
 9:22 Presoak
 12:19 2"
 12:29 12-1/2"
 12:39 17-1/4"

12:49 18"
12:59 DRY
Rate: 1" = 4 minutes

P-6A
Depth: 21"
Diameter: 8"
10:29 Presoak
12:17 3"
12:27 11"
12:37 15-1/4"
12:47 18-1/2"
12:57 19-1/2"
1:07 DRY
Rate: 1" = 10 minutes

P-7A
Depth: 22"
Diameter: 8"
10:23 Presoak
12:16 3"
12:26 9-1/2"
12:36 13-1/4"
12:46 16"
12:56 17-1/2"
1:06 18-1/4"
1:16 DRY
Rate: 1" = 13.3 minutes

P-8A
Depth: 18"
Diameter: 8"
10:10 Presoak
12:14 2"
12:24 9-3/4"
12:34 13-1/4"
12:44 15-1/4"
12:54 DRY

Rate: 1" = 5 minutes

P-9A
Depth: 22"
Diameter: 8"
9:50 Presoak
1:28 2"
1:38 13"
1:48 16-1/4"
1:58 18-1/2"

12:49 19-3/4"
12:59 DRY
Rate: 1" = 4 minutes

P-6B
Depth: 22"
Diameter: 8"
10:31 Presoak
12:17 2"
12:27 19"
12:37 DRY

P-7B
Depth: 22"
Diameter: 8"
10:20 Presoak
12:16 3"
12:26 9-1/2"
12:36 13-1/4"
12:46 15-3/4"
12:56 17-1/2"
1:06 DRY

Rate: 1" = 5.7 minutes

P-8B
Depth: 18"
Diameter: 8"
10:14 Presoak
12:14 2"
12:24 8"
12:34 10-1/4"
12:44 12-1/4"
12:54 14-1/4"
1:04 15-1/2"
1:14 DRY
Rate: 1" = 8 minutes

P-9B
Depth: 21"
Diameter: 8"
9:53 Presoak
1:28 1-1/2"
1:38 11"
1:48 14"
1:58 16-1/2"

2:08 20-1/2"
2:18 DRY
Rate: 1" = 5 minutes

P-10A
Depth: 22"
Diameter: 8"
10:02 Presoak
12:12 3"
12:22 8-1/2"
12:32 11-1/2"
12:42 13-1/2"
12:52 15-1/2"
1:02 17-1/2"
1:12 19-1/2"
Rate: 1" = 5 minutes

2:08 18"
2:18 DRY
Rate: 1" = 6.6 minutes

P-10B
Depth: 22"
Diameter: 8"
10:04 Presoak
12:12 3"
12:22 11-1/2"
12:32 14-1/2"
12:42 16-1/2"
12:52 DRY

Rate: 1" = 5 minutes

TESTING PERFORMED: 10/06/23

P-2C
Depth: 21"
Diameter: 8"
9:30 Presoak
0 3"
10 9-1/2"
20 12-1/2"
30 15"
40 16-1/2"
50 17-1/2"
60 18-1/4"
Rate: 1" = 13.3 minutes

P-4A
Depth: 22"
Diameter: 8"
9:40 Presoak
0 2"
10 8-1/2"
20 11-1/2"
30 13-1/2"
40 15-1/2"
50 17-1/2"
60 19-1/2"
Rate: 1" = 5 minutes

P-5A
Depth: 18"
Diameter: 8"
9:42 Presoak

P-2D
Depth: 23"
Diameter: 8"
9:30 Presoak
0 4"
10 8"
20 10-1/2"
30 13"
40 14-1/2"
50 15-3/4"
60 16-1/2"
Rate: 1" = 13.3 minutes

P-4B
Depth: 22"
Diameter: 8"
9:40 Presoak
0 3-1/2"
10 11-1/2"
20 14-1/2"
30 16-1/2"
40 DRY

Rate: 1" = 5 minutes

P-5B
Depth: 22"
Diameter: 8"
9:42 Presoak

0	4"
10	9-3/4"
20	13-3/4"
30	15-1/2"
40	DRY

Rate: 1" = 4.4 minutes

0	3"
10	8"
20	10-1/4"
30	12-1/4"
40	14-1/4"
50	15-1/2"
60	DRY

Rate: 1" = 8 minutes